

# NATIONAL AGRICULTURAL SOCIETY.



## VICTORIA.

Vol. III.—No. 25. [Read as a Newspaper.]

MELBOURNE, AUGUST 12TH, 1887

GRATIS.

"If 'twere done when 't was done,  
Then 'twere well done 'twere quickly done."

**CATERER**

**CHARLES D. STRAKER,**  
Three Crowns Hotel,  
WEST MELBOURNE.

Caterer for the Victorian Racing Club, The National Agricultural Society of Victoria, and the Victorian Coursing Club.

Orders for Banquets, Feasts, Dejeuners, Weddings, Suppers, on the Shortest Notice in Town or Country.

N.B.—Tents and Caterer's Requisites on Hire.

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114 BOURKE ST. EAST  
Tailor, Practical Shirt Maker,  
Sporting Costumiers.

Football, Cricket, Bicycle, Lacrosse suits in stock or made to order. Clubs contracted with.  
Instructions for Self-measurement on application.  
SPECIAL SHIPMENT OF WHITE SHIRTS.

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Opposite Her Majesty's Hotel.

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The finest quality of American Tobaccos. Specialty—American Cut Tobaccos. The best Brands Havana Cigars. Specialty—Muriel, Calsons, and Henry Clays. A high-class Hairdressing Saloon is open in conjunction with the above establishment.

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(LIMITED)

Millers & Grain Merchants

AND  
GENERAL COMMISSION AGENTS.

Subscribed Capital - £88,000.

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JAMES FRY, Managing Director.  
JAMES JOHNSON, THOMAS ROXBURGH.  
WM. W. FRASER, W. W. MURDIE.

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Collins Street West, Melbourne.

Ballarat Flour Mills, Ballarat.  
Wimmera Flour Mills, Horsham.  
Natumuk Flour Mills, Natumuk.  
Bodjik Flour Mills, Kaniva.  
Donald Flour Mills, Donald.

GRAIN STORES at JUNG JUNG, WAIL LUBROK,  
NUMBUKAB, DIMBOOLA, DONALD, and Agencies  
at all the principal Railway Stations.

Jas. Fry & Company's Celebrated 5 Stars Flour.

Consignors of Wool and other Produce and Advances  
made thereon.

Every description of Agricultural Machinery and Implements,  
by all the best Melbourne Manufacturers and  
Importers on sale on favorable terms.  
Town Agents for transaction of every description of Farmers  
business requiring Confidential Care  
and attention.

Advances on Grain at Current Rates of Interest.  
STORAGE ON VERY FAVORABLE TERMS.

F. & CO. Limited are prepared to ship Wheat if desired  
on Farmers' account for sale in London on  
advantageous terms.

£80,000 to Lend on Freehold or Leasehold Security

**HOSIE'S**  
**SCOTCH PIE SHOP**  
NO. 36 BOURKE STREET EAST.

The Most Popular RESTAURANT in the CITY  
of MELBOURNE.

Meals at all hours from 6.30 a.m. to 11.30 p.m.  
SUNDAYS INCLUDED.

Bride Cakes and all kinds of Pastry made to Order. Balls,  
Konts, Dinners, etc., Catered for in the Best Style.

Accommodation for 500. Special Dinners.  
**RUBIRA & BARBETA.**  
PROPRIETORS.

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**Bull & Mouth Hotel,**  
BOURKE STREET EAST.

FIRST-CLASS ACCOMMODATION FOR COUNTRY AND  
INTERCOLONIAL VISITORS.

Wines and Spirits of the Finest Quality. Smoking,  
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Luncheon at 1 p.m. Night Porter.

TELEPHONE NO. 550 HOT AND COLD BATHS.

**J. McDUGALL, Proprietor.**

**Little's Sheep Dip**  
(NON-POISONOUS.)

BY ROYAL LETTERS PATENT.



**Best, Cheapest & Safest Dip**  
IN THE MARKET.

A CHEMICAL FOOD FOR THE WOOL.  
DEATH TO ALL INSECT LIFE.

NUMEROUS TESTIMONIALS.

PRICES—  
5/6 per gallon in casks, 40 gallons each.  
6/- " " drums 5 " "  
Orders under 5 gallons, 1/- per gallon extra.

Pamphlets with further particulars from the Manufacturers  
and Proprietors—

**MORRIS LITTLE AND SON,**  
Doncaster, England;

91 BOURKE ST. WEST, MELBOURNE.

Also RYAN, HAMMOND, and CO., MELBOURNE.

And the following Agents in Australia.

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**Baths Hotel & Bathing Palace**  
26 BOURKE STREET, MELBOURNE.

Centrally Situated, with Accommodation for  
One Hundred Visitors.

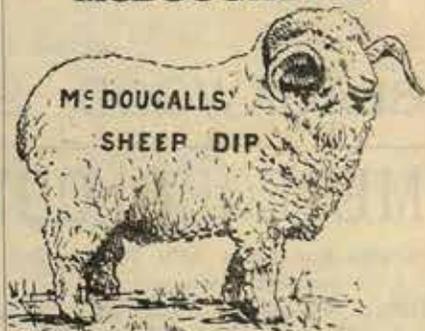
TURKISH, HOT OR COLD BATHS.

28 Beverages of the Very Best Brands in the Market, and  
Cuisine Second to None.

Billiards. Night Porter.

**BARBETA BROS., Proprietors.**

**McDOUGALL'S**



**SHEEP DIP.**

PERFECT SAFETY. NON-POISONOUS.  
World-famed Dip, and Second to None in  
the Market.

Price, 5/6 per gallon, in drums, making sufficient  
to dip 200 sheep, or under 1/4 per sheep.

This Dip is AS CERTAIN as arsenic in killing insects  
without its dangerous and injurious effects on the sheep.

It finely stimulates the growth of Wool, and improves its  
quality, leaving the Wool soft and in fine condition, unlike  
Poisonous Dips in use, which burn and break the staple of the  
Wool.

MANAGERS FOR VICTORIA—

**GOW BROTHERS,**

8 MARKET BUILDINGS, WILLIAM STREET, MELBOURNE.

Agents for Geelong—ARMSTRONG, HOWE & CO.

Stock always on hand in Melbourne and Geelong.

**BINNY NICOLL & CO.,**

Wool, Grain & Produce Agents,

64 SPENCER STREET,

MELBOURNE.

**IRVINE'S GRIPE DRENCH**

Has been used in these Colonies for the last 34 years with  
remarkable success in all cases of Gripe and Flatulent Colic.

TESTIMONIAL.

"Irvine's Gripe Drench has never failed in my hands in  
relieving Colic or Gripe of the most violent nature. One dose  
is invariably sufficient; a second one is rarely needed."

DAN WARREN, Indian Horse Shipper,  
Kirk's Bazaar.

In Bottles, 2s. 6d. each. One Gallon Tins, 20s.

Sole Proprietor and Manufacturer.

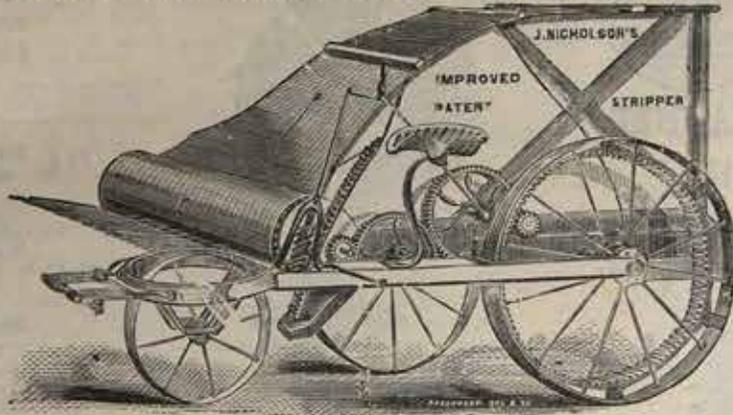
**H. W. POTTS, Veterinary Chemist,**

Corner QUEEN & BOURKE STS., MELBOURNE.

Irvine's Soft Horse Balls, 1s. each. "Stooheens" Blisters 2/6 pot.

# JOSEPH NICHOLSON & CO., AGRICULTURAL MACHINE MANUFACTURERS.

Makers of Winnowers,  
the largest and best  
Reapers and Mowers.  
the strongest and best  
new patent Damp-weather  
Stripper, Improved  
Double & Treble Ploughs.  
Send for Catalogues.  
Post Free.

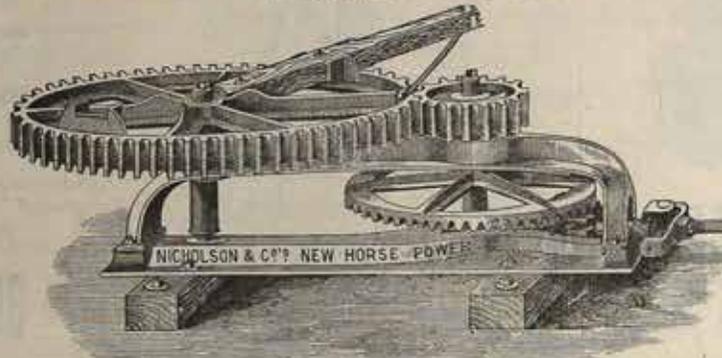


Prices—4ft. 6in. drums,  
**£55.**

Prices—5ft. drums,  
**£60.**

Prize Grass Seed  
Strippers, specially  
adapted for the  
Colonies.

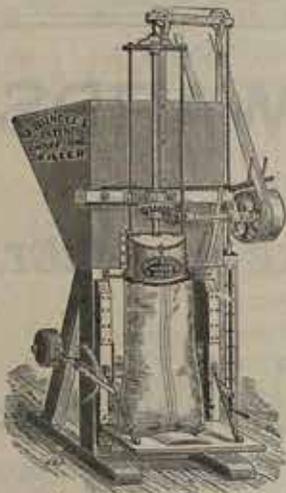
Price, including two  
Poles,  
**£18.**



Address—

**Bouverie & Leicester  
STREETS,  
Melbourne.**

This most useful Machine is made entirely of Iron, simple in construction, very strong, and easily managed. It is also fitted with a spring clutch, which prevents the poles from striking the horses' legs when the Machine is stopped. The pole or poles (as it can be used either as a Single or Double Horse-power) are fixed in such a manner that the pull is direct; the strain thus being reduced to a minimum, the speed is sufficient without the expense of an intermediate motion. Priced Catalogues free by post.



## BUNCLE'S Patent Chaff Bag Filler.

or without Baggers. A few attempts have been made by some to supply such a want, but probably not having a theoretical as well as a practical knowledge of machines, have not been able to reduce the complicated movements in their machines, and which are perfectly unnecessary—as witness the Unique Simplicity and correctness in design, and the admirable working of **BUNCLE'S PATENT BAG FILLER** compared with the few others tried at work.

For the information and convenience of customers, a machine is kept constantly set up ready to show at work in **BUNCLE'S PARKSIDE IRONWORKS**, and many customers have witnessed 80 to 90 lbs. of Chaff put in a bag in 15 seconds!!! which, after making allowances for time removing the full bag and replacing an empty one, would easily on an average keep **Four of Buncle's No. 1 Chaffcutters**—well, if there is any doubt, say Three Machines clear of all the Chaff they cut (medium length.) Of course the Machines are arranged to put in as light weight as you like, or you can fill up and burst all your Bags—to pieces. As a trade requirement (in addition to filling bags) the necessity for a **Mixing Machine** is a long felt want, the laborious and unsatisfactory way at present adopted cannot much longer be endured, and there is no necessity for it!!! as J. Buncle can arrange to "Blend" the worst and the best samples "To a Hair" at the least possible expense with the best results.

The season is now coming on when all those who intend having the latest improved Machines should forward their orders as early as possible, to prevent disappointment in the day of their need.

J. Buncle's Machines have, as usual, been awarded First Prize at all the leading shows wherever he exhibited last year (1885), and the many improvements introduced and constantly copied by other makers, is the best proof of the value of the continued consideration in all that affects the profits and welfare of his customers.

Chaffcutters with 14-in. wide mouthpieces and Newest Designs, are now being manufactured to suit the increasing output of many of the leading Chaff Merchants. May your fortunes ever be associated with the earnest efforts to assist making them by,

Sirs and Gentlemen, yours respectfully,

**Parkside Iron Works, North Melbourne.**

**JOHN BUNCLE.**

Catalogues Post Free on Application.

# MCCALMAN, GARDE & CO.

MANUFACTURERS OF ALL KINDS OF

## Agricultural Implements,

Begeto inform the Farming Community that they are the SOLE MAKERS of the

### MCKAY'S PATENT COMBINED HARVESTER,

### Single, Double, and Treble Ploughs.

Drill Ploughs,

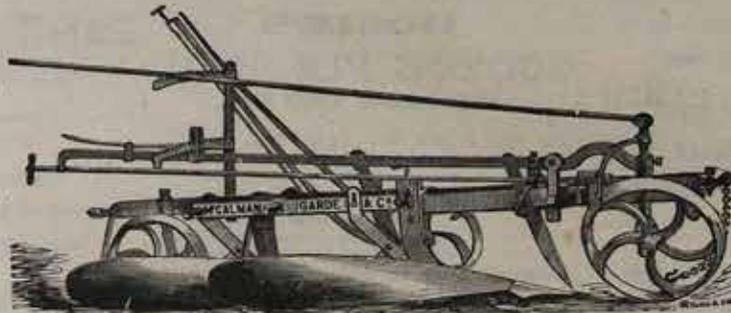
Horse Hoes,

Scarifiers,

Harrows,

Horse Rakes,

Field Rollers.



Squatters' Ploughs

For dam sinking.

CONTRACTORS' PLOUGHS

For road making.

Special Ploughs

Made to any design.

**Catalogues free on application.**

All Kinds of Implements kept in Stock to select from at their Manufactory.

BLACKWOOD STREET, NORTH MELBOURNE.

## METEOROLOGY.

Farmer's Barometers, with Thermometers,  
Guaranteed Instrument, 25/-

RAIN GUAGES, from 15s.  
Standard Instruments of all Kinds.

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Watchmaker, Jeweller and  
Optician,

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George Street,  
Sydney.

**THOS. GAUNT**  
GAUNT'S ENGLISH LEVER WATCHES still hold their ground against all competitors as the most durable and trustworthy timekeepers in the world. The favorable opinion formed of Gaunt's watches by the Australian public has been endorsed by the jurors of the several Exhibitions in which he has competed, and his last crowning success, the obtaining HIGHEST AWARD FOR HOROLOGY at the Melbourne International Exhibition, should convince the most dubious that his watches cannot be excelled. Seven Gold and other Medals. Price from £5 6s. to £10 10s. Get the opinion of any of your friends who has one of my watches.  
**THOS. GAUNT, 14 BOURKE ST. EAST, ROYAL ARCADE.**

## ROBERTSON & MOFFAT,

LARGEST

## Furnishing Warehouse

IN AUSTRALIA.

Furniture Showrooms—

16, 18, 20, 22, 24, 26, 28, 30, 32 POST OFFICE PLACE,

## COUTIE'S BOOTS & SHOES

Have met with such unprecedented success giving such **Comfort and Wear**, that they are well-known throughout the colonies as a **Great Saving in the Family Expenditure.**

To be had at **Coutie's**

**Edinburgh House,**

149 ELIZABETH STREET,

Also at the **Central Boot Emporium,**

57 BOURKE STREET EAST,

Near corner of Swanston Street.

—10—

N.B.—Inspection and a Trial respectfully solicited.

## PRICE WILLIAMS,

FRANKLIN STREET, WEST MELBOURNE,

MANUFACTURER OF THE WELL-KNOWN

## Williams' Rack & Pinion Wool Press

Rack and Gear Steel Press for the use of large stations.  
Lever & Chain Press, with Folding Top Box, for the use of smaller stations.  
Lever and Chain Farmer's & Selector's Press. Price, £22 10s.

As the season for this latter kind is now approaching, those requiring them should lose no time in sending their orders. Owing to the general satisfaction given by those supplied for last season, orders are now freely coming in, and a large demand is looked for. The following is a fair sample of a large number of Testimonials to hand for those supplied last season:—

Mr. PRICE WILLIAMS—  
Dear Sir,—I have much pleasure in informing you that the Farmer's Wool Press I purchased from you last October, gave me every satisfaction. We turned out very compact small bales, about 24 cwt., but could have them heavier if we wished with ease down. By what the Wool Brokers tell me, they would clear themselves in two seasons to anyone having twelve bales. Since done with the Wool, I have had it in constant use as a Cheese Press, and I reckon it worth half its cost for that. We have weights on the levers. A no number of Cheeses can be put in at once. It would make a good Press for Hay or Straw, and for Grapes or Apples it is just the thing. I can highly recommend it as a most useful, substantial, and cheap article.—Yours truly,  
HUGH GORDON.  
BALATONAS, JAN. 23RD 1885.

VICTORIAN RIFLE CLUBS.

Members are informed that  
**W. H. HUNTER**  
 SADDLER,  
 15 POST OFFICE PLACE & 11 BOURKE ST. WEST,  
 is the GOVERNMENT CONTRACTOR, and the Only Saddler  
 appointed for supplying the Regulation Riding  
 Saddle, Bridles, Leggings, and Wallets.  
 Any of the above will be supplied in any quantities to Members  
 of RIFLE CLUBS at the Contract Prices. Apply early.

**DANIEL TOPP,**

Late J. J. Walker, Wholesale & Retail  
**SADDLE AND HARNESS MANUFACTURER,**  
 29 BOURKE STREET WEST, MELBOURNE.

Manufacturer of every description of Saddles and Bridles; Olig.  
 Carriage, Buggy, Spring Cart, Dray, American Express Wagon  
 Boot, Tauden, Leader and Outrigger Harness.

D. T. wishes to call particular attention to his Colonial-made  
 Saddle, Bridle, and Harness, which for Shape, Price, and Quality, cannot be equalled.  
 TRADE SUPPLIED.

Have stood the test of 35 Years.

**ADAMSON'S**  
**INCOMPARABLE SEEDS**  
 FOR  
**The Vegetable Garden**  
**The Flower Garden**  
 AND  
**The Farm.**

Beautiful Illustrated Catalogue for 1887-8 Gratis and Post Free  
 Seed Warehouse—43 Collins St. W., Melbourne  
 ESTABLISHED 25 YEARS.

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(Late J. G. SACHS.)

**Waggon & Lorry Builders,**

**WHEELWRIGHTS,**  
 AND GENERAL BLACKSMITHS,  
 OPPOSITE HAYMARKET, ELIZABETH ST.,  
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LOANS NEGOTIATED.  
 Nicholson's Corner, Swanston Street, Melbourne.

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DIAPYERS OF  
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 LAMPS, LAMPWARE, & GASFITTINGS,  
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A large assortment of Carriage and Buggy Lamps  
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**£1 to £4** per day to be made by persons  
 of either sex, in their own  
 localities, at work for use. New  
 business. All met with wonder-  
 ful success. Any one can do the work. Capital not  
 required. We will start you. Outfit worth £1 mailed  
 free. The employment is particularly adapted to the  
 region in which this publication circulates. Boys and  
 girls earn nearly as much as men. Full particulars  
 and instructions mailed free. Now is the time—don't  
 delay, but write to us at once. Address Stinson &  
 Co., Portland, Maine, United States.

**JOHN HEDRICK & CO.,**  
 FARMERS' AGENTS,  
 Grain, Produce Insurance & General Commission Agents  
 10 QUEEN STREET, MELBOURNE.

Loans and other Financial Arrangements Negotiated.  
 Bulk Stocks of Grain held by Farmers can be sold by  
 Auction or privately from samples sent by Post, avoiding  
 storage charges.  
 References—Greig & Murray, 10 Queen St.

**American Carriage Co.,**

246 SWANSTON STREET.

We sell the cheapest, lightest, strongest, most  
 durable, and convenient Buggy in the market.  
 A large and select stock always on hand. Cus-  
 tomers would save time and money by calling on us  
 before purchasing elsewhere, as we sell at  
**LOWEST POSSIBLE PRICES**  
 for the class of work we manufacture.

**S. WIEDEMANN,**  
 Proprietor.

**PORTA & SONS,**  
**Steam Bellows, Knife & Washboard Works,**  
 152 & 154 LITTLE LONSDALE STREET EAST,  
 Near Spring Street,  
**MELBOURNE.**

**MR. WALTER BEILBY'S**  
**HIGH-CLASS FOX TERRIERS.**

The English Prize-winners, imported to strengthen my  
 collection, are not equalled by all the kennels in Australia.  
**CHAMPION RICHMOND JACK,**  
 THREE TIMES WINNER OF THE FIFTY-GUINEA GRAND CHALLENGE CUP.

**CHAMPION DECKER,**  
 This celebrated English winner, has sired more prize-takers  
 than any fox terrier in the colony. Vide Nat. Ag. Soc. and Vic.  
 P. and Dog Society's Prize Lists—1885, 1884, 1885.

**Satire (by Joker); Sagacity (by Spades); Leaguer (by**  
**Corinthian); Daphne II. (by Plunderer); Melbourne**  
**Hill and Game Sans Here (by the Belgravian); Arnie**  
**(by Tackler).**

The above lot are from the very best strains, direct male  
 lines, and only equalled, by about six kennels in England.  
 THE UNCOLONIAL-BRED STOCK ARE CHIEFLY FROM THE ABOVE.  
**MELBOURNE STEVEDORE (by Decker),**  
 A WINNER STREET TAKE EXHIBITION, PROVING HIMSELF THE BEST  
 COLONIAL-BRED DOG IN THE COLONY. Vide 1884,  
 1885 Prize Lists.

**MELBOURNE JOKER (by Leaguer, ex Wilhilda,**  
 (imp.), by Romps, by Brockenhurst Bally, ex Satire  
**MELBOURNE RAGE (Brother to Melbourne Joker),**  
 Winner of three Prizes, Exhibition Building, 1885.

**MELBOURNE NELL (by Diamond Jack, ex Alice.)**  
**SHELFORD RUBY (by Decker, ex Shelford Fury),**  
 Guaranteed Pedigrees with young stock. Photos, 12d. stamps.  
 ADDRESS—B DARLING STREET, SOUTH YARRA.

**THE NATIONAL**  
 Agricultural Society of Victoria.

THE  
**GREAT ANNUAL EXHIBITION**

Will be held on the Show Grounds.  
**FLEMINGTON,**  
 ON TUESDAY, WEDNESDAY, THURSDAY,  
 FRIDAY, and SATURDAY.  
 23rd, 24th, 25th, 26th, & 27th August, 1887.

SALES ON GROUNDS 29TH AND 30TH AUGUST.

Holiday Excursion Tickets will be Issued  
 on all the Railway Lines, from the 20th  
 to the 30th August, available  
 to the 31st.

**THOMAS PATTERSON,**  
 Kirk's Bazaar, Melbourne. Secretary.

**THE NATIONAL**  
 Agricultural Society of Victoria.

**Shorthorn Derby Sweepstakes, 1890.**  
**Hereford do do 1890.**  
**Ayrshire do do 1890.**  
**Jersey (incl. Alderney) do do 1890.**

A Sweepstakes of £1 each (10s. at time of nomina-  
 tion, and 10s. at date of general entry for Show), with  
 £5 added in each case for Heifers calved between 1st  
 July, 1887, and 1st July, 1888, to be divided and  
 awarded as 1st, 2nd, and 3rd Prizes, for three-year  
 olds, at the Society's Show, 1890.

Nomination of Calves of each breed respectively  
 will be received on payment of a nomination fee of  
 10s. each. Calves to be nominated within one month  
 of date of birth. Nominators to fully describe the  
 color of each calf entered, and to state the name of  
 the sire, dam, and sire of dam, together with the  
 date of calving. Entry forms on application.

**THOMAS PATTERSON,**  
 Kirk's Bazaar, Melbourne. SECRETARY.

ADVANCES ON WOOL, GRAIN, ETC.

**R. GOLDSBROUGH & CO. LIMITED**

(In which are amalgamated the Australasian Agency and  
 Banking Corporation Limited and R. Goldsbrough & Co.)

**WOOLBROKERS,**

Capital, £3,000,000

HEAD OFFICE—MELBOURNE.

MAKE LIBERAL CASH ADVANCES on the ensuing CLIP  
 of WOOL and on STATION SECURITIES.

They hold AUCTION SALES of WOOL twice each week  
 during the season and at frequent intervals during the  
 winter months.

AUCTION SALES of TALLOW, HIDES, SHEEPSKINS,  
 etc., are held three days each week throughout the year.

AUCTION SALES of WHEAT, OATS and FLOUR are held  
 each Wednesday during the grain season.

One Month's Free Storage allowed on Grain.

Liberal Advances made at bank rates on receipt of produce  
 into warehouse.

Full rates of interest allowed on fixed deposits, current  
 accounts, and financial business of all kinds conducted.

Branch in Sydney: No. 36 Pitt-street.  
 Branch in London: 156 and 159 Leadenhall-street.

**GOLDSBROUGH'S WOOL WAREHOUSE,**

BOURKE & WILLIAM STREETS, MELBOURNE.

Notices

All communications for the Editor to be  
 addressed to the Society's Office, Kirk's Bazaar,  
 Bourke Street West, Melbourne.

Business communications to the Publishers,  
 Melbourne Place, off Russell Street, Melbourne.

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Dates of Forthcoming Shows.

SECRETARIES of agricultural societies are  
 requested to forward to the editor the dates on  
 which their respective exhibitions will be held,  
 also copies of their prize schedules as soon as  
 they are published.

**AUGUST.**

16, 17, 18, 19.—National, Brisbane.  
 23, 24, 25, 26, 27.—National, Melbourne.  
 31 and 1 September.—Donald.

**SEPTEMBER.**

1.—Yarrawonga.	15, 16.—Hamilton.
1, 2.—Ballarat (Sheep).	15, 16.—Murtosa.
3.—Wyebeeproof.	16.—Karang.
7.—Balmoral.	30.—Chiltern.
7, 8.—Wimmera District.	21.—Kaniva.
Stawell.	21.—Inglewood.
8.—Lillimar.	22, 23.—Kebuca.
8, 9.—Ovens & Murray.	23.—Wedderburn.
Wangaratta.	27.—Elmore.
9.—Charlton.	28.—Boort.
13.—Ropanyup.	28.—Numarkah.
14.—Ararat.	29, 30.—Benalla.
14.—Moira, at Cashel.	29, 30.—Horsham and
14, 15.—Albury, N.S.W.	Wimmera (National).
14, 16.—Royal Society,	
Adelaide.	

**OCTOBER.**

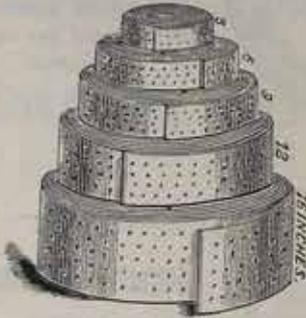
4, 5.—Rochester.	12, 13.—Warrnambool.
5.—Belfast.	13.—Murchison.
5.—Enuro.	19, 20.—Tatura.
5.—St. Arnaud.	20.—Rutherglen.
6.—Bacchus Marsh.	20.—Sals.
6.—Tungamah.	20, 21.—Geelong.
11.—Nagambie.	25.—Koroit.
12, 13.—Bendigo, at	26, 27.—Shepparton.
Sandhurst.	27.—Talbot.

**NOVEMBER.**

3.—Omeo.	
10.—Hothoots.	
10, 11.—Sunston.	
16, 17.—Kynton.	
23.—Castlemaine.	
24.—Ballarat.	
24.—Traralgon.	
24.—Kilmore.	



DOUBLE OAK-TANNED  
WELL-STRETCHED  
**MACHINE BELTING.**



**FRANK VIAL,**  
"UNIVERSAL"  
**LEATHER BELT FACTORY,**  
MACAULAY ROAD,  
Kensington,

And at 59 MAIR STREET, BALLARAT.

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**MACHINE BELTING**

On the Most Approved

CONTINENTAL AND AMERICAN PRINCIPLES.

The "UNIVERSAL" BELTS are acknowledged by all who have used them to be the Best in the Market.

Special Lists for BELTS for IRRIGATION PURPOSES.

A Large Stock of the "PREMIER" BELT LUBRICANT, and Well-Seasoned BELT LACES, kept in Stock.

TESTIMONIAL.—(copy.)

UNION FLOUR MILLS,  
Brunswick-street, Fitzroy,  
March 17th, 1886.

Messrs. Frank Vial & Co.,  
Macauley Road, Hotham.

Gentlemen.—In reply to your enquiry respecting the (23") twenty-three inch double belt supplied by you to ourselves, we beg to state we have been working it for a period of seven months, and we find it to be all we could desire, as also is the other belting which we had from you.

We therefore feel great pleasure in recommending your belting to anyone requiring the same.

We are, Gentlemen, yours truly,  
(Signed) W. S. KIMPTON & SONS.

Other Testimonials received too numerous to print, which with Price Lists, can be had on application.

# THE ALTHOUSE WINDMILL.

The STRONGEST, SIMPLEST  
MOST DURABLE, and BEST  
SELF-REGULATING WIND-  
MILL in the Market.

Proved by Actual Experience  
to be Unequalled for Water  
Supply Purposes.

Is Absolutely the Strongest Mill  
in the Market.

Its Extreme Sensitiveness is  
one of its Greatest Merits.

Its self-regulating capacity is perfect

Guaranteed the Cheapest Mill  
in the Market.

FOUR SIZES—10ft., 12ft., 14ft.,  
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Larger Sizes Made as Required.

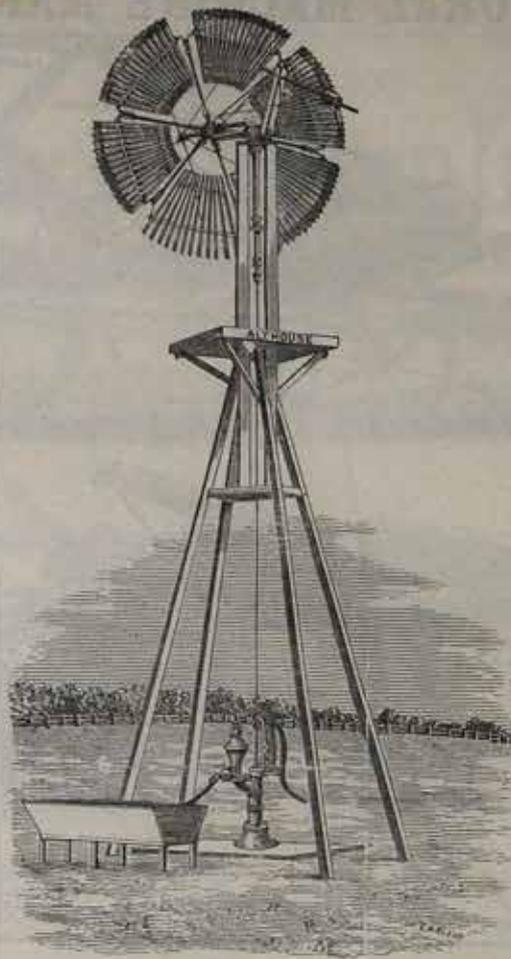
Patentees & Sole Manufacturers:

**SCOTT & YOUNG,**

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MELBOURNE.



# WRIGHT & EDWARDS

Engineers, Millwrights, &c.,

99 & 101 LITTLE BOURKE ST. WEST,  
MELBOURNE,

MANUFACTURERS OF

Steam Engines, Boilers, Sheep Washes, Scott's Patent  
Wool Scourers, Centrifugal Pumps of  
any Size or Capacity.

FORD'S PATENT AIR COMPRESSORS,

And of the now justly celebrated

**AUSTRALIAN WATER AUGER,**

Which has attained the greatest depth bored by any machine yet introduced to the public, the Diamond Drill excepted.

# EARTH SCOOP

(CHESNEY'S PATENT.)

The Latest brought before the public.

This machine will take out 200 cubic yards of earth in  $\frac{1}{2}$  cubic yard loads in a day of eight hours: is simple, strong, yet light of draught, easily kept in repair, and has been pronounced by experienced judges to be the best Earth Scoop yet invented.

N.B.—This Scoop can be seen at Messrs. WRIGHT & EDWARDS' Stand.

The Journal  
OF THE  
National Agricultural Society  
OF VICTORIA

MELBOURNE, AUGUST 12th, 1887.

Ourselves.

WITH this number we begin the third year of our Journal, which we have endeavoured throughout to keep up to the standard we set ourselves at starting. Probably those best acquainted with the work of keeping a journal going will most readily admit the difficulties attendant thereon, for they know how hard it is to write or procure suitable matter. It is long since it was said that there is no new thing under the sun, yet our object is still to try to produce that which, if not new, shall at any rate have the characteristic of freshness. In this regard we hold we have not been unsuccessful, for our last few numbers have been made up entirely of original matter and matter obtained at first hand. It is not always, however, that we have the leisure to write, or the fortune to procure original matter, in which case we do as did a worthy preacher, who, when he went into his pulpit, and when about to commence to preach, found he had mislaid his sermon. He said—"My friends, I find I have forgotten my sermon, but I will read you a chapter in Job worth half-a-dozen of it." Now, when we are at a loss for matter of our own, we have a number of excellent exchanges on which we fall back, and from which we give our readers articles which are generally well worth perusal, and to which they would not otherwise have access. Thus, variety is obtained, and a wider interest is excited. Our printers and publishers continue to do their part well. They have the satisfaction of knowing that they turn out the Journal in a style unequalled in the metropolis. We take this opportunity of thanking our large circle of friends for their kind assistance and support, and of expressing the hope that our kindly relations may long continue.

The National Society's Show.

THE entries for the Seventeenth Annual Exhibition of the National Agricultural Society of Victoria, which closed on Saturday last, are largely in excess of those of any previous year. The show promises to be the most successful ever held by the Society, which, as an institution, is rapidly becoming correspondent with a wider environment. When the Council gave up the old site on the St. Kilda road—17 acres in extent—and secured the present site of 30 acres, it was thought that the increased area would be sufficient for a number of years, but so popular has the Society become, and so fast has been its progress, that it is a matter for regret that an area of at least 40 acres had not been secured for its Show Grounds, as it will tax the ingenuity of the management to satisfactorily dispose the exhibits in the

available area. The Show will commence on Tuesday, the 23rd inst., when machinery (in motion), implements, &c., and carriages, and buggies will be on exhibition. On Wednesday, the 24th, the whole of the exhibits, with the exception of the hunters, will be on the grounds, and the judging in the several sections will be commenced at 10 o'clock in the morning. On Thursday, His Excellency the Governor will visit the Show, and will, in company with other specially invited guests, lunch with the President and Council on the grounds. On this day the live stock exhibits will be paraded round the trotting ring—the trotting competition (against time) will be carried out—and in the afternoon the first hunters' trials will take place. On Friday, the live stock will again be paraded, and the ladies' hunters and high jumping contests will take place. These will be followed by the exhibition of rough-riding, and as there are some real bad ones amongst the horses, there will be an exciting exhibition of Australian horsemanship. On Saturday, the hunters' trials and time test in trotting will be completed, and the parades of stock will be repeated. On Monday, the 29th inst., sales of stock will be held on the Show Grounds, and they will be continued on Tuesday, the 30th, during which days machinery and implements will remain on exhibition. Return tickets, at holiday excursion fares, will be issued on all the railway lines, from the 20th to 30th, available to 31st August, and no effort will be spared by the management to offer every facility to the public to visit the exhibition, for which the following highly satisfactory entries have been made:—Draught horses, 125; thoroughbreds, 15; trotters and roadsters, 40; hunters, 40; high jumpers, 13; ladies' hunters, 5; hackneys, 26; rough riding contest, 9; ponies, 39; coaching and carriage horses, 37; shorthorn cattle, 99; herefords, 33; devons, 6; polled angus, 39; ayrshires, 139; jerseys, 85; holsteins, 5; brittanys, 14; milking test, 19; dairy and fat cattle and derbies, 38; merino sheep, 38; lincolns, 46; leicesters, 24; southdowns and fat sheep, 16; swine, 66; poultry, 201; dogs, 165; carriages, buggies, &c., 294; harness and saddlery, 36; farm and dairy produce, 164; wines, 40; with 71 stands of machinery, implements, and miscellaneous exhibits, making a grand total of 3000 entries.

Notes.

From a private source we learn that at the Royal Counties' Agricultural Show, held this year at Reading the exhibition of dairy cattle was particularly good. The Guernseys, a breed which the writer had not previously seen, were very prominent. Though a distinct breed, they look like a cross between the Ayrshire and the Jersey, but are rather larger than either. They are easily kept, and give very rich milk. The Guernsey is said to be the coming cow.

In relation to the Jubilee, the same writer, an Australian native, says:—"They talk of England becoming a Republic. Well, I have seen London—mighty London—moved from centre to circumference, have heard the loyal shouts of multitudes as well as read accounts of the way in which the 50th anniversary of Victoria's reign has been kept up in other places, and it makes

me think there surely must be something in it—this must be real. It has cost too much to be done for mere show—there must be love and loyalty beneath. The idea that has brought this about must certainly have great physical power, and will become stronger for having produced this movement. No, believe me, we are not going to have a Republic yet. A Royal family may be costly, but a nation which will spend so freely in the celebration of the 50th year of a reign, will not scruple to spend as freely in still having a King or Queen to reign over them."

We call the attention of breeders to the Shorthorn, Hereford, Ayrshire, and Jersey Derbies for 1890, as advertised on page 5. These Derbies, if properly patronised by producers of pure cattle, must become very valuable stakes.

The annual sale of draught horses held this month in Melbourne was very discouraging to breeders, as the prices realized for stallions which were sold were very low, while for many no price at all was offered. Some years ago when the cattle interest was very much depressed, horse-breeders consoled themselves with the idea that their interest could never reach such a low ebb, as horses would always be required. Yet to-day the horse business is very much more depressed than the cattle trade, which now has a decidedly brighter outlook than was the case a few years ago. The depression in the heavy horse trade is largely due to the continued importations from New Zealand. We understand, however, that this cannot go on—that is, New Zealand cannot continue to send over such numbers without causing a scarcity in her own markets. It was noticeable at the sales that there were fewer inferior stallions offered, still there were many which it would have been better for all concerned if they had been added to the list. There is nothing like the present depression in prices for opening men's eyes to the folly of keeping second-rate horses for stallions, and if it has the effect of weeding out a lot of rubbish, it will not have been without its use.

A great Dairy Show has just been held in New York. It was estimated that the 500 cattle on exhibition were worth £200,000. Nearly one-half the entire number were Jerseys. These were headed by the famous old Eurotlas, one of the most celebrated cows in the world. The Ayrshires were headed by the famous Duchess of Smithfield. This cow is said to be the best Ayrshire ever produced in the United States. She has a butter record of over 19lbs. in a week, and a milk record of over 10,000 lbs. in a year. She is a trifle larger than Eurotlas; spotted fawn and white in colour, and with great udder stomach and lungs. No very remarkable animals were shown in the Guernseys, but as a whole the collection averaged as high as any breed on exhibition. The Holstein-Friesians made a magnificent display. Smiths, Powell and Lamb exhibited twenty-two head, including Clothilde, which leads the world with a milk record of 26,021 lbs. in one year.

The pure herd of Shorthorn cattle, the property of the well-known breeder, Mr. J. Horwood, of Bridgewater on Loddon, was sold by auction on the 9th inst., at the City Horse Bazaar, by Mr. Charles Lynott, of Richard Gibson and Co. The highest price realized for bulls was 180 guineas, for 10th Duke of Brigewater; and for cows and heifers 145 guineas, for Oxford's Matilda 6th.

POTATO GROWING.—An experienced grower gives the following as the best plan to grow a large crop of potatoes on a small area of land:—Make ground rich, plant evenly two and a half feet apart each way, and thin to a single stalk in the hill: give continuous culture through the season.

## Meetings.

THE ordinary monthly meeting of the Council of the National Agricultural Society of Victoria was held on Tuesday, 9th August, 1887.

Present—Dr. Plummer, President, in the chair, with Messrs. W. J. Lobb, J. Hurst, F. Peppin, W. Thomson, T. Brunton, J. Hearn, D. R. McGregor, W. Glover, Walter J. Clark, F. Henty, D. White, J. M. Peck, J. Currie, George Young, J. Finlay, J. Buncle, and J. Garton.

The minutes of the previous meeting were read and confirmed.

### REPORTS.

The Finance Committee's report, submitting the monthly statement of accounts and recommending payments amounting to £453 7s. 10d., was read.

Mr. McGregor moved the adoption of the report. Seconded by Mr. Brunton, and carried.

The Executive Committee reported that they had authorised the erection of a shelf for the storage of fodder, over the fronts of the cattle stalls; and, with the approval of the Chairman of the Works Committee, had authorised the extension of the new luncheon hall by 19 feet lengthwise, at a cost of £57 10s.

Mr. Currie moved the adoption of the report. Seconded by Mr. Thomson, and carried.

The Works Committee reported that they had resolved to spend £50 in filling up the fronts of the cattle stalls with earth, and that they afterwards made arrangements to obtain 200 loads of material for filling, delivered at 5s. per load, which they considered very satisfactory.

Mr. McGregor moved the adoption of the report. Seconded by Mr. Brunton, and carried.

The Secretary stated that at a meeting of the Executive Committee he reported that William Sims, jun., had been robbed of £23 of the Society's money, which he had received to deliver to Mr. Davies to pay wages, and that he had been instructed to request Sims to make good the amount to the Society.

The Secretary also reported that £87 9s. had been collected as donations to the prize fund—exceeding those of last year.

The Secretary further reported that the entries to the Show far exceeded those of any previous year, and that, after going over them carefully and allotting boxes on the plan of the buildings, he found there were over 70 additional stalls required for cattle, and a larger amount of additional accommodation for dogs and poultry.

Mr. McGregor moved that the Works Committee be authorised to provide the required extra accommodation. Seconded by Mr. Peppin, and carried.

The Committee resolved to meet at the office at 10 o'clock next morning to go to the grounds and arrange for the works to be pushed on at once.

### CORRESPONDENCE.

Letters were submitted from His Excellency the Governor, the members

of the Ministry and other specially invited guests, accepting invitations to the Show. Received.

From T. Learmonth, asking leave of absence for five months, as he intended to visit India.

Mr. Lobb moved that leave of absence be granted to Mr. Learmonth. Seconded by Mr. Hurst, and carried.

From McComas & Co., stating that they had omitted to make their entry of waterlifts in time. As they had a reservoir on the grounds they trusted the Council would allow them to exhibit their lifts, which were not for competition.

The Secretary stated that he had refused a number of late entries.

Mr. Thomson moved that the Council express regret to Mr. McComas, but that they could not comply with his request. Seconded by Mr. Hurst, and carried.

From R. Hayes, Secretary Saddlers' Society, suggesting the appointment of practical mechanics as judges of saddlery.

To be informed that experts had been appointed.

From Police Department stating that the charges for police at the show would be 1s. per hour for foot men, with an addition of 5s. per day for mounted men.

Mr. Thomson moved that a deputation consisting of the President, Messrs Lobb, Hurst, and the mover, wait on the Chief Secretary in relation to these charges. Seconded by Mr. Currie, and carried.

From Customs Department, in reply stating that permission would be granted to use the show grounds as a temporary bond for machinery, on completion of the necessary form. Received.

From Secretary for Railways, in reply stating that excursion fares would be issued on all lines in connection with the show. Received.

The Secretary reported that he had seen the Traffic Manager and had arranged that the show siding should be opened on the 18th, and remain open till the Thursday after the show, and that a special train should leave on Saturday evening with stock for Kyneton and intermediate stations.

It was arranged that the Council should meet on the Grounds at 4 p.m. on Thursday, Friday, and Saturday during the Show, for the consideration of protests.

Mr. Peck moved that donors of either one or two guineas to the prize fund receive a complimentary ticket, admitting themselves and two ladies to the Show Grounds.

### MOTION.

Mr. Walter Clark, in accordance with notice, moved—That this Society should invite, by advertisement, the draught horse breeders of this colony to meet at the Society's room on some evening during the Show week, to consider the question of forming a Breeders' Association, for the purpose of bringing out a stud book." Seconded by Mr. Peppin (who thought the motion should apply to other descriptions of pure stock), and carried.

Mr. Clark moved—"That a committee, consisting of the President, Messrs. Peppin, Thomson, R. Clarke, and the mover, be appointed to devise a scheme

whereby effect could be given to the previous resolution." Seconded by Mr. Currie, and carried.

The meeting then closed.

## Judging Horses by Points.

A conference of delegates from several Agricultural Societies was held at Murtoa last month, when the above subject was discussed. Mr. Cromie said—As a member and representative of the Rupanyp Agricultural and Pastoral Society, and as that society is the originator of the matter which we are met here to discuss, I think a little explanation is necessary on my part. I brought the following motions which were carried unanimously by our society:—"That, in the opinion of this society, the present system of judging horses at agricultural shows is defective, and that an amendment be made in the direction of judging by points; and that a conference of delegates from the surrounding societies to draw up a schedule and code of points for that purpose be held at the Club Hotel, Murtoa." I am glad to see that the societies written to asking their co-operation have responded so freely, showing that they agree that some amendment in the present system of judging horses in show yards is desirable. I mention horses, in the first place, merely as a start, because they come more within my grasp, and I am better able to deal with them. But I think the system that I would propose to introduce might be extended to cattle, sheep, and some other exhibits. In dealing with the subject before us I might be permitted to say, and without any spirit of egotism, that my experience in show-yards as a horse judge is not a limited one; and during an experience of twenty years many things have come under my notice which all go to prove that some alteration is necessary. For instance, we have met judges who took the position upon them, not because they were qualified, but simply because they knew that there were two others to act with them, and that they would pull through somehow, and at the same time perhaps learn a little. But a greater and more unpardonable error, in my way of thinking, has come under my notice, and that is favoritism. Because an exhibitor happens to be a popular or wealthy local resident, I have known judges to lean towards that exhibitor. But as agricultural societies are for the purpose of educating the public in the improvement of stock, agricultural implements, etc., it is necessary that the exhibit most worthy should obtain the highest merit. Now for a remedy. It is well known to the gentlemen present that a discussion has been going on at home, and in the press of the colonies for some years with regard to some means to remedy these evils, and a great many suggestions have been thrown out. First, it has been suggested that one honorary judge should act; secondly, that one paid professional judge only should be appointed; and thirdly, some societies have adopted a slight alteration in the present system—that one judge stand back while the other two are acting, and should they disagree the third would be called upon to act as referee. I cannot look upon any of these suggestions or alterations as much improvement on the old system. But after studying the matter carefully for a number of years I wish respectfully to lay before you an outline of a system, which, if put in proper form with your assistance, would, I think, act well. That three judges be appointed as formerly, and that each judge receive a form containing a schedule with code of points as suggested here, or as may be agreed on and adopted by this conference. That each judge should act on his own responsibility without conferring with one another, and at the finish sum up the number of points, and the animal which

The most important point for our consideration is the fact that it is during the three hottest and driest months of the year that the disease makes its appearance, and that at any other time horses and cattle may be turned on infected country with comparative safety. It is true that now and then a case may occur a few weeks earlier or later than the time mentioned, but these exceptions only prove the rule. As already stated, this is the hottest and driest season of the year. Heat and drought may therefore be regarded as constant attendant circumstances. The only other condition that occurs to my mind at present as being an almost equally constant accompaniment in all districts where the disease is found is bad water. The heat and drought cause animals to require a large quantity of water when the supply is the lowest and the quality the worst. At this season of the year the water-holes, which are the only sources of supply in most districts, are the most perfect nurseries for all kinds of infusorial and germ life. The constant evaporation and the frequent visits of thirsty animals tends to still more concentrate their decaying and living contents, and the mystery to me is that we do not have more diseases than have yet been discovered.

I have known cases of the disease under question to have occurred in places where animals had access to running streams; but these so-called streams are little better than stagnant pools, the water at this season being warm and impregnated with animal and vegetable matter, in a state of decomposition and full of organic life.

The conclusion I have arrived at after a somewhat lengthened inquiry is, that this disease, like many other zootics, is due to the introduction into the animal's system of some minute germ or bacillus, which lives upon and multiplies within the blood, and after a certain period is passed off by the various excretories of the body. While in the blood, it so alters the composition that it is incapable of giving the necessary nourishment to the more remote parts of the body, and so the muscles of locomotion are not in a fit state to respond correctly to the direction of the will.

Whatever this *materies morbi* or disease-producing element may be, it is evident that it remains for a considerable period in the animal's system. Dozens of horses, as well as cattle, show no signs of disease when they leave the paddock, but when they have been ridden or driven for a distance it suddenly develops. This may occur in horses when being brought in from the paddock, or after they have been in the stable for a week or more. The performing a journey or doing work may, therefore, be looked upon as the exciting cause of the disease. This is not always necessary, however, to produce it, as many horses become affected in the paddock without being put to work. In these cases it is evident that the disease-producing element is sufficiently abundant in the animal's system to give rise to the well-known effects without any particular exciting cause. It is also quite probable that horses that escape having the disease, although running in the same paddock, and being placed under precisely similar circumstances to those which develop it, escape only because there is an absence of any exciting cause.

I believe that in many cases we could develop it in at least half the horses in any given paddock when the disease breaks out, simply by submitting them to severe exertion and then turning them out again when sweating.

The muscles of the thighs are often observed to be slightly wasted before the characteristic spasmodic action of the limbs or knocking over at the fetlocks is noticed. It is also evident that, whatever the primary or predisposing cause is, that it remains latent in the system for a certain limited time, and then passes off, and there is no

further danger till the following season. This, to my mind, points emphatically to some disease germ which enters the blood to reproduce and pass off again, leaving on some animals effects which take months to recover from; whilst others apparently none the worse for having acted the part of travelling nurseries.

I trust the few scattered reflections which I have attempted to focus have not been uninteresting, and that the hurried glance we have cast over both old ground and new may be of some benefit.

I could write and say a great deal more on the subject, but will not trespass further on your time.

W. T. KENDALL, M.R.C.V.S.

## Weeds and their Eradication.

It is to be feared that farmers do not sufficiently appreciate the importance of the weed question. What is a weed? The best definition I know is that given by Professor Scott in the chapter on weeds in the "Crops of the Farm," where he says "a weed is a plant out of place," a plant, therefore, which is occupying a certain space, and extracting from the soil certain nutriment which would be more profitably employed in the production and increase of the crop. Weeds, are to all intents and purposes, robbers, and as such it ought to be the object of every farmer to destroy them and clear his fields of them. "In several countries," according to Sir John Sinclair, writing in 1821, "the legislature has interposed its authority for the destruction of weeds. By a regulation in France, a farmer may sue his neighbour who neglects to destroy the thistles upon his land at the proper season, or may employ people to do it at the others expense. In Denmark there is a law to oblige the farmers to root up the corn marigold. But the oldest regulation for that purpose was probably in Scotland; a statute of Alexander II., about the year 1220. This statute denounces that man to be a traitor who poisons the king's lands with weeds, and introduces into them a host of enemies, and those who had the corn marigold in their corn were fined a sheep for each stalk." A clause, enforcing the destruction of weeds in hedges along the sides of roads, was even, according to the same author, passed by the House of Commons, but was thrown out by the Lords.

Here, in this land of freedom, however, it is open to any occupier of land to convert it into a veritable nursery of weeds, from which the neighbourhood for miles around may be supplied with seeds free of cost, and without even the trouble of sowing. The necessity of any man setting aside his land for such a desirable purpose—there are, however, farmers public-spirited enough to do so—is obviated by taking advantage of the hedge-bottoms and roadsides, which in some parts are during the summer months one mass of bloom, which, however interesting and beautiful it may appear to the botanist and admirer of Nature, is a spectacle truly distressing to the enlightened agriculturist who knows what the inevitable consequences will be.

The old maxim, that "one year's seeding is seven year's weeding," is as true as these maxims generally are, and if the enormous rate of increase of some weeds were better known, the war against them would be more determined and thoroughly carried out. It has been computed that a single poppy, if allowed to reproduce uninterruptedly, would in the short space of seven years have a sufficient number of descendants to cover every inch of Great Britain. This is, of course, an extreme case; but it gives one an idea of what may be done by a determined plant.

The advantages of the destruction of weeds are, of course, too obvious to require any dilution on them, and we may at once pass to the consideration of the measures to be adopted for their extirpation. In the first place, if the country is ever to be in any substantial degree freed from these pests, it is necessary that the farmers of a district shall combine together in a sort of "anti-weed league," the members of which are pledged to take every measure to destroy all weeds on their several holdings, and not only so, but steps must be taken to destroy the weeds growing in the hedgerows and lanes. This, I suppose, is a somewhat Utopian idea, and I do not expect such a combination ever to

take place among farmers. It is, however, possible that a long step in advance may be made by the determined action of individual farmers who in every district shall, both by example and precept, show the advantages to be gained by keeping the land clean, and in such condition that the tender seedling crops are in no danger of being smothered by the coarse stronger-growing weeds which possess such an enormous advantage in being indigenous to the soil.

The last few years of rain and depression have been much in favour of the weeds, but there are still farms to be seen, like oases in the desert, where weeds are unknown, and there can be no doubt that the spread of agricultural education will tend to largely increase the number of these fertile spots. Weeds have been classified in many different ways, but for the present purpose probably the best method is that which divides them into two classes, (1) annual or biennial, (2) perennial.

First, then, we will deal with those weeds which are annual or biennial, and which are propagated chiefly by seed. The seed of these plants is introduced to the fields in several ways, among which may be mentioned the careless practice of throwing into the yard or on the manure heap the seeds which are separated from the corn in winnowing to be carted back with the manure. Another way in which weed seeds are frequently introduced is in the corn, clover seed, or grass seeds which are sown, and which, in too many cases, are full of the vilest impurities. The remedy for these two causes of weeds in our fields is apparent. First, do not throw the screenings from the corn about where the seeds can by any means be conveyed to the land, but carefully destroy them; it is not safe to trust to the fermentation of the manure to destroy the vitality of the seeds. Some will be destroyed, doubtless, but many will escape. For the second, the remedy is clearly to buy none but seeds of guaranteed purity, and to take the precaution of having these examined by a competent botanist, especially in the case of clover and grass seeds. Other seeds are brought on the farm by birds, or, especially in the case of those seeds in which the calyx is developed into the down of the thistle, &c., by the wind. These, of course, it is impossible to prevent, but by taking care so far as is in our power that thistles and other weeds of the class are not allowed to bloom and perfect their seed in the hedgerows or lanes any more than in our fields, we shall be greatly diminishing the danger from this source. The great difficulty will always be, unless, indeed, some law be passed to prevent it, that a slovenly farmer always forms a centre from which the seeds will radiate to his neighbours' lands, and so long as Mr. A's fields are the *habitat* of countless thistles, it is waste labour and expense to attempt to clear the hedgerows and lanes. Under present conditions large sums are annually spent in an ineffectual battle with weeds, which might be saved if they could be once and for all eradicated, for once get the land thoroughly clean, and it can be kept clean at one half the labour and expense required to clean it every fifth year from the accumulations of the other four.

## The Shorthorn.

"The Shorthorn breed of cattle may now be fairly called cosmopolitan. Its *habitat* is everywhere. From one small spot in Britain, its native home, it spread through this country till it is found from John o' Groats to Land's End; in Ireland it prevails everywhere, to most parts of the globe it is emigrated, and an importation of animals by the Government of Japan shows that even the exclusive East is ready to accept the breed as an imprint for the native race.

"The 'art and mystery' of breeding has worked marvels upon our native breeds of cattle, and the modelling powers of man have been so exercised upon Shorthorns that the gaurt, ungainly form which seems once to have characterised the race has been fashioned into a parallelogram of symmetry and beauty. There seems little doubt that from time immemorial the breed existed, as a local type, along the rich grazing valleys of the Tees, in the counties of Durham and Yorkshire. Noblemen and squires, with a thoroughly English love of good stock, kept up the herds on their estates with as much pride as their own pedigrees. Numerous are the local records of the excellencies and feeding properties of these cattle, and of their capability

is credited with the greatest number of points to be considered the winner. It may be said why not allow them to act together as formerly. My reasons is this, that no man will take upon himself to act except he is one who thoroughly understands his work—who thoroughly understands the points of a horse. Another advantage to be gained by adopting this system would be that exhibitors would see in what points the prize-taker excelled, and press reporters and the public at large would see the good and weak points of the principal animals exhibited. However, I may be taking up too much of your valuable time. I trust that we will discuss this matter in an earnest and practical way, remembering that anything we arrive at to-day is open to the criticism of the press and the public, and at the same time bearing in mind that we may be the means of initiating a system which may be for the benefit of agricultural societies throughout the world. After due deliberation, the following scale of points was resolved on for use in judging draught horses:—Action 9, size 9, bone 9, symmetry 9, feet 9, head 6, quality 6, colour 3, neck 5, shoulders 5, girth 4, arm 4, thigh 4, knee 3, chest 3, under knee 3, hock 3, shank 2, pattern 2, hair 2.

## The Causes and Character of so-called Australian Stringhalt.

(CONCLUDED.)

"The plant has no poisonous properties. If it had, foals suckling their dams would be likely to become affected, the milk being the first secretion to become affected by an improper diet."

Why does not stringhalt exist in countries where the flatweed came from?

### RHEUMATIC THEORY.

That the disease bears some resemblance to rheumatism there can be no doubt; and when it was first brought under my notice, and in the absence of personal observations, I was inclined to accept this as being the most probable explanation. Subsequent investigation, however, soon convinced me that the analogy does not go far before serious obstacles are to be met with. I need only mention one or two points to convince you that this theory will not hold water.

Rheumatism is known to be brought on in a large majority of instances by sudden alternations of the temperature of the body, which causes a check to the perspiration, &c.

If stringhalt were identical with rheumatism, it would have to be accounted for in a similar way. The fact that stable-fed working horses are of all others most exposed to these sudden changes and chills, and are least liable to become affected with stringhalt, should go a long way to prove that it is altogether a different disease.

Rheumatism is not characterised by any exaggeration of voluntary muscular movements, the reverse of this being the rule.

It is highly improbable that hot days and cold nights, which have frequently been referred to as having a probable influence, would have the effect of acting upon different individual animals in this particular manner, and not be manifested in some other way among the rest of the mob. To better illustrate my meaning: Suppose each individual in this room were to lie out all night in the nearest paddock. The exposure would not affect us all in the same manner. I venture to say some would have congestion of the lungs or liver; others rheumatism; whilst some would perhaps have congestion of the kidneys or inflammation of the bowels, and some probably escape any serious ill-effects. If, therefore, stringhalt were due to sudden alternations of temperature, I maintain that other effects of this would be found concurrently with it, which, so far as I am aware, is not the case.

### ERGOTISM THEORY.

Another explanation that has been offered, and I believe Mr. Hill, M.R.C.V.S., of Christchurch, N.Z., was first to start the idea, is that the disease is due to the animal obtaining a quantity of ergotised grass.

Ergot is a peculiar vegetable fungus or spur-like growth called the *claviceps purpurea*, which forms upon the stems of plants, especially the cultivated grasses.

In my first report I stated that stringhalt followed in the wake of agriculture, and that it was always most prevalent on lands that had been cultivated, or were in close proximity to such; and, as I have yet no reason to make any serious departure from this statement, there would appear to be some solid ground for further investigation, especially as there is nothing in the symptoms or nature of the disease which might not be directly or indirectly due to ergotism. What appears to me to be the most fatal objections to this theory are that cattle and sheep are just as likely to become affected with it as horses. It is also a most frequent cause of abortion, which, so far as I am aware, bears no relationship to stringhalt. In other words, there is no evidence that abortion accompanies stringhalt.

Until we are able to produce positive proof of the actual cause or causes of a disease, I hold that the next best thing we can do is to prove what it is not due to, and this has, to a great extent, been my policy throughout.

Whether I have succeeded in convincing you than any or all of the supposed causes I have mentioned are based on erroneous premises remains to be seen.

It may be possible for someone to stumble accidentally upon a correct solution of the mystery, but the surest way of leading to the discovery of the cause is by endeavouring to correctly interpret the effects produced.

If a theft has been committed and the thief is unknown, the detectives at once set to work to ascertain the nature of the theft, and if suspicion is cast upon anyone, the individual is examined, and, if found innocent, search has to be made elsewhere. In like manner in dealing with diseases, the causes of which are unknown, we have to work backwards inferentially from effect to cause, and it must be at once apparent to any intelligent mind, that if we give a wrong interpretation to the effects produced, we are at once thrown out of the proper course of our inquiry.

I am convinced in my own mind that a good deal of misconception has taken place in regard to the true character of the disease in question. For example, Mr. Stanley in his official report states under the heading *Nature*, "that it is a local nervous affection characterised by an involuntary spasmodic action of the muscles of both hind legs." Others have previously described the disease as being identical with Chorea, or St. Vitus' Dance as it is commonly called.

I hold that in the correct acceptation of the term, the characteristic jerking up of the hind legs is not an involuntary muscular action, and it is of the greatest importance that this should be distinctly understood.

When Mr. Stanley was in Melbourne a few months ago, we had some discussion in reference to this point, and he maintained that it was only a matter of hair-splitting. To my mind there is just as much difference between a voluntary and an involuntary muscular movement as there is between a sane man and a lunatic. You have all seen dogs affected with St. Vitus' Dance after a severe attack of distemper. The peculiar twitching of the muscles takes place whether the animal is sleeping or waking, and notwithstanding the pain and weariness caused by the frequent repetitions, the animal is totally unable to resist them.

I have watched horses affected with stringhalt for hours, and have, as before stated, had one affected with the worst form of the disease under observation for three months,

and have never witnessed any involuntary muscular movements. The spasmodic snatching up of the limbs in the affected horse is merely an imperfect response to voluntary movement which only occurs when she horse desires to move the limb; consequently, it bears no analogy whatever to the muscular twitchings in St. Vitus' Dance. It is true that when the horse is standing, and has apparently no desire to move forwards or backwards, or even to either side, he will frequently snatch up one hind foot and the other quickly afterwards; but it must be remembered that the wasted condition of the muscles, and the consequent unnatural position of the limbs, cause the animal to frequently want to change the weight from one limb to the other, and that it is impossible for him to lift his hind foot, except by a sudden jerk. This sudden spasmodic movement of the limbs is due to a want of co-ordinate action between the different sets of muscles which control the natural movements. The muscles at the back part of the leg are more wasted than those in front, and are consequently in too weak and flabby a condition to counter-balance the muscles in front which flex the hock, and instead of a natural, well-directed movement, the foot goes up with a bang, on the same principle that an unevenly balanced see-saw would do.

A careful analysis of the symptoms and post-mortem appearances convinces me that the wasting of the muscles is due to want of nourishment, as they are reduced in volume, pale in colour, and flabby to the touch, but readily resume their tone and volume when recovery takes place. The disease is, therefore, functional, and not organic, in the first instance. I am well aware that in old standing cases other complications arise, such as rupture of the ligaments of the joints, absorption of the articular cartilages, accumulations of gelatinous-looking substances between the muscles, &c., &c. But these are all after effects, produced by the unnatural position in which the limbs are placed, and the exaggerated movements they are called upon to perform.

Although this disease occurs in two or three forms, which were minutely described in my first official report, these bear sufficient resemblance to each other to be readily identified as modifications of the same disease; consequently, it is unnecessary to enter into any further detail here.

This singular uniformity in the general characteristics of a disease, which occurs under such a variety of circumstances and surroundings, renders it extremely difficult to discover anything like a similar uniformity of any particular condition or circumstance under which animals acquiring the disease are placed.

Stringhalt is met with under almost every variety of soil, locality, and situation which can be found in the colony. It is found on rich alluvial flats, and on dry sandy ranges, on limestone, basalt, and sandstone formations, on chocolate soils, and on clay soils. It occurs in well-wooded sheltered situations, on the bleak open plains, and on high bare hills, on coast land and in inland valleys.

I am now going to drop the term stringhalt altogether, for it has been recognised on all hands to be an erroneous one, and tell you that almost as many cattle are affected with it as horses, and that I believe the disease I was sent by Government to investigate in the Western District to be due to the same cause or causes.

It affects animals of all ages, but adult animals are by far the most susceptible. There is, therefore, so far as we have gone, no uniformity in any of the circumstances which accompany it, or to which we can in any way attribute its production.

There are, however, some features and conditions which are almost, if not invariably, present, and to these and others which may yet be found to exist we must look for the probable cause.

of attaining enormous weight when at full maturity. Mr. Chas. Colling, of Ketton, County Durham (a follower of the great Bakewell, and a man of great judgment and sagacity), was the first to fix national attention upon the merits of the breed. Residing within the district, he collected the best specimens together, and by careful selection and in-and-in breeding to the blood of one cow, 'Favourite' or 'Lady Maynard,' reared a herd of fine cattle, which were shown to arrive at maturity at a much earlier age than had previously been seen anywhere. His brother (Mr. Robert Colling, of Barmpton) was also an eminent breeder, and bred upon the same lines. Indeed, both brothers, at first, used the same bulls. The former bred an ox of wonderful dimensions, whose live-weight was 34 cwt., whilst the latter exhibited a white heifer which obtained hardly less celebrity. The bull 'Favourite' (252) was the sire of both. They travelled throughout England, and were shown in London, as well as at the leading country towns. Their appearance, followed shortly afterwards in 1810 by news of the sale of Mr. Colling's herd at an average of £151 8s. for forty-seven head, brought the breed into general notoriety, and from the beginning of this century Shorthorns continued to spread rapidly, until they may now be found in every county in Great Britain and Ireland.

"The breed is distinguished by its symmetrical proportions, and by its great bulk on a comparatively small frame, the offal being very light, and the limbs small and fine. The head is expressive, being rather broad across the forehead, tapering gracefully below the eyes to an open nostril and fine flesh-coloured muzzle. The eyes are bright, prominent, and of a particularly placid, sweet expression, the whole countenance being remarkably gentle. The horns (whence comes the name) are, by comparison with earlier breeds, unusually short. They spring well from the head, with a graceful downward curl, and are of a creamy white or yellowish colour; the ears being fine, erect, and hairy. The neck should be moderately thick (muscular in the male), and set straight and well into the shoulders. These, when viewed in front, are wide, showing thickness through the heart; the breast coming well forward, and the fore-legs standing short and wide apart. The back, among the higher-bred animals, is remarkably broad and flat; the ribs, barrel-like, spring well out of it, and with little space between them and the hip-bones, which should be soft and well covered. The hindquarters are long and well filled in, the tail being set square upon them; the thighs meet low down, forming the full and deep twist; the flank should be deep, so as partially to cover the udder, which should be not too large, but placed forward, the teats being well-formed and square-set, and of a medium size; the hind-legs should be very short, and stand wide and quite straight to the ground. The general appearance should show even outlines. The whole body is covered with long, soft hair, there frequently being a fine undercoat, and this hair is of the most pleasing variety of colour, from a soft, creamy white to a full, deep red. Occasionally the animal is red and white, the white being found principally on the forehead, underneath the belly, and a few spots on the hind-quarters and legs; in another group the body is nearly white, with the neck and head partially covered with roan; whilst in a third type the entire body is most beautifully variegated, of a rich, deep purple or plum-coloured hue. On touching the beef points, the skin is found to be soft and mellow, as if lying on a soft cushion. In animals thin in condition a kind of inner skin is felt, which is the 'quality' or 'handing' indicative of the great fattening propensities for which the breed is so famous.

"The great milking properties of this breed have made the cattle equally serviceable to dairymen and graziers; indeed, a recent company in London was started under the name of the Royal Shorthorn Company. Years ago it was customary for droves of the ordinary unimproved Shorthorns to be driven on foot from the north to the south of England. Farmers would meet the droves on the road and buy the best animals, and in this way many capital stocks were early established in the midland and southern counties. Of late years complaints have been frequently made that Shorthorns are not good milkers. This may possibly have been correct in some instances, but it has arisen not from inherent inability, but from the pernicious effects of forcing young animals into a condition of premature fatness. There are, however, always to be found animals of all strains of Shorthorn blood, which are capable, not only of making their own calves fat, but of giving several quarts of milk daily in addition, and of sustaining such high condition all the

while as enables them to compete successfully in our leading show-yards. And at a recent conference on dairy matters, held by the British Dairy Association, a paper was read by an experienced owner of a dairy for town use, who bore witness that nothing had a better return to a milk-seller than his pedigree Shorthorns.

"The greatest record of the Shorthorn, however, still is its marvellous efficacy in crossing and improving other breeds. In Scotland many of the native black herds have been crossed generation after generation, and the produce is accepted as the very best beef which comes to London. In Wales the 'coloury beast,' as the Shorthorn is called, has gradually worked upon the Castlemartins and runts until it outnumbered them, and 'pure-bred' herds are to be found in the south as well as the north of the Principality. The marvellous improvement in the Irish cattle by the use of Shorthorn sires has become proverbial, and prices there for good yearling bulls have ranged higher, until quite recently, than even in England or Scotland. Even the Isle of Man boasts its pure herds and a 400 guinea heifer; whilst the Orkneys and Shetlands are not destitute of pedigree bulls.

"The Shorthorn has been called the 'Universal intruder.' Wherever Britons colonise the Shorthorn makes its home, and in many a distant land, where the English tongue is comparatively unknown, its influence is extending; and the Shorthorn undoubtedly is the chief means of transmitting to other countries and other nations that great national institution, 'the Roast Beef of Old England.'—*Agriculture.*

## The Half is more than the Whole.

It is a curious revelation of the tendency of the great main currents of human thought—to run, in all things, in quick succession, into the most opposite extremes, to find (as one may, after a couple of decades of extreme "purism" in cattle breeding) a strong manifestation of a desire to exalt short-pedigreed, loosely-bred, animals, of more than one variety, at the expense of the recent idols, the line-bred, closely-restricted, specimens of the breed. "See," says a Shorthorn admirer, "these two or three cross dairy cows; where will you find a registered herd like them, with their grand udders, thickly-meated loins and legs, and their hardy, fruitful character?" The inference—which the speaker obviously intends to have drawn—is that the pedigreed Shorthorns have imbibed the virtues of the breed; and that the tribes which run back to Vols. I. and II., with a record of nearly a century, have parted with these virtues and grown effete. Now we believe that, not only is this not the case, but that the popular impression—that it is so—is only one of the periodical outbreaks of impatience. Perfectly well-known and regularly-recurring symptoms which always have, and always will, characterise not only what is known as "improved breeding," but every pursuit which is not merely mechanical, and dependent upon the unvarying properties of dead matter—create first dismay, and then a cry to go upon a different track.

It is one of the peculiarities of growth, and all in which growth is involved, that it does not move forward uniformly with one regular continuous speed. All growth has its periods of advance, its periods of apparent stoppage, and its period of evident devolution of its beauty and apparent retrogression. Trees and herbs don't "burgeon" all the year round. They, most of them, shed their leaves—as children and puppies shed their milk teeth—and seem to be prematurely going to decay. Yet spring returns to the deciduous plant, and new sets of incisors are supplied without the aid of the dentist, and "progress is reported" once more. Life must have its seasons of action and reaction. And registered stock must be expected to do the same. These are only the concentration, into a variety, of the peculiarities of an individual life—its youth when it makes great advances every day, its manhood when a year or two more or less seems to make little or no difference.

No doubt this analogy may be pressed, and it may be said that old age must follow, and the condition "sans eyes, sans taste, sans teeth, sans everything," must come to registered stock. But reasoning by analogy is, of all kinds, the most likely to deceive, because the analogy—even if it be a true one, and it very often is not—often appears to lead to a conclusion which does not really follow. If the old-age period had supervened upon any of our "improved varieties"—in-potency to reproduce itself—the first indication that senility has set

in—must occur first. There does not seem to us the slightest real reason for believing that the thoroughbred horse (the racer), or the Shorthorn, or the Leicester sheep—i.e., the oldest specimens which we have of registered and restricted, i.e., of pedigree breeding—has ceased to be capable to convey its peculiar excellencies. But every trainer (of horses and boys) knows that generations differ; that a series of good years is followed by another series of bad ones. When the inevitable outcry is heard—"The thoroughbred" has lost wind, speed, stamina, &c.; the Leicester has lost wool, fertility, &c.; and the Shorthorn its lean flesh, its milking powers, its fertility, it only means that one of these stages have been reached. By-and-bye we have a Bendigo and an Ormonde; a sub-variety of the Leicester which ripens its "hoggets" at 112 lb. to 140 lb. at ten months, and clips 14 lb. of wool; and a Shorthorn like Queen Mary, or Thorndale Rose 24, or one or two of the Ribby cows at Warlaby—such as no critic can fail to gaze at with astonishment and admiration, as if he had never been astonished or driven to admiration before. Then once more eulogy awakens—the very men who were crying decadence are the loudest to praise.

It is also true to say that the world has grown more critical; and the ordinary standard (beyond which advance must be made to excite surprise at all, or even to catch attention) is rising in all varieties of live stock every day. We have repeatedly insisted upon the ill service which agricultural societies do to stock-breeders in not recording such indisputable statistics as the weigh-bridge, the tape, the trotting course, and the weights moved, could supply. These would counteract this peculiarity of human nature, at intervals to relapse into pessimism, and to believe that everything is going to the bad.

With horses we have the trotting records of America, and a Derby won in 2 minutes 43 seconds, to assist us in retaining the conviction that the speed of our horses is not altered, whilst the weight carried by Bendigo—and a hundred unrecorded hunters—proves that they have not lost their strength. But with cattle and sheep we are at the mercy of societies who do nothing to secure a breed against misconception; and we are exposed to the dangerous favour of the fancier, who is for ever at work to ensure misconception, by his unwise, extravagant advocacy; and by his ignorant insensibility as to what contributes real merit now, as it did when a wise observer first fixed a type and made a breed.

Just at the present minute the greatest enemy from which the Shorthorn has to suffer is its own great feats, and great reputation. These set babblers off to claim superiorities which never did exist; and which—in a country full of good sub-varieties of cattle and sheep, all of which hold in suspension exactly the same combination of materials in slightly differing proportions—never by any possibility can exist. Let us borrow an illustration from grafting. When an extraordinary good lot of short-pedigreed cattle appear, it is not because the stock is better, but because it is fresher, and throws out the introduced scion with the vigour which comes out of freshness. Yet this extra growth and fertility is only a stage, through which every herd has to pass, and it is not a permanent condition.

The admirable short-pedigreed herd must—to keep the advance it has made upon its original low standard—revert to the same sources from which the improvement came to it. The long restricted in-bred tribes are always the surest to convey any special point; although, of course, they have (as all living things have) some predisposition to decadence of their own. The choice does not lie between cattle who have proclivities which are all good and cattle whose proclivities are all bad. Unpedigreed have proclivities which, unchecked by human guidance, will ensure disappointment to the owner. But these proclivities of the registered may be fore-known, and therefore can be guarded against by the judicious breeder; but the bad proclivities of unpedigreed stock are not known, nor can they be ascertained, and therefore there can be no protection to anybody against them. After all, with all risks, pedigree-breeding is the safer breeding.—*Live Stock Journal.*

"IT'S AN ILL WIND," ETC.—A cautious old Scotch farmer, arranging for advertising the sale of his standing crops, said to the auctioneer: "I wish we may have a good breeze at the roup." "A good breeze!" said the auctioneer. "What connection has a breeze wi' the roup?" "Mair than ye imagine," replied the farmer. "When grain's waving wi' a good breeze, it looks a heap thicker—ye see the same beds two-three times."

## The Poultry Yard.

### Hatching, Rearing and Management of Chickens.

[We have received a treatise on the hatching, rearing, and general management of Chickens, by Mr. R. W. Webster of Maidenhead Berks, England, who is a young and enthusiastic poultry fancier. The pamphlet is so practical and interesting, that we publish the whole of it.]

#### THE MANAGEMENT OF STOCK IN ORDER TO ENSURE FERTILITY.

In the first place, it is of course necessary that eggs shall be fertile, and to secure this, fowls must be supplied with every requirement, and great attention must be paid to management in order that the conditions under which the birds live may be favourable to the fertility of their produce.

1. The first and most important point is, that only a limited number of hens should run with the cock, particularly in the early part of the spring. The number must, in part, be regulated according to the breed. To Cochin and Brahma male birds, no more than four hens should be allowed; to Dorkings, Plymouth Rocks, and Langshans, six hens; and in the case of the remaining breeds, as many as eight.

2. When kept in a confined space, two cocks should not occupy one pen, for one will gain the mastery and make the other useless. It is better to run a pair across a pen, and divide the birds into two sets. In an extended run, as many as thirty hens or more may be kept with the requisite number of male birds, as the latter, having plenty of room, will be less likely to interfere with each other.

3. Avoid as much as possible in-breeding, for to it many diseases have been traced. Fresh blood should be imported into the yard at the commencement of every breeding season. For my own part, I prefer no blood-relationship whatever to exist between the male bird and his hens, my plan being each year to dispose of all the cockerels hatched during the season, to leave the pullets, and to buy two-year old cocks to run with them. Too much attention cannot be given to mating. With pullets, a cock in his prime (two years old) should run, whilst for hens of a mature age, a cockerel should be the consort. In the case of breeding birds for exhibition, still further attention must be directed to mating, in order to bring certain points and characteristics of a variety to the show-standard of perfection. This, of course, necessitates an extensive knowledge of breeds, in addition to the practical part of poultry-keeping.

4. Feed regularly, giving neither more nor less food than is sufficient, and supply such necessities as grit to aid digestion, and plenty of green stuff in the shape of turf, cabbage, or lettuce-leaves; grit and green stuff are absolutely indispensable to keep birds in perfect health. The grit required should consist of small sharp stones—smooth ones being useless. Such grit may usually be seen at the foot of a hill, washed down by the rain after a shower. The scrapings of a road that is mended with gravel will afford excellent flint-grit, which is best for performing the work of food-trituration in the gizzards of fowls. Broken crockery pounded into fragments will do when flint is not procurable. Another substance necessary for hens when laying is lime, without which strong egg shells will not be formed. It may be given in the shape of old mortar or crushed oyster shells.

5. During the breeding season, and indeed at all times, the following is my routine for feeding:—Meal mixed with hot water through the winter months, or boiled corn, is given warm the first thing in the morning; potato parings and other scraps at mid-day, and a good feed of corn at night. The kind of meal and corn, of course, is varied. The reason for supplying a feed of meal in the morning is, that it is rapidly digested without requiring any preliminary grinding in the gizzard; but at night whole grain is given, because as it takes longer to digest, some of it lasts in the bird's stomach until nearly morning, and prevents a sensation of real hunger.

Throughout the spring I like to throw down, twice a week, a few handfuls of hemp seed, as I find it makes the birds very lively, and imparts a rich gloss to their plumage. Hemp is a valuable feeding grain, but must be given sparingly.

A little meat cooked or raw, cut up small, may, with advantage, be given in frosty weather, as it will take the place of worms and insects, the supply of which is, by the hardness of the ground, cut off, though animal food is then needed more than at other times by the fowls.

Birds kept in confinement require some animal food at all seasons, as they are deprived of that which they would naturally find on an extensive grass run. To meet this need I know of nothing better than Messrs. Spratt's "crissal." Horse-flesh, bullocks' lights and liver, cut into small pieces, and given throughout the winter, will greatly promote egg-laying, sometimes in fact to an almost unnatural degree. But if strong chickens and fertile eggs are wished for, such heightened feeding should not be resorted to, as too much forcing will weaken the hens, and perhaps considerably impair the vigour of their produce.

6. Breed only from the best and healthiest birds, never from one that has been diseased in any way; for though apparently quite recovered, some remains of the mischief may linger and be transmitted to the progeny.

7. Fowls must always be supplied with a dust bath; for a description of the contents of which see further on.

8. Cleanliness, to which too much attention cannot be attached, is the great preventative of all disease.

#### THE MANAGEMENT OF THE SITTING HEN.

*Selection and Making of the Nest.*—Eggs may be hatched almost anywhere, as a visit to a farm homestead will testify. I have known hens to sit with excellent results on the top of straw ricks, in the thatch of a barn, and even on the bare boards of a manger; but in sitting valuable eggs, it is always desirable to have the hen confined, and so directly under observation that any little mishap, such as a broken egg, may at once be rectified before serious mischief is done. I have set hens under coops in a square box, with a nest made of hay, taking them off every day for feeding; and once had fourteen chicks hatched from fifteen eggs by a hen which sat in a large hamper half-filled with hay, and with the lid closed. When a hen "steals" her nest in a safe spot, she should be allowed possession of the chosen place, for these stray nests usually yield good results.

A capital nest may be made as follows:—Get a box not smaller than fifteen inches square; knock the bottom out and place the four sides on the ground; next scoop the earth inside the box into the form of a saucer; and, lastly, line it with a good layer of hay or beaten straw. Over the box may be placed a coop or some other covering. I have frequently set hens in this manner, under coops out in the open, beneath some secluded shrub, with the front of the coop covered with wire netting, and with a sack in front so that the hen may not be molested. With such nests I have been very successful. One advantage is, that the dampness of the ground rising through the hay or straw of the nest, imparts the required amount of moisture to the eggs. In very dry weather the ground round the outside of the box may be damped by pouring warm water on it every other day, in just sufficient quantity to make the soil moist, but not wet.

A nest box, which I always use in preference to any other, consists of a frame of 2-inch boarding nailed to quartering at the corners. The two sides are 4 ft. long, 1 ft. 6 in. wide, and 2 ft. deep. At 18 inches from one end a slide is made to take in and out. One part, 18 inches square, forms the nest box, and in the other part, 2 ft. 6 in. x 18 in., the hen can come off and feed. The slide is only put in to keep the hen from returning to the nest before she has properly finished feeding, or is placed in at hatching time to prevent the chickens from falling out of the nest. It is removed at other times, so that the hen may have an opportunity of taking more food or a dust-bath at her pleasure.

A square frame of 1-inch quartering, of the same size as the box, is made to place on it. Twenty-seven inches are covered with wire netting, and the remaining 21 inches with zinc, to make a roof over the nest. The latter should project about two inches beyond the sides of the lower box, so as to throw the wet off the wood-work. These boxes may also be made to answer

the purpose of coops by tilting one end up with a brick, so that the chicks can run out.

In boxes of 5 ft. in length, a hen can be set in each end, but a temporary partition must then be placed in the middle to separate them.

My own hens are all set in such boxes. The attendant goes round every morning, takes each hen off, and shuts her out of her nest by the slide for a certain time, varying in length according to the season. When the slide is pulled out the hen at once quietly goes to her eggs again.

When possible, do not set in the hen-house where other birds are laying, or they will be tempted to use the brood nest, the result being a quarrel and its attendant breakages; or the hen upon her return from feeding may take possession of the wrong nest, leaving her own eggs till they become spoilt.

It should here be said that when a hen deserts her nest and the eggs appear quite cold, placing them in a basin of warm water, heated to 105 degrees, will usually bring them round again, provided life is not extinct in the embryos.

*Choosing the Sitting Hen.*—Of the pure varieties, the Game breed stands first in supplying good sitters, but Dorkins, Cochins, Brahmas, and Plymouth Rocks are excellent in this respect; as are also crosses from them.

Care should be taken to avoid hens which have blood of non-sitting variety in them, for these, unless already proved good sitters, can never be depended upon. Moderate sized hens are to be preferred.

It is often necessary to purchase broody hens, or to remove them from their own nests to others specially prepared for them; in such cases the most rebellious individual may usually be made to sit by placing her in a nest containing a few chalk or china eggs and covering her over. If this is done over night, she will settle down upon the long wished-for eggs, and will be found in the morning quite reconciled to her position. In most cases a few minutes is quite sufficient for a hen to take to her new nest.

*Storing Eggs for Sitting.*—An excellent plan for storing eggs intended for sitting is to pierce a board with holes, in each of which an egg should be placed with its large end downwards. When kept on their sides, eggs will require turning every day. This is very probably the reason that stray nests turn out so well, as the hen changes the position of her eggs each time she lays. It may not be generally known that the sitting hen also frequently turns her eggs, and also shifts their places in the nest. To simplify matters, the date when laid should be marked upon each egg, and where many breeds are kept, the initial letters of the variety should be added.

*Selection of Eggs for Sitting.*—When selecting eggs for sitting, it is my custom always to take those which are well-shaped, smooth, and thick in the shell, while I discard all that are particularly small or large. It is said, and possibly with truth, that mis-shapen eggs are as likely to hatch as others, if the conditions under which the parents live are favourable to fertility; yet I think it is better to altogether reject for hatching purposes unusual looking eggs, lest some peculiarity should be perpetuated in the off-spring. I also reject dirty or greasy-looking eggs, for the pores of their shells will probably be closed, and so prevent the entrance of air, which is essential to the growth of the chick within.

Eggs for sitting should be as fresh as possible. If set the same day as they are laid they will invariably hatch a day sooner than those laid earlier. I have had eggs a month old hatch well, and I have heard of some doing so after being laid six weeks; but my plan is, when possible, never to set eggs that have been laid more than ten days, for the older the egg the weaker the germ, and consequently the more delicate the bird from it.

*Number of Eggs allowed.*—The number of eggs which should be given to the hen will depend upon her size and the time of the year. In early spring even the largest hens should have but nine large eggs, or eleven small ones; but in summer the number may be increased to thirteen; and by a Brahma, Dorking, or Plymouth Rock, fifteen will easily be covered. It is, however, always better to err on the safe side, for even if one too many is given, the hen may lay a different egg get chilled each time she turns them, and so the whole sitting may be spoiled.

*Feeding.*—The sitting hen should be fed principally on wheat, but occasionally should

have a meal of barley. Maize should not be given, as it is of too heating a nature. Always give corn in preference to meal, for as it takes longer to digest it supports the bird's system gradually.

**Taking of Nest.**—To take the hen from her nest some care is needed. The best way is first to lift her wings and see that no eggs are under them; then putting the hands between the bird's thighs and body, and letting the wings rest on one's arms, gently lift her off.

If the hen is taken up by the wings, eggs will often be tucked up under her thighs, and should they fall back into the nest they may perhaps themselves break, and also injure others.

(To be Continued.)

**FRUIT AS A FOOD.**—We eat fruit spasmodically, energetically, yet with little method and less of reason. If we devour grains and the flesh of animals as we do fruits, digestion would refuse its offices. It is as a food in a regular diet and not as a mere relish; as a basis, and not as a dessert; as part of the breakfast and dinner, and not merely as a between meals lunch—it is as a regular and not a chance food that fruit deserves a place in the economy of living. When this is properly known, it will be a potent means of increasing the demand for the products of our orchards and plantations.

**EVAN EVANS,**  
Tent and Tarpaulin Manufactory,  
ELIZABETH STREET NORTH.

Near Old H.A. MARKET, Melbourne.  
Every description of Tents, Tarpaulins, Horse Rugs, &c., made to order on the shortest notice. A stock always on hand. Country orders punctually attended to. The trade supplied on the most favorable terms.

STEAM MILLS, 264 ELIZABETH STREET,  
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**H. GREENWOOD,**  
Flour and Corn Merchant.  
CRUSHING DONE FOR THE TRADE.

**GEORGE DAVEY,**  
MANUFACTURER OF CHAFF BAGGING MACHINES,  
The First Introduced to the Public,  
AND THE BEST AND SIMPLEST MADE.  
Can be attached to Travelling Chaffcutters. Inspection invited.  
Mining and Agricultural Machine Maker.  
60, 62, and 64 MAIR STREET, BALLARAT.



PATENT LABELS for SHEEP, &c., stamped with any name not exceeding nine letters, and numbered from 1 to 10,000. Price, 10s. per hundred, 80s. per thousand; 100 sent by post for 11s to any address in Australia, Tasmania, and New Zealand, excepting New South Wales and Queensland.  
Send for sample and descriptive circular.  
MANUFACTURERS of Patent SHEEP and CATTLE MARKING MACHINES, Sluic & Cattle Brands, Stencil Ink, Tattoo Brands, Tallying Registers, &c.

**W. WILLIS & CO.,** 31 Little Collins St. West, Melbourne.

**HAMMAND, POLSUE & CO.**  
(Late GILLESPIE BROS.)

GRAIN, FLOUR AND GENERAL PRODUCE  
MERCHANTS,  
55 & 57 FLINDERS STREET WEST,  
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**WATER TANKS,**

PLAIN AND GALVANIZED,  
100, 200, 300, and 400 GALLONS.  
Taps fitted to any size required.

HOUSEHOLD, ENGINE, AND BLACKSMITHS' COAL,  
BEST QUALITY.

Horse Feed of all Kinds. Wholesale and Retail.  
Purchaser and Seller of Country Cloth.

**W. H. LAMOND,**  
Coal & Produce Merchant,  
65 FLINDERS STREET EAST, and  
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**C. C. SANDERS & CO.,**  
SADDLERS,  
38 & 40 Bourke St. West, Melbourne.



Have always on hand a Superior Stock of Saddlery, consisting of Double and Single Buggy Harness; also, Carriage, Gig, and other Harness; English and Colonial-made Ladies' and Gents' Saddles and Bridles, Carriage, Buggy, Hunting, Jockey, and other Whips, from the best English Makers.

HORSE CLOTHING, RUGS, BITS,  
SPURS, &c. &c.

ESTABLISHED 1857.

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Old-established Agricultural Implement and Farm Wagon Manufactory

Celebrated for the excellence and durability of all work sent out.

Makers of the First Iron Plough in the Colony.

BUY NONE OTHER THAN  
**W. C. STOTT'S**  
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**FIRE BRICK LINED FURNACES**



For Copper Washing Boilers with Everlasting Bottoms, will Boil in Half the Time of the Ordinary Furnace, with Half the Fuel

To be had of all Leading Ironmongers.

Works:  
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FOR

**FURNITURE,  
BEDSTEADS,  
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AN ENORMOUS STOCK OF

**Beautiful Cottage Furnishings**

AT

**VERY LOW PRICES.**

CALL AND INSPECT.

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74, 76 & 78 ELIZABETH STREET MELBOURNE.

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**THE AUSTRALASIAN MORTGAGE AND AGENCY**

**COMPANY LIMITED,**

With which is incorporated

**HASTINGS CUNINGHAM AND COMPANY LIMITED,**

**WOOL AND GRAIN BROKERS.**

**THE AUSTRALASIAN WOOL STORES, MELBOURNE.**

Auction Sales of **WOOL** every Friday during the Season, and of **SHEEPSKINS, HIDES, TALLOW, KANGAROO SKINS, &c.**, every Tuesday, Thursday & Saturday throughout the year.

Auction Sales of **WHEAT, FLOUR, BARLEY, OATS, &c.**, every Wednesday during the Season.

*Consignments fully Displayed and Carefully Valued by Experts prior to Sale.*

**PROCEEDS REMITTED PROMPTLY ON DUE DATE.**

The Australasian Wool Stores,  
Collins Street West, Melbourne.

**WILLIAM ADAMSON & CO.**

*Produce Brokers,*

**MACKILLOP STREET,**

**MELBOURNE,**

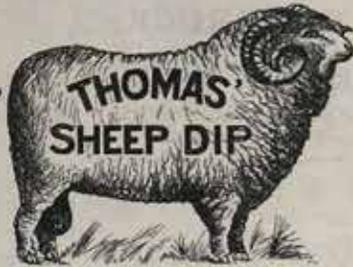
Hold Sales every Wednesday and Friday of

**Dairy Produce, Poultry,**

**Carcase Pork, &c.**

Account Sales rendered within Four Days from  
Date of Sale.

A  
Perfect  
**SHEEP DIP**  
Destroys  
all  
Parasites,  
Ticks, Lice,  
or Scab.



The  
**CHEAPEST,**  
Most  
**RELIABLE,**  
and  
Most  
**LASTING**

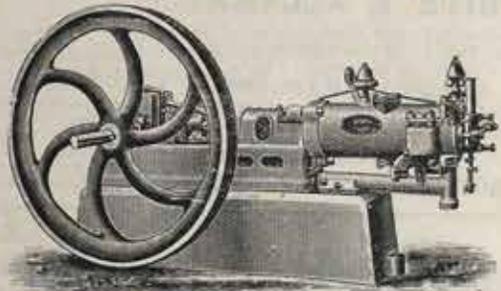
The Wool consigned to Messrs. Helmlich, Schwartz & Co., London, by the Pastoral Society of New Zealand, was reported upon as "of Fine, Staple, and Sound, of Good Lustre and Soft Feel, and with little or no smell."

The Total Prizes taken at the places referred to number 157, including nearly £6000 in Sterling Money.

**TESTIMONIAL.**

"I have very much pleasure in sending you a testimonial of my high appreciation of Thomas' Sheep Dipping Specific, with which you have supplied me. I have found it to answer well. The complete failure of an English Poisonous Dip to kill the Ticks, induced me to try the above, I am glad to state, with the greatest success. The eradication of the Ticks and Ova was so complete that on several occasions I have challenged inspection of my Stud Sheep and General Flock to find a living Tick amongst them. As for the condition of the Wool, and the health of the Sheep—the fact of my taking so many First Prizes at each of the Agricultural Shows, viz., Melbourne, Ballarat, Echuca, Sandhurst, Rochester, Kyneton, and several other Shows—sufficiently testifies, and my Sheep were entirely free of Ticks at Shearing. I have now much pleasure in giving in writing my opinion of your Specific, which I never hesitate to express publicly whenever the subject of Dip is referred to. Scale Park, Clunes, Victoria, Jan. 29, 1887. (Signed) LEONARD R. CARTER."

**THE "OTTO" SILENT GAS ENGINE.**



Full power at a moment's notice. No Boiler required. The best and most economical engine in the market. Cost of gas, 11d. per hour, with gas at 6s. per 1000 cubic feet. Over 1000 in use in the Australian Colonies. Made in all sizes, from 5-h.p. power, indicating 1 h.p., to 20 h.p., indicating 50 h.p. The new Vertical "Otto" Gas Engine takes up little floor space, is silent, and is equal in power to the horizontal pattern. May be had on Deferred Payment System. For price lists and further information, apply to

**COWAN & CO.**

**SOLE AGENTS,**

**76 Flinders Lane West, Melbourne.**

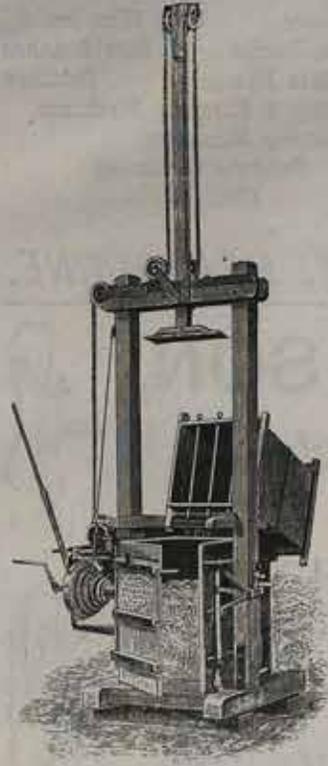
**HORNSBY**  
WORLD RENOWNED  
**REAPER & BINDER**  
WINNER OF 34 OUT OF 39  
FIRST PRIZES AT  
FIELD TRIALS  
IN VICTORIA.  
SEASONS.  
1883 to 1887.  
THE MOST  
HIGHEST PRIZES  
HEMP & MANILLA  
TWINE OF  
SPECIAL QUALITY.  
I.G. FOSTER  
AGENT.  
A BECKETT ST.  
MELBOURNE

LATEST VICTORY JULY, 1887. GOLD MEDAL & TROPHY VALUE £100, FRANCE.

# D. FERRIER'S PATENT LEVER WOOL-PRESS

First Order of Merit awarded this Press at the Melbourne International Exhibition, 1880.

## HUMBLE & NICHOLSON Makers, Geelong.



The usual screw is dispensed with, and the pressure brought to bear by means of a strong rope or chain, working in sheave pulleys overhead, attached to a Ram, and winding on a fusee, which is made in the shape of a suddenly tapered screw.

The rope works on the large part of the Fusee, when the pressure is light, and passes down to the taper end as the pressure increases, being worked by a lever fixed on the centre spindle.

The top Box is hinged to side Brackets, and turns down to the floor, which greatly facilitates the putting in of the wool, and renders any second floor unnecessary, and when filled is easily placed back in position.

When the bale is pressed and the sides sewn, the Ram is lifted by a small rope from the Fusee, turned by a handle.

It will be understood how very much quicker the power is brought into application by this means than by the ordinary screw press, and double the work is got through by the same number of men.

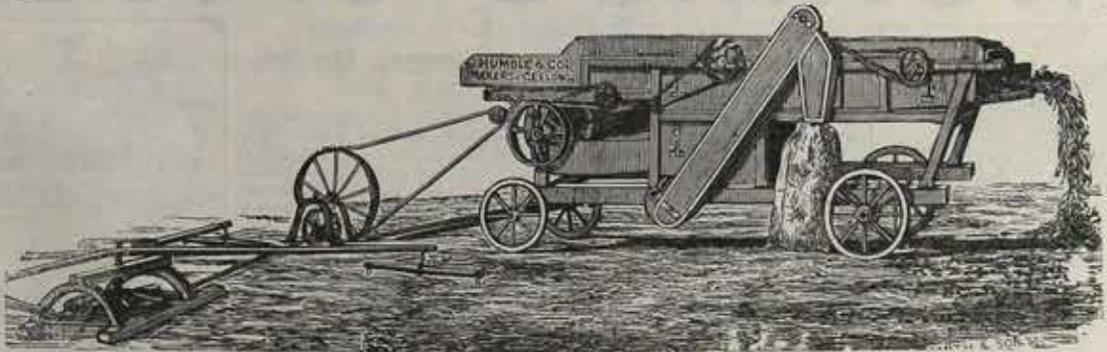
Special attention is directed to the fastening of the Packs before the Wool is put in, which is done in an exceedingly quick and simple manner: four pieces of wood are fitted into the recesses of doors, which hold the Pack securely in position and to the side catches for fastening the doors, which are held in position by a vertical bar, and relieves them simultaneously.

The side door is also held in its place by a catch, which at any time can be relieved instantly, the door falling back and allowing the bale to be removed.

At the Melbourne Exhibition competition this Press turned out 3 Bales of Scoured Wool in 28½ minutes, being considerably less than any other Press, although one had the advantage of being driven by steam.

HUMBLE & NICHOLSON, ENGINEERS.

## THRESHING MACHINE



FOUR-HORSE POWER THRESHING MACHINES.—These Machines are found to be very convenient to farmers who wish to thrash their own grain; or in some cases where three or four neighbours combine. They will thrash from three to four hundred bushels per day with horse power; or if worked with steam power, about six hundred bushels daily.

We have been making these Machines for the last seventeen years, and have been awarded a large number of prizes at the different Shows, including the National Show at Melbourne and other places. The above is strongly made with Wrought Iron Drum, Steel Spindle; all bearings of the best material, no time or expense being spared to turn them out in a substantial manner.

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Manufacturers of TAYLOR'S PATENT REFRIGERATORS  
And Cold Dry-Air Apparatus,

ALSO

TAYLOR'S RABBIT EXTERMINATORS,

The most effective when used with the chemical dust, which is supplied by Vulcan Foundry.

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Manufacturers of Galvanized Iron Spouting,  
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**Grain & Flour Merchants,**  
COMMISSION AGENTS, &c.,  
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Chaff, Hay, Butter, and  
**General Produce Merchants,**  
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**CAULFIELD CUP.**  
**WHITE & ALLAMBY**  
Have replenished their Stock in view of ensuing season, Best ENGLISH GOODS ONLY kept in stock.  
**AMERICAN HARNESS,**  
Single and Double, Carriage, Brougham, Gig, and Buggy, in ALL of which none but the best English and American Leather is used in making up.  
50 BOURKE STREET WEST.



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Agent for H. Disston and Son's Celebrated  
Circular and Vertical Saws.

Importer of English and American Saws, Joiners' Tools, and Files.  
Circular and Mill Saws Re-toothed and Hammered.

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Torry and Spring Dray Builder,  
YARRA BANK ROAD SOUTH,  
(Below Langland's Foundry.)

**THOMAS LANG & CO.,**  
Nurserymen & Seedsmen,  
Have Removed to Larger Premises,  
66 BOURKE STREET WEST  
3 Doors from Queen Street.

All Vegetable and Agricultural Seeds tested to see they grow.

Lists of Seeds or Plants Free on Application.

By Special Appointment to the Marquis of Normandy, K.C.M.G. & under the Patronage of His Excellency Sir H. B. Loch, K.C.B.

**DANIEL WHITE'S**  
**STEAM CARRIAGE WORKS,**  
244 AND 245 SWANSTON STREET,  
And 6, 8, 10, 12, 15, 17, 19 & 21 STEWART STREET, MELBOURNE.

Awarded GOLD MEDAL for Special Merit at London Exhibition of 1873, and TWO GOLD MEDALS for best Carriages at Melbourne Shows of 1883 and 1884, and THIRTY-TWO MEDALS (1st Prizes), at Exhibitions and Shows of 1872, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, and 85. Also, THREE FIRST AWARDS OF MERIT (1st Prizes), at International Exhibition of 1880.

NOTICE.—Referring to above, D. WHITE desires to inform his numerous Customers and the Public generally that he has secured and completed EXTENSIVE ADDITIONS TO HIS COACH FACTORY, and with the increased accommodation and Steam Plant, and the Largest Stock of Seasoned Timber in Melbourne, is now prepared to meet the increasing demand for his well-known Carriages and Vehicles. The new premises are in Stewart Street, immediately opposite the present Factory. Patents of the Improved Carriage and Buggy Hood Apparatus, for raising or lowering the Hood from the inside. Every description of Vehicle built from the best imported Materials and Well-seasoned Timber.

**LANCASHIRE PATENT BELTING,**  
FOR  
**Threshers and all Agricultural Machinery.**

Is not affected by Heat, Water, or Steam. More Durable. Better Grip.  
Adopted by the Victorian Railways, and is used by all the leading manufacturers in Melbourne and suburbs. Prices less than single leather. All sizes from 1 1/2 to 16 inch in stock.  
All the Main Driving Belts for the Adelaide Jubilee Exhibition are supplied by Lancashire Patent Belting.

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**CAMPBELL, GUTHRIDGE & CO.,**  
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Agents for Australasia.

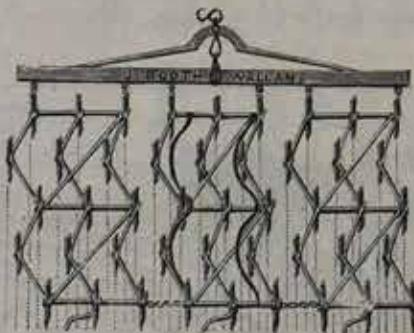
MESSES. CAMPBELL, GUTHRIDGE & CO.,  
Agents for Lancashire Patent Belting and Hose Company,  
"Orniston," Upper Maffra.  
Dear Sirs,—We have great pleasure in informing you that the Patent Belt we bought from you for our Threshing Machine has given us great satisfaction. We consider it much better than leather, and believe it more durable; we also find that it runs more smoothly in wind and keeps on the pulley better when raining, in fact, last season the belt only came off three or four times when at work, and we have seen a leather belt come off as many times in an hour in windy weather. We would not think of buying a leather one now; the cost of leather is about double what the Patent Belt costs, and we have great pleasure in recommending them to machine owners. We are, Gentlemen, Yours respectfully,  
HARPER & HAMMILL.  
3rd May, 1887.

AT 177 TO 181 KING STREET,  
**STEVENSON & ELLIOT,**  
CARRIAGE BUILDERS.  
**REDUCTION OF PRICES.**

Previous to the erection of new machinery, we have decided to reduce the quantity of our stock, and offer to the public, at greatly reduced prices, a splendid assortment of Carriages and Buggies, &c. As we use none but English and American materials, and employ the best skilled labour in the market, we can guarantee that the quality of our work is of the finest, and has been pronounced by judges to be unequalled anywhere for durability, style, or finish. All styles kept in stock, from Landaus to Farm Waggon; also variety of secondhand vehicles.

The trade supplied with first-class and seasoned materials.

1 GOLD MEDAL.



5 SILVER MEDALS.

**J. BOOTH,**  
**Harrow Maker,**  
RAILWAY STATION WALLAN.

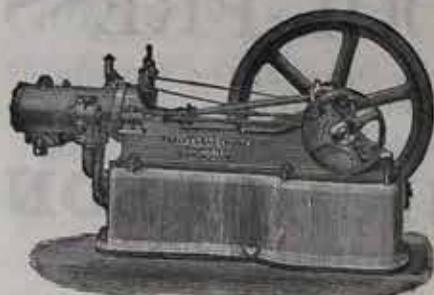
**HARROWS** made to suit all kinds of soil, fitted with Iron or Steel Tynes. These Implements are constructed on his well-known W pattern, which ensures every tyne cutting its own ground, and also reduces the draught to a minimum. During the season 1884 and 1885 these Implements in competition with the leading Colonial-made and Imported Harrows, secured 12 first and 2 second prizes out of 15 shows, thus proving their superiority. J.B. having made a speciality of Harrow Making, the farming public may rely on securing a satisfactory Implement at a Moderate Price, by applying to him or to any of his Agents throughout the Colonies. Illustrated Catalogue and Price List free on application.

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ENGINEERS AND IMPORTERS OF STEAM ENGINES,

HOISTING AND WINDING.



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| Gas Engines           | Hydraulic Machinery          | Crab Winches      |
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| Engineer's Lathes     | Punching & Shearing Machines |                   |
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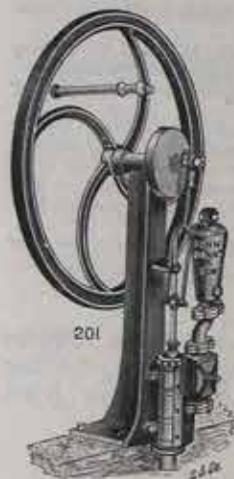
Engineers & Brass Founders,

MANUFACTURERS OF

PUMPS OF EVERY DESCRIPTION,

Fire Engines, Baths, Sanitary Ware, Gas Fittings,  
Iron, Lead, & Compo. Pipes, Water Supply Goods.

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Is Unequalled for Giving LIFE, HEALTH, and Flesh to

Horses, Cattle, Pigs, Geese, Ducks,  
Fowls, Pigeons, Dogs, &c.

Tried, Proved and Certified to be the Best Medicine for Horses ever discovered. Will coax the appetite when all other things have failed. Gives a bright eye to the Horse, makes his skin like velvet, his looks and temper good. Increases the quantity of milk in Cows, and enriches the quality. Fattens Pigs in half the usual time. Makes Geese, Turkeys, Ducks and Fowls as fat as butter, and double their value. Converts the commonest of Hay and Straw into a superior provender.



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PRAHRAN, VICTORIA.

N.B.—Ask for and insist on having NORRIS'S SPICE. Spurious Imitations are sometimes offered, BEWARE OF THEM.

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Have much pleasure in calling the attention of Agriculturists to their

"EUREKA" DOUBLE-FURROW PLOUGHS,

With Short or Medium Steel Mouldboards, Patent Wheels, and Cast or Wrought Iron Shares.

Combined Two and Three Furrow Plough, the Best and Cheapest Ploughs in the Market. Patent Wheels supplied to fit any make of Double-Furrow Plough. Horse Works, for One or Two Horses. Improved Three-Knife Chaffcutter, Fitted with Sieve Gear, Patent Adjustable Steel Mouthpiece, Stop and Reversing Motion. Cut two lengths.

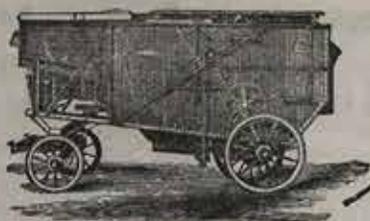
Dentall's Chaffcutters and Corncrushers, All Sizes, Tank Sinking Ploughs and Scoops, Harrows, Scarifiers, Corn-screens, Winnowing Machines.

Farmers! do not be imposed upon by untruthful advertisements. The "Buckeye" beat the "Hornsby" at every field that it met it in Victoria last season.



The "Buckeye" Folding Binder is the most complete Binder in the market. It cuts as low as a Mower; is strong, simple and durable.

The Lightest running Reaper and Binder in the World. Awarded Gold Medal at Grand National Field Trial, 1886.  
Agricultural Machine Works, Elizabeth Street North, Melbourne.



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Thos. Corbett's (Shrewsbury) New Australasian Monarch Winnowing Machines, Colonial Tine Harrows, Cheese presses, Horse Hoes.

J. & F. Howard (Bedford) Celebrated Champion Simplex Ploughs, Segment Land Rollers, Zig Zag Harrows.

Root's Blowers, Punching Bears, Lathes, Tiring & Upsetting Machines, Morticing Machines, Punching and Shearing Machines, etc.

**JAMES MCEWAN & CO. LIMITED.**

79, 81, 83, and 319 ELIZABETH STREET,

And 4, 6, & 10 LITTLE COLLINS ST. WEST,  
MELBOURNE.



LONDON, 27 LOMBARD STREET.

MACHINE BELTING.

Saddler by Appointment to His Excellency Sir H. B. Loch, K.C.B.

MACHINE BELTING.



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FACTORY:  
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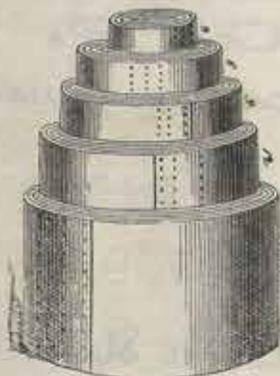
**D. ALTSON,**

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Contractor for Machine Belting, Saddlery, &c., to the Government, War & Naval Departments of Victoria.

Prices and Samples posted free on application.



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**WELCH, PERRIN & CO.**

Machinery supplied on  
Liberal Terms  
of Time-payment.



Send for Catalogues.  
POST FREE  
on application.

Importers of AGRICULTURAL, MILLING, MINING, SAWING, PUMPING, and  
WOOD-WORKING MACHINERY.

OFFICES AND WARHOUSES: MORAY STREET, FALLS BRIDGE, MELBOURNE.

# NATIONAL AGRICULTURAL SOCIETY.



## VICTORIA

Vol. III.—No. 26. [Read as a Newspaper.]

MELBOURNE, SEPTEMBER 16TH, 1887.

GRATIS.

"If we're done when 't's done,  
Then 'twere well done 'twere quickly done."

**CATERER**

**CHARLES D. STRAKER,**  
Three Crowns Hotel,  
WEST MELBOURNE.

Caterer for the Victorian Racing Club, The National Agricultural Society of Victoria, and the Victorian Coursing Club.

Orders for Banquets, Feas, Dejeunus, Weddings, Suppers, on the Shore or in Town or Country.

N.B.—Tests and Caterer's Requisites on Hire.

**JOHN LANG,**

114 BOURKE ST. EAST  
Tailor, Practical Shirt Maker,  
Sporting Costumiers.

Football, Cricket, Hockey, Leathersuits in stock or made to order. Hats constructed with  
Intracane for soft measurement on a hat custom.

SPECIAL SHIPMENT OF WHITE SHIRTS.

**JOHN COLMAN,**  
107A SWANSTON STREET,  
Opposite Her Majesty's Hotel.

**TOBACCONIST.**

The finest quality of American Tobaccos. Specialty—  
American Cut Tobaccos. Choicest Brands Havannah Cigars.  
Specialty—Moras, Cabanas, and Henry Clays.  
A high-class Hairdressing Saloon is open in conjunction  
with the above establishment.

**JAMES FRY & COMPANY**  
(LIMITED),

Millers & Grain Merchants

GENERAL COMMISSION AGENTS.

Subscribed Capital - £88,000.

DIRECTORS—

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A CHEMICAL FOOD FOR THE WOOL.  
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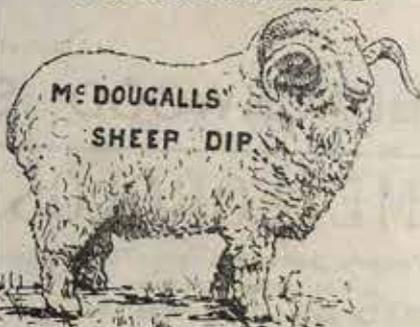
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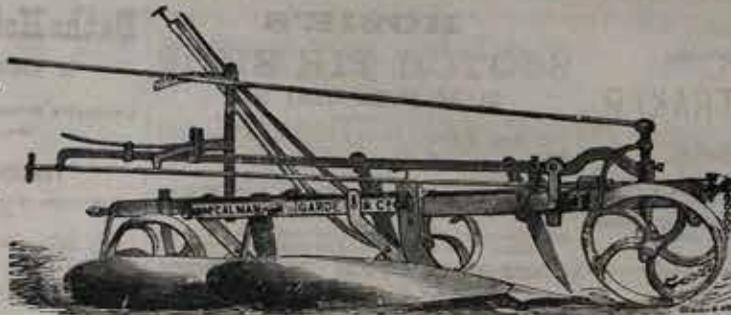
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Rack and Gear Steel Press for the use of large stations.  
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Lever and Chain Farmer's & Selector's Press. Price, £22 10s.

As the season for this latter kind is now approaching, those requiring them should lose no time in sending their orders. Owing to the general satisfaction given by those supplied for last season, orders are now freely coming in, and a large demand is looked for. The following is a fair sample of a large number of Testimonials to hand for those supplied last season:—

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Dear Sir—I have much pleasure in informing you that the Farmer's Wool Press I purchased from you last October, gave me every satisfaction. We turned out very compact small bales, about 24 cwt., but could have them heavier if we wished with ease down. By what the Wool Brokers tell me, they would clear themselves in two seasons to anyone having twelve bales since done with the Wool, I have had it in constant use as a Cheese Press, and I reckon it worth half its cost for that. We have weights on the levers. Any number of Cheeses can be put in at once. It would make a good Press for Hay or Straw, and for Grapes or Apples it is just the thing. I can highly recommend it as a most useful, substantial, and cheap article. Yours truly,  
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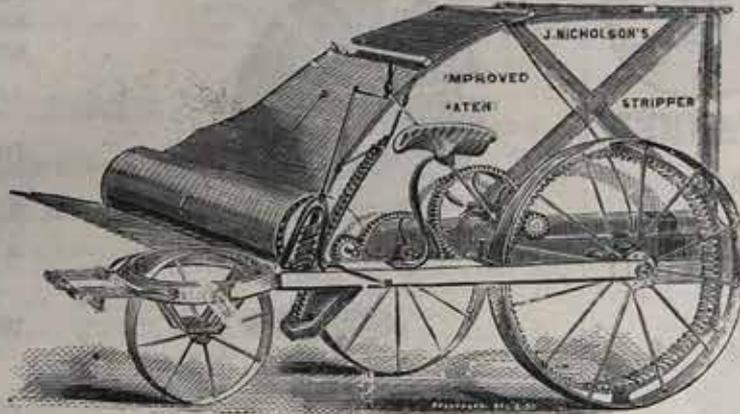
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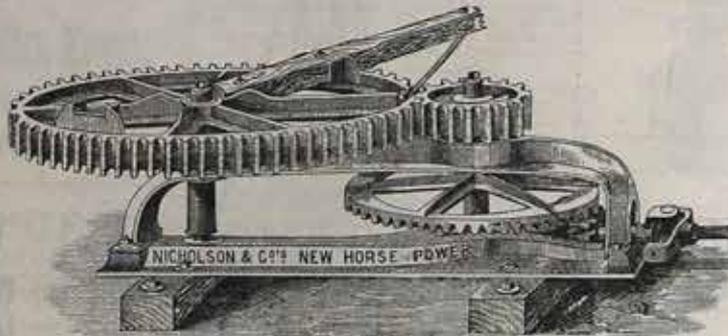


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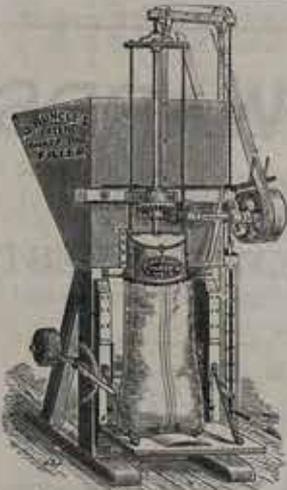
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This most useful Machine is made entirely of Iron, simple in construction, very strong, and easily managed. It is also fitted with a spring clutch, which prevents the poles from striking the horses' legs when the Machine is stopped. The pole or poles (as it can be used either as a Single or Double Horse-power) are fixed in such a manner that the pull is direct; the strain thus being reduced to a minimum, the speed is sufficient without the expense of an intermediate motion. Priced Catalogues free by post.



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JOHN BUNCLE, in stating what is well known, viz., the great competition in the Hay, Corn, and Chaff Trade, begs at the same time to call attention to his endeavour to lighten the toil and increase the profits from such a business, by designing and manufacturing a machine for the above purpose, and one which cannot be approached by any other maker at present, or recommended to equal in **Simplicity, Durability,** and thorough **Adaptability** and **Cheapness** combined as in the above Machine. The **BAG FILLERS** are manufactured complete, ready to be sent to wherever ordered or in any of the colonies, either to fix in stores in connection with the fixed Chaffcutters, or to be attached to his well-known Travelling Chaffcutters previously supplied, and now supplied either with

or without Baggers. A few attempts have been made by some to supply such a want, but probably not having a theoretical as well as a practical knowledge of machines, have not been able to reduce the complicated movements in their machines, and which are perfectly unnecessary—as witness the Unique Simplicity and correctness in design, and the admirable working of **BUNCLE'S PATENT BAG FILLER** compared with the few others tried at work.

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The season is now coming on when all those who intend having the latest improved Machines should forward their orders as early as possible, to prevent disappointment in the day of their need.

J. Buncle's Machines have, as usual, been awarded **First Prize** at all the leading shows wherever he exhibited last year (1885), and the many improvements introduced and constantly copied by other makers, is the best proof of the value of the continued consideration in all that affects the profits and welfare of his customers.

Chaffcutters with 14-in. wide mouthpieces and **Newest Designs**, are now being manufactured to suit the increasing output of many of the leading Chaff Merchants. May your fortunes ever be associated with the earnest efforts to assist making them by,

Sirs and Gentlemen, yours respectfully,

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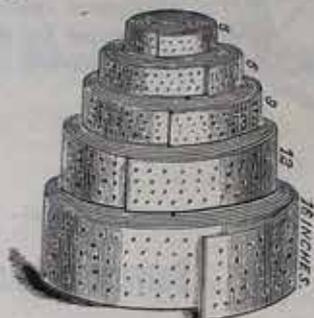
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GOLD MEDAL.



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TESTIMONIAL.—[copy.]

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Messrs. Frank Vial & Co.,  
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Gentlemen,—In reply to your enquiry respecting the (23") twenty-three inch double belt supplied by you to ourselves, we beg to state we have been working it for a period of seven months, and we find it to be all we could desire, as also is the other belting which we had from you.

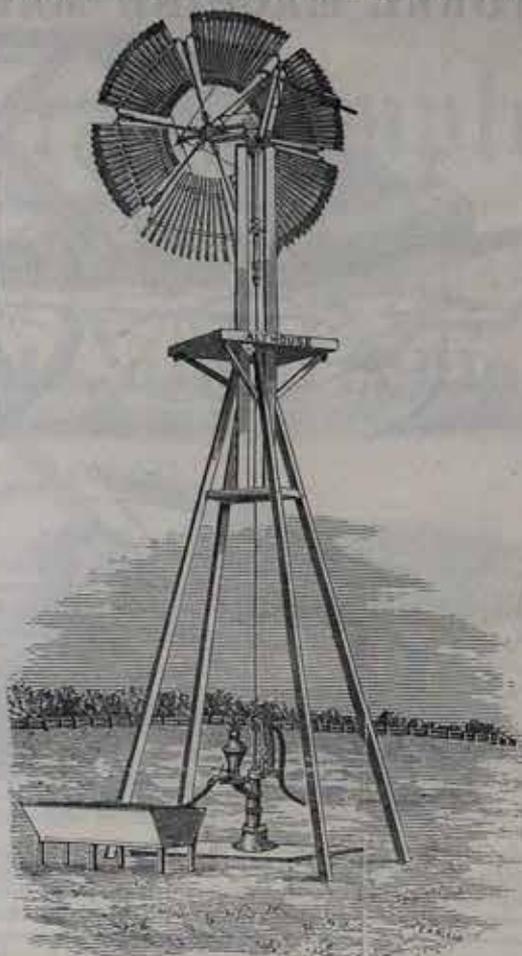
We therefore feel great pleasure in recommending your belting to anyone requiring the same.

We are, Gentlemen, yours truly,

(Signed) W. S. KIMPTON & SONS.

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The STRONGEST, SIMPLEST  
MOST DURABLE, and BEST  
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Proved by Actual Experience  
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The Latest brought before the public.

This machine will take out 200 cubic yards of earth in  $\frac{1}{2}$  cubic yard loads in a day of eight hours; is simple, strong, yet light of draught, easily kept in repair, and has been pronounced by experienced judges to be the best Earth Scoop yet invented.

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The above lot are from the very best strains, direct male lines, and only equalled, by about six kennels in England.

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<b>Shorthorn Derby Sweepstakes, 1890.</b>	
<b>Hereford do do 1890.</b>	
<b>Ayrshire do do 1890.</b>	
<b>Jersey (late Alderney) do do 1890.</b>	

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**Notices.**

All communications for the Editor to be addressed to the Society's Office, Kirk's Bazaar, Bourke Street West, Melbourne.

Business communications to the Publishers, Melbourne Place, off Russell Street, Melbourne.

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**Dates of Forthcoming Shows.**

SECRETARIES of agricultural societies are requested to forward to the editor the dates on which their respective exhibitions will be held, also copies of their prizes schedules as soon as they are published.

**SEPTEMBER.**

14, 15, 16, 17.—Royal Society, Adelaide.	22, 23.—Echuca.
15, 16.—Hamilton.	23.—Wedderburn.
15, 16.—Murtoa.	27.—Elmore.
16.—Kerang.	28.—Boort.
20.—Chiltern.	28.—Nunamarkah.
21.—Kaniva.	29, 30.—Benalla.
21.—Inglewood.	29, 30.—Horsham and Wimmera (National).

**OCTOBER.**

4, 5.—Rochester.	13.—Marchison.
5.—Bellaart.	19, 20.—Tatura.
5.—Euroa.	20.—Rutherglen.
5.—St. Arnaud.	20.—Sale.
6.—Bacchus Marsh.	20, 21.—Geelong.
6.—Tungamah.	25.—Koroit.
11.—Nagambie.	25, 27.—Shepparton?
12, 13.—Bendigo, at Sandhurst.	26, 27.—Camperdown.
12, 13.—Warrambool.	27.—Talbot.

**NOVEMBER.**

3.—Ormeo.	17.—Colac.
10.—Heathcote.	23.—Castlemaine.
10, 11.—Sneaton.	24.—Ballarat.
16, 17.—Kyneton.	24.—Traralgon.
17.—Hardie's Hill, Grenville.	24.—Kilmore.

The Journal  
OF THE  
National Agricultural Society  
OF VICTORIA

MELBOURNE, SEPT. 16th, 1887.

## The National Society's Show.

THE seventeenth annual exhibition of the National Agricultural Society of Victoria, which was held last month on the grounds at Flemington, was very much in advance of the highly successful show of the previous year. Not only is each exhibition of the Society an improvement on the previous one, but the progress each year is greater than that of the last, so that the shows are expanding in such an increasing ratio that they already tax the ingenuity of the management to satisfactorily dispose all the exhibits in the grounds—although these latter are 30 acres in extent. We remember that when learning that perplexing problem—short division—at school, we were taught that the solution of "seven into six won't go," was to "borrow one." Now, similarly, when the exhibits can't go into the grounds the only thing is to obtain more area. This idea was suggested by His Excellency the Governor in his speech at the luncheon on the grounds two years ago, and was reiterated by him this year, when the necessity for it was even more apparent than before. In our September number, after the Show of 1885, we wrote—"People do not seem to realise the possibilities of this institution, which must advance as the colony progresses, and which, no doubt, will advance so rapidly that the most sanguine expectations regarding it will be more than realised hereafter." We venture to think that this year's exhibition has amply justified that statement. Well, if in the light of the experience of the past two years, people will only consider what extent the exhibitions of the Society will assume in a corresponding period in the future, they must admit the necessity of the Executive at once adopting the suggestion of His Excellency and securing an additional area of ground. It may be said by some that the Society has reached its limit, but there could be no more mistaken idea. There were those who said so two years ago, but they are ashamed of themselves now. Those who make a similar statement at the present time will be equally abashed a couple of years hence. We are a young, thriving, and growing community. We have a virgin soil, a fine climate, and an ample territory. Our resources are only beginning to be developed. Our railways are extending, our relations with other colonies are becoming more intimate. All this tends to the extension of our great annual exhibition, which in such a community is an absolute necessity. It serves not only to mark our progress, but to educate our people. In the calm but expressive words of a keen observer, "There was a great deal to be learned on that show ground." We trust, therefore, that no effort will be spared to meet the requirements of such an important

institution in this progressive community, so that in the future increasing patronage may be secured, and an ample measure of success attained.

## The Sales of Stock.

In addition to a highly successful sales' season amongst machinery exhibitors, the sales of stock in connection with the show were, this year, most satisfactory. This was particularly the case in the cattle and the pig sections. But there is no doubt that, ultimately, the great horse and sheep sales will be centred in the Society's grounds. It would be to the best interests of everyone concerned that it should be so. In 1884, in a letter to the Council on the development of the Society's exhibitions, the Secretary wrote: "As most people are aware, the question of sales is so intimately connected with exhibitions that it is not possible to part them. . . . As Melbourne, from its geographical position, is so centrally situated with regard to the other colonies, buyers and sellers would congregate here, and this Society's grounds, which are eminently suited for the purpose, would become the great emporium for the interchange of the choice stock, produce, &c., of the whole colonies." The idea then expressed is now, to a large extent, a reality, which every year is bound to extend; so that those who oppose it stand in their own light.

## The Milk and Butter Tests.

GREAT interest centred in the competition for the £20 prize for the best Milch Cow, any breed, subject to a test in the Show grounds as to the largest quantity of butter. The conditions were that the cows should be milked dry in the presence of the stewards on Tuesday night in the Yards, such milking not to be taken into account. The test was to extend over Wednesday and Thursday, the cows being milked twice a day, the cream to be churned on the Friday. A prize of £10 10s. was also offered for the cow which gave the largest quantity of milk in the test. The test was carried out under the personal supervision of the stewards, Mr. John Hurst and Mr. James M'Phail, who spared no effort to insure thoroughly reliable and accurate results. The cream was extracted from the milk by the De Laval Separator. The prize for the largest quantity of butter was won by Daisy, the property of Mr. John Bond, of Fairfield, Green Vale. She produced during the two days—or, more accurately, 46 hours, which was the exact time between the beginning of the test and the last milking—7 lb. 5½ oz. of butter. Daisy is a half-bred Ayrshire, being by a pure Ayrshire bull from a good crossbred dairy cow. The cow which won the prize for the largest quantity of milk was Dairy-maid, a pure bred imported Holstein, the property of Mr. F. Peppin, of Hawkrigge, Epping. The following is the record of the test:—

	Net lb. Milk.	Cream.	Butter.
Mr. Bond's Daisy	67½	19	7 ½
Mr. Peppin's Dairy-maid	123	33	4 12½
Mr. W. H. Dunstan's Rose	88	7	4 7
Mr. Woodman's Lily	86	23	3 ½
Mr. Peppin's Jessy	104	21	3 ½
Mr. W. H. Dunstan's Beauty	64	4	2 ½
Mr. Bachman's Cocky	56½	4	2 ½
Mr. J. H. Connor's Pride of Beem	65½	11	2 11
Mr. W. J. Dunstan's Verbenia	69½	11	2 11
Mr. J. H. Connor's Pride of Corio	67	11	2 11
POOKS	42	7	1 2
Mrs. A. Guthrie's Bessie	42	7	1 2

## New Breeds of Stock.

WHILE many great improvements were noticeable in the machinery section, the produce section, and in fact almost throughout the Show, perhaps the specimens of the new breeds of cattle lately introduced here were as important a feature as was to be seen on the grounds. The polled Angus cattle in particular, which for the first time were exhibited in any considerable number, were specially attractive, as there were some really beautiful animals amongst them. Wherever these cattle have been introduced they seem to be highly appreciated. The Devons—a new breed entirely in the Melbourne Show—were also noticeable for their neat and symmetrical forms and bright red coats. They are good travellers to market, and good doers as well. The Holsteins, too, are also comparatively new, though their great milk-giving qualities should assist in making them become more widely introduced. It is very gratifying to know that while our familiar breeds of Shorthorns, Herefords, Ayrshires, Jerseys, and Britanias, are maintaining their high reputation, and are being kept up to, and in many cases improved beyond, their already high standard of excellence, our breeders are not too conservative to try other sorts which may be found to be better suited to certain conditions than even the old established favourites.

## The Catering.

A VERY important personage at the Show is the caterer, who sees to the creature comforts of everybody. People from the country have wondrous appetites; townsmen, too, after having been fanned by the exhilarating air on the Show grounds, fairly astonish themselves at lunch before they reach that "gastronomical satiety which admonishes them that they have arrived at the ultimate stage of deglutition consistent with dietic integrity." The practical Mr. Charles Straker is aware of this, and makes provision accordingly. In his expressive phrase regarding the Show he says: "It's a bigger victualling thing than the Cup." On the principal day he provided luncheon for 1800 persons. This is exclusive of the coffee rooms for ladies, in which he catered for fully 500. Altogether he had 150 employes on the grounds. Think of that, you who come in rather late, and use strong language because everything is not as you have it at your own well-appointed table, and because you are not so immediately attended to as you think you should be! We do not wish to champion indifferent catering or inattentive waiting, under the circumstances, as we hold strongly that a man with a keen appe

tite should be at once attended to—in fact, that it is a dangerous thing to trifle with him. But we do hold that the caterer must be a superhuman who could organise such an army of temporarily employed waiters, and provide for such a rush of meals, without some individual finding some cause of complaint. It would not be fair to give too many details regarding the catering, but it may astonish the uninitiated to know that three tons of potatoes were consumed on the grounds during the Show.

## The Loss of the Holiday.

UNDOUBTEDLY the greatest matter for regret in connection with the late Show was the loss of the public holiday on the official opening day. After having had a holiday last year, it was most disappointing to the Council—a distinct precedent having been established—to be told that it would not be granted this year. It may be thought that as the Government promised the Society £500 in lieu of proclaiming a public holiday, the amount would be ample compensation for the deprivation; but no greater mistake could be made, as there were considerations other than cash involved. First of all, there was the loss to the institution of the prestige it secured through the proclamation of a holiday on its account—a most important quantity in an age which, though intensely practical, is yet marvellously moved by sentiment. Then there was the disappointment to large numbers of citizens who were precluded from the privilege of taking advantage of the educational influence of what was pronounced to be one of the very finest exhibitions to be seen in the world. The direct pecuniary loss to the Society was also a heavy one. There was no better advertisement than a public holiday, for it appealed to all classes—everyone's attention was called to the Show through it. Though it may be said that the falling off in attendance from that of last year on the official opening day was not so great as to justify a loud wail on account of the day not having been proclaimed a holiday, yet there is no denying the fact that the falling off was very considerable, when, instead, there should have been a marked increase. But the loss did not end here. Had the holiday been proclaimed, there would have been many who, through various causes, could not get out to the Show on that day, but whose attention having been thus called to the event would inquire and read about it, and, finding out the extent and importance of it, would have gone on one or other of the following days. Again, it must be remembered that the larger the attendance on one day of a grand exhibition such as this was, the larger will be that on the following days, for in a measure it advertises itself. We therefore hold strongly that had a public holiday been proclaimed the attendance on that day would have been very much larger, while that on the two succeeding days would also have been considerably increased. It is to be hoped that on account of the magnitude of the interests fostered by the Society, which is representative of all the soundest and best elements in our material progress, a holiday will be proclaimed next year.

## The late Mr. Finlay.

It is with most sincere regret that we have to record the sudden and unexpected death of Mr. John Finlay, which took place on the 15th of last month at his late residence, Alma Road, St. Kilda. Mr. Finlay was one of the most active supporters of the National Agricultural Society of Victoria, having been a prominent member of the Council from its commencement. He was the Chairman of the Finance Committee for a number of years, during the whole of which time he scarcely missed a meeting—his unflagging zeal and energetic support in all matters relating more particularly to finance, having been of the utmost service to the Society. Mr. Finlay was also Honorary Treasurer of the Australian Sheepbreeders' Association, of which institution he was looked upon as the mainstay. From early association the deceased gentleman took a deep practical interest in farming, on which he was an excellent authority. He also had a keen liking for superior stock of every description, so that his enthusiastic efforts on behalf of the institutions named are thus accounted for. Mr. Finlay was also actively associated with various financial institutions; having been at the time of his death a Director of the Colonial Bank of Australasia, the Land Mortgage Bank of Victoria, and the Australian Alliance Assurance Company. He also took a lively interest in out-door sports, having been years ago president of the South Melbourne Cricket Club, and later on a patron of the St. Kilda Club. Remarkably energetic, punctual in his business engagements, shrewd, and thoroughly reliable, he will be much missed in the many institutions with which he was so prominently connected.

## Meetings.

### Council.

THE ordinary monthly meeting of the Council of the National Agricultural Society of Victoria was held on the 13th September, 1887.

Present—Dr. Plummer, President, in the chair, with Messrs. E. Peppin, J. Gibb, D. R. M'Gregor, S. G. Stanghton, J. Hurst, W. Thomson, J. Currie, G. Young, W. Glover, T. Harmer, Walter J. Clark, W. Learmonth, D. White, J. Garton, J. Blyth, John Bond, J. C. Cochran, C. Lynott, the Hon. J. Buchanan, M.L.C. and the Hon. Charles Young, M.L.A.

The minutes of the previous ordinary meeting and three special meetings were read and confirmed.

Mr. Thomson moved that the business of the special meetings be confirmed. Seconded by Mr. Learmonth, and carried.

### DEATH OF MR. JOHN FINLAY.

The Secretary reported that a vacancy had occurred in the Council through the death of Mr. John Finlay.

The President desired to express his extreme regret at the death of Mr.

Finlay, to which it was still a painful duty to refer. He moved—"That this Council place on record their sorrow at the early death of their late Treasurer and colleague, Mr. John Finlay and their great loss in being deprived of his mature counsel, his active and ready co-operation in every matter calculated to advance the interests of the Society; and that a letter of condolence be written to his widow and family." Seconded by Mr. M'Gregor (who alluded feelingly to the loss the Society had sustained), and carried.

### FINANCE.

The Finance Committee reported that at a special meeting held on the 18th ult. they had elected Mr. D. R. M'Gregor chairman, in the room of Mr. Finlay, deceased.

The monthly report containing the statement of accounts, and recommending payments amounting to £4587 12s. 3d. (including prizes awarded at the show) was read.

Mr. Currie moved the adoption of the report, making special reference to the excellent appointment as Chairman of the Committee. Seconded by Mr. Peppin, and carried.

The Secretary submitted the balance sheet of the Show, which showed the receipts to be £7046 18s. 2d., and the expenditure £3233 6s., leaving a profit of £3813 12s. 2d. (Applause).

Mr. Blyth moved the adoption of the report, which he considered highly satisfactory. Seconded by Mr. Thomson, and carried.

Mr. Munro moved that a vote of thanks be passed to the Railway Department for the manner in which they had assisted the Society; also, that a vote of thanks be passed to the Press, as too much praise could not be given to the manner in which the Society's exhibition had been dealt with. He hoped the friendly relations subsisting between the Press and the Society would long continue. He wished also to include in his resolution a vote of thanks to the police. Seconded by the Hon. J. Buchanan, and carried.

The President proposed a special vote of thanks to Mr. Hurst and Mr. M'Phail, for carrying out the milk test, which had been a business requiring excessive attention and care. Seconded by Mr. Peppin, and carried.

### THE INTERNATIONAL EXHIBITION.

The President reported that he and the Secretary had had an interview with Colonel Sargood regarding the International Exhibition, in connection with which it was considered desirable that a stock show should be held, so that it was suggested that an arrangement might be made whereby the Society's exhibition could be availed of, as it would only necessitate a slight alteration of date. The Commission would grant a sum of money towards the exhibition. He had promised to bring the matter before the Council with a view to effecting an arrangement.

Mr. M'Gregor moved that the Council express its general desire to fall in with the views submitted by the President regarding the Centennial Exhibition, and that he and Mr. Blyth convey this expression of opinion to the Commission. Seconded by the Hon. J. Buchanan, and

carried. Mr. Blyth considered the arrangement would be mutually beneficial.

#### STUD-BOOK COMMITTEE.

The Stud-Book Committee reported in terms of account of meeting appearing in another column.

Mr. Clark moved that the report be adopted, and that the matter be referred to the Committee to carry out in accordance with resolution.

Seconded by Mr. Thomson and carried.

#### CORRESPONDENCE.

From Graham Mitchell, Hon. Veterinary Surgeon, asking leave of absence as he was about to visit India.

Mr. Garton moved that leave of absence be granted to Mr. Mitchell.

Seconded by Mr. Gibb and carried.

From Secretary Royal Agricultural and Horticultural Society of South Australia, giving the Secretary a courteous invitation to visit their Show at Adelaide, which would be specially attractive on account of the Jubilee Exhibition.

The President suggested the propriety of the Secretary visiting the Show and representing the Society, as a federal spirit should be fostered. He had been sent to Sydney, and had written reports of much value to the Council.

Mr. Blyth moved that the Secretary and one member of the Council with him, be appointed to represent the Society, as he agreed with the views of the President.

Seconded by Mr. Glover and carried.

The President and Messrs. Buchanan and Peppin were nominated as representatives in the hope that one or more would visit the Show.

From D. E. Martin, Secretary for Agriculture, stating that £150 had been placed on the Estimates this year as prizes for the best-managed farms in Victoria, there being two first prizes of £50 each for the best farm in the northern districts, and one for the best in the southern districts; nominations to be in not later than the 3rd October next.—Received.

From D. Wilson, Mount Egerton, calling attention to the prizes awarded for silage at the late Show. He had been making it for years, and found sour-chaffed silage far the best; so that he was surprised to see the prize given to "black half-burned stuff called sweet ensilage," at the two last Shows.

Mr. Blyth, who had acted as a judge two years ago, took the silage to the stock to test it, and gave the prize to that most readily eaten. He had acted as a steward this year, and found that those who obtained the prize were the oldest and most-experienced makers; so he differed from Mr. Wilson.

Mr. Peppin said there were no experts here who could judge silage, so that the proper test was chemical analysis, which had shown that sweet silage was not the best.

The letter was received.

From H. Beattie, protesting against a Hereford cow obtaining a prize as a cow in calf, as he believed she was not a breeder.

Mr. Buchanan moved that the prize be withheld till the cow had produced a calf.

Seconded by Mr. Clark and carried.

From A. H. L. Brown, Secretary the Australian Freehold Land and Produce

Company (Chateau Tahbilk Wine Stores), protesting against the awards in Section 30, Wines, as in classes 260, 263, and 265 the bottles had been unopened and the wines unjudged.

Also, from G. S. Smith and Sons, protesting against awards given in Section 30, Wines, classes 259, 260, and 261, as their wines, which had been entered for these classes, had evidently not been judged, as the bottles had not been opened.

Mr. Munro moved that the matter be postponed till the next meeting, and that Mr. Shillinglaw, who took an active part in the wines section as steward, and who took notes, be requested to attend; and that in the meantime the prizes be withheld. Seconded by Mr. Clark and carried.

Postponed protest read from Victoria Carriage Company against the award of gold medal to Mr. D. White for landau, on the ground of its not being his *bona fide* property.

The President stated he held a receipt which Mr. White had given, dated 30th inst. (after the Show), for payment for the carriage sold to the Archbishop, which was verified as being the only and original receipt in the transaction.

After hearing the representative of the Victoria Carriage Company.

The Hon. C. Young moved that the protest be not entertained. Seconded by Mr. Hurst and carried.

A letter from Mr. D. White was referred to the Executive Committee on the motion of Mr. George Young, seconded by Mr. Munro.

Mr. M'Gregor proposed that the Finance Committee be instructed to bring up a report as to the feasibility of raising by debentures or otherwise, on favourable terms, a sum sufficient to pay off the present liabilities of the Society, and meet the necessary expenditure on further improvements on the grounds. Seconded by the Hon. C. Young and carried.

The meeting then closed.

## Meeting of Horse Breeders re Stud-Book.

A MEETING of horse-breeders, called by the National Agricultural Society of Victoria, by advertisement, was held at the offices of the Society, Kirk's Bazaar, on the evening of Thursday, 25th August, 1887, when there were about thirty gentlemen present.

Mr. W. J. Lobb was voted to the chair.

Mr. Walter J. Clark stated that at a Council meeting of the National Society, held on the 9th inst., the following resolution, proposed by himself, had been carried, viz.:— "That this Society should invite by advertisement the draught-horse breeders of this colony to meet at the Society's room on some evening during the Show week to consider the question of forming a Breeders' Association for the purpose of bringing out a Stud-Book." A committee was then appointed to fix a date for the meeting, and to devise a scheme whereby effect could be given to the previous resolution. He begged to submit the following proposals drawn up by the committee:—

"Whereas it is proposed to establish a Society of Breeders of Draught Horses in Victoria, for the purpose of bringing out a Stud-Book, and for the purpose of keeping up and improving the breed of draught

horses within the colony; and whereas the Council of the National Agricultural Society of Victoria has convened a meeting for this purpose, to be held at the Society's rooms, Melbourne, on Thursday, 25th August, 1887; and whereas the said Council has appointed us a committee to propound a scheme to lay before the said meeting, we beg to submit the appended rules for constitution and general government.

"We would recommend that the meeting should at once proceed to enrol members, and that the rules we suggest should be accepted until a council has been appointed, and alters them or any of them under Rule 21.

"We would suggest that bye-laws similar to those of the National Agricultural Society be framed.

"That the Clydesdale Stud-Book and the E.S.H.S.B. should be taken as a standard.

"That the co-operation of Messrs. Campbell, Pratt and Co., who have very valuable records, should be solicited.

"That owing to the great expense of starting such a work, the Society should commence on the most economical lines; and that the first object of the Society should be to obtain a good fund.

"That for this reason a publication should not be attempted at once, but that a register should be kept of stallions, mares, and especially of foals.

"Registration fees—5s. stallions, 2s. 6d. mares, 1s. foals.

"That all members should be encouraged to provide themselves (through the society) with a private stud-book, and to keep the same carefully, and forward it to the secretary at the close of the season.

"That all births of foals should be reported at once to the secretary for registration, and that full particulars as to date, sire and dam, colour and characteristics, should accompany the entry.

"That non-members should be allowed to register stallions, mares and foals on payment of double fees."

The following were also suggested as rules:—

1. That the Society be called the Draught Horse Society of Victoria.
2. The objects of the Society shall be—
  - (a) To promote and improve the breeding of draught horses, whether of the Clydesdale or English cart-horse blood, or of a cross between these strains of blood.
  - (b) The establishment and publication of a Stud-Book, which, while admitting these different strains of blood, shall discriminate between them as far as possible.
3. The Society shall consist of a president, vice-president, trustees (3), governors, members, honorary scientific members (not to exceed six in number), and corresponding members.

4. Governors shall pay a subscription of £3, and members a subscription of £1 annually, which shall be considered due on the 1st of August in each year.

The remaining rules were based on those of the National Agricultural Society of Victoria.

Mr. Walter Clark then moved that a Draught Horse Society be formed to carry out the object expressed in the suggestions and rules he had submitted; seconded by Mr. Robert Clarke and carried.

The meeting then proceeded to enrol members, and about a dozen gentlemen handed in their names as subscribers.

The Chairman said that he thought it would be a matter involving a considerable expenditure of money. He would suggest that the meeting adjourn, and that the proposals brought forward be submitted to the Agricultural Societies for approval, before further action was taken.

Mr. Robert Clarke moved that the meeting adjourn, and that a copy of the resolutions

submitted by Mr. Walter Clarke be printed and sent to the Societies of the colony. He thought that matters of this kind should receive more attention from the Societies.

Seconded by Mr. Bookless.

Mr. Walter Clark regretted that the chairman had made the suggestion which he did, as he believed that by referring the matter to the Societies it would be thrown back at least two years.

The motion was then put to the meeting and carried.

Mr. Walter Clark proposed a vote of thanks to the chairman, which was carried.

The meeting then closed.

## The West Bourke Society.

THE monthly meeting of the West Bourke Agricultural Society was held at Lancefield Junction Hotel, on the 3rd inst., John Hurst, Esq., in the chair.

### STRINGHALT.

The Society is still pursuing its investigations of Stringhalt. The Chairman reported that he had received an offer of a stringhalted horse for dissection from a gentleman in Dandenong, who would send it up if the Society would pay railway freight. The offer was accepted, and the Secretary was instructed to arrange to obtain the animal.

### THE PRIZE LIST.

A Committee, consisting of Messrs. Grant, M'Intyre, Baker, Hurst, Dixon, Feehan, Woodworth, R. Clarke, Daly, and Galbraith, was appointed to draw up the prize list for next Show. It was also decided that the Secretary should invite, through the National Society's Journal and the local press, suggestions from persons desirous of adding to or amending the prize list of last year.

### STUD BOOK.

Mr. Walter Clark introduced the subject of the establishment of a Victorian Draught Horse Stud Book, on which there was considerable discussion, but no action was taken as the matter was already before the National Society. The meeting then closed.

## Jottings in England.

By J. D. PATTERSON.

I have been out in the West of England since writing my last to you, and have spent a very enjoyable week there. It is the most beautiful part of the country I have been in yet, the views from some of the high points being magnificent; in fact, the whole of England to an Australian eye is beautiful—it is so fresh and green. They call it dry at present, but they don't know much about drought. The trees look so grand—everywhere a rich, dark green—no open bare plains, but in mostly every part just sufficient to make the landscape look picturesque. This is the home of the elm. In Somersetshire it is the most common tree, and grows along the hedge-rows in every quarter. The trees here in England do not seem to spoil what grows under them, as do those in Victoria. I suppose it is on account of their deep rooting and the moisture of the soil. There are some grand old oaks hereabouts, as well as elms. If the people in Victoria could only see how beautiful the green timber makes the country look, I think tree planting would be more extensively carried out on the plains.

One day we visited Cheddar, round about which the famous cheese is made. It lies in a rich valley just near some hills which appear to have been rent asunder by an earthquake, or some other mighty shock.

The cliffs, on one side particularly, are very grand—some 400 or 500 feet perpendicular. At the foot of some of these most remarkable caves have been found with objects of various forms, caused by the drip of the mineral water from above; that which clings to the roof, as you are aware, being called stalactite, and that formed by the water after dropping, stalagmite. According to the guide, it takes hundreds of years to form a piece of this stalagmite as large as the top of one's thumb. We saw a piece which at that reckoning must have been millions of years old, as it was as large as a man, and something after the shape of one—resembling a mummy. The cave we were in was lit up by gas, and one shilling charged for admission.

Another day we were at a place called Glastonbury, which used to be the headquarters of the abbots in olden times, when even the king himself had to get permission before he could come within a certain distance of their revered abode. There are grand old ruins of the abbey, some parts of them still in wonderfully good repair considering their age. On a high hill close by, called "Tor," which rises sheer out of the plain, there is a square tower built of four strong walls, with some fine carvings about them, but much decayed with age. It is a splendid landmark all the country round, and I think must have been put there for that purpose. From this hill I got the most extensive view I have yet had. You get an uninterrupted sight all round for miles. Just near the foot on the south side, Mr. Austin, of Victoria, has a fine property, dotted over with sheep and cattle. Looking far away and beyond this estate, to see the number of cattle grazing in the fields and meadows, makes one believe that the country is rich, though perhaps this is not such a good guide here as in our country; as here the cattle do not depend all the year round on what they can pick up in the fields. On this hill we saw the remains of one of the Jubilee bonfires, which the people, in their expressions of loyalty, had blazing on the high points all over the country.

Next day we formed a party with some friends, and went by rail to Frome, where there was a drag ready to take us to the Marquis of Bath's seat near there, called "Longleaf." We drove about the grounds and up to the house, and were shown over some of the principal rooms there. After a lovely drive through the woods, we picnicked on the edge of a beautiful lake—Sheerwater—doing the thing in first-class style. There are some beautiful trees near about the lake, quite a forest, many of them magnificent timber trees. After a visit to an opening in the woods on the side of a hill called "Heaven's Gate," owing to the magnificent view to be had from it, we drove down through the parks, where there are some 1200 or 1300 deer kept to the mansion itself. We passed hundreds of deer on the way, a small sort, ranging in colour from black to pure white; a lot of young fawns amongst them.

I afterwards visited "Wormister," a farm near Wells, and by giving you a description of it you will have an idea how things are worked on a farm of 600 or 700 acres in these parts; about 700 being the extent of this one. Of this area about 60 acres are covered with woods, which are kept on the poorer ground as cover for pheasants, &c. They pay great attention to the pheasant rearing, hatching a lot of eggs under hens, and turning the young ones into the cover when big enough to look after themselves. Then there are about 15 acres taken up with mangolds and swedes and peas, while the grass is cut for hay in any available field, although sometimes so light as scarcely to be worth cutting. While we were there, there was one field being cut with a mowing machine, and the crop on it was so light that we in our parts would not reckon it more than fair feed for sheep. Of course it is not

all like this, though the crops, as a rule, are light this year on account of the drought. I did not expect to hear complaints on that score in England, but the farmers are sometimes in trouble for want of rain even here. They reckon a ton and a half to two tons very good for meadow hay. One field of 26 acres, which had been ploughed deeply by a steam plough at a cost of £20, and sown with rye grass and clover, yielded about that quantity. On this field it was intended to fold the sheep at night, as is the custom on these farms, shifting the hurdles till it is manured all over. About 200 sheep and 100 milking cows are kept, besides 20 or 30 young cattle, a few horses, and 50 or 60 pigs. From 30 to 40 tons of mangolds and 20 to 30 tons of swedes per acre are grown as an ordinary crop, getting up to 60 tons of mangolds and 40 tons of swedes when grown for prize crops. Cheese is made, and the whey, mixed with pollard, used for fattening the hogs.

The outbuildings, as well as the dwelling houses, are very substantially built of stone, with slate roofs in this case. Tiles are mostly used for farm roofing, and town house roofing, too, for that matter. The stalls for the cows are ranged round a walled yard, and in winter when the cows are kept in continually, this open space is used for turning them into while their stalls are being cleaned. This is all the exercise they get. Oil and seed cake in corrugated bars (first ground), as well as hay, is given to the cows in winter. Mills are used to grind the cake. A small steam engine is rigged, and used for driving this as well as chaff-cutter, corn-crusher, &c. The chaff-cutter in use is a large one, and takes seven hands to keep it going in full swing. The machinery in this part seems to be of a more recent and civilised date than that I saw in the South of England, and many labour-saving appliances are used. The men about the farm get 12s per week, with £2 additional for the summer months, when they work from early morning up till eight o'clock at night, or later sometimes. It is amusing to hear some of these fellows talk—they put such a comical screw on their words. As we passed where they were putting up a hay rick, one old fellow complained to his master about not getting enough cider. Some of these men drink about a gallon a day. It is provided by the farmer, and costs him about sixpence or eightpence a gallon; that is the inferior sort. The better cider, such as he gave us to drink, costs here about one shilling a gallon. I saw the apparatus used in making the cider, but as this is not the time for ripe apples, will not have a chance of seeing it made. There is very little attention paid to the apple trees. They seem to be let run wild, yet bear good crops. I measured one of the trees. It was 8 feet round a foot from the ground, 7 ft. 7 in. in the smallest part of the bole, 9 ft. 1 in. about 6 feet up, where it branched out 21 yards across from side to side of the extremity of the limbs, and about 30 feet high. This is one of the largest apple trees in the district, and certainly the largest I ever saw. The country round about is magnificent—trees and fields and hills being just in nice proportion to look well. Altogether, an English homestead like this in summer looks a very desirable abode; but the winter—we must not touch on that. I had a sample when we landed first.

I then went across to Bath, which is a grand old town—mostly all "swells" who live about it—something like Eastbourne, more given to pleasure than business, but much larger. It is famous for its mineral springs and warm climate; and delicate people with means flock to it from all parts. Old Roman baths have been unearthed, and are shown as a place of interest to strangers. There is also a beautiful abbey, with tombstones and inscriptions of the real old sort.

Next day the grand Jubilee Review was to be held at Aldershot, so I came down and

**Testing the Fertility of Eggs, &c.**—During the progress of incubation, unfertile eggs may be detected by means of the following simple plan:—Cut a hole, the shape and size of an egg, in a piece of tin, zinc, or cardboard. Take the eggs into a perfectly dark room, and placing the perforated plate between the eye and a lighted candle, hold an egg to the aperture. Barren eggs will present a clear appearance as if newly laid, whilst those which are developing into chicks will show darker in the centre, and this appearance will gradually spread towards the outside as incubation advances.

In testing eggs that have been set on less than a week, it is often difficult to distinguish the fertile from the sterile, so that unless some experience has been gained, it is better to allow another three or four days to elapse before an examination. After the eleventh day no difficulty will be found, for the good eggs will then have assumed a perfectly opaque appearance, the line round the air-chamber showing very distinctly.

The unfertile eggs in a sitting should be removed. Till after eight days of incubation they will be quite edible and wholesome in puddings. Eggs that have been under a hen longer than this should be boiled hard, and used as the first food for the chicks.

When a sitting has been purchased, all unfertile eggs should be replaced gratis by the vendor, because, in the majority of cases, the cause of sterility lies in the bad management of his stock. He therefore is, to a very great extent, responsible for failure in the vitality of the sittings he sells.

In a large concern the economy of testing is very considerable indeed, for beside the saving of the unproductive eggs for culinary purposes, the good eggs may be put together under fewer hens, and those birds from whom all the eggs have been taken will then be set at liberty, and the sooner be brought on to lay. This detail of management is rendered more easy, of course, by setting two or three hens on the same day.

**Hatching.**—The first ten days of incubation are by far the most precarious time. After a fortnight, the eggs will be much less liable to become chilled. On the nineteenth or twentieth day I have frequently known hens to remain off all night, and yet the eggs hatched—the body of the chick having retained sufficient heat to support life.

On the twenty-first day the eggs will be found chipped, though if the hen be a close sitter, this may take place 24 hours earlier, and with bantams it usually happens that on the nineteenth day the shells are thus "pipped."

During the process of hatching the hen must not be unnecessarily disturbed but a visit every two or three hours should be paid to see how matters are progressing. The nest should be cleared of all empty shells, which greatly inconvenience the chicks, besides which the hen is very apt to tuck an egg inside a half-shell, thus precluding all chance of its occupant hatching, unless speedy assistance be rendered. The chicks are to be removed as they hatch and become dry, and should be placed in flannel by the fire. Doing this will be the means of saving many a promising young bird from being crushed, and the plan is especially to be recommended if hatching be protracted, which is often the case when eggs of various ages compose the sitting, for the staler hatch sometimes many hours after the fresher.

Some eggs will perhaps remain simply "pipped" a considerable time, and the bird may have discontinued its exertions to further extricate itself. These are the chicks that require help, and which, if left unaided, will perish. Assistance, I find, is best given as follows:—Carry to the nest a basin of warm water, heated to about 100 degrees Fahrenheit; then using the thumb nail or some blunt instrument, gently break off the shell round the beak, working towards the air-chamber or large end of the egg, which can be entirely removed without interfering in any way with the bird. Now peel the shell off round the bird's body, and with a soft piece of flannel foment the parts where the shell and membrane adhere to the flesh. This will have the effect of dissolving the gluey-like substance which is causing the mischief, and the chicken will be released. Of course it is necessary that great care be exercised to prevent blood exuding; but I find the operation, when practised as here described, is not a difficult one, and the chicken saved well repays the trouble taken. Should blood flow, it is not always fatal, but the

chicken must be at once put under the hen again for a time. The thread-like veins attached to the navel must by no means be separated near their junction with the body, but after detaching them from the membrane lining the egg-shell, they should be left hanging to the chicken, which should at once be placed under the hen. By the time the bird is dry no trace of these blood-vessels will be discernible, as their contents will have been drawn into the abdomen.

Occasionally an egg remains which is not even "pipped," the bird inside being either dead or, if alive, probably possessed of insufficient strength to break the shell. In such a case make a small hole at the top of the large end of the egg, and see whether the lining membrane is dark. If so, the egg contains a dead bird, but if white the chick is alive. Through the hole into the air-chamber the beak can now be seen. Continue to remove the shell, working only towards and around the beak; then desist, and place the egg under the hen. If not hatched out in the course of two or three hours, the chick should be assisted in the manner previously described.

If the hen be in any way wild or restless, it will be better to leave her alone, or she may do more mischief than is likely to otherwise arise.

As we have before said, moist weather and humid heat are most favourable to incubation; while a dry chilly east wind evaporates some of the fluid contained in the egg, and causes the down of the chick to adhere firmly to the skin lining the shell. This prevents successful endeavour on the part of the bird to extricate itself.

If in dry weather the nest and eggs are treated as described under "Damping," p. 13, the chickens will not require much assistance in hatching; for too great dryness is the principal cause of good eggs failing at the last moment to hatch.

**FEEDING AND MANAGEMENT OF CHICKENS.**

So soon as hatching is completed and the last chick quite dry, the hen must be removed to a coop placed in a warm spot, and the whole brood may now be committed to her care.

It is, perhaps, unnecessary to say that the practice of administering a peppercorn is great nonsense, whilst the removal of the horny excrescence at the end of the beak is extremely barbarous. It was provided to enable the bird to break the shell, and will continue for some days after hatching to afford a protection to the bill, which is at first soft and delicate.

**Feeding.**—The newly hatched chick does not require food during the first day, for Nature has provided sustenance in the last portion of the yolk, which, previous to the bird's exit from the shell, is drawn into the abdomen through the navel. So much nourishment is contained in this, that even twenty-four hours' abstinence from food will not hurt the chicken, in fact, any food given during the first 12 hours after hatching will only interfere with the digestion of this natural store of nutriment.

The brood should be first fed upon hard-boiled eggs, chopped fine, and mixed with double the quantity of bread-crumbs. To quickly prepare the egg, nail a piece of perforated zinc one foot square on a wooden frame, and press the egg through with a knife. Give occasionally during the first few days a handful of bruised corn, and gradually wean the chicks from the egg altogether; for if the young birds are fed entirely upon soft food, their gizzards will become weak from not having grinding exercise. A little canary seed will be greatly relished during the first ten days; but after that time wheat, barley, and buckwheat (cracked), varied with meal, should be made their regular diet. The different kinds of biscuit-meals advertised make splendid food for chickens, particularly "Spratt's," to the excellence of which I can personally testify; but their dearness will not allow fowls destined for the table to be fed upon them.

Barley-meal and "sharps," in equal proportions, make an excellent food; as do, also, boiled rice, or boiled potato parings mixed stiff with meal. The soft food may consist of ground barley, oats, buckwheat, or maize, mixed with "sharps." The food should be varied as much as possible, and should not consist, for any length of time, entirely of one kind of meal or grain. A very great benefit will be derived from the frequent use of bone dust, mixed with their soft food in the proportions of one part bone

dust to five of meal. It is a preventive of leg weakness and diarrhoea, and will be found to greatly strengthen the growing birds.

During cold weather the meal should always be mixed with hot water. At all times, even from the very first, grit and green stuff must be provided, the former in the shape of sharp sand laid in front of the coop, while the latter may consist of grass, cabbage, or lettuce, cut into very small pieces with scissors. This, of course, is not necessary when there is a good grass run.

During the first fortnight the chicks cannot be fed too often, always provided that what is given is at once eaten. In other words, it is advisable to give as nearly as possible what is sufficient, but no more. For the first ten days the brood should be supplied at least every two hours; and in rearing very early chickens, when the nights are long, to ensure success with them they must be fed late in the evening, and early in the morning. The light of a lamp placed in front of the coop and some corn thrown down, will induce the birds to feed, but before removing the light it is necessary to see that all have returned under the mother. When it is light very early in the morning, a little corn should be thrown down the last thing at night, so that the chickens may have an early breakfast.

After the first fortnight, feeding so often is not essential, and at the end of the first month, four meals a day will be sufficient. Let the first one in the morning always consist of soft food, and the last at night of grain.

I have generally found the most critical time in the rearing of chickens is when the crop feathers are growing. During this time the hen often abandons them. A little meat every other day, and oatmeal mixed with barley meal, will help to bring them through this crisis. Plenty of fresh water in a shallow vessel should at all times be near the coop.

**Importance of a Grass Run.**—When a brood has access to a grass run, the birds find much animal food in the shape of insects, worms, grubs, &c., beside a plentiful supply of green diet. In rearing upon a large scale, therefore, the importance of a grass run is very great, for the birds, to a large extent, will keep themselves, and save the labour of artificially supplying them with the above-named necessaries. The lack of insect food consequent upon the absence of a grass run, may be supplied with scraps of meat, fat, &c., from the house, or by Spratt's "crissel."

**Coops.**—The ordinary sparrow-hen-coop, with slanting roof of weather-board, is that generally used. It answers well, and can be purchased for about 3s. 6d.; but a handy and ingenious poultry-keeper may save this outlay by turning an old ten-chest or American bacon-box into a coop. The tools required for the purpose are the hammer, saw, nail-passer, nail-drawer, and nails. The roof must be well tarred. Many more elaborate coops are made, which in rearing chickens for show purposes may be used with advantage, but in ordinary poultry raising, where strict economy is practised, the common and less expensive coop will answer all requirements.

(To be Continued.)

**HOW TO SECURE EARLY POTATOES:**

**A WRINKLE FOR GARDENERS.**

There is a method of bringing potatoes on by a kind of forcing, yet without having recourse to the frame for the purpose; it is this: dig a small trench a foot deep, fill it with hot stable manure, and afterwards tread it in so as to make it occupy about half the space. Do this until you come to within some three or four inches of the surface soil, when upon the trodden manure fill up to the surface with your ordinary pulverised soil. On this soil lay out, a foot apart, good early seedling potatoes, and let your rows be some two and a half feet apart. Next cover over your potatoes with the soil which you have dug out in order to form your trench, only take care that it is thoroughly well pulverised, and that there is no lumps in it. Let this covering be to the depth of four inches; while upon the whole put an additional protection of peas haulm of a thickness sufficient to do three things—first, to keep in the heat; secondly, to keep off the approach of frost and east wind; and thirdly, not so thick as to exclude light and air. As soon as your potatoes under these circumstances have come through, keep them earthed up, protected as advised, during frost and wind, but during really warm spring rains and sunshine they may be uncovered. Should the season prove a very dry one, a little water will be advisable, but it is more likely that this will not be required. A fair and an early crop of potatoes ought reward you for your pains.

stayed overnight at a place not far from there. It was a great sight. I enjoyed it even more than the grand procession on Jubilee Day—perhaps bad taste on my part; but to see 60,000 troops, the pride of England, march past in their fullest war paint, was enough to entertain a native. The bands were thrilling and most powerful, and the sheen and glitter of the steel was such as one reads of, but does not often see. The cavalry was something to be remembered. The Prince of Wales led two divisions, alternately, past on the most beautiful horse I ever saw mounted. The cavalry band playing on horseback was unique to me. The long valley at Aldershot is a splendid place for a review, if it were not for the dust; but that is a big if. It was fearful, the ground all being of a loose, sandy nature. They had a broad way, well watered, where they marched past; but beyond that, when the troops were in motion, they were sometimes almost hidden by the dust. Imagine the charge of 13,000 cavalry. They had formed in line on the long hill opposite us, about a mile in length—while the artillery was passing—and as the bugle sounded along the line, they came with a rush towards us; then halted suddenly when pretty near, and the Royal party drove away, passing along in front of the line. I had a good seat, and saw as well as the Queen herself, and got back to London without crush.

Since coming back to London, I have been out at the Metropolitan Cattle Market at Islington, which is held there twice a week; Monday and Thursday being the days of sale. Although built for a number of years, it is still called the new cattle market, the dead meat market having taken the place of the old Smithfield cattle market, which is now not far from the centre of London.

The present yards enclose about ten acres, and are fenced with a costly iron fence, having an iron foundation about two feet high, strong iron bars, with fancy tops about six inches apart, and square pillars for posts all round, with four bulls' heads looking out near the top in four different directions, varied with rams' heads near the sheep pens, calves' for the calf pens, and pigs' for the swine. Altogether the fence is quite artistic as well as most substantial. I cannot say so much for the inside, though I suppose it serves its purpose here—the animals are so quiet. Instead of pens for the cattle, they have low fences about three feet high, with cast iron posts, having shoulders to let in the ends of the rails. To the top rails, some of which don't look very strong, the cattle are tied in rows facing one another, with just enough room to walk between them in front, and more space behind. They are closely packed—a strong rope with a running noose being used for tying them, each beast having one of these round its neck. They generally have 4000 or 5000 cattle, and about 12,000 sheep on Mondays; the Thursday market being smaller. It is mostly all English cattle that are sold here. There is another market outside London for the foreign cattle. They are sold privately, like the most of our sheep at Flemington, with the exception of a few by one firm of auctioneers. Bulls are valued highly here for beef, one man was asking £28 for one—fat of course. The sheep pens are about nine feet square, with very low fences, too low for some of our "warriguls," and are used for pigs and calves as well—all mixed up in a most free-and-easy style. There is not that order and precision as well as "go-aheadness" here that is to be seen at the Flemington yards. There are no roofs over the selling yards, excepting where some calves and hides are sold, where there are two fine, large open sheds. The salesmen have little box-like places on wheels for having their breakfast in, or retiring into when it is wet. The yards all over are paved with blocks of stone, and near the centre there is a circular

building of offices, with a grand high tower rising up from the middle of it, with a four-faced clock on the top. Across the street, on two sides of these yards, are the places for receiving the sheep and cattle; all covered up with substantial buildings, where fodder is provided for the stock till they are taken out to be sold. The cattle sheds accommodate about 4000 beasts. They start selling at five o'clock in the morning at this time of the year, and leave off at three in the afternoon. If the cattle are not cleared out by that time the owners are fined.

Near the yards are slaughter houses, which I had a look through in company with the owner. It is surprising to see how quickly a bullock can be skinned and dressed. They go down the ticklish part at the ribs in about three "wipes" of the knife. They use a narrow-headed hammer with a long handle for felling them. Some of the livelier ones are roped, but most of them are quiet enough to drive into the slaughtering room. A good many of the beasts are touched with a disease of one kind or another. I was pointed out a pair of lungs, hanging up, which were affected with pleuro; and tuberculosis is very common in a greater or less degree amongst the beasts killed here.

Since visiting the market, I had a talk with two veterinary surgeons on the subject of pleuro. I showed one of them—Mr. Shaw—the clipping from your Journal of 13th May on "Pleuro." He says the ideas there are all wrong; beasts affected with pleuro never get over it, and are liable to infect others at any time. Of course that is not our experience; and yet this man ought to know, as he talks of having had experience amongst thousands of pleuro beasts. He says it is sometimes difficult to get beasts to take pleuro when you want them to. He has known the hot, steaming pleuro lung put before a healthy beast, and yet it did not become infected. He would account for beasts not taking the disease by this, or contact with a recovered beast, by their not being susceptible to it.

In speaking of tuberculosis, he says he believes more disease arises in London from tuberculous milk being drunk than in any other way. He has all the milk which is brought to his place boiled before being used. He seemed warm on this point; but when I asked him if he knew of a case where tuberculosis had been conveyed to a human being through drinking milk, he was not aware of a single instance in support of his theory. He surmised and took for granted, but had no proof. He agreed with me that it was in cattle mostly inherited from the parent stock, but thought that the confinement and hard milking which the cows about London are subjected to tends to produce or bring out the disease in them. They say that there is scarcely a cow housed about London that is not more or less infected with the disease. Mr. Herron, the other veterinary, agreed with him on that point.

Besides the slaughter houses for cattle and sheep, there is a place not far from the yards for slaughtering horses, to which they invited me to see some cases of glanders. There are about thirty horses brought to this place daily, either dead or to be killed when they get there, coming to grief in various ways. As to the description of glanders you can get that from the horse doctor's book; but the sight of the thing itself will be a little experience for me if it should ever reach our shores—which, according to Mr. Herron, there is a probability of its doing, as he says a horse may have it for months without showing it. It is like pleuro, no known effective cure for it.

I intend to start for Scotland to-morrow morning, stopping for a day or two at Newcastle to see the Royal Agricultural Show, which is to be held there this year. When I have seen that I may have something more to write to you.

## The Poultry Yard.

### Hatching, Rearing and Management of Chickens.

(CONTINUED.)

There are several reasons why hens should be taken off once every day. First, to see that the hen actually feeds, because some sit so persistently as to starve themselves. Secondly, that the eggs may absorb fresh air, which is necessary for the development of the embryo chick; and thirdly, food must never be given to a hen upon the nest lest she should take to searching for it among the eggs, besides which, this practice has been known to cramp a bird for life. Sitters should be kept off their eggs a quarter of an hour, but in the summer from twenty minutes to half-an-hour is not too long; while during frosty weather very great care will be needed to prevent the eggs from getting chilled, and no more than ten minutes absence should be allowed, and the nest should then be covered over with a piece of bagging to prevent too rapid a loss of heat. When allowed to take her own course, it will be noticed that the hen leaves her nest about the same time each day, and so it is best to take off confined hens at as nearly as possible the same hour daily; for some hens become restless and fidgety after the regular feeding time has passed. The eggs should be examined each day when the hen is off, so that any broken or cracked ones may be removed.

*Dust Bath*—About once a week each hen is put into the dusting shed for a quarter of an hour. The dust-bath consists of two or three pounds of black sulphur, mixed with fine dust and road grit. In this the hen will roll and free herself of all insect pests; whilst the grit will be picked out to perform the work in the gizzard.

To rid the hen of her parasites whilst sitting is of the utmost importance, or the future brood will swarm with them, in some cases to such an extent as to cause a weakly chicken to droop and die. In many instances an infested hen becomes restless, and when greatly tormented she will altogether abandon the nest. For this reason a hen should always be set in a perfectly clean nest, not in one that has already served for the use of the laying fowls, and which probably contains vermin. When making the nest, a little carbolate of lime powder should be shaken underneath the hay-lining, or flowers of sulphur should occasionally be sprinkled over the eggs during incubation. These precautions and a frequent use of the dust-bath, will successfully preserve sitting-hens from their insect tormentors. All fowls should have access to a dusting shed, which, in a confined run, may consist of a large box with a roof to keep the dust perfectly dry.

*Damping Eggs*.—When the nest is raised above the ground, the eggs may be dipped for a second or two into a pail of warm water each morning from about the fourth or fifth day before being due to hatch. But eggs only require this damping in exceptionally dry weather, as, e.g., in March, when the parching east winds blow, or during the intense heat of summer. At such times so much moisture is sometimes evaporated from the egg, that the chicks are unable to move enough to break the shell, and the membrane between the shell and the chick is dried to the consistency of parchment. During the excessive heat of June, 1883, I neglected to supply moisture to a sitting of nine fertile eggs, and had only two chicks from them in consequence. Of the other seven eggs some were "pipped," but the lining membrane was so tough and dry, that the poor birds were helplessly encased.

*Removal of Broken Eggs*.—Give plenty of room in the nest or the hen may, upon stepping in, break an egg. When this misfortune happens, do not neglect it, but at once remove all traces of the accident by washing the remaining eggs in a basin of lukewarm water, and re-make the nest clean and dry. Also, if soiled, wash the hen's breast before allowing her to return, or some eggs may become glued to her feathers and be carried from the nest when she goes to feed. A broken egg if neglected is often the cause of a hen destroying the whole sitting.

*Eggs cracked during incubation*.—If an egg is slightly cracked during incubation, the injury can be remedied by carefully pasting a piece of gummed or stamp-paper over it. I have known many eggs hatch successfully when treated in this manner.

**OLD TURKEYS FOR BREEDERS.**—One reason why so many have poor success in raising turkeys is because they breed from immature birds. The chicks are not so hardy, cannot grow to so large a size, and gradually run out. Young turkey hens generally give more eggs than older birds, but those of the latter are most valuable. The gobble should be two years old at least, and three or four would be better. By this age, if a good breed, he will have attained an enormous size, and probably bring an extra price in markets where size is thought more important than anything else. This is the season for killing turkeys, and to be successful another year the best should be saved for breeders.

**West Bourke Agricultural Society.**

**PRIZE LIST SUGGESTIONS.**

As the usual Annual Prize List of the above Society for 1888 will be considered and revised on Saturday, 17th inst., the Prize List Committee desire to intimate that any suggestions forwarded by Members to the Secretary in the meantime, will receive their best attention.

ALFRED N. THOMAS,  
Secretary.

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Send for sample and descriptive circular.  
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**WATER TANKS,**

PLAIN AND GALVANIZED,  
100, 200, 300, and 400 GALLONS.  
Taps fitted to any size required.

HOUSEHOLD, ENGINE, AND BLACKSMITHS' COAL,  
BEST QUALITY.

Horse Feed of all Kinds, Wholesale and Retail.  
Purchaser and Seller of Country Cheff.

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Have always on hand a Superior Stock of Saddlery, consisting of Double and Single Buggy Harness; also, Carriages, Gigs, and other Harness; English and Colonial made; Ladies' and Men's Saddles and Bridles, Carriage, Buggy, Hunting, Jockey, and other Whips, from the best English Makers.

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ESTABLISHED 1857.

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Old-established Agricultural Implement and Farm Wagon Manufactory

Celebrated for the excellence and durability of a's work sent out.

Makers of the First Iron Plough in the Colony.

BUY NONE OTHER THAN

**W. C. STOTT'S**  
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**FIRE BRICK LINED FURNACES**



For Copper Washing Boilers with Everlasting Bottoms, will Boil in Half the Time of the Ordinary Furnace, with Half the Fuel

To be had of all Leading Ironmongers.

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**FURNITURE,  
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AN ENORMOUS STOCK OF  
Beautiful Cottage Furnishings

AT

**VERY LOW PRICES.**

CALL AND INSPECT.

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**THE AUSTRALASIAN MORTGAGE AND AGENCY**

COMPANY LIMITED,

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**THE AUSTRALASIAN WOOL STORES, MELBOURNE.**

Auction Sales of **WOOL** every Friday during the Season, and of **SHEEPSKINS, HIDES, TALLOW, KANGAROO SKINS, &c.**, every Tuesday, Thursday & Saturday throughout the year.

Auction Sales of **WHEAT, FLOUR, BARLEY, OATS, &c.**, every Wednesday during the Season.

*Consignments fully Displayed and Carefully Valued by Experts prior to Sale.*

**PROCEEDS REMITTED PROMPTLY ON DUE DATE.**

The Australasian Wool Stores,  
Collins Street West, Melbourne.

**WILLIAM ADAMSON & CO.**

Produce Brokers,

**MACKILLOP STREET,**

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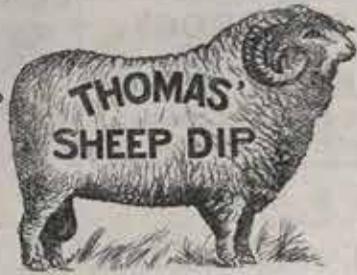
Hold Sales every Wednesday and Friday of

**Dairy Produce, Poultry,**

**Carcass Pork, &c.**

Account Sales rendered within Four Days from  
Date of Sale.

A  
Perfect  
**SHEEP DIP**  
Destroys  
all  
Parasites,  
Ticks, Lice,  
or Scab.



The  
**CHEAPEST,**  
Most  
**RELIABLE,**  
and  
Most  
**LASTING**

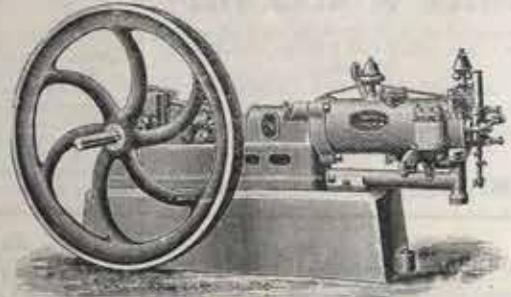
The Wool consigned to Messrs. Helmich, Schwartz & Co., London, by the Pastoral Society of New Zealand, was reported upon as "of Fine, Staple, and Sound, of Good Lustre and Soft Feel, and with little or no smell."

The Total Prizes taken at the places referred to number 157,  
including nearly £800 in Sterling Money.

—TESTIMONIAL.—

"I have very much pleasure in sending you a testimonial of my high appreciation of Thomas' Sheep Dipping Specific, with which you have supplied me. I have found it to answer well. The complete failure of an English Poisonous Dip to kill the Ticks, induced me to try the above, I am glad to state, with the greatest success. The eradication of the Ticks and Ova was so complete that on several occasions I have challenged inspection of my Stud Sheep and General Flock to find a living Tick amongst them. As for the condition of the Wool, and the health of the Sheep—the fact of my taking so many First Prizes at each of the Agricultural Shows, viz., Melbourne, Ballarat, Echuca, Sandhurst, Rochester, Kyneton, and several other Shows—sufficiently testifies, and my Sheep were entirely free of Ticks at Shearing. I have now much pleasure in giving in writing my opinion of your Specific, which I never hesitate to express publicly whenever the subject of Dip is referred to. Scale Park, Clunes, Victoria, Jan. 29, 1887. (Signed) LEONARD R. CARTER."

**THE "OTTO" SILENT GAS ENGINE.**



Full power at a moment's notice. No Boiler required. The best and most economical engine in the market. Cost of gas, 1½d per hour, with gas at 6s per 1000 cubic feet. Over 1000 in use in the Australian Colonies. Made in all sizes, from 5-horse power, indicating 1 h.p., to 20 h.p., indicating 50 h.p. The new Vertical "Otto" Gas Engine takes up little floor space, is silent, and is equal in power to the horizontal pattern. May be had on Deferred Payment System. For price lists and further information, apply to

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SOLE AGENTS,

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**HORNSBY**  
WORLD RENOWNED  
**REAPER & BINDER**  
WINNER OF 34 OUT OF 39  
FIRST PRIZES AT  
FIELD TRIALS  
IN VICTORIA.  
SEASONS.  
1883 to 1887.  
LATEST VICTORY JULY, 1887. GOLD MEDAL & TROPHY VALUE £100, FRANCE.

HEMP & MANILLA  
TWINE OF  
SPECIAL QUALITY  
I.G. FOSTER  
AGENT,  
A BECKETT ST.  
MELBOURNE

THE WORLD'S  
HIGHEST PRIZES

# D. FERRIER'S PATENT LEVER WOOL-PRESS

First Order of Merit awarded this Press at the Melbourne International Exhibition, 1880.

## HUMBLE & NICHOLSON

Makers, Geelong.

THE usual screw is dispensed with, and the pressure brought to bear by means of a strong rope or chain, working in sheave pulleys overhead, attached to a Ram, and winding on a fusee, which is made in the shape of a suddenly tapered screw.

The rope works on the large part of the Fusee, when the pressure is light, and passes down to the taper end as the pressure increases, being worked by a lever fixed on the centre spindle.

The top Box is hinged to side Brackets, and turns down to the floor, which greatly facilitates the putting in of the wool, and renders any second floor unnecessary, and when filled is easily placed back in position.

When the bale is pressed and the sides sewn, the Ram is lifted by a small rope from the Fusee, turned by a handle.

It will be understood how very much quicker the power is brought into application by this means than by the ordinary screw press, and double the work is got through by the same number of men.

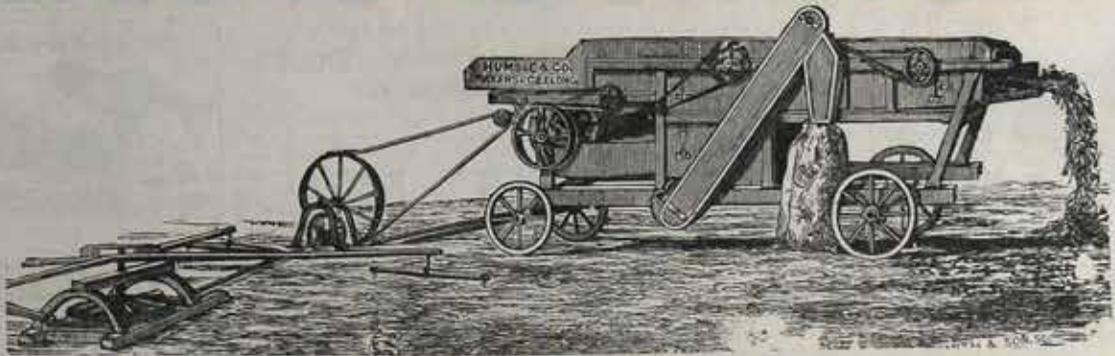
Special attention is directed to the fastening of the Packs before the Wool is put in, which is done in an exceedingly quick and simple manner: four pieces of wood are fitted into the recesses of doors, which hold the Pack securely in position and to the side catches for fastening the doors, which are held in position by a vertical bar, and relieves them simultaneously.

The side door is also held in its place by a catch, which at any time can be relieved instantly, the door falling back and allowing the bale to be removed.

At the Melbourne Exhibition competition this Press turned out 3 Bales of Scoured Wool in 28½ minutes, being considerably less than any other Press, although one had the advantage of being driven by steam.

HUMBLE & NICHOLSON, ENGINEERS.

## THRESHING MACHINE



FOUR-HORSE POWER THRESHING MACHINES.—These Machines are found to be very convenient to farmers who wish to thrash their own grain; or in some cases where three or four neighbours combine. They will thrash from three to four hundred bushels per day with horse power; or if worked with steam power, about six hundred bushels daily.

We have been making these Machines for the last seventeen years, and have been awarded a large number of prizes at the different Shows, including the National Show at Melbourne and other places. The above is strongly made with Wrought Iron Drum, Steel Spindle; all bearings of the best material, no time or expense being spared to turn them out in a substantial manner.

## HUMBLE & NICHOLSON,

VULCAN FOUNDRY, GEELONG.

Manufacturers of TAYLOR'S PATENT REFRIGERATORS  
And Cold Dry-Air Apparatus,

ALSO

TAYLOR'S RABBIT EXTERMINATORS,

The most effective when used with the chemical dust, which is supplied by Vulcan Foundry.

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**A. C. STURROCK,**  
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**SEEDSMAN AND PLANT MERCHANT,**  
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Samples and Prices on Application.

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**Grain & Flour Merchants,**  
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Chaff, Hay, Butter, and  
General Produce Merchants,  
GEELONG.

**CAULFIELD CUP.**  
**WHITE & ALLAMBY**  
Have replenished their Stock in view of ensuing season. Best ENGLISH GOODS ONLY kept in stock.  
**AMERICAN HARNESS,**  
Single and Double, Carriage, Brougham, Gig, and Buggy, in ALL of which none but the best English and American Leather is used in making up.  
**50 BOURKE STREET WEST.**

EMERY WHEELS,  
GRIND STONES,  
BAND SAWS.  
  
LEATHER & RUBBER  
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Circular and Vertical Saws.  
Importer of English and American Saws, Joiners' Tools, and Files.  
Circular and Mill Saws Re-toothed and Hammered.

**SPECIALTY.**  
N.B.—Machinery for Grinding every description of Tools, Machine Moulding and Paper Knives (any length), Razors, Scissors, and Cutlery, on an improved principle.

**WM. HUDSPETH,**  
Torry and Spring Dray Builder,  
YARRA BANK ROAD SOUTH,  
(Below Langland's Foundry.)

**THOMAS LANG & CO.,**  
Nurserymen & Seedsmen  
Have Removed to Larger Premises,  
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5 Doors from Queen Street.

All Vegetable and Agricultural Seeds tested to see they grow.

Taste of Seeds or Plants Free on Application.

By Special Appointment to the Marquis of Northampton, K.C.M.G. & under the Patronage of His Excellency Sir H. B. Loch, K.C.B.

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**STEAM CARRIAGE WORKS,**  
244 AND 245 SWANSTON STREET,  
And 6, 8, 10, 12, 15, 17, 19 & 21 STEWART STREET, MELBOURNE.

Awarded GOLD MEDAL for Special Merit at London Exhibition of 1873, and TWO GOLD MEDALS for best Carriages at Melbourne Shows of 1883 and 1884, and THIRTY-TWO MEDALS (1st Prizes), at Exhibitions and Shows of 1872, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, and 85. Also, THREE FIRST AWARDS OF MERIT (1st Prizes), at International Exhibition of 1880.

NOTICE.—Referring to above, D. WHITE desires to inform his numerous Customers and the Public generally that he has secured and completed EXTENSIVE ADDITIONS TO HIS COACH FACTORY, and with the increased accommodation and Steam Plant, and the Largest Stock of Seasoned Timber in Melbourne, is now prepared to meet the increasing demand for his well-known Carriages and Vehicles. The new premises are in Stewart Street, immediately opposite the present Factory. Patentees of the Improved Carriage and Buggy Hood Apparatus, for raising or lowering the Hood from the inside. Every description of Vehicle built from the best imported Materials and Well-seasoned Timber.

**LANCASHIRE PATENT BELTING,**  
FOR  
Threshers and all Agricultural Machinery.

Is not affected by Heat, Water, or Steam. More Durable. Better Grip.  
Adopted by the Victorian Railways, and is used by all the leading manufacturers in Melbourne and suburbs. Prices less than single leather. All sizes from 1 1/2 to 16 inch in stock.

All the Main Driving Belts for the Adelaide Jubilee Exhibition are supplied by Lancashire Patent Belting. SEND FOR CIRCULARS TO  
**CAMPBELL, GUTHRIDGE & CO.,**  
13 William Street,  
Agents for Australasia.

MESSRS. CAMPBELL, GUTHRIDGE & CO.,  
Agents for Lancashire Patent Belting and Hose Company,  
Dear Sirs,—We have great pleasure in informing you that the Patent Belt we bought from you for our Threshing Machine has given us great satisfaction. We consider it much better than leather, and believe it more durable; we also find that it runs more smoothly in wind and keeps on the pulley better when raining, in fact, last season the belt only came off three or four times when at work, and we have seen a leather belt come off as many times in an hour in windy weather. We would not think of buying a leather one now; the cost of leather is about double what the Patent Belt costs, and we have great pleasure in recommending them to machine owners. We are, Gentlemen, Yours respectfully,  
HARPER & HAMMILL.

AT 177 TO 181 KING STREET,  
**STEVENSON & ELLIOT,**  
CARRIAGE BUILDERS.

**REDUCTION OF PRICES.**  
Previous to the erection of new machinery, we have decided to reduce the quantity of our stock, and offer to the public, at greatly reduced prices, a splendid assortment of Carriages and Buggies, &c. As we use none but English and American materials, and employ the best skilled labour in the market, we can guarantee that the quality of our work is of the finest, and has been pronounced by judges to be unequalled anywhere for durability, style, or finish. All styles kept in stock, from Landaus to Farm Waggon; also variety of secondhand vehicles.  
The trade supplied with first-class and seasoned materials.

**THE USE OF**  
**SULPHATE OF AMMONIA IN AGRICULTURE.**

For Grass Land.—1 1/2 cwt. per acre; to be put on the land in the month of April, before or after a shower of rain.

For Wheat, Oats and Barley.—1 cwt. per acre for wheat, in April; 1 cwt. per acre, for oats, in April; 1 1/2 cwt. per acre, for barley, in April.

For Vines.—1 bushel on the vine border, and lightly fork it in, in the months of March, April, May, and September. This quantity (1 bushel) to be for the nourishment of four vines.

For Onion Beds.—Give a good sprinkling over the beds two or three times during the growth of the onions.

For Potatoes.—1 1/2 cwt. per acre as a top dressing, before the haulms appear above ground.

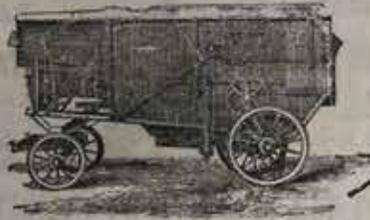
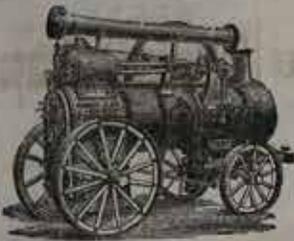
For Greenhouse Plants.—A large teaspoonful in a bucket of water, to water the greenhouse plants with twice a week. Not to be used, however, for heaths, rhododendrons, or orchids.

For Peach, Apricot, Plum, Currant, and Gooseberry Trees.—A similar solution to that given for greenhouse plants, in the months of March, April and May. Rose trees and garden plants are benefitted by the use of the solution. Celery, cabbages and cauliflowers also grow well when watered with the solution.

For Raising of Healthy Plants from Seeds.—Sprinkle a good quantity of the sulphate on the seed beds, and then water them a week before sowing the seeds. Melons and cucumber plants also are much benefitted by the sulphate of ammonia.

Note.—All vegetation, excepting heaths, rhododendrons, and orchids are rendered more luxuriant, healthier, and consequently freer from the destructive attacks of the scavengers of Nature by the use of sulphate of ammonia, especially in the spring of the year, when vegetation requires a condensed antiseptic food and nourisher, to enable it to withstand the blighting effects of the north-easterly winds, which, being the least electrical of all the winds, lower its vitality, and thus conduce to diseases in the animal and vegetable kingdom.

To be had from the Works of the  
**METROPOLITAN GAS COMPANY,**  
In 2 cwt. Bags, at 18s. per cwt.



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Robey and Co.'s Portable and Vertical Engines and Saw Benches.  
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J. & F. Howard (Bedford) Celebrated Champion Simplex  
 Ploughs, Segment Land Rollers, Zig Zag Harrows.

Root's Blowers, Punching Bears, Lathes, Tiring & Upsetting Machines,  
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 And 4, 6, & 10 LITTLE COLLINS ST. WEST,  
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LONDON, 27 LOMBARD STREET.

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Saddler by Appointment to His Excellency Sir H. B. Loch, K.C.B.

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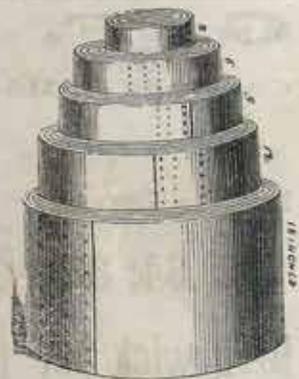
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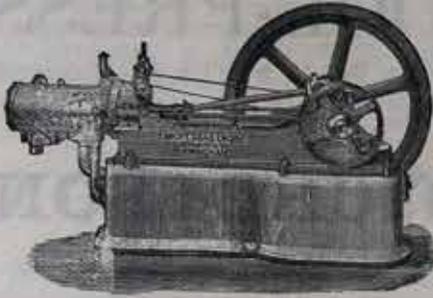
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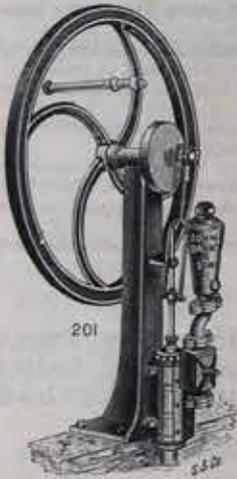
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ENGINEERS AND IMPORTERS OF STEAM ENGINES,  
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MANUFACTURERS OF

PUMPS OF EVERY DESCRIPTION,  
Fire Engines, Baths, Sanitary Ware, Gas Fittings,  
Iron, Lead, & Compo. Pipes, Water Supply Goods.

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# NORRIS'S SPICE

Is Unequalled for Giving LIFE, HEALTH, and Flesh to

Horses, Cattle, Pigs, Geese, Ducks,  
Fowls, Pigeons, Dogs, &c.

Tried, Proved and Certified to be the Best Medicine for Horses ever discovered. Will coax the appetite when all other things have failed. Gives a bright eye to the Horse, makes his skin like velvet, his looks and temper good. Increases the quantity of milk in Cows, and enriches the quality. Pattens Pigs in half the usual time. Makes Geese, Turkeys, Ducks and Fowls as fat as butter, and double their value. Converts the commonest of Hay and Straw into a superior provender.



Sold by all Druggists, Grocers, and Storekeepers, in Tins, 1s., 2s., 5s., 10s., and 20s.

T. W. NORRIS & CO. (S. M. DALTON), Chemists, Sole Proprietors & Manufacturers.  
MELBOURNE, VICTORIA.

N.B.—Ask for and insist on having NORRIS'S SPICE. \*various Imitations are sometimes offered, BEWARE OF THEM.

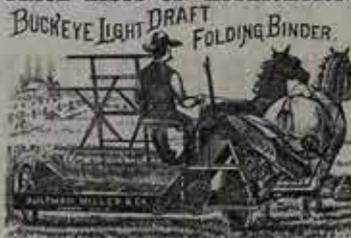
## THOS. HENDERSON & CO.

Have much pleasure in calling the attention of Agriculturists to their

### "EUREKA" DOUBLE-FURROW PLOUGHS,

With Short or Medium Steel Mouldboards, Patent Wheels, and Cast or Wrought Iron Shares.

Combined Two and Three Furrow Plough, the Best and Cheapest Ploughs in the Market. Patent Wheels supplied to fit any make of Double-Furrow Plough. Horse Works, for One or Two Horses. Improved Three-Knife Chaffcutter, Fitted with Sieve Gear, Patent Adjustable Steel Mouthpiece, Stop and Reversing Motion. Cut two lengths. Bentall's Chaffcutters and Corncrushers, All Sizes, Tank Sinking Ploughs and Scoops, Harrows, Scarifiers, Corn-screens. Winnowing Machines.



The "Buckeye" Folding Binder is the most complete Binder in the market. It cuts as low as a Mower; is strong, simple and durable.

Awarded Gold Medal at Grand National Field Trial, Shepparton, 1886, with highest number of points.

The Lightest running Reaper and Binder in the World.

Agricultural Machine Works, Elizabeth Street North, Melbourne.

# NATIONAL AGRICULTURAL SOCIETY.



Vol. III.—No. 27. [Read, as a Newspaper.]

MELBOURNE, OCTOBER 14th, 1887.

GRATIS.

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Then 'twere not done till 'twere quickly done."

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SWANSTON STREET.

**CHARLES D. STRAKER,**  
(Late of Three Crowns Hotel, West Melbourne)  
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Caterer for The National Agricultural Society of Victoria, and various clubs.

Orders for Banquets, Fairs, Draggings, Weddings, Suppers, & the Shortest Notice in Town or Country.

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Tailor, Practical Shirt Maker,  
Sporting Costumiers.

Football, Cricket, Bicycle & Lacrosse suits in stock or made to order. (Cuts contracted with).  
Instructions for self-measurement on application.  
SPECIAL SHIPMENT OF WHITE SHIRTS.

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The finest qualities of American Tobaccos. Specialty—American Cut Tobaccos. Cheapest Brands Havannah Cigars. Specialty—Morris, Cahoras, and Henry Clays. A high-class Hairdressing Saloon is open in conjunction with the above establishment.

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Millers & Grain Merchants  
AND  
GENERAL COMMISSION AGENTS.

Subscribed Capital - £88,000.

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GRAIN STORES at JUNG JUNG, WAIL, LUBECK, NUNURKAI, DIMBOOLA, DONALD, and Agencies at all the principal Railway Stations.

Jas. Fry & Company's Celebrated 5 Stars Flour.

Consignors of Wool and other Produce and Advances made thereon.

Every description of Agricultural Machinery and Implements, by all the best Melbourne Manufacturers and Importers on sale on favourable terms. Town Agents for transaction of every description of Farmers business requiring Confidential Care and attention.

Advances on Grain at Current Rates of Interest. STORAGE ON VERY FAVORABLE TERMS.

F. & CO. Limited are prepared to ship Wheat if drafted on Farmers' account for sale in London on advantageous terms.

£60,000 to Lend on Freehold or Leasehold Security.

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**SCOTCH PIE SHOP**  
NO. 36 BOURKE STREET EAST.

The Most Popular RESTAURANT in the CITY of MELBOURNE.

Meals at all hours from 6.30 a.m. to 11.30 p.m. SUNDAYS INCLUDED.

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(NON-POISONOUS.)

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**Best, Cheapest & Safest Dip**  
IN THE MARKET.

A CHEMICAL FOOD FOR THE WOOL.  
DEATH TO ALL INSECT LIFE.  
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PRICES—

5/6 per gallon in casks, 40 gallons each.  
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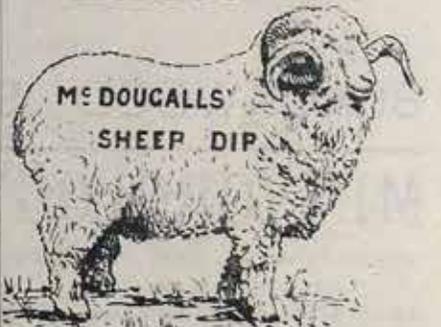
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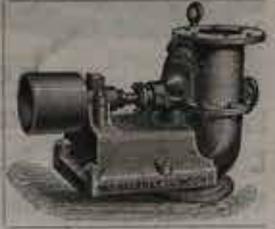
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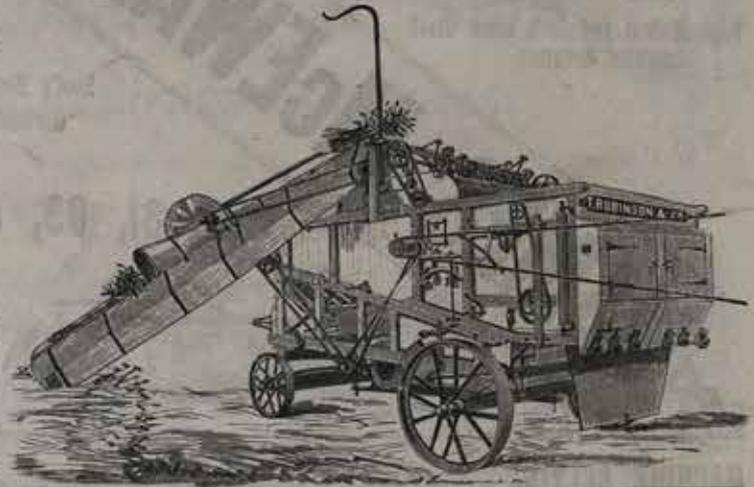
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### Single, Double, and Treble Ploughs.

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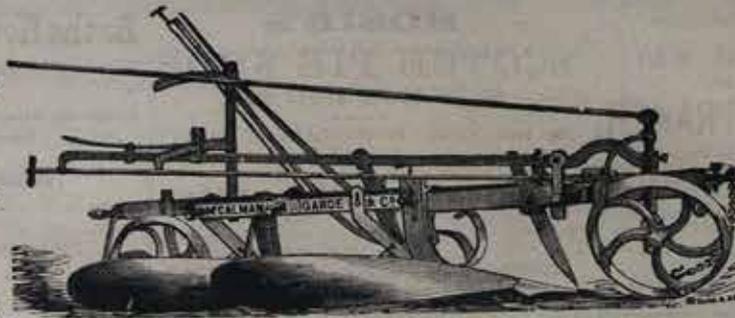
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For dam sinking.

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Watchmaker, Jeweller and  
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## Williams' Rack & Pinion Wool Press

Rack and Gear Steel Press for the use of large stations.  
Lever & Chain Press, with Folding Top Box, for the use of smaller stations.  
Lever and Chain Farmer's & Selector's Press. Price, £22 10s.

As the season for this latter kind is now approaching, those requiring them should lose no time in sending their orders. Owing to the general satisfaction given by those supplied for last season, orders are now freely coming in, and a large demand is looked for. The following is a fair sample of a large number of Testimonials to hand for those supplied last season:—

MR. PRICE WILLIAMS—  
Dear Sir,—I have much pleasure in informing you that the Farmer's Wool Press I purchased from you last October, gave me every satisfaction. We turned out very compact small bales, about 34 cwt., but could have them heavier if we wished with once down. By what the Wool Brokers tell me, they would clear themselves in two seasons to anyone having twelve bales. Since done with the Wool, I have had it in constant use as a Cheese Press, and I reckon it worth half its cost for that. We have weights on the levers. Any number of Cheeses can be put in at once. It would make a good Press for Hay or Straw, and for Grapes or Apples it is just the thing. I can highly recommend it as a most useful, substantial, cheap article. —Yours truly,  
HUGH GORDON.

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Have met with such unprecedented success giving such **Comfort and Wear**, that they are well-known throughout the colonies as a Great Saving in the Family Expenditure.

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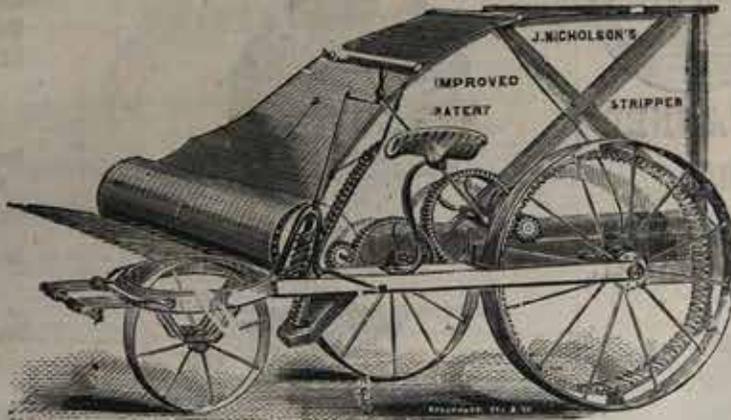
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N.B.—Inspection and a Trial respectfully solicited.

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the largest and best  
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Send for Catalogues.  
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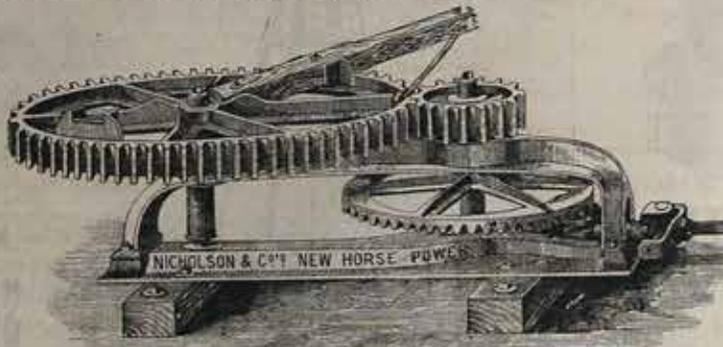


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Strippers, specially  
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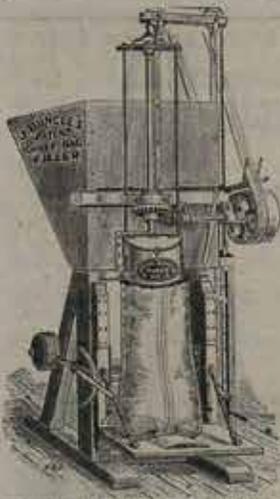
Price, including two  
Poles,  
**£18.**



Address—

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STREETS,  
Melbourne.**

This most useful Machine is made entirely of Iron, simple in construction, very strong, and easily managed. It is also fitted with a spring clutch, which prevents the poles from striking the horses' legs when the Machine is stopped. The pole or poles (as it can be used either as a Single or Double Horse-power) are fixed in such a manner that the pull is direct; the strain thus being reduced to a minimum, the speed is sufficient without the expense of an intermediate motion. Priced Catalogues free by post.



## BUNCLE'S Patent Chaff Bag Filler.

or without Baggers. A few attempts have been made by some to supply such a want, but probably not having a theoretical as well as a practical knowledge of machines, have not been able to reduce the complicated movements in their machines, and which are perfectly unnecessary—as witness the Unique Simplicity and correctness in design, and the admirable working of **BUNCLE'S PATENT BAG FILLER** compared with the few others tried at work.

For the information and convenience of customers, a machine is kept constantly set up ready to show at work in **BUNCLE'S PARKSIDE IRONWORKS**, and many customers have witnessed **80 to 90 lbs.** of Chaff put in a bag in 15 seconds!!! which, after making allowances for time removing the full bag and replacing an empty one, would easily on an average keep **Four of Buncle's No. 1 Chaffcutters**—well, if there is any doubt, say **Three Machines** clear of all the Chaff they cut (medium length.) Of course the Machines are arranged to put in as light weight as you like, or you can fill up and burst all your Bags—to pieces. As a trade requirement (in addition to filling bags) the necessity for a **Mixing Machine** is a long felt want, the laborious and unsatisfactory way at present adopted cannot much longer be endured, and there is no necessity for it!! as J. Buncle can arrange to "Blend" the worst and the best samples "To a Hair" at the least possible expense with the best results.

The season is now coming on when all those who intend having the latest improved Machines should forward their orders as early as possible, to prevent disappointment in the day of their need.

J. Buncle's Machines have, as usual, been awarded First Prize at all the leading shows wherever he exhibited last year (1885), and the many improvements introduced and constantly copied by other makers, is the best proof of the value of the continued consideration in all that affects the profits and welfare of his customers.

Chaffcutters with 14-in. wide mouthpieces and Newest Designs, are now being manufactured to suit the increasing output of many of the leading Chaff Merchants. May your fortunes ever be associated with the earnest efforts to assist making them by,

Sirs and Gentlemen, yours respectfully,

**Parkside Iron Works, North Melbourne.**

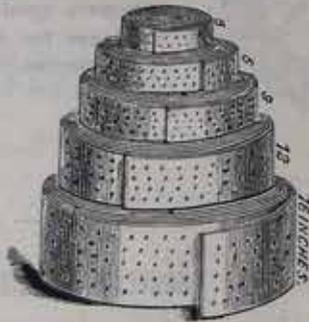
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Special Lists for BELTS for IRRIGATION PURPOSES.

A Large Stock of the "PREMIER" BELT LUBRICANT, and Well-Seasoned BELT LACES, kept in Stock.

TESTIMONIAL.—(cont.)

UNION FLOUR MILLS,  
Brunswick-street, Fitzroy,  
March 17th, 1886.

Messrs. Frank Vial & Co.,  
Macaulay Road, Hotham.

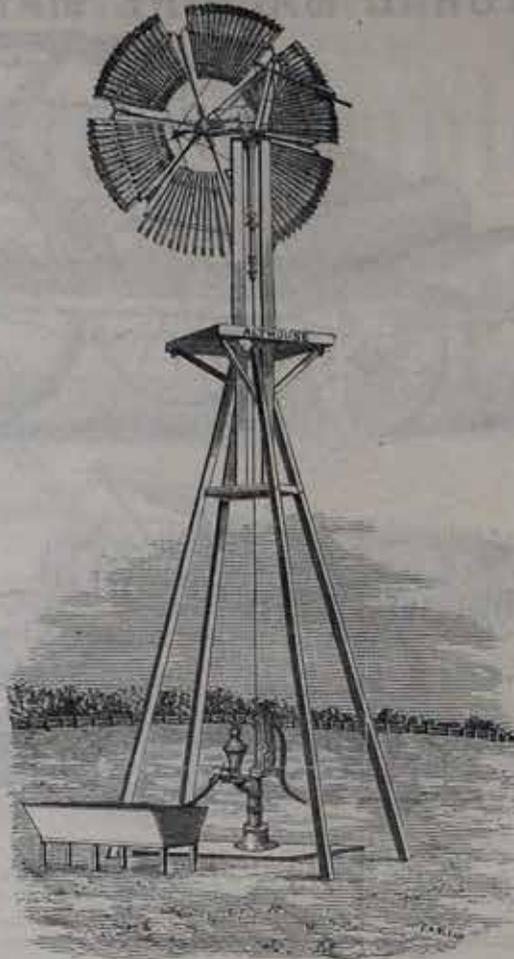
Gentlemen.—In reply to your enquiry respecting the (23") twenty-three-inch double belt supplied by you to ourselves, we beg to state we have been working it for a period of seven months, and we find it to be all we could desire, as also is the other belting which we had from you.

We therefore feel great pleasure in recommending your belting to anyone requiring the same.

We are, Gentlemen, yours truly,  
(Signed) W. S. KIMPTON & SONS.

Other Testimonials received too numerous to print, which with Price Lists, can be had on application.

# THE ALTHOUSE WINDMILL.



The STRONGEST, SIMPLEST  
MOST DURABLE, and BEST  
SELF-REGULATING WIND-  
MILL in the Market.

Proved by Actual Experience  
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Is Absolutely the Strongest Mill  
in the Market.

Its Extreme Sensitiveness is  
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Its self-regulating capacity is perfect

Guaranteed the Cheapest Mill  
in the Market.

FOUR SIZES—10ft., 12ft., 14ft.,  
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Larger Sizes Made as Required.

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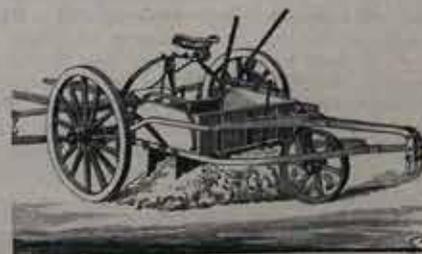
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of any Size or Capacity.

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And of the now justly celebrated

## AUSTRALIAN WATER AUGER

Which has attained the greatest depth bored by any machine yet  
introduced to the public, the Diamond Drill excepted.



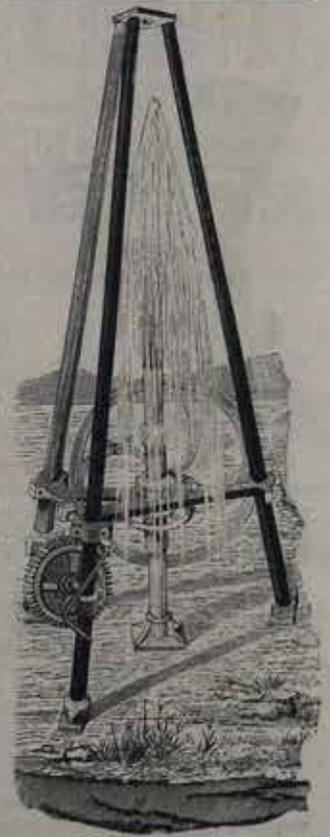
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The Latest brought before the public.

This machine will take out 200 cubic yards of earth in  $\frac{1}{2}$  cubic yard loads in a day of eight hours: is simple, strong, yet light of draught, easily kept in repair, and has been pronounced by experienced judges to be the best Earth Scoop yet invented.

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A trial will certainly establish it in lasting favour, as being superior to anything yet offered to the Farmers of this district.

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The English Prize-winners, imported to strengthen my collection, are not equalled by all the kennels in Australia.

CHAMPION RICHMOND JACK.

THREE TIMES WINNER OF THE FIFTY GUINEA GRAND CHALLENGE CUP.

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This celebrated English winner, has won more prize-takes, than any fox terrier in the colony. Vide Nat. Ag. Soc. and Vic. P. and Dog Society's Prize Lists—1885, 1884, 1886.

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The above lot are from the very best strains, direct male lines, and only equalled, by about six kennels in England.

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The privilege of membership consists of power to vote at the election of all Office-bearers, of free admission to the Library, Reading Room, Lectures: and, with two ladies, to the Society's Exhibitions and Grounds at all times.

A copy of this Journal, which is published monthly (on the Friday after the Council Meeting), is also forwarded to each member.

Members' Tickets may be obtained on application to the Secretary at the office, or to Mr. JOHN HEDRICK, the Collector.

THOMAS PATTERSON,

SECRETARY.

Kirk's Bazaar, Melbourne.

THE NATIONAL

Agricultural Society of Victoria.

Table with 2 columns: Shorthorn Derby Sweepstakes, Hereford do do, Ayrshire do do, Jersey (late Alderney) do do and corresponding years: 1890, 1890, 1890, 1890.

A Sweepstakes of £1 each (10s. at time of nomination, and 10s. at date of general entry for Show), with £5 added in each case for Heifers calved between 1st July, 1887, and 1st July, 1888, to be divided and awarded as 1st, 2nd, and 3rd Prizes, for three-year olds, at the Society's Show, 1890.

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MAKE LIBERAL CASH ADVANCES on the ensuing CLIP of WOOL and on STATION SECURITIES.

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One Month's Free Storage allowed on Grain.

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Loans and other Financial Arrangements Negotiated.

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Notices.

All communications for the Editor to be addressed to the Society's Office, Kirk's Bazaar, Bourke Street West, Melbourne.

Business communications to the Publishers, Melbourne Place, off Russell Street, Melbourne.

Contents.

Table with 2 columns: Dates of Forthcoming Shows, The Compilation of stud and Herd Books, Notes, Beelacres, Morphettville, The Horsham Show, The Baccham Marsh Show, Council Meeting, Report on the Adelaide Show, Jottings at the Royal Dairy Farming, Technical Education, The Poultry Yard, The Hatching, Rearing, and Management of Chickens (Continued), Suggestions on Horse Breeding.

Dates of Forthcoming Shows.

SECRETARIES of agricultural societies are requested to forward to the editor the dates on which their respective exhibitions will be held, also copies of their prize schedules as soon as they are published.

OCTOBER.

Table with 2 columns: 19, 20.—Tatura, 20.—Rutherglen, 20.—Sale, 20, 21.—Geelong, 25.—Koroit, 26, 27.—Shepparton, 26, 27.—Camperdown, 27.—Talbot.

NOVEMBER.

Table with 2 columns: 3.—Orms, 10.—Heathcote, 10, 11.—Smeaton, 16, 17.—Kyneton, 17.—Hardie's Hill, Greenville, 17.—Colac, 23.—Castlemaine, 24.—Ballarat, 24.—Traralgon, 24.—Kilmore.

for loading the pigs. Between the piggeries and the house a large silo is erected. It consists of four pits capable of holding 80 tons each, substantially built of brick and cement. All kinds of green fodder are used to make silage, even the clumps of big variegated thistles which grow about the roads being cut and pitted. There are 3000 sheep on the estate as well as about 100 milking cows, the milk of which is sent into Adelaide. A few superior heavy horses also are kept, so that almost every phase of farming is carried on. The estate is under the charge of Messrs. Hart Bros. popular manager, Mr. Grierson. The party of Victorians, before alluded to, were taken out from Adelaide and shown over the estate by Mr. Hart himself; all thoroughly enjoying the outing, the only matter for regret being that we believe the tenth commandment was broken by more than one of the number.

### Morphetville.

A PARTY of Victorians took a hurried run out to Sir Thomas Elder's estate at Morphetville, about five miles south of Adelaide, to have a look at the stud. The first horse inspected was Gang Forward, the highest priced thoroughbred ever imported to Australia. He is certainly a beautiful animal, with a head to dream about. Then Neckersgat was interviewed. He is a great big upstanding animal, considered by many to be one of the best horses in Australia. He is, perhaps, a "wee" bit on the leg, and his head is not quite perfect. Darriwell, the handsome brown, with the wonderful legs and hocks, was looking the picture of health. There were 13 yearling colts here—last season's batch comprising also 13 fillies, which were at Sir Thomas' other estate. A bay colt, own brother to Hortense, although not large, showed great quality; and the full brother to Maddelina, was a grand youngster. A bay colt, by Darriwell from Jarto, also was much fancied. There were about 40 mares on the place browsing about up to their knees in Cape weed and lucerne, the former prevailing at this time of the year, and growing most luxuriantly on the rich river flats. By themselves were two mares which had just foaled—Aurora a chestnut by The Marquis, and a bay mare, own sister to King Tom, said to be the biggest thoroughbred mare in Australia. The bulk of the foals this season to date have been fillies. Queen of Naples (imported) by Macaroni, with a foal at foot by Neckersgat, was much admired; and Emily Faithful (imported) by Læturer, showed great quality. Peradventure (imported) by Adventurer from Manganes, with a foal by Neckersgat, had a considerable amount of gape seed expended over her after it was known that she cost 1500 guineas in England; and Jarto, with her big Neckersgat foal, also attracted attention. Two mares just to foal, Ada, the dam of Newstead, and La Naine were in a paddock by themselves. The latter has died since foaling. With the abundance of rank feed on the estate the Manager, Mr. Elworthy, must have an anxious time during the foaling season. A training ground is on this estate; and on the opposite side of the

road, just before arriving at the entrance gates, is the Morphetville racecourse, from the grand stand of which a fine view of the hills is obtained.

### The Horsham Show.

THE Horsham and Wimmera District Agricultural Society's Show, in connection with which the National Show of the Department of Agriculture was held, passed off last month under the most favourable circumstances. The country was looking remarkably well, as there had been an abundant rainfall, and the weather was delightful. The fields of wheat stretching over the wide level expanse of the Wimmera District, where, later on

The bounteous Ceres smiles o'er all the plain,—  
And many a field is ripe with golden grain!

give promise that there will, indeed, be a bumper harvest. The Show, for a local one, was highly creditable, and was a great success; but it could scarcely be looked upon as a representative national one. The draught horse section was well filled, the aged stallions making a very fine display. The thoroughbreds were not strongly represented; but there was a great turnout of hunters and ladies' hunters, the trials of which attracted a large amount of attention. There was also a number of hackneys and buggy ponies, but with nothing of a very high-class amongst them. Cattle were not well represented, there being little competition in any class. There was a very fine show of Merino sheep, the pens containing some really high-class exhibits. The swine, poultry, and dogs were not largely represented. There was a fine display of buggies and drays, many of the former being of a very superior class. The farm and dairy produce, especially the latter, was very attractive; and there was a number of miscellaneous exhibits and articles of ladies' fancy work. A new feature, which attracted considerable attention, was an exhibit of two stands of butchers' small goods—a really interesting feature. There was an excellent and extensive exhibition of machinery. The stump-jumping ploughs and harrows, and the rollers used in the mallee country were prominent in the Show. To such perfection have these instruments been brought that it is possible to get mallee country cleared, ploughed, and sowed for less than £1 per acre. A new dynamometer, lately imported from America, which is simple and effective, was exhibited. A Society wishing to test the draught of any implement will now be able to do so with little trouble, and at small cost, as the instrument can be hired from the importer. The Show, which was favoured with a very large attendance, passed off without a hitch.

### The Bacchus Marsh Show.

THE Exhibition of the Bacchus Marsh Society, held last month, was a most successful event, although towards the close of the day the weather proved disagreeable. Heavy rain had fallen on the previous evening; but this, while making the ground soft underfoot, put the farmers in excellent spirits. There was a good display of draught horses, and a much better class of thoroughbreds than is usually seen in a show yard. The exhibition of cattle was the best of the season out of

Melbourne, and, taken all round, was superior to that of Adelaide. The Shorthorns and Herefords comprised some excellent animals, and there was a number of polled Angus cattle exhibited. There was a splendid show of dairy cattle, the Ayrshires, particularly, and the Jerseys being very fine. A number of good sheep were penned; and there were, also, some very superior pigs. There was a fair display of poultry, and a good collection of dairy and farm produce, as well as an interesting collection of ladies' fancy work, some of which was unusually well executed. The display of machinery, buggies, carriages, &c., was not an extensive one. In "horses in action" the hackneys and ladies' hackneys and ponies were very superior classes, and there was good competition amongst the hunters. There was a good attendance of people, which would, doubtless, have been increased had the special train been advertised in the Melbourne daily papers. The arrangements for the Show generally were well carried out.

## Meetings.

### Council.

THE ordinary monthly meeting of the Council of the National Agricultural Society of Victoria was held on Tuesday, 11th October, 1887.

Present—Dr. Plummer, President (in the chair), with Messrs. F. Peppin, W. J. Lobb, D. R. McGregor, Walter J. Clark, John Currie, J. M. Peck, W. Learmonth, George Young, John Bond, S. G. Staughton, John Blyth, J. Garton, and John Jones.

The minutes of the previous meeting were read and confirmed.

Apologies for non-attendance were received from Messrs. Clarke, Hurst, Wragge, and Glover.

ELECTION OF MEMBER OF COUNCIL *VIZ*  
JOHN FINLAY, ESQ., DECEASED.

Messrs. R. Gries, George Ramsden and Job Smith were nominated, and an open ballot was taken, which resulted in a tie between Messrs. Ramsden and Smith, when the President gave his casting vote in favour of the former, and declared him duly elected.

Mr. McGregor moved that Mr. Blyth be elected a member of the Finance Committee, in the room of the late Mr. Finlay. Seconded by Mr. Lobb, and carried.

The Finance Committee's report was read. It submitted the monthly statement of accounts, and recommended payments amounting to £400 4s. 6d. Also, that the question of the disposal of £3, held back from W. Sims, be referred to the Council. They further recommended that the Council offer the Society's debentures, to the amount of £10,000, to the Bank of Victoria at 5 per cent., to be paid off in instalments of £1000 annually.

The report, with the exception of the two latter items, was adopted, on the motion of Mr. McGregor; seconded by Mr. Currie.

Mr. Clark moved that Sims be informed that he must forfeit the £3 retained by the Society. Seconded by Mr. McGregor, and carried.

With regard to the issue of debentures, Mr. Blyth moved that the Secretary write to the Manager of the Bank in

The Journal  
OF THE  
National Agricultural Society  
OF VICTORIA.

MELBOURNE, OCTOBER 14th, 1887.

The Compilation of Stud and  
Herd Books.

PURSUANT to resolution of a meeting of horse-breeders, which was reported in our last number, a circular is about to be issued to the Agricultural Societies of the Colony submitting for their approval a code of rules for the constitution of a Draught Horse Society, and soliciting their active support in the compilation of a Stud-Book for heavy horses. In March, 1885, the Council of the National Society first considered the question of the publication of a Draught Horse Stud Book, as well as that of Herd Books for the principal breeds of cattle; and subsequently proceeded so far as to obtain, through correspondence, a considerable amount of information from various sources in relation to the proposed works. Eventually, however, it was thought that these matters should be carried out by the breeders themselves under the auspices of the Agricultural Societies. Action was then immediately taken in relation to a Draught Horse Stud Book, which has resulted in the resolve to establish a Society, and publish such a work. In order that the matter may be brought to a successful issue, the hearty co-operation of the breeders of the Colony is necessary, while the countenance and assistance of the Agricultural Societies are also required. Largely through the educational influence of these institutions and the spirit of emulation which they have awakened and kept alive, horses of the highest class have been introduced to the Colony, so that we have some really superior stock. In order that the best results may be obtained, a record of their genealogy is absolutely necessary; and as the Agricultural Societies have had such an influence in bringing about the production of this class of stock, they certainly should endeavour to render their good work complete by aiding breeders in every way to bring out a Stud-Book. Indeed, if they do not, they fail to take advantage of a fine field of usefulness, and omit an excellent opportunity of "adding to their office." No less required than a Stud-Book for heavy horses are Herd-Books for the various pure breeds of cattle. Undoubtedly the great annual exhibitions of the National Society, by the wholesome rivalry excited and the enhanced values of successful prize-taking strains, have had a direct influence in bringing about the production of high-class stock. The result is that we have Shorthorns, Herefords, Ayrshires, Jerseys, and polled Angus cattle of an excellent type; yet, strange to say, for not one of these thoroughly-established breeds has a book of genealogy been published. This certainly is disappointing in a Colony which is in so many respects in the van of progress, and it is for our breeders to see to it at once that the

deficiency is supplied. The difficulties attendant on the task and the possible cost of the work have hitherto deterred breeders from entering on the undertaking; but it should be remembered that the longer the delay the more difficult will the work become, while if it be gone into at once, especially in the case of the more recently-introduced breeds there will be no difficulty whatever. Of course there must necessarily be a large amount of work involved, which, however, if proceeded with in a proper spirit, could in due time be satisfactorily overtaken. Were a few of the leading producers of each breed of cattle to take the initiative in the formation of societies for the production of their several Herd-Books, and secure the countenance and assistance of the Agricultural Societies, they would no doubt soon have the authoritative genealogical records which they have long desired, but the compilation of which they have hitherto seemed afraid to undertake. We trust, therefore, that action in this direction will no longer be delayed.

Notes.

We have to request that the secretaries of all the Agricultural societies in Victoria, as well as those of the leading ones in the other colonies, will be good enough to forward their prize lists to the office of the National Society, in order that they may be filed for general reference. Most of the societies already send their schedules; but there are several which do not, so that when their lists are asked for they are not obtainable. The secretaries should remember that it is to their own interests to comply with this request, as intending exhibitors and the public are constantly coming to the office to see the lists of the various shows about to be held, and to obtain information regarding them.

In the remarkably interesting and instructive account of the Royal Agricultural Show of England, which we publish in this number, the writer says we have yet to advance considerably before we can produce an equal display in Victoria. It is generally admitted that there is no Show in the world to beat our National, except the Royal of England, which, from the account referred to, appears to be ahead of us still. But it must be remembered that the writer did not see our last Show, which was much more extensive than the previous one, on which he based his judgment; and as there can be no doubt that the annual advance of ours is greater than that of the Royal, we may hope, ere long, to excel even it. Anyway we should try.

Travellers by rail to and from Adelaide speak more highly of the catering at Murray Bridge than of any other incident on the way; and justly, too, for the meals are served in a style, and are of a quality quite superior to anything obtainable at our Victorian stations. Strange that where everything else is so well managed the catering should still be behindhand.

The Adelaide Jubilee Exhibition is very creditable to the enterprise of its promoters,

who, however, manage it with an almost over-solicitous regard for the "hawbees." The anticipations of the Executive were evidently exceeded, for the main building strikes one as small; still the many annexes provide the necessary space for an exceedingly interesting collection. There is a good display in our Court, where Mr. D. M. Cameron, the secretary, is very attentive to visitors in general, and Victorians in particular.

Beefacres.

BEEFACRES estate, the property of Messrs. Hart Bros., which we had an opportunity of visiting along with a party of prominent Victorians, lies about six miles north-east of Adelaide. The drive out to it through the beautiful suburb of North Adelaide, and on beyond with the hills on the right hand side all the way, presenting new features as the aspect changes with the advance of the journey, is one of the most interesting possible. The estate consists of about 4500 acres of remarkably fertile soil, abundantly watered; for Mr. Hart allowed the supply to Adelaide from the reservoir immediately above the estate to be taken through his property on condition that he should obtain sufficient water for his requirements free of charge. Stand-pipes are placed over the grounds from which, as is said, an amply supply is procured. There are 3000 acres of the estate under wheat, almost the whole of which was looking particularly promising, the rainfall having been exceptionally heavy this winter; so that the crops, not only here, but throughout the colony, are expected to be above the average. About 100 acres are under mangolds and maize, which are used for the silo. The dwelling-house and farm buildings, stabling, &c., which are most extensive, are placed in a hollow; a garden stretching down from them to the stream which bounds the estate. In this garden oranges and grapes grow luxuriantly, and "the apiary of the industrious bee" is a prominent feature; there being 40 or 50 patent hives all occupied by busy workers. About a quarter of a mile from the house, on the summit of a hill, from which a lovely view is obtained, the piggeries are placed. There are four yards, each two acres in extent, enclosed with a close picket fence and surrounded by a plantation; in which the bulk of the pigs are kept—there being altogether 700 on the estate. On the upper side of the yard there is a store with a boiler erected. From this boiler a graduated feeding-race, about 100 yards long, runs down between the paddocks; the pipes being so arranged that the supplies can be regulated throughout the entire length by means of plugs. On the upper side are 15 breeding pens, in which the sows are placed to farrow. These pens, which are most substantially built and covered, are cleaned out every morning. The average number of pigs in the litters is seven, each sow producing usually two litters in the year. The arrangements are so complete that the boiling feeding, cleaning, and everything else are attended to by one man. There were thirty sows drafted off for sale, which were a treat to see, the whole of the pigs on the estate being of a very high class. There are also drafting yards, with swing gates, and a race

suggest to the Adelaide Society when they enter on their new grounds next year to adopt this course, as I believe no one would be more surprised at the results than themselves.

I have the honour to be, &c., &c.,

THOMAS PATTERSON,  
Secretary.

Melbourne, 4th October, 1887.

## Jottings at The Royal.

[By J. D. PATTERSON.]

I came down from London to Newcastle yesterday, and attended the Royal Agricultural Show to-day. The country on the way, like the rest of England, is beautiful. It is a pleasure to look at the farms we passed through—such care and attention is paid to their management. There is not a weed to be seen in the root crops—the long, straight rows of turnips and mangolds reminding me of the pictures I have seen in the old farm books. The grain crops on the whole look very well, there being some beautiful fields of wheat and barley, all appearing so very clean. Newcastle is a fine large town, with some grand streets and buildings, and though the great place for coal, it is nothing like so dirty as our Newcastle in New South Wales. It is full of visitors at present, 10s. 6d. being the price for a bed. Horse trams run in all directions, and a line of them runs from the Central Railway Station at 2d. fares to the show grounds. The yards are temporary, like those of the Royal Counties at Reading—as this Society shifts its shows about from place to place in the same way. They are about the same size as our Melbourne yards. As I was saying of the ones at Reading, these temporary yards have many drawbacks. The grand stand to-day was not half big enough; hundreds of people were turned back who would have been only too glad to pay for a seat, but there was not even comfortable standing room during the parade of horses. Still this was an exceptionally big day, as the Prince of Wales and company were there. Though I arrived at the gates before ten, the crush was fearful, even then pouring in like at a Melbourne Cup, or something worse. Of course this is England's biggest thing in the way of Agricultural shows, and that means a good deal.

Punctually at eleven o'clock all classes of the prize-taking cattle were ranged in order round the large ring ready for parade. About the same time the Prince, with his two sons and company, arrived and walked all round inside the circle, examining the cattle. He was cheered at each part by the crowds that thronged outside the ring and on the stand. The Queen herself, as well as he, had several exhibits at the show. After the prince had gone all round, the cattle were paraded, and they made a grand display. There were about twelve different breeds represented, and these the prize-taking beasts in each section only. I had always looked upon the Shorthorn as far and away the best breed so far as beef-producing qualities were concerned, but could not help being struck to-day with the perfection of some of the other breeds in this respect. The Sussex, the Herefords, and the black Angus are especially good. The Shorthorns seem to be used very much for dairy purposes in England, the prize dairy cows here, as well as at Reading, having a lot of the Shorthorn in them—some of them nearly pure; and I was struck, too, with the colour of the Ayrshires. They are almost invariably white, with a few dark spots about the head and shoulders. Out of the sixteen prize ones which paraded, only one was dark coloured. They are brought out nicely; mostly all have their horns polished like ornaments for a room.

The Jerseys and Guernseys were both well represented, there being a hundred entries in the Jersey class. After the cattle had finished parading, there was nothing particular on till three in the afternoon, when the horses were brought out for parade. No jumping, no ladies' hacks, no great excitement—the Royal is big enough to dispense with all that sort of thing. The show of all the heavy sorts was very good, but really I don't see anything to beat ours out there; it is in the hunting and coaching sorts we are behind, the sort Sir Henry Loch is trying to encourage the breed of.

The show of hunters was magnificent. Twenty-five were ridden round in the first lot. These were weight carriers over a certain age. The first prize one was—to use G—'s expression—a "tremendous" horse. You might look at him a week, and like him the better after it; and many of the others were not far behind. There were fifteen in the second lot, lighter sorts and younger ones; there being some plums amongst these too. They were only put through their paces—no jumping as I said—winding up with a pretty stiff hand gallop as they passed the stand. Then there were twenty-three hacks of various sizes ridden round. The type here seems to me to be a blood cart-horse—body shaped like a cart-horse, and head and legs like a thoroughbred. The action of some of them is superb. The thoroughbred, the Cleveland, and the hackney stallions were very grand, and one need not wonder to see such fine horses all over England when they have such sires as these to breed from.

There were nine different sorts of sheep shown, some of which we have scarcely even heard of out there; the Merinos and Lincolns—our most common sorts—not being represented at all. The premier place amongst those exhibited is given to the Shropshire, and deservedly so. In England they consider the carcass as much as the wool, and for both combined, these sheep seem to me to be the best I have yet seen. They are big bodied like the Lincoln, and the wool is close like Merinos. Perhaps these exhibited were particularly good, but I should think they would be a grand sort for crossing with the Merino when it had degenerated in size. The show of Leicesters and Southdowns was excellent. The other breeds may be very good for mutton, but some, such as the black-faced Mountain, have wool like hair. The pigs make a great display, some of the white breed are nearly as big as bullocks. There is a fine show of poultry, and many other things of interest, both live and dead. Altogether it is the greatest show I ever saw. There is plenty of room for Victoria to improve and grow before she can produce such a display.

There are some things it might be to our advantage to follow their example in, such as making the grooms and herdsmen come up to the scratch at parade time by inflicting a fine if they are not in attendance. We were greatly bothered at your show last year to get the fellows to attend to their horses at the right time in the draught class. They also give every chance to a visitor to know the prize animals as they come into ring to parade. The 1st, 2nd, and 3rd prize numbers in the sections are put up on tin slides on stands, having the figures on both sides, and large prize cards, 12 x 18 inch, are posted up at the boxes where the prize-takers stand, as well as there being a little open booth near the middle of the yard, where bills previously printed and the prize numbers filled in, are to be seen. Another thing which may not seem much, but tends to order, is a whitewash mark all round the ring to keep the animals in line going round. Very few rollers and ribbons are used on the stock—no decorations but their glossy coats; and they are brought out pink. The same mistake is made here as out there of overfattening. It was a pity to see some of the beautiful young cows in all probability

ruined with fat. Some of the beasts were out of shape, and their beauty spoilt, many waddling worse than ducks. Some of the horses too were very fat, particularly the Suffolk punches and the aged draught stallions. I think when it gets past a certain thing the judges ought to disqualify them. In the light stallion classes, some of the grooms had them trained like circus horses. There seems to be great sympathy between men and horses all over England. Any draught horses I have noticed at work are like our bullocks, not needing reins. But surely a horse is more intelligent than a bullock when you come to think of it. The horses here are quiet all their lives; that makes the difference.

Adjoining the show grounds is the Royal Jubilee Exhibition, which is a grand affair. It occupies over thirty acres, with grounds and buildings. It has been open for some time, and is likely to remain so while the attendance keeps up, as it has done lately. There were crowds of people there to-day. The machinery in motion is very interesting. There are many things to entertain one who comes from the other side of the globe, such as the Locomotive No. 1 made by George Stephenson in 1825. It is set alongside a grand modern one of the Great Northern line company. The contrast reminded me of that between the original Henty plough and one of Lennon's newest, as seen at the show last year. They have also Grace Darling's boat, in which she performed her brave feat; a full-sized model of a 110 ton gun, carriages, &c., and a model coal mine, with some half mile of subways got up to resemble the real thing. They have any amount of music, two splendid bands, besides organs, &c., going in different parts.

## Dairy Farming.

### TECHNICAL EDUCATION.

(By PROFESSOR LONG.)

A discussion in the House of Commons upon the question of technical education brought out some energetic protests from members interested in agricultural education, and induced responses from the Government which, although general in terms and unsatisfactory at the same time, give a faint indication that something might be done if the matter were properly brought forward and energetically pressed upon Parliament. The very fact that figures were named by the minister who spoke, although they were qualified by the statement urging his belief that so small a sum of money as £25,000 would be of little benefit to agriculture in general, is sufficient to warrant the suspicion that the question has been discussed and terms suggested. Be that as it may, as the Technical Education Bill is to be brought before the House, it is the duty of all engaged in agricultural matters to move and do their utmost to make the question as prominent as possible. Dairy farmers in particular, having had little or no help, either from Parliament or the public, in the past, have a right to expect something in the future. During the past decade large sums of money have been spent by enthusiastic land owners, men of science and others in the breeding of cattle, in the cultivation of land, in the testing of manures, feeding stuffs and crops, as well as in the cultivation of special plants, and so on; but dairy farming, pure and simple, has had to climb upwards upon the back of plain hard work, with little or no assistance from scientific men, or, indeed, from any individuals whatever. In asserting the belief that dairy farming is in greater need of assistance of this kind than any other branch of agriculture, I may be accused of partiality, but as a matter of history it is a fact that, while every other branch has its day, dairy farming has not; although from a pecuniary sense it is, perhaps, the most deserving of

terms of the recommendation of the Committee. Seconded by Mr. Staughton, and carried.

The report of a special meeting of the Finance Committee stated that they had accepted the tender of Mr. E. A. Altmann for striking gold and silver medals awarded at the Show; and that in relation to the recommendations of the judges of prizes for extra exhibits at the Show, they resolved that a certificate of merit be given in every case where a prize had been recommended, in the event of the same being applied for.

Mr. Lobb moved the adoption of the report, which was seconded by Mr. Bond, and carried.

The Executive Committee reported that they had considered Mr. White's letter, which made certain charges against Mr. G. F. Pickles in connection with the judging in the carriage and buggy section at the Show. After hearing evidence and considering the matter, it was resolved, on the motion of Mr. Currie, seconded by Mr. McGregor, that the complaint be dismissed; and that if Mr. White had suffered any damage, he had his legal remedy.

Mr. McGregor moved the adoption of the report. Seconded by Mr. Currie, and carried.

#### THE ADELAIDE SHOW.

The Secretary submitted his report of the Adelaide Show. Mr. Staughton moved that it be received, and taken as read, as it would be published in the Journal. Seconded by Mr. Peppin, and carried.

The postponed protests *re* wine judging were then considered.

The Secretary reported that Mr. Shillinglaw, the steward, and Mr. Cooper, one of the judges, had brought their notes into the office on the previous day, and that they maintained confidently that the wines had been judged. The Secretary also reported that he had ascertained from the caretaker that he still had the bottles on hand which had been opened.

Mr. Shillinglaw, who had been requested to attend, then entered the room, and showed by his notes that the numbers of the wines mentioned had certainly been judged.

Mr. Blyth believed that some confusion must have taken place in moving the bottles.

After a long discussion Mr. Staughton moved that the decision be postponed, and that the President and Secretary endeavour to procure further information for the Council.

Seconded by Mr. Jones, and carried.

#### CORRESPONDENCE.

From Hon. Secretary Master Carriage Builders' Association, complaining of the manner in which the carriage section was judged at the Show, a "piano" box buggy having been awarded a prize in the "coal" box class, and at "storm" gear in the "Tinkin" class; also that there was insufficient covered accommodation. Received.

From Mr. Angus's manager in relation to Mr. Beattie's protest against Hereford cow, stating that she had produced a calf in October.

To be acknowledged, and the writer informed of the Council's previous decision.

The Secretary stated that the secretary of the Geelong Society had called on him and requested him to secure the nomination of two judges for machinery and one each for swine, poultry and dogs.

The Council then nominated judges, as requested.

From Acting-Secretary Chamber of Commerce, forwarding copy of conditions *re* prize for tobacco, and asking the favour of having the information conveyed to growers through the medium of the Journal, and by every other means at the Council's disposal.

Received and complied with. (The conditions are published elsewhere).

From Secretary Shire of Waranga, asking the Council to support the Cental system.

Mr. Blyth stated that the Chamber had taken action in this matter long ago, but had received no support. He moved that the Shire be informed that if they could make any definite proposals by which the system could be brought about, this Society would give them their support.

Seconded by Mr. Clark, and carried.

From Secretary Maffra Stock Tax Farmers' and Graziers' Protection Association, urging combination and union amongst farmers and graziers, so that their interests might have legislative protection extended to them on the same lines and to the same extent as other industries already possess.

Mr. McGregor moved that the letter be received, it being understood that the Society did not entertain political questions.

Seconded by Mr. Blyth, and carried.

From the Hon. the Minister of Water Supply, submitting conditions under which a first prize of £50 and a second of £25 were offered for the best irrigated farms.

Received.

The meeting then closed.

### Report on the Adelaide Show.

TO THE PRESIDENT AND MEMBERS OF THE COUNCIL OF THE NATIONAL AGRICULTURAL SOCIETY OF VICTORIA—

GENTLEMEN—

I have the honour to report that I visited the exhibition of the Royal Agricultural and Horticultural Society of South Australia at Adelaide last month. The Show was held on the old exhibition grounds, adjoining the Botanical Gardens, and almost in the city; but it is the last which will take place there, as the grounds are to be included in the Botanical Gardens, and the shows will in future be held on the site of the present Jubilee Exhibition. In writing a report it is not pleasant to have to make comparisons when these are unfavourable to the object of criticism; but it is often by comparison that a correct idea can best be conveyed, so that I shall resort to it in this case, as thereby I may make my report somewhat instructive. Although strong in one or two sections the exhibition on the whole was certainly disappointing; for it was not so extensive as I expected, while it was decidedly lacking in that element of "go" so characteristic of the foremost of our Victorian Shows. The draught horses were not numerous, nor, with a few exceptions, were they of particular merit, and the thoroughbreds were a poor show. The hunters, hackneys, ponies, carriage

and buggy horses, while containing some interesting exhibits, were not numerous, the competition in nearly every class being limited. The Show was prolonged for an extra day for the exhibition of horses in motion, entries being received till 1 o'clock on the day of competition. In cattle the Shorthorns took the lead, as there were a few exceptionally high-class exhibits among them—animals which would grace any show yard in the world; but the entries were confined entirely to two exhibitors. In the Hereford class, also, the competition was limited, though there were two or three exceptionally attractive animals exhibited. Very few Ayrshires were shown, but one bull particularly attracted my attention on account of his style and action. He carried himself remarkably well, and, I believe, he could walk five miles an hour. The Jerseys, too, were few in number, but contained some good exhibits. There was a very fine exhibit of sheep, which were both numerous and of high quality, being of that robust type which is characteristic of the South Australian merino. There were, also, a few exhibits of Down sheep, which are famed for the grand lambs they produce. A number of fine-fleeced Angora goats were shown. The swine, although not numerous, were mostly of good quality. Of dogs and poultry there was only a medium display. The horticultural department of the Show, which was held in the old Exhibition Building, was particularly interesting, the fine collection of flowers and the excellent exhibits of fruit, which showed the capabilities of the colony in this direction, attracting a large amount of attention. This is an element entirely wanting in our Show, and it is one well worth the attempt to introduce and develop. However, before it can be done, it is necessary to have a spacious hall, which is still a desideratum on our grounds. When it is secured there will be no end to the uses to which it may be put, as there are not only the class of exhibits here alluded to, but there are also ladies' fancy work and works of art mentioned last year by a correspondent in the Society's journal, which should not be lost sight of, as they would all tend to the advancement and expansion of the Show. But to get back to Adelaide: the exhibition of machinery, &c., was almost a complete blank, which was accounted for by the fact of the Jubilee Exhibition being held close by. This is worthy of note by this Society, in view of the Centennial Exhibition being held here next year at the same time as our Show. However, as the conditions of the two places are different it is not likely that our Show will be affected to a corresponding extent. With regard to the Exhibition generally, it must be said that the Adelaide Society does not seem to launch out with a view to become popular, as do many societies in this colony. For instance, with regard to the luncheons, there was no ample provision made in this respect. It may be interesting to know that this item in our Society's expenditure has risen from £32 2s. in 1880 to £139 16s. 3d. this year; but the proportion this outlay bears to the profit on the Show is infinitely less than it was in 1880, so that the end amply justifies the means. There is no question that any institution which wishes to become popular and attractive must make an effort to do so. In a morning paper lately a correspondent who had visited the three leading churches in Melbourne, accused them of using adventitious aids to make them attractive; but the fact remains they are the leading churches; so that, in my opinion, they are perfectly justified in making the accompaniments of their usual formula, and the surroundings of their supporters, as attractive and interesting as possible. And if in their case, so, also, in the case of the societies they should, while maintaining all their practical usefulness, increase their popularity and attractiveness in every legitimate way, as it is only by so doing they can hope to be successful. I venture to

which will require much skill and care for its successful management. The interior of the throat and mouth will have to be painted with a solution of chlorinated soda, to dissolve the mucus; and the face, if swollen, must be frequently bathed with a decoction made by boiling a few camomile-flowers in water. When allowed, however, to reach this stage, the disease is almost always fatal, and unless the bird is valuable, it will be better to kill it.

As a preventive, care should be taken that the houses are not draughty, though well ventilated and roomy, and the chickens should be provided with a dry retreat from the wet.

**Diarrhœa.**—This arises from various causes. If fowls are kept short of water they will drink copiously when they get the opportunity, and this will often bring on the disease. Stale food, irregular feeding, general debility, likewise produce it. Boiled rice, sprinkled with powdered chalk, will generally give relief in mild cases. If this fails, two or three drops of chlorodyne in a teaspoonful of water is an almost certain cure. Bone dust is an excellent preventive of diarrhœa for young chickens.

**Leg-weakness.**—Cockereils of the larger breeds are often subject to this. Having out-grown their strength, the muscles of the legs become weak, and unable to support the body for any length of time. More often the cause lies in a deficiency of bone-making matter in their blood. The birds will be seen to squat about, and if driven up will, after a few yards, suddenly lie down again. The treatment consists in giving stimulating food, such as meat, and letting the birds roost on straw. If, in rearing chickens, bone-dust is mixed in their meal from the first, leg-weakness will rarely appear.

**Vermis.**—Throughout my treatise I have repeatedly referred to the importance of keeping poultry free from insect-pests. The more weakly individuals of a brood infested with vermin often droop and die without apparent cause. A chick so afflicted, if examined, will be seen literally to swarm with lice. Its body is generally in an emaciated state, and the skin under the wings is of an unhealthy red hue. Relief can be speedily and effectually given by rubbing a little sweet-oil round the chick's poll, under the wings, and in other parts of its body. The sleeping box should be well sprinkled with carbolate of lime.

## Suggestions Upon Horse-Breeding.

By WALTER GIBNEY.

THE serious decrease in the production of riding and driving horses which has now been going on in this country for some years, has been the subject of many writers who, regarding this decline, both from an Agricultural and Military point of view, have endeavoured to assign various reasons for such an unfortunate state of things. In my opinion, there is one cause only, and that is, the disappointment of breeders; they having failed to raise horses of the necessary size, to repay them for their outlay. To meet this, various changes appear to me to be necessary in order to secure an improved breed of superior size animals, which shall, at the same time, command a ready sale at prices remunerative to the breeder.

The true-bred English hunter, hack, carriage, and draught horse cannot be equalled in any other country, and for good, well-made, active horses, able to carry 12 to 15 stone, which will hunt or hack, and also prove suitable as match horses for carriage purposes, the demand has never been greater. It is a very costly and difficult matter, however, to obtain horses of this class. At the present time the stables of the London dealers are full of foreign horses; indeed, a purchaser seeking match carriage, or driving horses, will find 10 out of 20 to be foreigners, for which prices varying from £300 to £500 the pair are readily obtained. I know of one large dealer who, until a few years ago, never had a foreign horse in his yard, but who now has his stables full of horses from Germany, Italy, and other countries. Through his agent in Russia he imports twelve horses each month, costing from £1700 to £1800, and averaging about £145 each. In this country, therefore, breeding has clearly not kept pace with the times, consequently we have to look to foreign countries for our horses as well as for many other essentials of everyday life. Is it not lamentable to contemplate the enormous increase in the importation of horses into England, as shown by the following figures?

### HORSES IMPORTED INTO ENGLAND

During ten years, 1863-72	...	79,131
" " " " " " " "	1873-82	197,094

For the horses thus imported during the ten years ending with 1882, I estimate we sent out of the country between six and seven millions sterling, while since 1882 the figures have continued to show an increase. The loss of this amount of money is surely calculated to arouse the energy of home-breeders, who can hardly be gratified when they know that such a vast sum is annually paid to foreigners for what might easily be produced by themselves in this country.

It is an accepted fact also that a very large proportion of these imported horses are of an inferior stamp, such as with accuracy might be well described as flashy soft substitutes, certainly not of a kind which would find a ready or profitable sale in this country, if only a sufficiency of good typical English horses were produced to supply the demand.

With the above figures in view, showing as they do such an enormous import trade, the encouragement of horse-breeding must be regarded as of great national importance, and worthy of the best efforts of all who can in any way aid in the development and extension of the good work. Let it be remembered at the same time that this question derives importance not only from the pleasure a good horse affords, but from the additional security assured to a country like England by the possession of a suitable supply of sound sizeable well-bred horses always available for military purposes.

I am convinced the greater part of the vast sum sent abroad for horses might be kept at home. We can breed all, or nearly all, the horses we require, and of a quality better than any other nation, as we possess the raw material—the right sort of raw material—and of a stamp superior to that to be found in any other quarter of the globe.

Thus, as I contend, while in our thoroughbreds and draught horses there exists an ample supply of the necessary foundation for breeding, all that is requisite is an intelligent, persistent, and systematic manipulation of these valuable strains.

The lack of success in home-breeding is attributable to want of care in the selection of the dam, and the sacrificing of too much to speed.

The breeding of any species of animal with a view to obtaining any one quality, while it leads to greater perfection therein, is often accompanied by deterioration in other respects. Such has been the consequence of aiming chiefly at speed, by which size, shape, action, and strength have been to a great extent lost sight of. I hold that the sire moulds the outward form, and gives the action and muscular substance to the offspring, while the dam has her influence over the internal organs or vital functions of her produce. That which is really wanted is—First, the judicious blending of the qualities of the thoroughbred stallion with those of the well-formed draught mare, possessing size, frame, constitution, flat legs, and high courage. Second, that from the half-bred mare so obtained, cross-breeding should be resorted to by mating again with the thoroughbred or hackney stallion. A stock of horses, available for general use, may thus be secured, possessing the type we read of and find in early pictures illustrative of the old English hunter and carriage horse.

It may be considered that the proposal to mate two animals differing in appearance so widely as the thoroughbred horse and the draught mare is somewhat extreme. I would point out, however, that if there is a structural difference to the eye, there is no anatomical variation whatever, and that the two classes descend from one origin. If the skeleton of a thoroughbred and a draught horse were seen side by side, no other indication of difference of breed would be apparent beyond that of size. May we not, therefore, infer that, by judiciously blending these animals, we shall obtain the desirable proportions.

I have been frequently asked to describe the exact style of draught mare which I should recommend to be covered by a thoroughbred stallion. She should have plenty of size, symmetrical form, sloping shoulders, clean blood-like head, long ears, well-formed flat legs, with fine silky hair and sound feet, and stand 15.3 high. Combined with these qualities, she should possess also sound and robust constitutions, with high courage and true action. A further important consideration is that such a mare will do regular work on a farm up till the time of foaling. The produce from this cross should be a useful class of sizeable riding and driving horses, while the mares resulting from such mating may be used again for further cross-breeding. My rule, however, is, that where the mare selected to breed from does not produce the proper type of foals with size and quality, or does not prove a good dam, to discard her from my stud, whatever her breed and appearance may be.

It will, perhaps, be objected that the produce from the thoroughbred horse and draught mare will not have speed for modern "flyers" in the hunting field, I could mention, however, many examples which have come to my notice in which by such mating *weight-carrying* and sodium weight hunters, as well as first-class harness horses have been successfully bred, which have sold for very large sums of money. Similar good results have likewise been obtained by the use of the same description of mares crossed with the hackney stallion. The larger size in these cases has always been on the side of the female.

I also know of many contrary cases where a highly-bred mare has been mated with a thoroughbred horse because she was fast, had been a good hunter or hack, or had already several strains of blood in her veins, and this has been the general practice of breeding during the last quarter of a century. Many men possess mares which, regardless of their loose leggy make, small size, or hereditary unsoundness, they think good enough to breed from. To those who have such I say, *do not breed from the old mare because she is an old mare*, although she may be a favourite; but select a young mare such as I have described, and in all probability the produce will then repay you for her keep. On the other hand, in every case which has come to my knowledge, where the mare was full of blood and smaller than the stud-horse with which she was mated, the result produced has been a "weedy" animal, degenerate both in size and substance.

In face of such results, therefore, I maintain that it is a matter of paramount importance that the female should be proportionately larger than the male. As supporting this assertion I may refer to the experience gained by Mr. Henry Cline, an eminent surgeon living in the last century, who practised it extensively upon his farm at Southgate; as well as to the opinions of several eminent practical breeders who lived at the same period, viz.:—Bakewell, Culley, Somerville, Parry, and others. Many theorists also have supported this belief, and among them Dr. Coventry, who wrote a pamphlet in 1805, entitled "Remarks on Live Stock."

In connection with this question of the breeding of horses, I would draw attention to the recent formation of two Societies; first, the *Hunters' Improvement Society*, of which H.R.H. the Prince of Wales is Patron, the Earl of Coventry President, and Col. Kingscote, C.B., Vice-President. This Society has been established with the view of carrying out the following amongst other objects:—

1. To improve the breeding of Hunters and other Horses used for Riding, Driving, and Military purposes.
2. To give Premiums at Spring Shows to be held in London to owners of Thoroughbred Stallions, and thus obtain for breeders the use of sound Stud Horses at moderate service fees, not to exceed 50s. for each mare.
3. To publish Prize Books and use means to induce the various Agricultural Societies to offer prizes at their Shows for Mares.
4. To endeavour, by intercourse and discussion, to attract public attention to a subject so important to the nation, and to spread knowledge of the principles upon which better horses may be bred.

The Hunters' Improvement Society seeks thus to carry out in the United Kingdom, by private support, all that is being done in France, Germany, and other nations by Government aid. The money premiums of £50 will be given at the London Show as a *subsidy* to the owners of sound stud horses in order to induce them to lower their service fees as much as possible, so that tenant farmers and others may have an opportunity of breeding from superior stallions. It is my earnest wish that this Society may become so popular and successful that its funds next season shall be sufficient to increase the six premiums of £50 each now offered by the Society, to six or even more premiums of £100 each, and that the service fee may thus be lowered fully to one-half, or even less, of the 50s. now charged for each mare. In this manner we shall by private enterprise be more nearly approaching the French Government system, under which a nominal fee merely of about ten shillings is charged.

The second Society is the *Hackney Stud Book Society*, which has been doing good work by holding Spring Shows in London and awarding prizes to sound stud horses, as well as by publishing Stud Books of Pedigrees of Hackney Stallions and Mares extending back to the last century.

These two Societies merit the encouragement of all those who take an interest in horse-breeding, and who are anxious to increase the supply of horses for the good of the country.

In conclusion, let me explain that while urging more horse-breeding, I am anxious not to mislead. For this reason I do not recommend

any at this moment. Undoubtedly, butter and cheese and milk have been looked upon in the past as but the feminine or pent up, despicable portion of the farm work; and it is owing to the manner in which it has been regarded that we have lost almost the whole of our home trade, and that the foreign dairymen have gained. We can afford to do so no longer; and as the Danes and French have made their systems profitable by depending on education, as the Swiss, Swedes, and Italians are trying to do, so we must in England attempt to surpass them at their own game—make a better article, fight them on their own ground (our market), and thus force their wares out of the country.

In the first place we have to make better butter, and by better butter I mean butter of high quality, that will keep. I believe we have in the past, in connection with all our exhibitions of butter, proceeded on false lines. For example, the test of butter is not its condition or flavour at the moment of judging, which, in many instances, is but a few hours after it has been made; but in its keeping qualities. I believe it quite possible for an inferior maker and an expert maker to produce butter side by side with the same cream, and for a non expert judge, who is guided by flavour, to declare the one as good as the other; and just as sweet cream tastes sweet, although it be placed in a dirty vessel while souring before a similar cream placed in a clean vessel, so will badly-made butter taste sweet a few hours after churning, although, compared with well-made butter from the same cream several days afterwards, it is comparatively valueless.

Foreign makers are required to make a butter which is sweet when it arrives in England; English makers deem it sufficient if their butter is sweet twenty-four hours after churning. Here, then, we want education. We want similar education in connection with cheese-making. The people need training in every phase of the process—the fermentation, acidity, mould; indeed, the entire ripening process as well as in the management of cattle, the selection of breeding stock, feeding and the preparation of food, together with a knowledge of the best foods for the production of milk, butter, and cheese respectively.

Something is done with regard to this work at the Munster School and Glasnevin College, in Ireland. The Cheshire Dairy School is teaching practical Cheshire cheese and butter making. Both cheese and butter making are also taught at Sudbury, but in no single instance does teaching reach what may be termed a scientific standard. The government to Ireland is not sufficient for this purpose. In Cheshire there is no grant at all, and it is hard work to make both ends meet, whereas at Sudbury the whole cost is borne by Lord Vernon. Setting the question of education aside, there is the equally important question of original research for which not one penny is granted in this country; and it is to this fact that we owe our backward position in dairy science. Almost everything that is known we have had to learn from foreign scientists.—*Mark Lane Express.*

## The Poultry Yard.

### Hatching, Rearing and Management of Chickens.

(CONCLUDED.)

**Position for Cooping.**—In wet, or very cold weather, it is advisable to coop the hen and chickens under a shed with a dry earth floor. At other times they may be placed out in the open, putting straw or sacking on the ground, if it is wet. Dryness underfoot is of the utmost importance, for dampness is one of the great causes of cramp. In rearing early broods,

unless the greatest precautions are taken, cramp will make its appearance, the coldness of cement, asphalt, bricks, or even of a boarded floor, producing it as quickly as actual damp. This malady is caused by imperfect circulation of the blood in the legs and feet.

**Duration of Cooping Hen.**—I prefer always to keep the hen cooped entirely for the first fortnight. She is then to be daily let out at noon for a fortnight, but must be shut in again each evening. By this means the chickens have not time to become tired. After the first month they may be left entirely to the hen's care, if it is seen that she returns every night to the coop—under which a shallow box may now be placed for her to brood them in. This must be kept scrupulously clean, and a layer of straw, hay, or peat-moss put at the bottom. Generally, when the chickens are six weeks old, the hen will begin to evince less interest in her family, until at length she abandons them altogether. The brood can now continue to be housed in the box under the coop, or taken to a separate run. If allowed to roost at an early age, crooked breast-bones will predominate. To prevent this, perches should not for a time be provided, and the chickens will be content to pass the night on a bed of dry material. My young birds roost in the coops until they are three, and even four, months old, at which age they may be placed with the older fowls.

When possible, chickens should possess a separate run, away from the parent birds, but when this cannot be given them, a "chicken-feeder" should be made. It consists merely of four board, six feet long, and nine inches wide, nailed together at the ends. This will, of course, enclose thirty-six square feet. Over this frame wire netting is tacked, and holes are cut in the boards large enough to admit only the small members of the fowl community. At all times chickens are to be provided with a dusting shed or box; for, if infested with vermin, they can never thrive. Very great importance attaches to cleanliness—indeed success must never be expected if attention in this direction be neglected. Filth is the most fertile source of disease among poultry, as it is among human beings.

At from three to four months of age the cockerels should be separated from the pullets; otherwise the male birds do not grow so large. A pen of cockerels will agree with one another until fully grown. It is well to place together all the chickens of about the same size. This will give the weaker broods a fairer chance of thriving.

It will be found in the end the most economical plan to feed the birds always plentifully, upon good substantial food. They will thus be kept growing, and in good condition. Moreover, they will reach maturity the sooner, and will be fit, at an earlier age, for market, the table, or the show-pen.

**Houses.**—I have previously advised that the young brood should be allowed the use of the coop until between three and four months old, so that the foundation of strong hardy constitutions may be laid; but, if this is inconvenient, from the coops and ground being required for younger stock, any old shed can be utilised, provided the roof is sound; or a suitable house may be easily and cheaply built with weather-boarding, nailed to stout quartering. A very cheap, and for all purposes a good shelter, may be made from American bacon boxes. To use one of these to the best advantage, knock the bottom out, and saw down by the side of the scantling at the two opposite corners, so as to halve the box, leaving a side and end attached at each of the two remaining corners. Four of these boxes cut up in this manner, fitted and fastened together by plates of wood, make an admirable domicile for a brood of chicks, or for six hens and a cock. Many of my portable fowl-houses, which are large enough to accommodate a pen of birds, are built in this way, the materials for each having cost under ten shillings.

For the roof, use weather-boarding well gartered, over which Portland cement should be shaken while the tar is wet; this forms, as it dries, a stone-like covering, impervious to rain, and unaffected alike by sun or frost. Unless thus treated, weather-boarding will not effectually exclude wet.

The floor is best made of concrete. It should be covered with dry earth, sand, or moss litter, either of which will deodorise the excreta, and render easy an effectual cleansing.

In housing poultry there are several considerations to be observed. First—The house must be kept clean and sweet by lime-washing the walls three or four times a year, and by constantly removing all objectionable matter. Calvert's Carbolic Acid, No. 5, diluted as directed on the bottle, is an excellent disinfectant to sprinkle under the perches. Secondly—

Stock must never be over-crowded, either in houses or runs. Thirdly—The fowl-house should be well ventilated, though it must by no means be draughty. To effect this requirement it is best to cut the air-holes as near the roof as possible. Fourthly—The perches should be fixed so that they can be easily removed. For the heavy breeds of fowls they should be at least two inches broad, and placed about a foot from the ground. For the lighter breeds they can be put higher; but, in all cases, it is a mistake to let fowls roost too high, as they are very apt to injure themselves in flying down in a confined space. Many fanciers of the heavy breeds furnish their birds with straw on which to lie, in preference to allowing perches. This is a good plan, and will, to a great extent, prevent the tendency to crooked breast-bones, to which the varieties of great weight are so subject.

In addition to the house, a small run under-cover is necessary, to make a dry retreat for the birds during inclement weather. The flooring of this shed should be loose earth or gravel, six inches in depth. This material will require turning every three months, and renewing once a year.

#### DISEASES.

To render my pamphlet more complete, I will describe the treatment of a few of the common diseases to which chickens are subject, though I do not think there is much need for so doing, provided my previous instructions are carried out.

Even the most ordinary maladies are nearly unknown in my yards, and their absence may be entirely attributed to unceasing attention to cleanliness, and judicious management in feeding and housing.

**Gapes** is strictly a chicken-disease. It is caused by the wind-pipe being infested with small worms. These, as they increase in size, gradually obstruct the passage, and cause the chick to gape for breath, and at last to die of suffocation. Some writers are of opinion that wet and filth conduce to produce "gapes," in support of which theory it may be said that the disease rarely troubles a yard kept perfectly clean and dry. If this malady should make its appearance, it may be checked by placing a lump of camphor (about the size of a walnut) in the drinking water, and the following treatment for the affected birds will be found an infallible cure. Get a bottle of Calvert's No. 5 carbolic acid, pour a little into an iron spoon, and hold it over a candle, when dense white fumes will be given off. In these the bird's head must be held until suffocation almost occurs.

As a further precaution against this disease, see that the sitting-hen has access to the dusting shed, and keep the nest perfectly clean, for it is possible that the eggs from which the worms are hatched may have been deposited by some parasite previously infesting the hen. Also provide the brood constantly with pure water, and keep their surroundings scrupulously clean.

**Cramp.**—Chickens are subject to this disease if exposed to damp under-foot in cold weather. The bird will be seen to walk with a stiff gait. Ultimately the toes become contracted and useless for walking. As soon as the first of these symptoms are observed, remove the sufferer from the hen, put it in a box lined with flannel, and place it near the fire. Every three or four hours hold the bird's legs in warm water for five minutes, well working the joints of the toes backwards and forwards under the water. When taken out the legs must be rubbed quite dry with a cloth. At night return the chick to the hen, and continue the same treatment each day until a cure is effected. Early broods are most subject to cramp. The only preventive is dryness. Chickens reared under a shed, on a dry earth floor, are rarely attacked; whilst hard cold floors, such as asphalt, cement, brick or boards, will quickly produce the disease.

**Roup** with chickens usually appears in the form of a slight running at the nostrils, drooping of the wings, and ruffled appearance of the plumage, accompanied with loss of appetite. It is brought on by draughty houses, exposure to wet, or to sudden variations in the temperature of the air. Upon the least signs of the symptoms, or of a cold, which will often turn to roup, it is my custom at once to isolate the bird, and to place it in the warm; I then administer Vale's Roup Pills as follows: for chicks six weeks old, one third of a pill; for those of three months, one pill; for a full-grown fowl, two pills. In each case the medicine is given night and morning. When begun in time, I find this treatment is most efficacious. The disease, if neglected, assumes the form of an aggravated catarrhal cold; a thick discharge settles round the nostrils, and a cheese-like mucus forms in the mouth and throat. We have then a severe case of roup.

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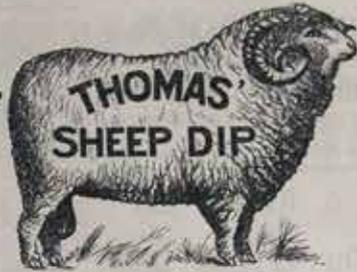
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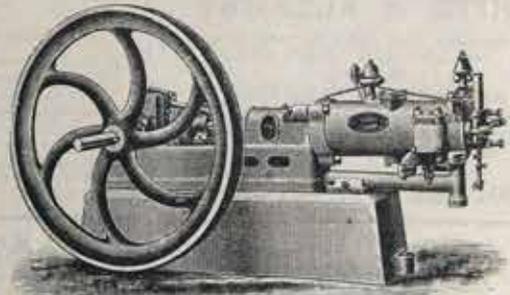
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Full power at a moment's notice. No Boiler required. The best and most economical engine in the market. Cost of gas, 1½d. per hour, with gas at 6s. per 1000 cubic feet. Over 1000 in use in the Australian Colonies. Made in all sizes, from 5-hp. power, indicating 1 h.p., to 20 h.p., indicating 50 h.p. The new Vertical "Otto" Gas Engine takes up little floor space, is silent, and is equal in power to the horizontal pattern. May be had on Deferred Payment System. For price lists and further information, apply to

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horse breeding as a separate business, or its being undertaken upon a large scale. On the other hand, I do maintain that it would prove remunerative to most farmers to have in their teams one, two, or more mares suitable for breeding such animals as I have described, and that breeding such horses would not only repay the farmer, but that the country generally would be benefited by the home production of a good stamp of horse, and by the outlay of so many thousands of pounds of money at home which are now annually expended abroad.

The only reliable cure for smut or bunt is sulphate of copper (bluestone). It is not safe to sow any grain till it has been dipped in a solution containing twelve ounces (three-quarters of a pound) in five gallons of water. Be sure that every grain is wet.

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Can be attached to Travelling Chaffcutters. Inspection invited.  
Mining and Agricultural Machine Maker.  
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Taps fitted to any size required.

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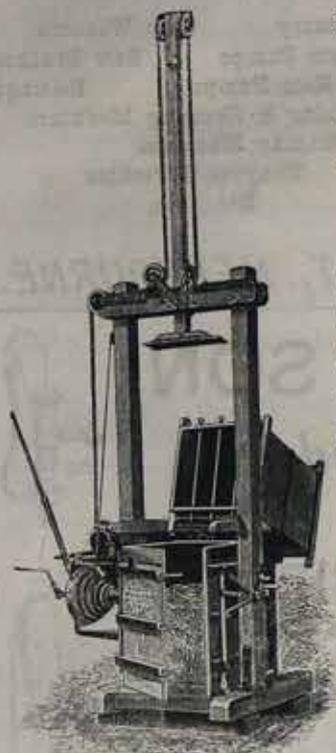
74, 76 & 78 ELIZABETH STREET MELBOURNE.

# D. FERRIER'S PATENT LEVER WOOL-PRESS

First Order of Merit awarded this Press at the Melbourne International Exhibition, 1880.

## HUMBLE & NICHOLSON

Makers, Geelong.



The usual screw is dispensed with, and the pressure brought to bear by means of a strong rope or chain, working in sheave pulleys overhead, attached to a Ram, and winding on a fusee, which is made in the shape of a suddenly tapered screw.

The rope works on the large part of the Fusee, when the pressure is light, and passes down to the taper end as the pressure increases, being worked by a lever fixed on the centre spindle.

The top Box is hinged to side Brackets, and turns down to the floor, which greatly facilitates the putting in of the wool, and renders any second floor unnecessary, and when filled is easily placed back in position.

When the bale is pressed and the sides sewn, the Ram is lifted by a small rope from the Fusee, turned by a handle.

It will be understood how very much quicker the power is brought into application by this means than by the ordinary screw press, and double the work is got through by the same number of men.

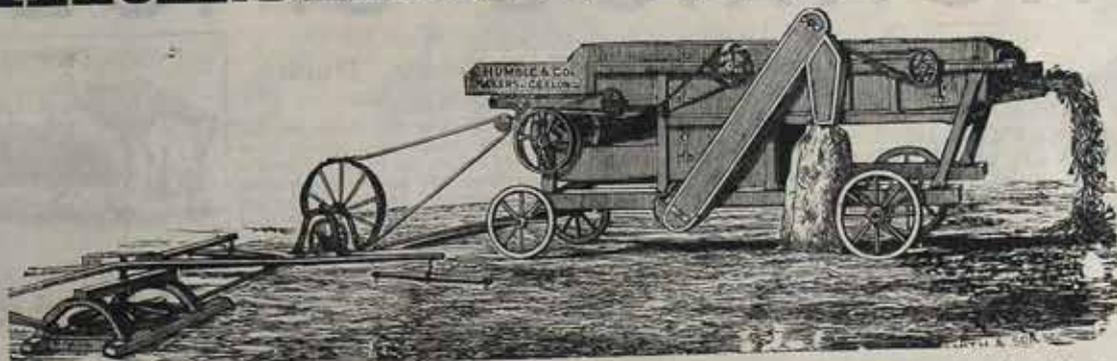
Special attention is directed to the fastening of the Packs before the Wool is put in, which is done in an exceedingly quick and simple manner: four pieces of wood are fitted into the recesses of doors, which hold the Pack securely in position and to the side catches for fastening the doors, which are held in position by a vertical bar, and relieves them simultaneously.

The side door is also held in its place by a catch, which at any time can be relieved instantly, the door falling back and allowing the bale to be removed.

At the Melbourne Exhibition competition this Press turned out 3 Bales of Scoured Wool in 28½ minutes, being considerably less than any other Press, although one had the advantage of being driven by steam.

HUMBLE & NICHOLSON, ENGINEERS.

# THRESHING MACHINE



FOUR-HORSE POWER THRESHING MACHINES.—These Machines are found to be very convenient to farmers who wish to thrash their own grain; or in some cases where three or four neighbours combine. They will thrash from three to four hundred bushels per day with horse power; or if worked with steam power, about six hundred bushels daily.

We have been making these Machines for the last seventeen years, and have been awarded a large number of prizes at the different Shows, including the National Show at Melbourne and other places. The above is strongly made with Wrought Iron Drum, Steel Spindle; all bearings of the best material, no time or expense being spared to turn them out in a substantial manner.

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Manufacturers of TAYLOR'S PATENT REFRIGERATORS  
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Single and Double, Carriage, Brougham, Gig, and  
Buggy, in ALL of which none but the best  
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And 6, 8, 10, 12, 15, 17, 19 & 21 STEWART STREET, MELBOURNE.

Awarded GOLD MEDAL for Special Merit at London Exhibition of 1873, and TWO GOLD  
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78, 79, 80, 81, 82, 83, 84, and 85. Also, THREE FIRST AWARDS  
OF MERIT (1st Prizes), at International Exhibition of 1880.

NOTICE.—Referring to above, D. WHITE desires to inform his numerous Customers and the Public  
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Is not affected by Heat, Water, or Steam. More Durable. Better Grip.  
Adopted by the Victorian Railways, and is used by all the leading manufacturers in Melbourne and suburbs.  
Prices less than single leather. All sizes from 1 1/2 to 16 inch in stock.  
All the Main Driving Belts for the Adelaide Jubilee Exhibition are supplied by Lancashire Patent Belting.  
SEND FOR CIRCULARS TO

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Messrs. CAMPBELL, GUTHRIDGE & Co.,  
Agents for Lancashire Patent Belting and Hose Company,  
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Dear Sirs,—We have great pleasure in informing you that the Patent Belt we bought from you for  
our Threshing Machine has given us great satisfaction. We consider it much better than leather, and believe  
it more durable; we also find that it runs more smoothly in wind and keeps on the pulley better when raining,  
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come off as many times in an hour in windy weather. We would not think of buying a leather one now;  
the cost of leather is about double what the Patent Belt costs, and we have great pleasure in recommending  
them to machine owners. We are, Gentlemen, Yours respectfully,  
HARPER & HAMMILL.

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**REDUCTION OF PRICES.**

Previous to the erection of new machinery, we have decided to reduce the quantity of our stock, and offer  
to the public, at greatly reduced prices, a splendid assortment of Carriages and Buggies, &c. As we use none  
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the quality of our work is of the finest, and has been pronounced by judges to be unequalled anywhere for  
durability, style, or finish. All styles kept in stock, from Landaus to Farm Waggon; also variety of  
secondhand vehicles.  
The trade supplied with first-class and seasoned materials.

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**SULPHATE OF AMMONIA IN AGRICULTURE.**

For Grass Land.—1 1/2 cwt. per acre; to be put on the land from August to October, before or after a  
shower of rain.  
For Wheat, Oats and Barley.—1 cwt. per acre for wheat, in April; 1 cwt. per acre, for oats, in  
April; 1 1/2 cwt. per acre, for barley, in August.  
For Vines.—1 bushel on the vine border, and lightly fork it in, in the months of July to September.  
This quantity (1 bushel) to be for the nourishment of four vines.  
For Onion Beds.—Give a good sprinkling over the beds two or three times during the growth of  
the onions.  
For Potatoes.—1 1/2 cwt. per acre as a top dressing, before the haulms appear above ground.  
For Greenhouse Plants.—A large teaspoonful in a bucket of water, to water the greenhouse plants  
with twice a week. Not to be used, however, for heaths, rhododendrons, or orchids.  
For Peach, Apricot, Plum, Currant, and Gooseberry Trees.—A similar solution to that given for  
greenhouse plants, in the months of July and September. Rose trees and garden plants are benefited  
by the use of the solution. Celery, cabbages and cauliflowers also grow well when watered with the  
solution.  
For Raising of Healthy Plants from Seeds.—Sprinkle a good quantity of the sulphate on the seed  
beds, and then water them a week before sowing the seeds. Melons and cucumber plants also are much  
benefitted by the sulphate of ammonia.  
Note.—All vegetation, excepting heaths, rhododendrons, and orchids are rendered more luxuriant,  
healthier, and consequently free from the destructive attacks of the scavengers of Nature by the use  
of sulphate of ammonia, especially in the spring of the year, when vegetation requires a condensed  
antiseptic food and nourisher, to enable it to withstand the blighting effects of the north-westerly  
winds, which, being the least electrical of all the winds, lower its vitality, and thus conduce to diseases  
in the animal and vegetable kingdom.

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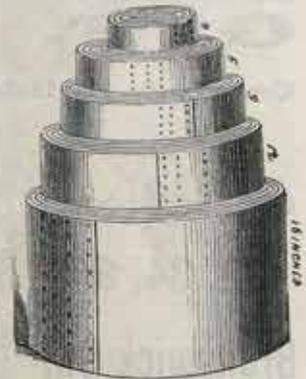
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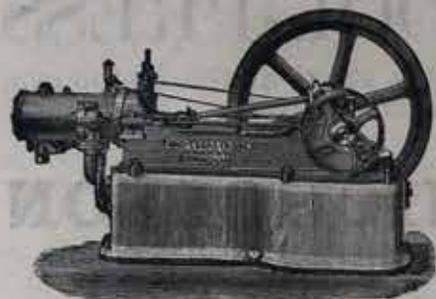
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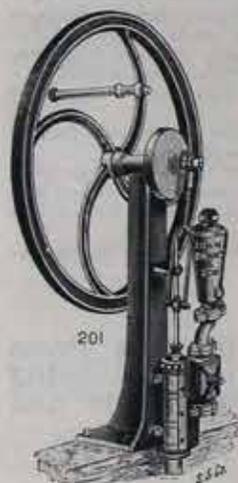
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Combined Two and Three Furrow Plough, (the Best and Cheapest) Ploughs in the Market. Patent Wheels supplied to fit any make of Double-Furrow Plough. Horse Works, for One or Two Horses. Improved Three-Knife Chaffcutter, Fitted with Sieve Gear, Patent Adjustable Steel Mouthpiece, Stop and Reversing Motion. Cut two lengths. Bentall's Chaffcutters and Corncrushers, All Sizes, Tank Sinking Ploughs and Scoops, Harrows, Scarifiers, Corn-screens, Winnowing Machines.

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# NATIONAL AGRICULTURAL SOCIETY.



Vol. III.—No. 28. [Read as a Newspaper.]

MELBOURNE, NOVEMBER 11th, 1887.

GRATIS.

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Then 'twere well it were done quickly."

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Advances on Grain at Current Rates of Interest. STORAGE ON VERY FAVORABLE TERMS.

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**Best, Cheapest & Safest Dip**  
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A CHEMICAL FOOD FOR THE WOOL.  
DEATH TO ALL INSECT LIFE.  
NUMEROUS TESTIMONIALS.

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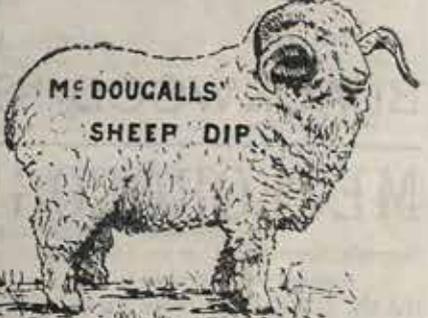
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PERFECT SAFETY. NON-POISONOUS.  
A world-famed Dip, and Second to None in the Market.

Price, 5/6 per gallon, in drums, making sufficient to dip 200 sheep, or under 4/- per sheep.

This Dip is AS CERTAIN as arsenic in killing insects without its dangerous and injurious effects on the sheep.

It finely stimulates the growth of Wool, and improves its quality, leaving the Wool soft and in fine condition, unlike Poisonous Dips in use, which burn and break the staple of the Wool.

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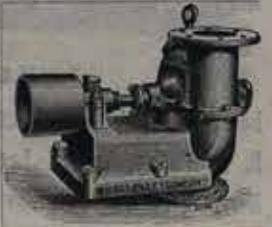
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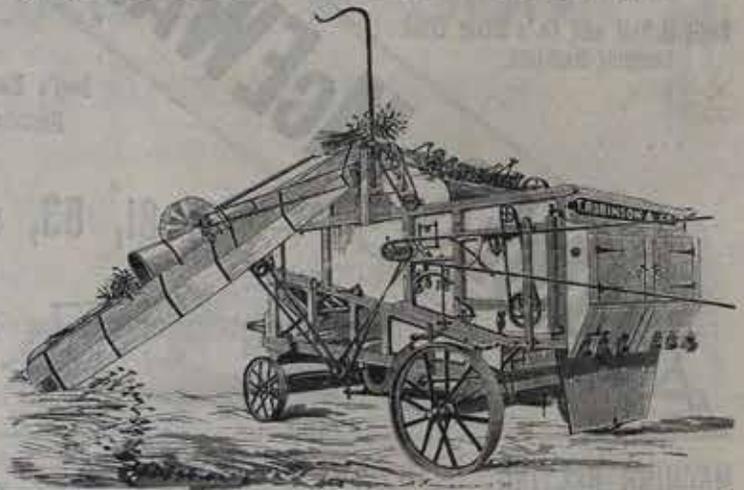
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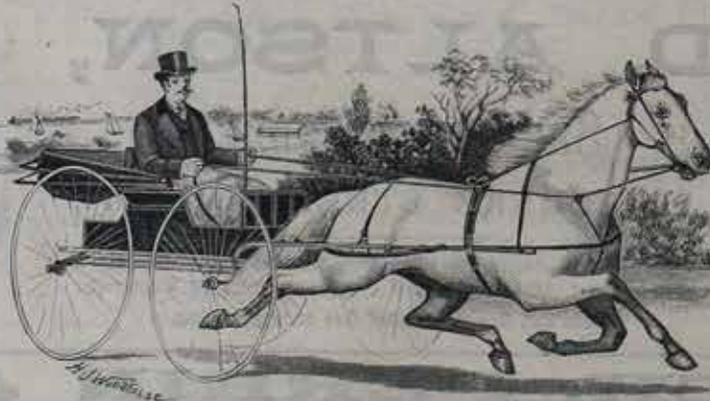
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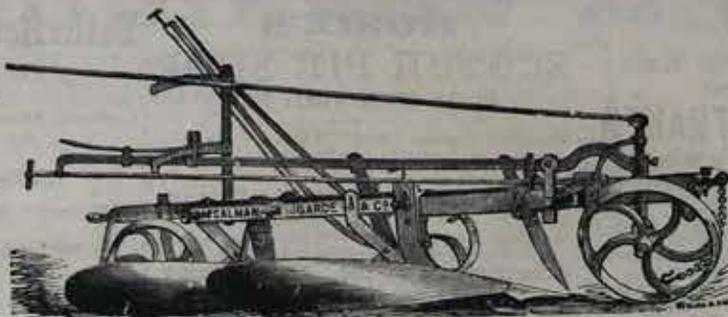
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For dam sinking.

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Rack and Gear Steel Press for the use of large stations.  
Lever & Chain Press, with Folding Top Box, for the use of smaller stations.  
Lever and Chain Farmer's & Selector's Press. Price, £22 10s.

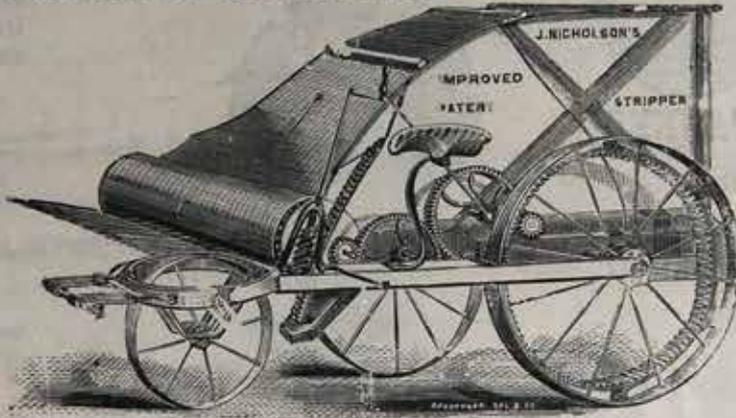
As the season for this latter kind is now approaching, those requiring them should lose no time in sending their orders. Owing to the general satisfaction given by those supplied for last season, orders are now freely coming in, and a large demand is looked for. The following is a fair sample of a large number of Testimonials to hand for those supplied last season:—

Mr. Price Williams—  
Dear Sir.—I have much pleasure in informing you that the Farmer's Wool Press I purchased from you last October, gave me every satisfaction. We turned out very compact small bales, about 24 cwt., but could have them heavier if we wished with nice down. My what the Wool Brokers tell me, they would clear themselves in two seasons to anyone having twelve bales. Since done with the Wool, I have had it in constant use as a Cheese Press, and I reckon it worth half its cost for that. We have weights on the levers. Any number of Cheeses can be put in at once. It would make a good Press for Hay or Straw, and for Grapes or Apples it is just the thing. I can highly recommend it as a most useful, substantial, and cheap article.—Yours truly,  
HUGH GORDON.

BALLYMOON, JAN. 23RD, 1885.

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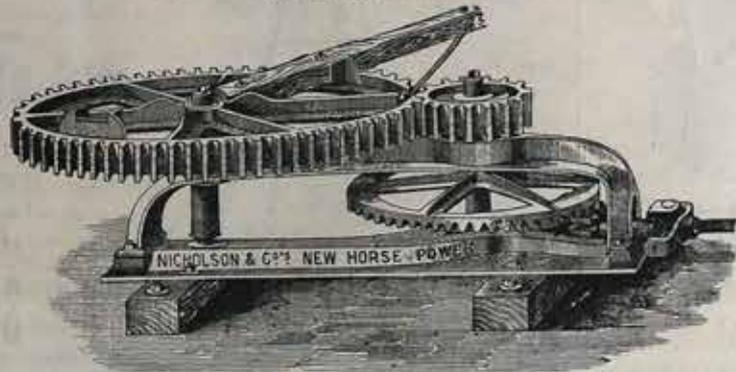
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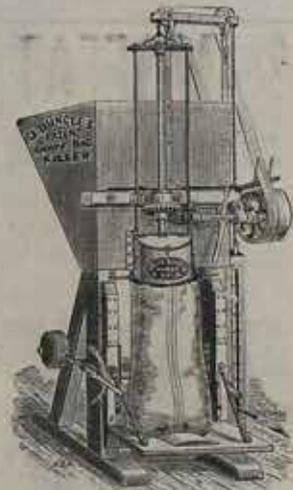
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Makers of Winnowers,  
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Stripper, Improved  
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This most useful Horse Gear is made entirely of Iron, simple in construction, very strong, and easily managed. It is also fitted with a spring clutch, which prevents the poles from striking the horses' legs when the Machine is stopped. The pole or poles (as it can be used either as a Single or Double Horse-power) are fixed in such a manner that the pull is direct; the strain thus being reduced to a minimum, the speed is sufficient without the expense of an intermediate motion. Priced Catalogues free by post.



## BUNCLE'S Patent Chaff Bag Filler.

or without Baggers. A few attempts have been made by some to supply such a want, but probably not having a theoretical as well as a practical knowledge of machines, have not been able to reduce the complicated movements in their machines, and which are perfectly unnecessary—as witness the Unique Simplicity and correctness in design, and the admirable working of **BUNCLE'S PATENT BAG FILLER** compared with the few others tried at work.

For the information and convenience of customers, a machine is kept constantly set up ready to show at work in **BUNCLE'S PARKSIDE IRONWORKS**, and many customers have witnessed 80 to 90 lbs. of Chaff put in a bag in 15 seconds!!! which, after making allowances for time removing the full bag and replacing an empty one, would easily on an average keep **Four of Buncle's No. 1 Chaffcutters**—well, if there is any doubt, say Three Machines clear of all the Chaff they cut (medium length.) Of course the Machines are arranged to put in as light weight as you like, or you can fill up and burst all your Bags—to pieces. As a trade requirement (in addition to filling bags) the necessity for a **Mixing Machine** is a long felt want, the laborious and unsatisfactory way at present adopted cannot much longer be endured, and there is no necessity for it!! as J. Buncle can arrange to "Blend" the worst and the best samples "To a Hair" at the least possible expense with the best results.

The season is now coming on when all those who intend having the latest improved Machines should forward their orders as early as possible, to prevent disappointment in the day of their need.

J. Buncle's Machines have, as usual, been awarded First Prize at all the leading shows wherever he exhibited last year (1885), and the many improvements introduced and constantly copied by other makers, is the best proof of the value of the continued consideration in all that affects the profits and welfare of his customers.

Chaffcutters with 14-in. wide mouthpieces and Newest Designs, are now being manufactured to suit the increasing output of many of the leading Chaff Merchants. May your fortunes ever be associated with the earnest efforts to assist making them by,

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Catalogues Post Free on Application.

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Awarded First Prize, Geelong Agricultural Society,  
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have confidence in recommending this article to Agriculturists  
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**PURE, UNADULTERATED, AND VERY VALUABLE  
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A trial will certainly establish it in lasting favour, as being  
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It will be found suitable alike for cereals, root crops,  
orchards, and vineyards, and in every instance will give most  
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lands. The quantity necessary to produce good results is  
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Circulars with Testimonials, together with full particulars of  
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D. T. wishes to call particular attention to his Colonial-made  
Bough and Smooth Bullockhides, Hogskins, Bush and Town,  
Saddles which for Shape, Price, and Quality, cannot be equalled.

TRADE SUPPLIER

Have stood the test of 35 Years.

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**LOWEST POSSIBLE PRICES**

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Sire of MELBOURNE, STUBBLEY, the Premier Fox Terrier of  
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Winner of First Prize and extra Cup for the best Terrier by  
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bourne Exhibition, 1886. The most successful sire of the  
season, and the only representative of his illustrious sire in the  
Colony.

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Prize taker at Alexandra Palace; Second Prize National  
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Winner of Second Prize Victorian Poultry and Dog Society's  
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Sire, The Belgevan (champion) ex Lady Sowerell, by Vulcan.  
This grandly bred young dog has not yet been exhibited.  
My terriers have sired "56 Foxes Prizes" Winners during  
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bined for the last 10 years.

I have held the Championship for 5 years, and the progeny  
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**GUARANTEED PEDIGREES WITH PUPPIES.**

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ladies, to the Society's Exhibitions and Grounds  
at all times.

A copy of this Journal, which is published  
monthly (on the Friday after the Council  
Meeting), is also forwarded to each member.

Members' Tickets may be obtained on  
application to the Secretary at the office, or to  
Mr. JOHN HEDRICK, the Collector.

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**Agricultural Society of Victoria.**

Shorthorn Derby Sweepstakes, 1890.	
Hereford do do	1890.
Ayrshire do do	1890.
Jersey (late Alderney) do do	1890.

A Sweepstakes of £1 each (10s. at time of nomina-  
tion, and 10s. at date of general entry for Show), with  
2s added in each case for Heifers calved between 1st  
July, 1887, and 1st July, 1888, to be divided and  
awarded as 1st, 2nd, and 3rd Prizes, for three-year  
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Nomination of Calves of each breed respectively  
will be received on payment of a nomination fee of  
10s. each. Calves to be nominated within one month  
of date of birth. Nominators to fully describe the  
color of each calf entered, and to state the name of  
the sire, dam, and sire of dam, together with the  
date of calving. Entry forms on application.

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**R. GOLDSBROUGH & CO. LIMITED**

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**WOOLBROKERS.**

Capital, £3,000,000

HEAD OFFICE—MELBOURNE.

MAKE LIBERAL CASH ADVANCES on the ensuing CLIP  
of WOOL and on STATION SECURITIES.

They hold AUCTION SALES of WOOL twice each week  
during the season and at frequent intervals during the  
winter months.

AUCTION SALES of TALLOW, HIDES, SHEEPSKINS,  
etc., are held three days each week throughout the year.

AUCTION SALES of WHEAT, OATS and FLOUR are held  
each Wednesday during the grain season.

One Month's Free Storage allowed on Grain.

Liberal Advances made at bank rates on receipt of produce  
into warehouse.

Full rates of interest allowed on fixed deposits, current  
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**JOHN HEDRICK & CO.,**

FARMERS' AGENTS,

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Loans and other Financial Arrangements Negotiated.  
Bulk Stocks of Grain held by Farmers can be sold by  
Auction or privately from samples sent by Post, avoiding  
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All communications for the Editor to be  
addressed to the Society's Office, Kirk's Bazaar,  
Bourke Street West, Melbourne.

Business communications to the Publishers,  
Melbourne Place, off Russell Street, Melbourne.

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**Dates of Forthcoming Shows.**

SECRETARIES of agricultural societies are  
requested to forward to the editor the dates on  
which their respective exhibitions will be held,  
also copies of their prize schedules as soon as  
they are published.

**NOVEMBER.**

16, 17.—Kyneton.	24, 25.—Ballarat.
17.—Hardie's Hill.	24.—Traralgon.
Grenville.	24.—Kilmore.
17.—Colac.	30.—Port Albert.
23.—Castlemaine.	

**DECEMBER.**

1.—Bacchus Marsh, Ballan, &c., Myriamong.

**JANUARY, 1888.**

Last Week—Intercolonial Show, Agricultural Society  
of New South Wales, Sydney.

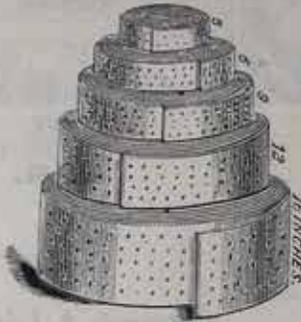
**FEBRUARY.**

23.—Morrington, Berwick.



DOUBLE OAK-TANNED  
WELL-STRETCHED

## MACHINE BELTING.



# FRANK VIAL,

"UNIVERSAL"

## LEATHER BELT FACTORY,

MACAULAY ROAD,  
Kensington,

And at 59 MAIR STREET, BALLARAT.

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The "UNIVERSAL" BELTS are acknowledged by all who have used them to be the Best in the Market.

Special Lists for BELTS for IRRIGATION PURPOSES.

A Large Stock of the "PREMIER" BELT LUBRICANT, and Well-Seasoned BELT LACES, kept in Stock.

TESTIMONIAL.—[copy.]

UNION FLOUR MILLS,  
Brunswick-street, Fitzroy,  
March 17th, 1886.

Messrs. Frank Vial & Co.,  
Macauley Road, Hotham.

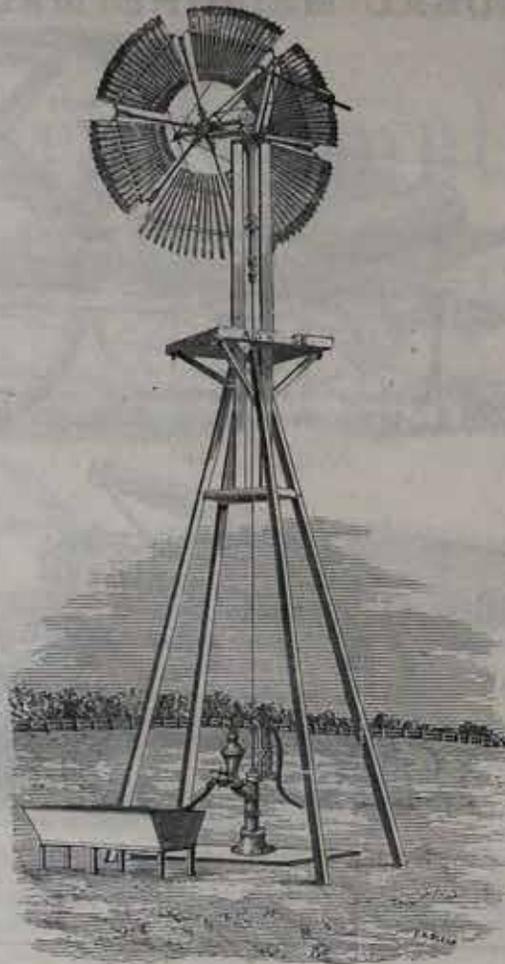
Gentlemen.—In reply to your enquiry respecting the (23") twenty-three inch double belt supplied by you to ourselves, we beg to state we have been working it for a period of seven months, and we find it to be all we could desire, as also is the other belting which we had from you.

We therefore feel great pleasure in recommending your belting to anyone requiring the same.

We are, Gentlemen, yours truly,  
(Signed) W. S. KIMPTON & SONS.

Other Testimonials received too numerous to print, which with Price Lists, can be had on application.

# THE ALTHOUSE WINDMILL.



The STRONGEST, SIMPLEST  
MOST DURABLE, and BEST  
SELF-REGULATING WIND-  
MILL in the Market.

Proved by Actual Experience  
to be Unequalled for Water  
Supply Purposes.

Is Absolutely the Strongest Mill  
in the Market.

Its Extreme Sensitiveness is  
one of its Greatest Merits.

Its self-regulating capacity is perfect

Guaranteed the Cheapest Mill  
in the Market.

FOUR SIZES—10ft., 12ft., 14ft.,  
and 16ft. Kept in Stock.  
Larger Sizes Made as Required.

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Atlas Co. of Engineers,

LATROBE and QUEEN STS.

MELBOURNE.

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Engineers, Millwrights, &c.

99 & 101 Little Bourke St. W.

MELBOURNE.

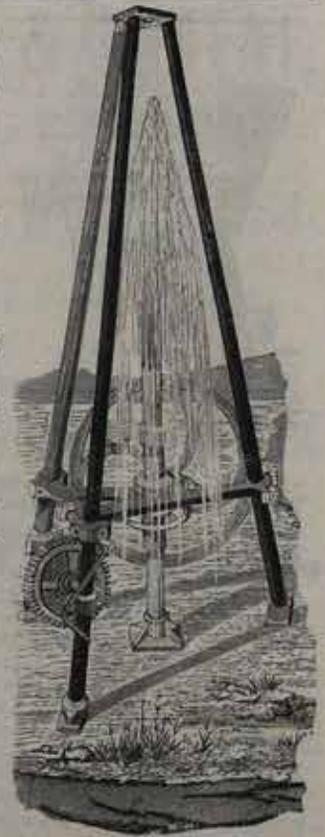
Manufacturers of Steam Engines, Boilers, Sheep Washes  
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of any Size or Capacity.

Ford's Patent Air Compressors

And of the now justly celebrated

## AUSTRALIAN WATER AUGER

Which has attained the greatest depth bored by any machine yet  
introduced to the public, the Diamond Drill excepted.



## EARTH SCOOP

(CHESNEY'S PATENT.)

The Latest brought before the public.

This machine will take out 200 cubic yards of earth in  $\frac{1}{4}$  cubic yard loads in a day of eight hours; is simple, strong, yet light of draught, easily kept in repair, and has been pronounced by experienced judges to be the best Earth Scoop yet invented.

N.B.—This Scoop can be seen at Messrs. WRIGHT & EDWARDS' Stand.

district being famed for that class of stock. There was a good muster of hunters and ladies' hackneys, the trials of which excited the usual interest. In cattle the Shorthorns were poorly represented, excepting in the cow class; but the Ayrshires and dairy cows included a number of good exhibits. Very few sheep were penned, but the quality of the prize-winning exhibits was excellent; and the same may be said of the swine. Dogs were not so numerous as usual; but there was a really good show of poultry. The produce section was poorly represented; but there was a very interesting display of flowers and pot plants, though the benches were not so well filled as they have been in previous years. The machinery section was only fairly well filled, though several Melbourne and local makers competed. On the opening day the weather was disagreeable, but on the second day it was all that could be desired, and there was a good attendance of visitors.

### The Shepparton Show.

THE entries for the Shepparton Show held last month exceeded those of any previous year, so that the exhibition would doubtless have been a great success had not heavy rain fallen on the second and principal day and completely flooded portions of the yards. Notwithstanding the rain, however, there was a good turn-out of farmers, who were all jubilant at the prospects of the season, which is the best experienced in the Goulburn Valley since agricultural settlement took place. Draught stallions did not make an imposing display, but there was a good turn out of mares and young stock which, however, were not seen to advantage, on account of the wet destroying the appearance of their "feather." A few fair thoroughbreds were shown, and some good buggy pairs and ponies. Hunters and ladies' hackneys were also attractive features. In cattle there was a number of useful Shorthorns and a considerable exhibit of Herefords of a very creditable description. This breed seems to be very much liked in the district. Some good sheep and swine were penned. The dogs were tied up to a fence without shelter, so that they looked neither comfortable nor attractive. A large collection of dairy produce was shown, but the farm produce did not make an extensive display. Some really good wines were exhibited, and there were several items of interest in the miscellaneous collections. In the section for carriages and buggies some very attractive vehicles were exhibited. The show of machinery was interesting and instructive, and more extensive than usually seen in country districts. There was a large number of what are called "side shows" on the ground which seemed to do an excellent business notwithstanding the unfavourable weather.

Germany teaches horticulture in her schools. A small nursery is attached to nearly every common school, and the children are taught to grow trees and vines from grafts and cuttings, as well as to plant the seeds and watch the various stages of growth. It would be of great advantage if some such system could be introduced here.

### Protection for Farmers.

AN important deputation of farmers, representing branches of the Victorian Farmers' Protection Association, Farmers' Clubs and Agricultural Societies, waited on the Premier and the Chief Secretary on the 3rd inst., to submit resolutions adopted at a Conference held at the Athenaeum the day before. The resolutions declared that the existing tariff was unsatisfactory, and requested the imposition of an *ad valorem* duty of 25 per cent. on all stock (dead or alive) coming into the colony, and a duty on imported wheat, oats, barley, maize and peas of 3s. per cental; on potatoes £1 per ton; on condensed milk 2s. per dozen pounds; on butter, cheese, bacon and hams 4d. per lb.; and on eggs 3d. per dozen; and a bounty of 1s. per bushel was asked on all wheat exported from the colony. The deputation was introduced by Mr. Graham, who stated that it was representative of the entire agricultural community.

Mr. J. Coldwell said that the conference held the previous day was unanimously in favour of an early revision of the tariff in the interests of the farmers, and that the deputation appealed to the Government to place the agricultural industry on the same footing as the other industries of the colony.

Mr. G. Davies said that the agriculturists had borne the weight of taxation imposed for the benefit of other classes for many years. The protection given to the farmers had been altogether different to the protection and assistance given to the trading interests of the country. The present duty of 3 per cent. on cattle, 2½ per cent. on horses, and 5 per cent. on sheep was inadequate compared with the 25 and 30 per cent. duties paid on all articles the farmers used and consumed in the prosecution of their industry. On the large northern areas cattle could be produced very cheaply, so that Victorian farmers without a tax would have their markets flooded.

Mr. R. Clark said the deputation had resolved to ask the Government to grant a bounty of 1s. per bushel, or 36s. per ton, on all wheat exported from the colony, as the price of wheat was gradually falling; and as the farmers had to pay so dearly for all their requirements they had to work like galley slaves and then could not compete with other countries in the markets of the world.

The Premier (Mr. Gillies) said that the interests the deputation represented were bound to receive the careful consideration of this Government or any other. The Government had promised a revision of the tariff next session—when the questions would be considered. He did not promise to grant them all they requested, but their interests, in common with others, would receive every consideration.

The Chief Secretary (Mr. Deakin) was pleased to find the possibility of union amongst the farmers of the colony in relation to their own interests. The want of union in past years was to be deplored, as he believed all they complained of was attributable to that want of union. He hoped the farmers had now taken a decided step towards combining for their mutual interests. As it was part of the settled policy of the colony to encourage industry by protection he thought it only fair that the claims of the farmers should receive due recognition.

### Important Sales of Pure Stock.

ON the 31st ult., Messrs. Richard Gibson and Co. held a clearing sale of the famous Shorthorn herd of Messrs. Robertson Bros., of Colac, at Messrs. W. C. Yuille and Co.'s yards, Newmarket. The highest priced bulls were Grand Duke of Waterloo 5th, purchased by Mr. Christian, of Sydney, for 200 guineas, and Cherry Oxford 12th, bought by Mr. L. Dugdale, Pentland Hills, at 120 guineas. The highest priced females were 55th Duchess of Derrimut, which fell to the bid of Mr. R. McIntyre, Wagga, at 195 guineas, and 40th Duchess of Derrimut, bought by Mr. Christian, at 160 guineas. This cow, which was seven years old, won the Grand Champion Prize of Australia for the best Shorthorn female at the exhibitions of the National Agricultural Society of Victoria, 1886 and 1887.

On the same day and at the same place, Messrs. Peck, Hudson and Raynor, sold on account of Mr. D. Syme, 5 pure polled Angus bulls at an average of 42 guineas; Canny Chief of Waimea (imported), Eric of Killara and Jock of Killara realising 45 guineas each.

On the 4th inst., Messrs. Richard Gibson and Co. (with Messrs. Elliott and Jennings), sold Mr. W. J. Dunstan's pure herd of Jersey cattle. The highest price realised for bulls was for Fuchia's Wray, 79 guineas. The highest priced females were Queen of the Isles, 150 guineas, and Silver Queen, 100 guineas.

## Meetings.

### Council.

THE ordinary monthly meeting of the Council of the National Agricultural Society of Victoria was held on Tuesday, 8th November, 1887.

Present—Dr. Plummer, President (in the chair), with Messrs. W. Learmonth, T. Brunton, John Bond, John Currie, George Young, W. Glover, John Jones, D. White, Walter J. Clark, J. Hearn, W. Wragge, J. M. Peck, D. Munro, J. Garton, the Hon. J. Buchanan, M.L.C., and the Hon. C. Young, M.L.A.

The minutes of the previous meeting were read and confirmed.

#### FINANCE.

The Finance Committee's report, submitting the monthly statement of accounts, and recommending payments amounting to £87 12s., was read.

Mr. Currie moved the adoption of the report; seconded by Mr. George Young and carried.

#### WINE JUDGING AT LATE SHOW.

The President reported, in relation to the protests *re* wine judging at the late Show, on which subject he and the Secretary were requested to procure further information, that three exhibits had been overlooked, and that it was in a great measure through exhibitors having packed two exhibits of six bottles each in the same case. When these cases were opened only one sample was taken

The Journal  
OF THE  
National Agricultural Society  
OF VICTORIA.

MELBOURNE, NOVEMBER 11th, 1887.

### Agricultural Shows.

No matter in which part of the colony we attend an exhibition, we hear it repeated again and again that it is a mistake to have so many little shows. There are about eighty agricultural societies holding annual exhibitions in Victoria, which seems extraordinary when the area of the colony is taken into consideration. In many cases numbers of them are so close together that it would be better for their promoters and for the community at large if they were to unite and form one strong society, which could hold a thoroughly good representative exhibition, and have a really educational influence in the district to which it pertained. This idea is now being carried out to a certain extent in Scotland, where it seems, according to an article appearing elsewhere in this number, that before the Highland and Agricultural Societies' prizes are given to any local society a certain amount of money must be raised, which causes societies to combine with the object of securing the fund. It is frequently stated that small shows do no good, but it can be shown that from an educational point of view they may do positive harm. A great many of the people who have gone on to the land in Victoria have little practical knowledge of stock or of cereals. Now, we will suppose that one of such purchases a number of mares with the object of working them and forming a little stud. In due season he looks around for a sire to use, and finding a certain horse advertised as a first prize animal, or perhaps a champion, he at once concludes to use him. Well, he does so, and finds that, instead of the progeny being an improvement, as he expected, they are utterly disappointing, and he either has to sell or it takes him years to breed up again. When the matter is inquired into it is found that this horse was a champion at some little show where there was no competition, and where it was absolutely misleading to send him forth with the hall mark "first prize" or "champion." And the same might equally apply to other cases in relation to animals, such as bulls or sheep, and to grain as well, at similar shows. We have again and again noticed instances of men having been misled into using animals of no particular merit because they were prize-takers—which were prize-takers not because they were great themselves, but because their surroundings were little. Now, as "many things by season seasoned are to their right praise and true perfection," if the small shows were to amalgamate and hold representative district exhibitions with good prizes, such competition would be induced that only superior exhibits would win first prizes, and there would be no risk of farmers being misled. This phase of the question must be faced, for while it is certainly creditable to the enterprise of colonists that

so many societies have been formed, it is everywhere agreed that in very many districts, were local jealousies sunk and an amalgamation of shows effected, better results would ensue.

### Hardy's Vineyard.

MR. HARDY'S vineyard, which lies about four miles south of Adelaide, is one of the "show" places of South Australia. An idea of the extent to which the important industry of wine-making is here carried on is readily formed when it is stated that the cellarage has a capacity of 500,000 gallons. There are 19 cellars and vaults, with windings almost as intricate as the labyrinth of Minos, King of Crete, in which, at the time of our visit, there were stored about 450,000 gallons of the fluid that "maketh glad the heart of man." Some of these vaults, from their peculiar formation or excavation, are remarkably interesting, being quite different from the conventional colonial square pit style of thing, and also being entirely free from damp, as they are thoroughly well drained into the river, which runs hard by. The wines are stored in casks varying in capacity from 300 to 2000 gallons. Each cellar is numbered, as is also each cask, the whole being classified and duly registered in a book for the purpose, for here, as in every other well-conducted establishment, the most thorough system is the order of the day, and prevails. The strong wines, which require the most heat to mature them, are placed in the upper buildings, the medium wines on the ground floor, and the lighter wines in the vaults. One particularly hot day last summer the temperature was taken at 183° in the upper story, while it was only 75° down in the cellar. Mr. Hardy has 75 acres under vines and fruit here, and he has 450 acres under vines at McLaren Vale, known as "Tintara Vineyard." He makes from 200,000 to 230,000 gallons each year himself, and buys largely from people in the neighbourhood. There is also a distillery on the ground (for which he pays a license of £50 per annum), in which brandy is made for fortifying the wines and for sale as well. The fruit trees, which consist principally of oranges, with lemons and almonds, are irrigated, and look remarkably healthy, the whole of the grounds being thoroughly well kept. Excellent raisins are made from grapes grown here, and fine almonds are produced. Olive trees are planted round the vineyard, and are used as posts, fencing wires being run through the live trees, which answer the purpose admirably, and do not appear to suffer through the boring. About 700 gallons of oil are produced from the trees annually. Mr. Hardy has also a well-stocked vegetable garden. A few choice Brittany cows were to be seen in a little paddock fenced with that curious combination, olives and wires; helping to enliven the scene and make the place attractive, as it undoubtedly is.

### The Adelaide Sewage Farm.

THE Adelaide Sewage Farm, which lies about 3½ miles north of the city, is 480 acres in extent, of which area 210 acres are at present

under sewage; but the whole of the farm, with the exception of 20 acres, can be utilised when expedient. A sum of £360,000 has been expended on the farm and works, exclusive of stock, consisting of pipes, &c., which cost between £70,000 and £80,000. The Adelaide system of removal of sewage is by water flushing, which is most effective, the whole being carried under ground till clear of the city, when it is continued along an open cement drain to the farm, there being a good fall throughout. On entering the farm the sewage is carried through the engine-house over gratings and an enormous revolving wheel to separate and retain the solids, the fluids passing on to be applied through smaller pipes to the farm. After this sewage has been applied to the crops, and has left all its fertilising elements in the soil, the water underground is again collected and carried off by a drain to the sea. It comes out of the farm at the end opposite which it entered, apparently absolutely pure, and certainly as clear as crystal. An engine-house is built on this drain, containing machinery, by means of which, in the dry months of the year, the water is pumped back, to be used for irrigation purposes. The results obtained here through the application of sewage are simply astonishing. There are 150 acres of lucerne on land which originally varied from sandy loam to stiff clay, which, with a watering every three weeks, yields from 4 to 10 tons per acre at a cutting—cut eight times in the year. Italian ryegrass yields about 8 tons per acre; Mangolds, which are sown in ridges 30 inches apart, and are watered every three weeks, give an average yield of 55 tons, with a maximum of 85 tons to the acre. There are 25 acres of sorghum, which is watered every six weeks, and which give a yield of 24 tons per acre at each cut, it being cut twice in the year and then grazed. Two acres of vines, which received three waterings, yielded last year 10 tons of grapes to the acre. Dairy cows are kept on the farm. Some time ago a cry was raised against them being fed on sewage pasture, but the very men who raised that cry now give £10 per acre per annum for the right of cutting grass off the farm to feed their own cows. Queensland bullocks are bought as stores, and tied up in the sheds, where they are fattened. Though as wild as kangaroos when first roped up, they become as quiet as goats in a week, and are fat in about three months. Lest it should be thought that there is any mistake about the foregoing figures, we think it well to say that they were supplied by Mr. Worsnop, the Town Clerk of Adelaide, to whose courtesy we are indebted for a visit to the farm and for the facts here given.

### The Geelong Show.

THE Geelong and Western District Agricultural Society's Show, which was held last month, was scarcely up to the average, there being a considerable falling off in the entries, attested by the number of empty pens. The draught horses made a very good display, including several high-class imported and colonial-bred stallions, a couple of good brood mares, and three superior yearlings. Thoroughbreds were very poorly represented, but there was a great turn out of ponies, this

was £131. Another one formerly let at £425 was taken lately at £210, and so on.

After a little refreshment, consisting of the native mountain dew, I, in company with Mr Mitchell, had a walk round. The working of this farm is much the same as the one I was over in the West of England. About 70 acres are taken up with wheat, and the same with oats, with six or seven acres of root crops to come in as winter feed. I was rather surprised to hear of the large yield of oats they get here, 60 bushels being reckoned an average crop, with from 40 to 50 as average for wheat. This is the best part in Scotland for growing oats, except, perhaps, some parts of the Lothians. They give the land a good quantity of seed, from 4 to 5 bushels of oats and from 2 to 3½ bushels of wheat are sown per acre. The way they work the land is to take two crops of oats off it, and one of hay, then it is left under pasture for five years, after which it is broken up again. Two bushels of rye grass per acre, with a little clover, &c., mixed, is sown shortly after the second crop of oats is put in, and this forms the standard for the crop of hay and the five years' pasture.

Dissolved bones are used as manure; that made about the farm being taken up principally by the root crops, and as top dressing for the grass. The bones are usually put in with the second crop of oats. A good deal of rye grass is grown about the district; it is cut pretty green, and as there is much short grass amongst it, it is eaten readily by the stock in these parts. They let it and their ordinary hay stand out much longer than we do there. I have seen hay cocks in the field with the grass a foot long about them.

Of stock on the farm, there are about 80 head of cattle, about 100 sheep, 5 or 6 horses, and a lot of pigs kept; they have between 30 and 40 cows in milk during the summer months, averaging about two gallons of milk per day, though some of them give four or five or even more when fresh. Cheese or butter is made as suits best. The cows are a grand lot, the prevailing colour being dark red and white or yellow and white. It is the exception to see white as the prevailing colour of an Ayrshire cow in her native place. Although white or nearly white is the fashionable colour in some parts, one of that description is looked upon with suspicion here as not being purely bred; and there seems some reason for it, as it is said they come originally from a Galloway bull, which is black, and a Jersey cow, which in many cases is inclined that way. It is quite a common thing to see a herd of cows at the farms around, which equals or surpasses that of Mr. R. Buchanan. I saw one at this farm with a striking resemblance to his champion cow, and she was not reckoned out of the ordinary way. Ayrshire cows have been complained against as having short teats. It is in the breed of some of them. A few prize cows on the farm purchased from Captain Steel, of Burnhead, have this fault, and it is considered their worst. Many of the others are not that way at all. They like to have the horns inclined upwards. If they are not so naturally, they force them up when the cows are young, by means of a weight attached to a small rope running through a pulley fastened to a rafter of the byre. A knob is made on the end of the horn with gutta-percha, to keep the rope from slipping off, and the weight is left on perhaps a fortnight; lightened when the horn begins to rise. Even a canny Scotchman is guilty of dodges such as this. They have a way of getting the udders into shape of the cows they are going to show, by means of a board with holes for the teats to go through fastened up under them; but this practice is being put a stop to.

The men engaged in hay-making sometimes work till very late, up till ten and even later, at times getting in their hay or corn by lamp-light, when they have it ready and are afraid of change in the weather.

Women are much employed, both in the fields and about the farm-houses.

Singlefurrow ploughs are almost invariably used. Double furrows were tried, but soon went out of fashion on heavy land like this.

Ploughing matches are held in the various parishes, but as sixteen ploughs are required to compete before the Highland Society's medal is granted, many of the smaller societies are amalgamating and pulling together in one strong body. It would be well if some of our minor societies would follow their example in this respect.

I saw a good idea for turning cheese, which may be a wrinkle for dairymen. Instead of handling and turning them one by one, they have a double shelf, working on a pivot, holding two rows of cheese, one above the other, which is barred on one side to keep the cheese from rolling off, as the shelf is turned upside down.

I also noticed they had a capital sort of pig trough made of fire-clay. It would be hard to describe the shape without a representation of it. It is the best sort I have seen.

The country here, as in England, is very beautiful to an Australian eye—dark green everywhere, nicely undulating, dotted with trees and lined with hedges. You can't get out of sight of the trees, even in the Highlands, though more stunted, there are mostly some to be seen.

Though things are improving in Scotland, and the arts and sciences are far advanced in the centres of population, there is great room for improvement amongst the lower classes still. Things seem worse here than in England in that respect. A Scotchman will tell you that the lower classes are Irish, or of Irish descent. It may be so, but I notice the youngsters can speak wonderfully good Scotch.

Edinburgh as a town surpasses any I have yet seen in its beauty of situation, as well as architecture and sculpture, and other works of art. Scotland has much need of these refining influences, for though a son of the land of Burns and Scott has much to be proud of, there is, on the other hand, a great deal that he well might wish to see improved.

## Home and Colonial Tobacco Culture.

### OFFER OF PRIZES.

Two prizes of fifty guineas each are offered by the Tobacco Trade Section of the London Chamber of Commerce, to be awarded respectively for the best specimen of tobacco grown in the United Kingdom, and for that produced in India, or in any of the British colonies and possessions.

These prizes are given as a means of definitely ascertaining how far the above sources of production can add to the supply of tobacco suitable for the English market, and to what extent, if any, these growths can compete in quality and price with those of foreign countries, from which the consumption of the world has hitherto been chiefly drawn.

It is with this object that the following conditions have been formulated, as applicable to the competition which is invited, and they are such as are thought the most expedient for the purpose in view.

### CONDITIONS.

1. The Tobacco Trade Section of the London Chamber of Commerce shall, for the purpose of deciding on the merit of the specimens competing for the prizes, appoint a jury of experts, who will be assisted by recognised scientific authorities.

2. Each specimen submitted for the competition shall consist of a minimum quantity of tobacco, grown on a commercial scale, and therefore not less than 400 lbs. in weight.

3. Each sample shall embrace an average of the growth, and not consist alone of leaf picked from a larger quantity than that which is submitted to the jurors. It is nevertheless desirable that the leaf should be assorted in the usual way into sizes or colours, separately

packed, each sort being left in its natural proportion to the bulk.

4. The name of the grower and the locality and total quantity of the growth to be stated. In the case of British grown tobacco, it is requisite that the approximate quantity per acre, the cost of production and similar particulars be given on demand of the jurors. These details may be required as a means of their making a report on the yet doubtful question as to the possibility of growing tobacco in Great Britain, such as in quality relatively to price can compete with that of other countries.

5. The specimens not grown in the United Kingdom shall be submitted for competition in London, and in the bonded warehouses of either the Victoria, the London and St. Katharine's, the East and West India Docks, or other bonded warehouse. Specimens of British grown tobacco will only be admitted under bond at the Haydon Square bonded warehouse.

6. The Tobacco grown in the United Kingdom shall be sent for inspection on or before the 1st March, 1888, and that of other places on or before the 1st day of December of the same year.

7. The jury shall reserve the right to require an independent verification of the locality and total quantity of growth in all cases where they think it desirable, and in awarding the prizes shall be at liberty to take into consideration the care bestowed on the handling, sorting and packing the tobacco for commercial purposes.

NOTE.—In order to ensure its keeping qualities, and for reasons connected with the duty, it cannot be too strongly recommended to growers that the moisture of the tobacco submitted for competition should not exceed 15 per cent. as ascertained by the usual scientific test.

All communications to be addressed to the Secretary, London Chamber of Commerce (Incorporated), 84 and 85 King William Street, London, E.C.

## The Pig for the Dairy Farm.

It has been noticed, remarks Professor James Long, for some time that the taste of the public for pork and bacon has changed in a considerable degree, and it has been pointed out from time to time that the greatest of all consumers of pig meat, the agricultural labourer, now prefers meat which contains more lean in proportion to fat. How is this change to be brought about in the pig? At the Irish Conference, the great Limerick curer, Mr. Slaw, pointed out, what is known to many in the trade, that not only must the meat be more evenly interlarded with lean, but more must be produced on the best parts and less on the inferior. Being connected with a farmers' business organisation, I have had the opportunity of investigating this matter practically, both as regards the retail and the wholesale trade, and I find that in many cases where the purchaser requires sides of bacon without the inferior parts, known as the fore-ends, he is required to pay a serious increase in the price per cwt., and yet he very often prefers to do this to taking the whole side, on account of the difficulty experienced in selling this inferior part. In the retail trade even the lower class of East London tradesmen find a difficulty in realising as much as 5d. a lb. for the fore-ends of a very prime side of bacon. I am satisfied that the lower classes are more willing to pay for a rasher or slice of the best part of bacon and of hams in small quantities than they are to buy an end of bacon weighing 5 lbs. or 6 lbs. at the small price of 4d. per lb. Again, with regard to the streakiness of the meat, the retailer is unwilling to accept sides of bacon at almost any price where the fat has considerable depth. It hangs on his hands, and the public will not buy; whereas bright meat, well streaked, and attractive from this cause, sells at the best possible price. The advice which has been given to breeders is to select pigs of a different type—those which, while having deep sides, broad loins, and fine hams, are yet lighter in front, thinner in the collar, and almost the opposite of the fattening breeds of pigs which we have been accustomed to. At one of our recent meetings, before commencing to judge the pig classes, I was appealed to by one of our oldest breeders and judges on this point. "Do not," said he, "lend any countenance to this new theory, inasmuch as if you cast aside the heavy-fronted pig, you will lose quality, and quality is the all-important point to obtain." The question arises what is quality? I conceive it to be, as regards the animal, a capacity to put on quantities of fine meat on the best parts, fineness of bone and of skin and hair. The coarse-haired or coarse-skinned pig naturally

out of each, the remaining one in each case being left; hence the oversight. He had personally interviewed the exhibitors, all of whom (including Mr. Wilson, who won the champion prize) had, in the most handsome manner, consented to a re-judging of the wines. It had therefore been arranged, with the consent of the exhibitors, that, subject to the approval of the Council, a re-adjudication should take place at the Society's office on the 25th inst.

The Hon. C. Young moved that the action of the President and the Secretary be approved, and that letters be sent to the exhibitors acknowledging their liberality; seconded by Mr. George Young and carried.

#### THANKS TO MR. DAVIDSON.

The President stated that, in the pressure of business at previous meetings, a matter requiring attention had unfortunately been overlooked. In connection with the increased water supply to the Show grounds, circumstances had arisen which necessitated great expedition in having the work carried out. In this connection Mr. W. Davidson, the superintending engineer of water supply, had not only put himself out of the way to oblige the Society, but has also given valuable advice with regard to extra reticulation in the yards. He therefore thought that these services should be suitably acknowledged.

Mr. Glover moved that a hearty vote of thanks be conveyed to Mr. Davidson for his action in connection with the recent increased water supply to the Show grounds. Seconded by Mr. Brunton and carried.

#### CORRESPONDENCE.

From John Blyth, apologising for non-attendance. Received.

From George Ramsden, accepting a seat on the Council. Received.

From Hon. Matthew Holmes, New Zealand, stating that Colonel Sargood had intimated to him the Society had determined to hold a show of stock in connection with the Centennial International Exhibition, and that some of the best breeders of that colony had resolved to send stock to it. He would like to be informed of the date, in order that they might arrange their shearing. He believed that if the Government would supplement the ordinary prizes by special prizes for the best animals in each section there would be keen competition, and that the agricultural sections of the Centennial Exhibition would be as great a success as any portion of it.

The President stated that the letter was addressed specially to him, but he thought it well to bring it before the Council, so that they might deal with it, as the question of the change of date of the Show was involved; and that being at present fixed by resolution for the last week in August in each year, notice of motion would have to be given before it could be rescinded. With regard to the amount of money, £500 had been spoken of, but that sum would be quite inadequate.

The Hon. C. Young thought that £5000 or more would be nearer the mark, and that the Council should ask the Commission the amount they proposed to give the Society, as if a change of date of the Show were to be made it should be done at once, and publicity

should be given to it. He moved that a deputation from the Council, consisting of the President, the Hon. J. Buchanan, Messrs. M'Gregor, Munro, Brunton, Blyth, and the mover, be appointed to wait on the Commissioners at an early date, to show the necessity for a large sum of money being granted and to ask what amount the Commission would give; and that Sir W. J. Clarke and Colonel Sargood, M.S.L.C., and Mr. Staughton, M.L.A., be asked to accompany the deputation. Seconded by Mr. Clarke and carried.

From Mr. D. M. Cameron, Secretary Adelaide Jubilee Exhibition, stating that the Society had gained a second-class award for exhibit of photographs of prize stock, which had before been exhibited at the London Exhibition. Received.

The Secretary stated that Mr. Kendall, V.S., had informed him that he had prepared a paper on the treatment of diseases of stock, which he would read before the Council if afforded an opportunity.

Mr. Peek moved that Mr. Kendall be asked to read his paper before the next Council meeting in December. Seconded by Mr. Hearn and carried.

#### DRAUGHT-HORSE SOCIETY.

The Secretary submitted a circular containing recommendations and rules for the establishment of a draught-horse society, and asking the Council's assistance in securing subscribers, as well as entries, for the stud-book.

Mr. Walter Clark stated that a society had been formed, and that a considerable number of subscribers had already been secured, while the matter was being very favourably received throughout the country. The promoters, however, were waiting the receipt of replies to this circular, a copy of which had been sent to each Agricultural Society in the colony. He had ascertained that the replies already to hand were most encouraging. He moved that the circular be referred to the Special Committee appointed by the Society to deal with this subject, with power to act.

Seconded by Mr. White and carried.

#### NOTICE OF MOTION.

Mr. Brunton gave notice of motion to the effect that the resolution fixing the last week in August as the date of the Show be rescinded, with the object, if necessary, of changing the date.

The meeting then closed.

## Dottings in Scotland.

By J. D. PATTERSON.

I was at the Highland and Agricultural Society's Show yesterday, held this year at Perth, which is about 100 miles or so north of Edinburgh, in a beautiful part of the country. The show was only a half one, "No' a fair specimen, ra-ather like a Sabbath day," as I heard one old fellow say, for there were no cattle exhibited on account of the pleuro in the district. Things must have been very slow to any one accustomed to the place; there was not much go in it, and it was a little like "a Sabbath day," but everything was fresh to me, and the grand display of Clydesdales was well worth going to see.

There were seven or eight aged stallions paraded. The first prize one, though a beautifully turned, stylish, upstanding horse, was a trifle long in the legs, and decidedly narrow looking. Some judges would have preferred the second horse, which was very thick and powerful, with grand legs, though not so stylish as the first prize one.

There were eight 3-year old colts, seven of which either got a prize or were commended, so buyers out there need not attach an awful lot of importance to recognition at one of these shows, though in this case they were a very even lot, not much between them. There were fifteen 2-year olds and eleven yearlings, ten mares with foals, nine dry ones, ten 3-year old fillies, fifteen 2-year olds, and seven yearlings. It may be said of all the classes that they were very even and good, nothing objectionable amongst them, though a lot of them were rather clem in the legs for my fancy. Even the first prize ones had that bareness about the fetlock which we do not like to see or reckon as characteristic of "a good yin." It may be said that the Clydesdales are that way, but I notice the ones they think the very most of—past or present—such as "The Prince of Wales," "Darnley," Sir Walter Scott, &c., have all well feathered legs. I saw paintings of all these three at Mr. Riddle's place at Paisley the other day, where I called to see his stud of Clydesdales, and "The Prince of Wales" in particular. Unfortunately I was a week too soon to see him. He was expected home from his travelling season in about that time. His fee this year is 10 guineas, and I think they said he was 19 years old. I saw a half sister of his (from the same mare) at the show, which got first prize in her class, 15 years old. As to the lack of hair on the draught horses' legs at the show, the season of year may have something to do with it, as it is just past midsummer here, the time that they have least; but from what I have seen of the stallions in different parts of the country, it is my opinion that they are inclined to run light and need the introduction of the English blood to give them the wished-for heavy look about the legs. They have the heads perfection. I did not see an ugly headed horse in the yard yesterday. Besides a few good hunters and harness horses, one good hack, and some nice ponies, there was little else to interest me. The sheep were reckoned exceptionally good, but they were not our sorts, and amongst the machinery I did not find much new.

I should have seen this show before going to the Royal in England, as that quite puts in the shade the other two I have been at. Of course the cattle not being forward was a great want at the show yesterday—the second day (there are four days of it)—as they reckon that an all-important feature of the shows here. But I had my loss of that made up to a considerable extent beforehand by a visit to the farm of Mr. Mathew Mitchell, of "Milton," Kilmarnock, and his father's farm close by. As it may be of interest, I shall try to give you an account of it from the notes I took. Milton Farm, one of the largest in that part of Ayrshire, contains a little over 300 acres, the average size of a dairy farm about here being not much above 100 acres. Milton is part of the Grougar Estate, which consists of about 3000 acres in the Kilmarnock parish. In letting farms, the system usual all over Scotland is a 19 years' lease, with a fixed amount in money paid as rent, but the old system, which seems to be the fairer, has been kept up on the estate of Grougar, that is, the rent is regulated partly by the value of produce as well as by a fixed amount; for instance, £1 and the average value of a stone of cheese per annum may be paid per acre, which is about what is paid as a year's rent on this farm. The rents are much lower now than formerly. To give you an idea how they have come down, a farm near Forfar has been let for £65; the last rent

produces coarse meat, but there can surely be no connection between fineness of skin and hair as indicative of fineness of meat and the heaviness of the front of the pig. The same argument might apply to the Tamworth as against the small or the middle white. The Tamworth has a long face and snout and fine chops. The whites, on the contrary, are short in the snout and face, and have very heavy chops. To obtain meat with less fat and with a larger proportion of lean, I believe it will be necessary to breed from longer pigs, which have longer necks, heads, and snouts, as well as longer ears. This is found in the Tamworth, and used to be found to a greater degree than it is at this moment in the Berkshire, which has been for some time approximating to the white pigs in its capacity to fatten and to decline in its productiveness of lean. Sir John Lawes says that in his experiments years ago he found that nitrogenous foods produced pigs which grew faster, and in which the lean was more in proportion to the fat than was the case where pigs were fed much less liberally upon nitrogenous foods. He points out that for laying on fat alone there is no food better than maize; but that for producing more lean probably skim milk, with pea meal, rice, or barley, would furnish the necessary sustenance. It would appear that the object of the pig-breeder—indeed, of the stock-feeder in general—is never attained. Having arrived at one point of perfection, he is compelled to commence *de novo* on account of the change in the public taste, and perhaps it is as well that it should be so, or stock-breeding would rapidly decline. The Tamworth have now a chance if they avail themselves of it, for it is quite certain that to meet the public requirements we have no strain of the old races which are suitable, all being much too great in their capacity to produce fat in opposition to lean.—*The Planter and Farmer.*

## The Veterinarian.

### Impaction of the Large Intestines in the Horse.

This condition usually results from over-feeding, especially when the animals lack exercise. Grain fed in excessively large quantities to make up for the lack of quality, or any substances containing an excess of wood fibre, are a very common cause. Insufficiency of water may produce the same results. The impaction of the gut may have lasted several days before the animal gives any signs of distress; it is therefore all the more necessary to recognise the condition as early as possible. The onset of the complete obstruction of the gut may be marked by a severe colic (more often by the occurrence of slighter colic attacks) just after the meals, taking place for one or two days. The position of the horse is in itself characteristic; the animal will stand with fore-legs stretched forward and hind-legs backward; from the pressure of the mass on the bladder, there will be frequent attempts to void its contents. The horse will paw the ground or kick at his belly, be very uneasy, lying down and rising again frequently. Wind and small masses of dung are passed from the bowels at short intervals. The condition is easily made out by the physical signs, which are always present. These are marked fullness and tension on the right side of the belly; if the hand, which must be thoroughly oiled, be inserted gradually into the last gut, the hard impacted mass can be generally felt; when this is done there can be no error as to the cause of the trouble. The treatment depends entirely on the severity of the impaction, and the length of time it has lasted. In mild cases, at the onset, a laxative diet of soft bran mashes and two ounces of Glauber's salts given daily will usually suffice. In the more obstinate cases and those which have lasted some days, laxatives must be given cautiously for fear of rupturing the gut above the seat of obstruction. Give frequent injections of soap and warm water, and administer aloes by the mouth in doses of one-half ounce, not to be repeated under twenty-four hours, and then in half doses. To relieve the flatulence give peppermint; for the pain, extract of Hyoscyamus in one drachm doses, rub, and make hot applications to the abdomen. There is nothing lost by taking two or three days in which to move the bowels, but much harm may be done by injudicious haste. After the bowels have been cleared, soft feed should be given for some time, with such tonics as

quinine (20 grains), and nux vomica (10 grains). These must not be kept up for more than a week or ten days.

### Indigestion in Calves.

This is often brought on by too much and too rich milk, irregular feeding, long fasting, and where the mother is getting poor food and water. It is common where the calves are fed from the pail and are given pure milk. The most prominent symptoms are colicky pains, diarrhoea, constipation, vomiting, staring coat, and emaciation. The best remedy in this, as in many other disorders, is to remove the cause. Feed at regular intervals three or four times a day, give alkalies and acids—alkalies after feeding, and acids before. Limewater may also be given with good effect; if tympanites should set in give charcoal or ammonia.

### Wind-Galls.

SMALL round swellings, appearing on the sides of the tendons of the foot, are familiarly known as wind-galls or puffs. Their origin is sometimes obscure, though generally they can be traced to some sprain or severe over exertion. The affection is merely local, and consists in an inflammation of the small sac or bursa, interposed at all points where tendons play over prominent bony points. The sac becomes distended by fluid poured out during the acute inflammation. This may become hard or gradually re-absorbed again; usually, however, it remains in a fluid state, varying in its density in different cases. Simple wind-galls may often be made to disappear by continuous pressure made upon them. This is readily effected by placing a small pad over the swelling, and bandaging it in position. The pressure should be exerted for one or two hours twice a day the first day, and increased the same length of time each succeeding day, until the dressing can be left in place all the time. Should any signs of inflammation occur, the bandage must at once be removed. This method is tedious and may require a month or two to effect a cure. Another method recommended by some veterinarians is to draw off the fluid by means of a hypodermic syringe, and then inject into the sac a weak solution of iodine or carbolic acid, in the proportion of one part acid to five parts of water. Where the puffs are of recent origin, counter-irritation by means of iodine, or astringents, as a saturated solution of alum, applied externally, has frequently succeeded in causing them to disappear.

### The A.B.C. of Agriculture.

#### I.

NEARLY every man, whatever the career into which circumstances may have led him, entertains the hope that, at some future time, he may leave his present occupation and return to the country to enjoy a well-earned leisure and rest in a rural life of some kind, whether it be as farmer, gardener, fruit grower, or some other agricultural pursuit. This desire is very general, and quite as general is the notion that such a life is one of leisure and rest, and that whatever has been one's previous career and training, farming, or other rural pursuit, is one that he may take up without previous preparation and prosecute it with success.

There is no greater popular error than the very general belief that any one can carry on a farm. One who has been a merchant all his life brings a few qualifications that will be of use in farm life, viz., system in doing business, taking everything in its regular order, and an accuracy in keeping a strict account of every outlay as well as of every income, matters in which the majority of farmers are strangely lacking, and while these are of great importance, they will not of themselves, make a farmer. It is safe to say that, of those who take up any agricultural pursuit late in life, the majority, if they do not make an absolute failure, find it a life of annoyances and disappointments, and that, instead of rest and leisure, they have found countless cares, for which their previous career has given no preparation. Would we discourage those who, in mature years, would adopt some form of agriculture for the remainder of their lives? Assuredly not, for it is to aid such that this "A B C of Agriculture" is proposed, not more

to point out what should be done, than to allow what should be avoided.

"With what did you manure that field?" was asked of a young farmer by one who noticed a most promising crop. "With brains, sir" was the reply, meaning that he had given thought to the crop, and treated it accordingly. Nowhere are "brains" more needed than on the farm. By this we mean the practice of devoting careful thought to every operation before it is undertaken.

We are very frequently asked by letter, the writer having decided to adopt a rural life, where he had better locate, the probable price of lands, &c. Such a letter shows that the writer had not given proper thought to his project. Agriculture is subdivided into many different divisions, and before the questions of locality and land, he should first decide what branch of agriculture he will follow. Does he intend to carry on mixed husbandry, or will he direct his energies to the dairy and sell his products as butter and cheese? Will he sell beef, mutton, or wool, or shall his finished crops be hay, wheat or barley, potatoes or cabbage, or the products of his orchards? These points must be thought over and decided before any question of location need be considered. When one has decided what he will sell, then the question of markets and means of reaching them will influence the choice of location. These preliminaries all require careful thought, and it is only after these are decided need such questions as character of soil, &c., be taken up, as well as the climatic features of the different localities. It will be seen that careful thought—the proper use of brains—is demanded at the very outset of those who contemplate a rural life, and will be required in all subsequent details. Aside from the important practical matters here hinted at, agriculture, in all its forms, suggests thoughts of a higher order. What is agriculture, and what is it trying to accomplish?

Rightly considered, agriculture is something more than the mere raising of crops. It lies at the very foundation of civilization. In the natural condition of things, the savage finds, in the Northern climates at least, very little vegetable food. He lives almost exclusively upon the flesh of animals. These animals collect the sparse vegetable food, and concentrate it for the use of the savages who live by the chase, and it is estimated that a single savage requires several square miles for his subsistence. Civilization is not possible without a denser population than this state of things allows; there must be an increased food supply, and agriculture comes in to provide it. Plants in their wild or natural conditions, grow much crowded together; upon a given area, the seeds of many different kinds are sown by natural means, and plants are more numerous, and more occupy the area than that can support. There comes, in consequence of this crowded state, a conflict; the stronger crowd the weaker and strangle them. There results what has been termed "the struggle for existence," in which the stronger stifle and kill the weaker. This conflict occurs not only with plants of different kinds, but with plants of the same kind, and those which survive do not reach a proper development. In this state of affairs, the first step with agriculture is to give a desired plant undisputed possession of the soil, by clearing off all the natural vegetation, and sowing the seeds of the plant desired. But if the seeds of this plant are sowed too abundantly, the case is as bad as before, for the plant must struggle with its own kind instead of other kinds, and thus fail of proper development. Hence, agriculture must give the plants not only freedom from being crowded by other plants, but from crowding by those of its own kind. Much is accomplished by sowing the seeds thinly, and more by removing the young plants soon after they appear, so that each individual may have sufficient room in which develop. Why some plants are preferred to others, and how they are made so, may be considered in a future article.

#### II.

Soil is the basis of all agricultural operations. It is largely mineral in its character, although all good natural soils contain a considerable, but very varying, proportion of vegetable matter, which is chiefly partially decomposed and in the condition called mould or humus. The constituents of soil may be regarded either as to their relative size or with reference to their chemical characters. The bare fact that the article we are considering is called a soil indicates that its particles have that degree of fineness that they will retain some moisture, and that some portions of them are so fine as to yield up some of their soluble constituents to water which may stand in contact with them. Most soils will, if carefully examined, be found

## Keeping Apples.

to consist of stones and gravel of various sizes, coarse sand, fine sand, very fine sand, powder, very fine powder, impalpable powder, and material so fine that if a spoonful of the soil be put into a goblet of water it will render the water turbid, so that it may not settle and become clear for several days. Now, the coarser particles of the soil, it will be apparent, are not of much use to the plant. It is the finer portions which are most readily acted upon by the influences of the air and water, heat and cold, to produce plant food, while, at the same time, they afford to the seed a soft bed, and to the roots mellow and favorable ground through which to spread and in which to hold.

The mechanical analysis of a soil may be effected in this way: Procure a glass tube or foot-glass about two inches and a half in diameter and sixteen to twenty inches high; set it upright, the bottom, of course, being closed water-tight. Insert in this a glass tube of half an inch in diameter and a little longer. To this a rubber tube should be attached, connected with a faucet in a pail of water set several feet higher, to give a head to the water when it flows through the small tube. Now throw into the glass about a pint of soil previously wetted and stirred, so that every particle is moist. If any sticks to the sides, wash it down with very little water, and then by turning the faucet let in the strongest possible flow of water until the tube is half full, letting an assistant stir the soil with the end of the tube, so that all shall feel the influence of the water. When the tube is half full, which it will be in a very short time, reduce the flow of water, and make it flow slower and slower until the tube is full. Then disengage the rubber and leave the small tube in place. The materials will be found to have settled in layers very much according to size, the finer particles requiring hours, and perhaps days, to subside. Treated in this way, soils will be found to show great differences, and, what is still more important, it is found that the fineness of the soil has an almost direct relation to its fertility, the finer soils being, as a rule, the most fertile.

Coarse soils are easily permeated by rains, which wash the finest particles out or into the subsoil. Coarse soils are easily permeated by the air, and dry off quickly after rains. Fine soils retain the water for a long time, the flow of water through the soil being very slow, and its removal by the air and sunshine also being gradual. Fine soils, therefore, if kept loosened up and in a proper mechanical condition, contain more plant food, give plants a better hold on their roots, do not easily lose valuable constituents by their being washed out by rains, and withstand droughts better than coarse ones.

If, now, we examine the soil in other ways, we will find other curious and interesting characters. If some of it be heated gradually upon a shovel or plate of sheet-iron it will first blacken and then burn off, sometimes with a red coal; at others the black color will gradually give place to red or grey. The portion which burns away is called organic matter, and is chiefly of vegetable origin. That which remains is inorganic or mineral matter. Soils vary greatly in the amount of organic matter which they contain. In some good soils but very little exists; in others equally fertile it exceeds the mineral matter in quantity.

If we take a portion of soil and boil it in water for some time, and then examine the water, we will find that it has dissolved a portion of the soil. In this particular soils also vary exceedingly, and generally the most fertile soils contain the most soluble matter.

The very finest portion of most soils is clay. In the soil this is generally mixed with gravel, sand, and with vegetable mould or humus. According to the obvious proportions in which these materials exist, soils are called by different names. What is meant by a gravelly soil or a sandy soil is easily understood. A loam or lumpy soil is one which contains clay as a notable constituent. Thus we have gravelly and sandy loams—soils in which gravel or sand preponderate over the clay—clay loams, stiff loams and clay soils, so named with reference to the amount of clay which they contain. The names, as well as the characters of soils, are also modified by the amount of vegetable mould, and they are called poor or rich in humus, as the case may be.

In studying soils the foregoing mechanical characteristics are to be borne in mind, as they may determine, to a great extent, the kind of farming best to follow, the crops that will succeed best, and the kind of tillage necessary.—*American Agriculturist.*

(To be Continued).

AFTER late apples, and late pears as well, are gathered and stored away, important changes take place in them. When first gathered they are hard, astringent and inedible, but all, sooner or later, become mellow, juicy, and edible. This change takes place slowly or rapidly, according to the temperature of the place where the fruit is kept; it may be hastened by keeping it in a warm place, but it is found that the fruit is better if the process of ripening goes on slowly, and and if at only a few degrees above freezing point. Among the changes which take place during the ripening of fruit is the important one of the absorption of oxygen from the air and the giving out of carbonic acid gas, and this fact should be kept in mind by those who store fruit. In a perfectly closed building in which apples are stored, so much carbonic acid is given out that a lamp taken into the room will be at once extinguished, and a person cannot remain long in such an atmosphere without danger, and possible death. This gas, if not present in quantities large enough to be fatal, will produce headaches and other unpleasant effects. The storing of large quantities of fruit in the cellar of the dwelling house is often the cause of much discomfort, the source of which is not suspected. It will, of course, be better to store fruit in a detached cellar, or one under some out-building, but often the cellar of the dwelling is the only available place, and it is that or nothing. Fruit ripens more rapidly this month than earlier, and the danger is correspondingly increased. Ripening fruit gives off carbonic acid, a poisonous gas. This gas must not be allowed to permeate the dwelling. If much fruit is stored in the cellar, means must be provided for ventilation, to carry off the poisonous exhalation. If this has not been provided, see if there is not a chance to communicate with the chimney and open a flue. If this can be done, safe ventilation may be readily provided. In the absence of this, opening the door and windows on every mild day must be resorted to. Keep a thermometer in the cellar, and when the mercury is four or five degrees above the freezing point, ventilate freely, taking care to shut up before the temperature falls. An abundant store of winter fruit is an excellent thing to have but the health of the family is too high a price to pay for it. Avoid this penalty by giving proper ventilation. This will require attention and work, but these will be well expended if they compel, another year, the storing of fruit in some place other than the cellar of the dwelling. The changes that take place in the ripening of fruit are wonderful and beautiful, but they may be, at the same time, productive of sickness and death.

The following is worth quoting for the benefit of those who have to deal with aphides or plant lice. A gentleman said that having a field of turnips much infested with "fly," he tried the experiment of dusting a few of the plants with superphosphate of lime, and he found that it completely destroyed the insect pest. He then had the whole field dusted, and the result was the entire annihilation of the "fly." The experiment was carried a step farther in a horticultural direction. Some fine pansies in his garden were much infested with slugs. They got notice to quit by the application of the phosphate dust, and were all ejected accordingly.

FRUIT OR VEGETABLE.—A New York correspondent says:—"Will you kindly inform me whether a tomato is classed as a fruit or vegetable?" The horticultural answer is, that it is a vegetable. If the question were put to a botanist he would answer that it was a fruit. He would say the same of a pine cone with its seeds, or of a spike with its hay seed. On the other hand, he would say that a pear was a vegetable, if the question was one that bore on the distinction between plants and animals. We see that the answer depends on the view of the questioner. In the household, a fruit which is generally eaten cooked would be a vegetable; that which is generally eaten uncooked would be fruit. We use the word "generally," because the lines sometimes overlay. A squash and a

water-melon are both fruits botanically, but the squash is classed conventionally as a vegetable, and the water melon as a fruit! the cooking idea evidently deciding the case. Much depends on the class in which the subject under discussion was originally introduced under. The tomato was first introduced to gastronomy by the cook; in subsequent years it has been found good to eat raw. But the law of priority gives the class to the cook; it is a vegetable. It is the general or original uses of the article that decide its class when we come to arbitrary classification, outside of science.—*Planter and Farmer.*

Farmers' wives in the olden time appear to have done almost everything, as Sir Anthony Fitzherbert, Chancellor to Henry VIII., thus describes a model farmer's wife:—"It is wyves' occupation to winnowe all manner of cornes, to make malte, to wash and ironing, to make hay, shere corn, and in tyme of neede to help her husband, drive the plough, load hay, corne, and such other. And to go or ride to the market to sell butter, cheese, eggs, chekyus, capons, hens, pigs, geese, and all manner of cornes."

The mistake is often committed of breeding turkeys from immature birds, which only results in delicate and dwarfed chicks. Young turkey hens lay more frequently than their seniors, but the eggs of the older hens are more valuable. The gobbler, before he is fit for breeding purposes, should at least have completed his second year, and if four summers have passed over his head so much the better, as, if of a good breed, he will be well grown, and so will his progeny.

It is interesting to notice the aversion the lads of to-day have for farming as an occupation, and it is a pity indeed that in many cases parents are foolish enough to support them in that view. To our mind, there can be no occupation more ennobling, and, especially in the colonies, there certainly is not one that gives a better scope for enterprise and more hope of success, than the tilling of the soil. How many of our wealthiest colonists are among those who arrived in this colony almost penniless, but who in a few years amassed sufficient wealth to enable them to lead a comfortable life; while at the same time their constitutions have been strengthened, and the many aches that a city man is prone to are to them almost unknown. The idea seems prevalent amongst farmers that when their lads have been successful at school they are too good for the farm; but to this we reply that the more a lad is mentally as well as physically developed, the better his prospects on the farm. The day is not far distant when the farmer's sons will look down upon the position of a city clerk.

Here is the way large strawberries are produced:—Apply a heavy dressing of a mixture of two parts each of muriate of potash and superphosphate, with one part of nitrate of soda. Keep the young plants clean, water when necessary, and do not allow a single runner to start, as they should be pinched back. Mulch the young plants in the autumn, and remove the mulch early in the spring. Then apply another dressing of fertiliser, and clean the soil by stirring it about an inch. When the young berries are set, pinch off all but the largest. It requires work, but it will pay.

The value of potash as a manure is likely to become extensively recognised, as the following report shows:—In connection with the experiments with artificial manures which are being conducted by the Norfolk, Essex, Royal Manchester and Yorkshire Agricultural Society, those relating to the application of salts of potash on barley crops are of particular interest. In trial plots on Mr. Garrett Taylor's farm at Whittingham, near Norwich, where the soil is stated to be very deficient in potash, it was found that the application of 2 cwt. of muriate of potash per acre—supposed to have been more than sufficient for the purpose—caused an increase of 45 bushels of barley per acre. Dr. Voelcker is of opinion that "these experiments in chalky soil, and the influence of potash on such soils, open up a new and most interesting and valuable field of inquiry."

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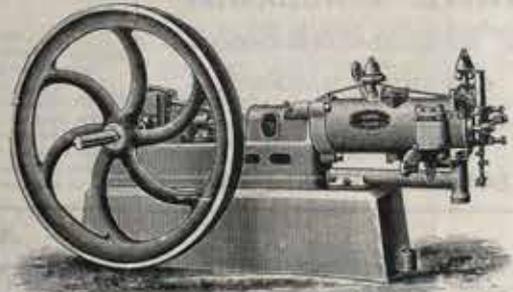
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Professor G. H. Whitchee, superintendent of the New Hampshire State Agricultural College of Hanover, gives the following account of an experiment in rapid butter making by the centrifugal process at the college creamery:— "Since the establishment of the creamery at Hanover, it had frequently occurred to me that the morning's milk might be transformed into butter for the breakfast table the same morning, and on Saturday, 7th August, it was decided to try the experiment. At half-past 4 a.m. the helps at the college farm were in readiness to commence milking, and at 5 o'clock 60lb. of warm, new milk was on the scales of the creamery, which is located some 60 rods away. At a quarter-past 5 steam was turned on, and the engine set in motion, the machinery of which was to do in ten minutes what nature demanded five hours to complete. Five minutes later the De Laval separator was at its full speed of 8000 revolutions per minute, and the milk was turned on; ten minutes later 45lb. of perfectly sweet skim milk and 15lb. of equally sweet cream were the existing representatives of the original 60lb. of milk. At 5.45 the cream cooled to 56°, was in the small test churn, and at 6.20 the butter had parted company with the buttermilk, and was ready for the salt, and at 6.50 it had assumed the shape of quarter-pound prints, and in ten more minutes was on the breakfast-table at the college farmhouse, thus completing the journey from milk to butter in just two hours, and only two and a half hours from the time that milking was commenced." — *Planter and Farmer.*

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Three Gold Medals for best Carriages at Melbourne Shows of 1883, 1884, and 1887, and Forty-four First Prizes at Exhibitions and Shows of 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, and 1887. Also Three First Awards of Merit (First Prizes) at International Exhibition of 1880 and 1881.

NOTICE.—Referring to above, D. WHITE desires to inform his numerous Customers and the Public generally that he has secured and completed EXTENSIVE ADDITIONS TO HIS COACH FACTORY, and with the increased accommodation and Steam Plant, and the Largest Stock of Seasoned Timber in Melbourne, is now prepared to meet the increasing demand for his well-known Carriages and Vehicles.  
The new premises are in Stewart Street, immediately opposite the present Factory.  
Patentee of the Improved Carriage and Buggy Hood Apparatus, for raising or lowering the Hood from the inside, to which I have added a most useful invention in the shape of a powerful spiral spring, whereby a lady can raise a hood, with the greatest ease.  
N. B.—D. W. was awarded, by the judges of the late National Agricultural Society, 14 First Prizes (including only Gold Medal and Challenge Shield given) for 18 vehicles exhibited, a feat hitherto unknown.

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Prices less than single leather. All sizes from 1 1/2 to 16 inch in stock.  
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HARPER & HAMMILL.

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The trade supplied with first-class and seasoned materials.

**THE USE OF**  
**SULPHATE OF AMMONIA IN AGRICULTURE.**

*For Grass Land.*—1 1/2 cwt. per acre; to be put on the land from August to October, before or after a shower of rain.  
*For Wheat, Oats and Barley.*—1 cwt. per acre for wheat, in April; 1 cwt. per acre, for oats, in April; 1 1/2 cwt. per acre, for barley, in August.  
*For Vines.*—1 bushel on the vine border, and lightly fork it in, in the months of July to September. This quantity (1 bushel) to be for the nourishment of four vines.  
*For Onion Beds.*—Give a good sprinkling over the beds two or three times during the growth of the onions.  
*For Potatoes.*—1 1/2 cwt. per acre as a top dressing, before the haulms appear above ground.  
*For Greenhouse Plants.*—A large teacupful in a bucket of water, to water the greenhouse plants with twice a week. Not to be used, however, for heaths, rhododendrons, or orchids.  
*For Peach, Apricot, Plum, Currant, and Gooseberry Trees.*—A similar solution to that given for greenhouse plants in the months of July and September. Rose trees and garden plants are benefited by the use of the solution. Celery, mallards and cauliflowers also grow well when watered with the solution.  
*For Raising of Healthy Plants from Seeds.*—Sprinkle a good quantity of the sulphate on the seed beds, and then water them a week before sowing the seeds. Melons and cucumber plants also are much benefited by the sulphate of ammonia.

*Note.*—All vegetation, excepting heaths, rhododendrons, and orchids are rendered more luxuriant, healthier, and consequently free from the destructive attacks of the scavengers of Nature by the use of sulphate of ammonia, especially in the spring of the year, when vegetation requires a condensed antiseptic food and nourisher, to enable it to withstand the blighting effects of the north-easterly winds, which, being the least electrical of all the winds, lower its vitality, and thus conduce to disease in the animal and vegetable kingdom.

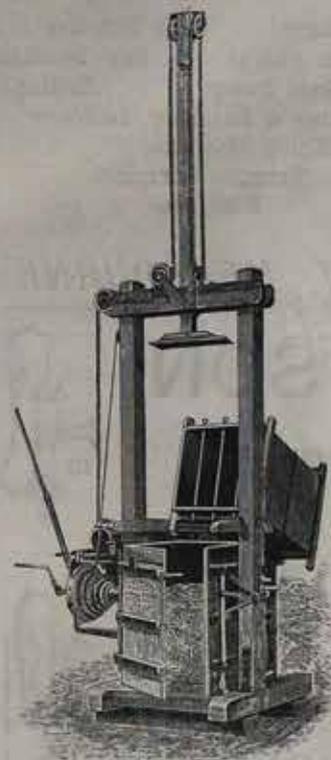
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The usual screw is dispensed with, and the pressure brought to bear by means of a strong rope or chain, working in sheave pulleys overhead, attached to a Ram, and winding on a fusee, which is made in the shape of a suddenly tapered screw.

The rope works on the large part of the Fusee, when the pressure is light, and passes down to the taper end as the pressure increases, being worked by a lever fixed on the centre spindle.

The top Box is hinged to side Brackets, and turns down to the floor, which greatly facilitates the putting in of the wool, and renders any second floor unnecessary, and when filled is easily placed back in position.

When the bale is pressed and the sides sewn, the Ram is lifted by a small rope from the Fusee, turned by a handle.

It will be understood how very much quicker the power is brought into application by this means than by the ordinary screw press, and double the work is got through by the same number of men.

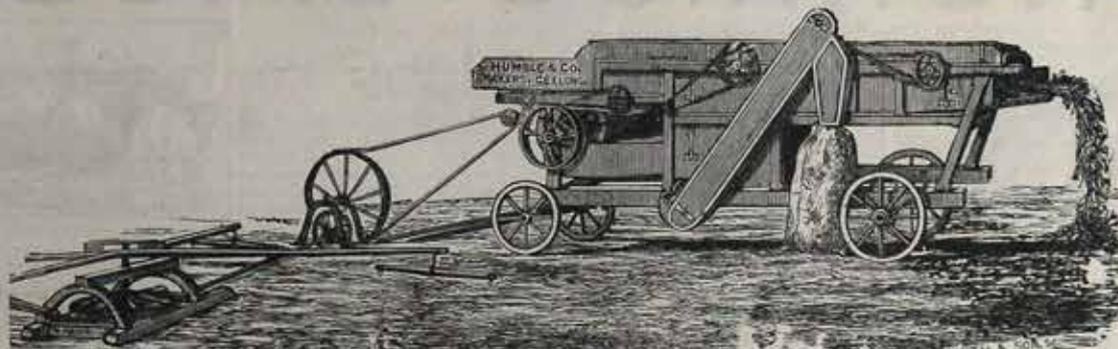
Special attention is directed to the fastening of the Packs before the Wool is put in, which is done in an exceedingly quick and simple manner: four pieces of wood are fitted into the recesses of doors, which hold the Pack securely in position and to the side catches for fastening the doors, which are held in position by a vertical bar, and relieves them simultaneously.

The side door is also held in its place by a catch, which at any time can be relieved instantly, the door falling back and allowing the bale to be removed.

At the Melbourne Exhibition competition this Press turned out 3 Bales of Scoured Wool in 28½ minutes, being considerably less than any other Press, although one had the advantage of being driven by steam.

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FOUR-HORSE POWER THRESHING MACHINES.—These Machines are found to be very convenient to farmers who wish to thrash their own grain; or in some cases where three or four neighbours combine. They will thrash from three to four hundred bushels per day with horse power; or if worked with steam power, about six hundred bushels daily.

We have been making these Machines for the last seventeen years, and have been awarded a large number of prizes at the different Shows, including the National Show at Melbourne and other places. The above is strongly made with Wrought Iron Drum, Steel Spindle; all bearings of the best material, no time or expense being spared to turn them out in a substantial manner.

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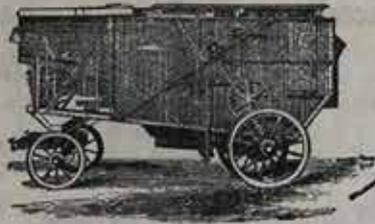
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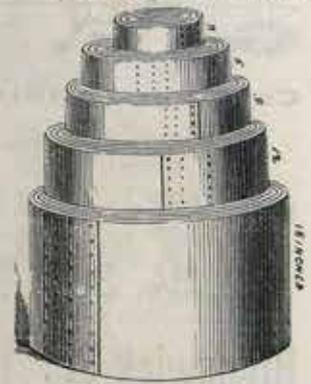
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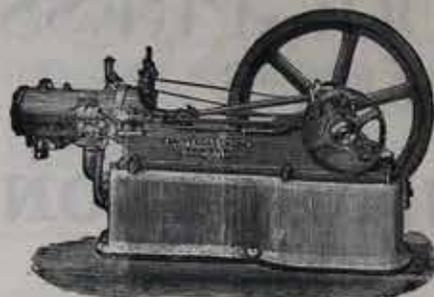
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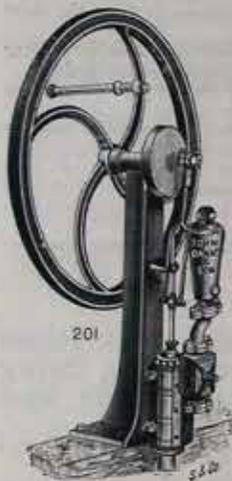
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# NATIONAL AGRICULTURAL SOCIETY.



## VICTORIA.

Vol. III.—No. 29. [Read as a Newspaper.]

MELBOURNE, DECEMBER 16TH 1887.

GRATIS.

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That 'twere still it were done quickly."

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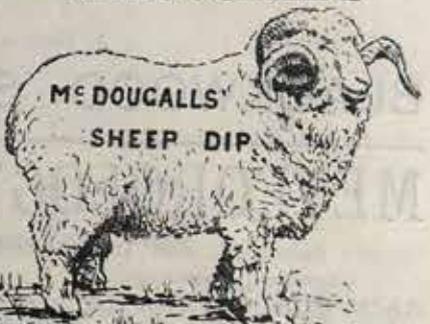
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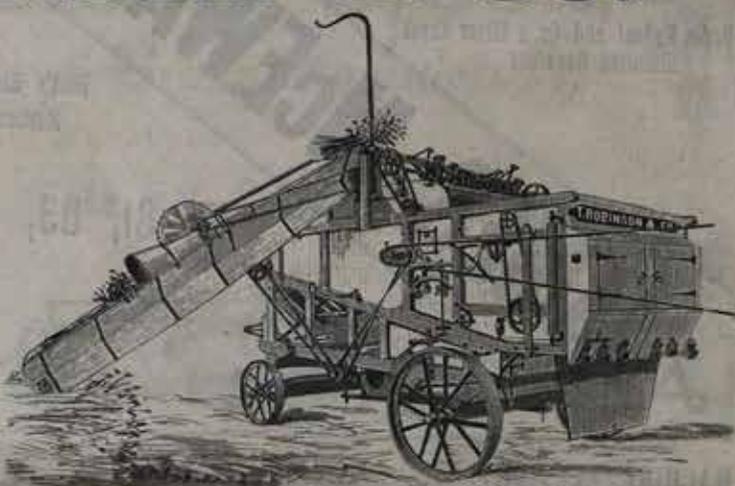
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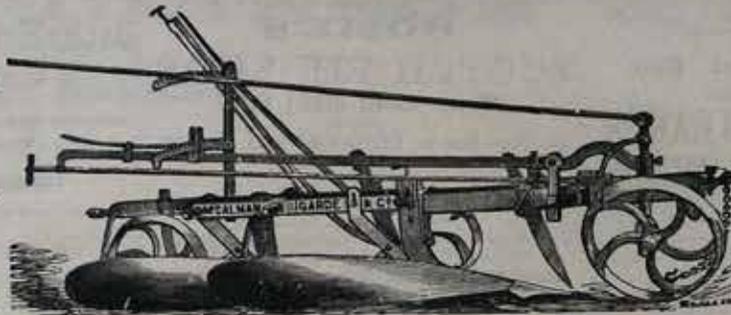
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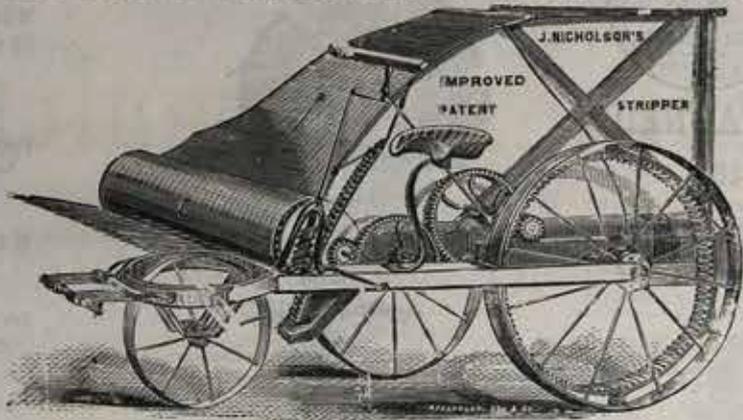
Rack and Gear Steel Press for the use of large stations.  
Lever & Chain Press, with Folding Top Box, for the use of smaller stations.  
Lever and Chain Farmer's & Selector's Press. Price, £22 10s.

As the season for this latter kind is now approaching, those requiring them should lose no time in sending their orders. Owing to the general satisfaction given by those supplied for last season, orders are now freely coming in, and a large demand is looked for. The following is a fair sample of a large number of Testimonials to hand for those supplied last season:—

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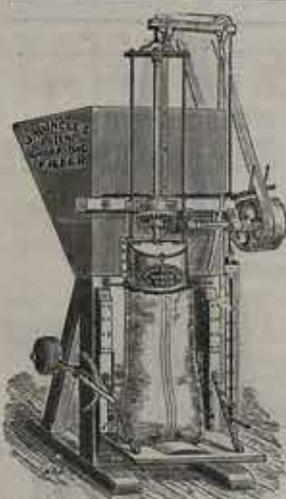
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**JOHN BUNCLE**, in stating what is well known, viz., the great competition in the Hay, Corn, and Chaff Trade, begs at the same time to call attention to his endeavour to lighten the toil and increase the profits from such a business, by designing and manufacturing a machine for the above purpose, and one which cannot be approached by any other maker at present, or recommended to equal in **Simplicity, Durability, and thorough Adaptability and Cheapness** combined as in the above Machine. The **BAG FILLERS** are manufactured complete, ready to be sent to wherever ordered or in any of the colonies, either to fix in stores in connection with the fixed Chaffcutters, or to be attached to his well-known Travelling Chaffcutters previously supplied, and now supplied either with

or without Baggers. A few attempts have been made by some to supply such a want, but probably not having a theoretical as well as a practical knowledge of machines, have not been able to reduce the complicated movements in their machines, and which are perfectly unnecessary—as witness the Unique Simplicity and correctness in design, and the admirable working of **BUNCLE'S PATENT BAG FILLER** compared with the few others tried at work.

For the information and convenience of customers, a machine is kept constantly set up ready to show at work in **BUNCLE'S PARKSIDE IRONWORKS**, and many customers have witnessed 80 to 90 lbs. of Chaff put in a bag in 15 seconds!!! which, after making allowances for time removing the full bag and replacing an empty one, would easily on an average keep **Four** of **Buncle's No. 1 Chaffcutters**—well, if there is any doubt, say **Three** Machines clear of all the Chaff they cut (medium length). Of course the Machines are arranged to put in as light weight as you like, or you can fill up and burst all your Bags—to pieces. As a trade requirement (in addition to filling bags) the necessity for a **Mixing Machine** is a long felt want, the laborious and unsatisfactory way at present adopted cannot much longer be endured, and there is no necessity for it!! as **J. Buncle** can arrange to "Blend" the worst and the best samples "To a Hair" at the least possible expense with the best results.

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Hereford	do	do	1890.
Ayrshire	do	do	1890.
Jersey (late Alderney)	do	do	1890.

A Sweepstakes of £1 each (10s. at time of nomination, and 10s. at date of general entry for Show), with £5 added in each case for Heifers calved between 1st July, 1887, and 1st July, 1888, to be divided and awarded as 1st, 2nd, and 3rd Prizes, for three-year olds, at the Society's Show, 1890.

Nomination of Calves of each breed respectively will be received on payment of a nomination fee of 10s. each. Calves to be nominated within one month of date of birth. Nominators to fully describe the color of each calf entered, and to state the name of the sire, dam, and sire of dam, together with the date of calving. Entry forms on application.

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**Notices.**

All communications for the Editor to be addressed to the Society's Office, Kirk's Bazaar, Bourke Street West, Melbourne.

Business communications to the Publishers, Melbourne Place, off Russell Street, Melbourne.

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**Dates of Forthcoming Shows.**

SECRETARIES of agricultural societies are requested to forward to the editor the dates on which their respective exhibitions will be held, also copies of their prize schedules as soon as they are published.

**JANUARY, 1890.**

Last Week—Intercolonial Show, Agricultural Society of New South Wales, Sydney.

**FEBRUARY.**

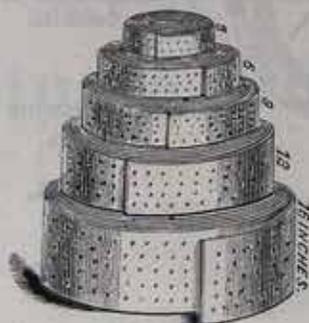
23.—Morrington, Berwick. | 23.—Tatura.

**MARCH.**

1.—Ballan Shire. | 15.—Morwell.  
14.—Baringhup. | 21.—Daylesford.



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TESTIMONIAL.—(copy.)

UNION FLOUR MILLS,  
Brunswick-street, Fitzroy,  
March 17th, 1886.

Messrs. Frank Vial & Co.,  
Macauley Road, Hotham.

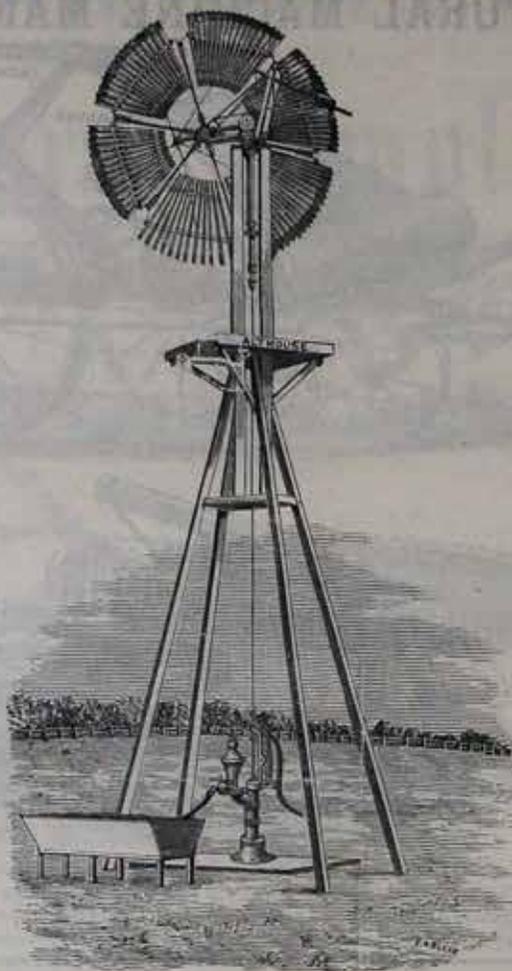
Gentlemen,—In reply to your enquiry respecting the (23") twenty-three inch double belt supplied by you to ourselves, we beg to state we have been working it for a period of seven months, and we find it to be all we could desire, as also is the other belting which we had from you.

We therefore feel great pleasure in recommending your belting to anyone requiring the same.

We are, Gentlemen, yours truly,  
(Signed) W. S. KIMPTON & SONS.

Other Testimonials received too numerous to print, which with Price Lists, can be had on application.

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The **STRONGEST, SIMPLEST MOST DURABLE, and BEST SELF-REGULATING WIND-MILL** in the Market.

Proved by Actual Experience to be Unequalled for Water Supply Purposes.

Is Absolutely the Strongest Mill in the Market.

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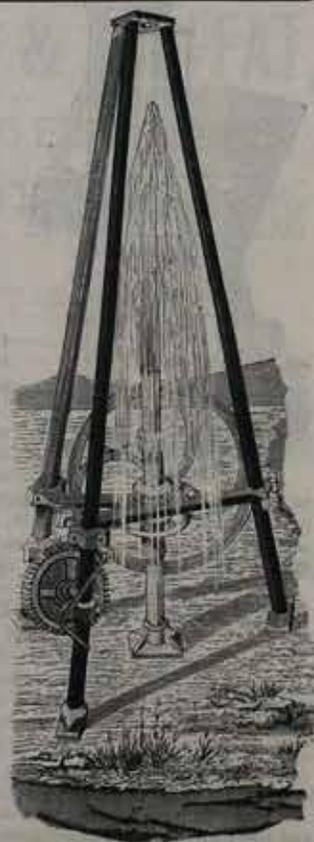
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Which has attained the greatest depth bored by any machine yet introduced to the public, the Diamond Drill excepted.



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The Latest brought before the public.

This machine will take out 200 cubic yards of earth in  $\frac{1}{2}$  cubic yard loads in a day of eight hours: is simple, strong, yet light of draught, easily kept in repair, and has been pronounced by experienced judges to be the best Earth Scoop yet invented.

N.B.—This Scoop can be seen at Messrs. WRIGHT & EDWARDS' Stand.

# The Journal

OF THE

## National Agricultural Society

OF VICTORIA.

MELBOURNE, DECEMBER 16th, 1887.

### Stringhalt.

AUTHORITIES still differ as to the cause of this disease in horses, which appears up to the present to be hopelessly involved in mystery. It will be remembered that Mr. Stanley, the Government Veterinarian of New South Wales, last year published an elaborate report, in which he said that "after deliberate inquiry and a close investigation of many cases, *post mortem* and microscopic examinations with a very careful examination of facts, I have formed the opinion that the origin of this disease is internal parasites; in other words, it is caused by worms attacking the mucous membrane of the horse's digestive organs." In our last December number we ventured the opinion that the writer had failed to find out the cause of the disease, and that his conclusions would never be authoritative. We learn now, that Mr. Stanley has completely abandoned his idea—has entirely given up his "worm theory" as it was called. Mr. Allen, M.R.C.V.S., in a paper read before the West Bourke Agricultural Society in June last, also attributed the disease to parasites, and claimed to have arrived at his conclusion quite independently of Mr. Stanley. However, he, too, now gives up the "worm theory." The West Bourke Agricultural Society, in continuance of its investigations into the cause of the disease, procured a stringhalted horse on which a *post mortem* was held by Mr. Allen last month, in the presence of office-bearers of the Society and a number of interested persons, but during the *post mortem* no further light was thrown on the cause of the disease. However, portions of the muscles, spinal cord, and marrow of the animal were taken by Dr. Jamieson (who assisted in the *post mortem*) to be submitted to microscopical examination by Professor Allen, in the hope that something might be learned. The result of this examination has not yet been made public.

### Agricultural Shows.

SINCE an article, under the above heading, appeared in our last number, we have come across the following on the same subject in the *Adelaide Observer*:—"Now there are very many serious objections that can be urged against holding such a number of Shows upon the one day. Perhaps the most important of these is the impossibility of securing the exhibit of the best stud stock

and of the most improved forms of farm implements and machinery. In regard to stud stock, no one can tell where the evil effects will end. There are many farmers and others who cannot distinguish a first-class bull or entire from a very inferior animal. The judges may or may not be able to do so, but when they have but one or two entries in each class they almost invariably award the prizes—perhaps at the same time evidencing their inward sense of the want of merit—by "regretting the absence of competition." By this means a "miserable scrub" of a horse or bull may secure a score of first prizes—or even "champion" prizes—in time, and yet so inferior in merit that he would not be placed in a fifth class at a good competitive exhibition. The owners, however, make the most of their opportunities, and publish the fact that their animals have taken so many honours at the various Shows in the most unblushing manner, but omit to state that they were secured at petty Shows where there was no competition. Thus they secure an extensive patronage for their "runts" and "scrubs," and the live stock of the whole country side is deteriorated. In addition, there is a minor evil in the fact that the visitors to the Shows have no opportunity to see a better class of stock, and therefore the educational effect sought by the holding of the exhibition is defeated. In regard to the entries of agricultural implements and machinery, it is a simple impossibility that the makers and importers can visit even a tithe of the numerous country Shows that are held—certainly they could not keep five or six complete sets of machinery, &c., upon the roads, with teams, men, and agents, for the purpose of being adequately represented, and, as a consequence, at nine-tenths of the country Shows the only agricultural implements entered are those by the local makers, which can be seen at any time by those interested. So intolerable a tax upon the resources of manufacturers and makers of agricultural implements have these numerous Shows become, that a considerable number of them have arrived at a mutual agreement to exhibit at only a selected number." The *Sydney Mail* commenting on our article states that "ideas similar to these have been seriously entertained for many years regarding the Agricultural Shows of this colony, which has now about a hundred meetings of the kind every year." It would, therefore, appear that in New South Wales and South Australia, as well as Victoria, there is a consensus of opinion that in the interest of all concerned it would be well if in very many cases the small Shows were amalgamated, with the object of forming strong representative exhibitions in the districts to which they pertain.

### Dairying.

RECENT correspondence in the *Argus* has drawn attention to the necessity for improved methods in the production of butter, with a view to obtaining an article of a uniform and superior quality, which would be available for export to England with a prospect of a paying price. If at this season

of the year when cows are in the flush of milk our farmers could only produce an article of the desired quality, it could be put on the markets of England by means of the fast P. and O. and Orient vessels at the very time when butter is scarce, and prices are high, in the Old World. But in order that this source of wealth may be availed of our farmers require educating in all that pertains thereto, and as showing what has been done in England in dairy education, and what should also be done here, the following from the *Agricultural Gazette* is instructive:—

The British Dairy Farmers' Association has become one of the great agricultural forces of the year; and its annual meeting, assisted as it is by many related interests which do not specially or necessarily belong to the dairy, is one of our most interesting yearly agricultural displays. It is growing in importance, too, from year to year. We are told that the entrance receipts from exhibitors are £300 better this year than ever they have been. And certainly the various classes in which the whole display is arranged, have never been better worth inspection—Shorthorns, Jerseys, Guernseys, Korries, and other classes, including Ayrshires, Welsh, cross-bred, and Dutch, have been seen with the characteristic merits of each in extraordinary force. A finer herd of true dairy Shorthorns, large-framed cattle, great meat producers, as well as great milk producers, was never seen—slender Jerseys also, picturesque as well as useful—Guernseys less a fancy breed, with larger frames, and of altogether more business-like character—Kerries, the pets of some, the only profitable milk cows for others—the useful Ayrshires, and the coarser, but not less useful, Welsh and Dutch and cross-bred cows. All are here seen in their perfection. Each class has been admired both by specialists and by the general public; and the contrasts, extraordinary to be co-existent in one little island, have interested everybody. Where will you see such a marvel of difference between things, each admirable of its kind, as between the massive red Shorthorn cow, already laden with beef, due to calve this month—Charity, owned by Mr. J. F. Spencer—and Barbara, a dark fawn Jersey, fourteen years old, just calved, owned by Miss E. Moore; each of them first in her class—the latter, indeed, champion of her breed. The former useful for the butcher as well as for the dairyman, the latter—little more than a skeleton hung around as with a wet garment which clings to the ribs—"the best quality ever seen in the breed," we heard one spectator say. A lovelier head at one end and odder below the other, with hardly more than a skeleton midway, were never seen. As a merely milk-producing machine we have no doubt she is as good as she is beautiful.

These, then, are the contrasts and the variety exhibited in the cattle classes; and there are goats also, and pigs hardly ever better exhibited. The dairy produce, too, is remarkably fine; and here, too, we have both variety and even contrast almost as marked. Here are great cylinders of cheese, representing each, perhaps, the produce of 100 perches or more of land—Cheddars and Cheshires from 50 to 80lb. apiece—for a pound of cheese from a perch of land is a large return. And here, too, are the double and single Gloucesters, six and eleven respectively to the hundredweight—Derbysires hardly distinguishable outwardly from the double Gloucesters—Stiltons, small cylindrical masses of perfect quality shown in lots of 100—truckle, loaf, and fancy cheeses—and cream and Bath and other soft cheeses, in handfuls, on platters, or in saucers. The butters, too, are an immense display—and the Irish contingent here is

enormous, thanks to the suggestion of Mr. Robertson, and the energy and organising power of Canon Bagot. Here are specimens—3lb. each, 240 of them altogether—from every county in Ireland; and vying with these not in the same class, but alongside, and capable of comparison by the spectator, are butters from many English dairies. Firm, dry, yellow, admirable in texture as well as agreeable to the taste—specimens from all the home and many distant counties—with samples intermingled less deserving of praise—various enough, indeed, in quality, to make the work of judging possible, notwithstanding the number of competitors.

In addition to all these, here are samples of dairy foods, field roots, and herbage of all kinds, hay, ensilage, and garden produce; and the competition in these is as interesting and as sharp as anywhere.

Lastly, the implements of the dairy—instruments of precision we may call them now—by which you can test quality to a decimal—by which you can extract cream and butter and skim-milk, each absolutely pure. Coolers, separators, churns, butter workers, dairy appliances of all kinds. Prime movers also—for steam power is required—and feeding home machinery, cake and corn crushers, and chaff cutters; for the animals which produce the butter and the cheese, must, in the first place, receive their food.

The whole series, in fact, is here. Here are the tools which made ready the fodder, which fed the cow, which gave the milk, which yielded the cream, which produced the butter, which paid the rent. Here is the cooler, preceding Laval, which separated the cream, which was worked in the churn, which turned out the butter to be dried in the worker, and pay the rent. Every item in all these separate steps is represented here.

But we will not let "rent" be the only goal of success. Upon these cattle, this machinery, these processes, these results, depend the living of an immense body of agriculturists, the wages of an immense body of farm labourers, and the prosperity of an agricultural interest, which has grown and will grow, thanks, among other things, to the energy of the British Dairy Farmers' Association, and to the great annual displays which it provides for our guidance and instruction.

## Notes.

The imports into Britain of butterine, or margarine as it is now to be called, have been largely on the increase. The Board of Trade returns show that during the seven months of 1885 they amounted to less than half the quantity of butter; whereas in 1887 the proportion is between two-thirds and three-fourths. During July the amount imported was 91,951 cwt., or nearly double the quantity received in July, 1886.

We understand that "Gun, Bough and Wattle Bloom," a work dealing with life in the bush and Australian scenery, will be issued in January. The book, which should have a special interest for all who delight in the charms of country life, is by Mr. McDonald—"Gnuvany"—whose rhythmic writings in the *Australasian* are so well-known and justly appreciated.

California is the greatest fruit growing country in the world, there being literally miles of orchards. One man has 2000 acres of vines, and is planting at the rate of 500 acres every year.

The clearing sale of the late Mr. Robert M'Donnall's Arundel head of pure Booth Shorthorns, was held on the estate on the

1st inst. The cattle were in splendid condition—an English visitor remarking that he could scarcely credit that animals would put on so much flesh running out on the pastures. There was a ready sale for the whole of the 158 lots submitted, but the prices were low compared with those ruling a few years ago. The highest priced bull was Agabus, by Lord Chesterfield, bought by Mr. A. Cameron, Cranbourne, at 110 guineas, and the highest priced heifer was Abbess, by Agabus, secured by Mr. A. Campbell, of Queensland, at 100 guineas.

The *Herald* thus describes a lively scene with a bullock which escaped from a truck at Spencer-street one morning last week:—"The real fun commenced about 7 o'clock when a fine, powerful, and meaty bullock was descried sauntering up Flinders-street with a decidedly "Monarch of all I survey" air. He was without attendant, and there was in very look of his eye, and in the artistic flourish of his tail an unmistakable promise of a good time coming. Sighting some fifty or sixty men and youths outside the Fish Market intently watching his movements, he promptly reciprocated their attentions. He made a charge, there was an immediate stampede. The bullock rushed first after one of the runaways and then after another, but they were too speedy for him. A score or so took refuge near the Prince's Bridge railway gates, and crossing Swanston-street the infuriated beast made a rush at them. The majority darted inside the gates, and—in the spirit of the old saying "devil take the hindmost"—smartly closed the gates in the face of their more tardy companions, for whom nothing remained but the dubious shelter of telegraph posts. For a short time they gave the highly interested onlookers a capital idea of their expertness in dodging a wild bullock round a post. Fortunately for them, he tired of the frolic first, and went off up the street, but soon turned back. An innocent-looking workman walked serenely along with his back to the beast, carrying his lunch, done up in a red handkerchief. There was a lowering of a bullocky head, a rush, and a collision. The man with the red handkerchief received the shock in a place where it could inflict no mortal injury: turned head over heels in the gutter, picked himself up in a hurry, and scampered off for his life. The bullock turned from red to black—a "coloured gentleman" seated in a cart outside the market. Another rush—a shout of horror from the occupant of the vehicle—but again the bullock bungled. He didn't even upset the cart. A fish barrow was less lucky, and was sent flying and was broken, the owner, however, escaping with a whole skin. The bullock now retraced his steps along Flinders-street to Elizabeth-street, making spasmodic rushes at several persons it met, but they managed to get out of the way. Mr. George Denton and others followed it from the Fish Market with the object of slaughter as soon as opportunity offered. Turning into Flinders-lane, the bullock encountered a man with an umbrella, who thought to subdue him after the romantic manner employed with the pictorial Bengal tiger. The plan did not work, and in his haste to avoid the onrush the umbrella man slipped and fell. Fortunately the beast failed either to strike him or trample on him, and after one or two rushes at other people it made its way to the block of open ground at the rear of the Federal Coffee Palace. Here there was a dray up-ended, on which Mr. Denton mounted, rope in hand, in order to lasso the beast. Immediately he did so it charged at the dray, and managed to get its head right round the axle. The shafts were at once put down, and the runaway having been first secured with ropes, was promptly killed, an employe at the New Zealand wool stores making the happy despatch with a knife. And so endeth this eventful history."

## The Kyneton Show.

THE Kyneton Show, which took place on the 16th and 17th of last month, was held on the site of the racecourse in which the Society has secured a vested interest. The old yards having been found too small for the purposes of the Society, an arrangement was made through the Government whereby the Society obtained a joint control of the racecourse. Some of the old buildings have been transferred, and new ones have been erected, so that there is ample accommodation for exhibits, while the grounds, which are most picturesquely situated on the banks of the Campaspe, are perhaps the most extensive in Victoria. The show of draught horses, as is always the case at Kyneton, was a good one, as this is the district which can lay claim to having produced some of our most renowned prize-takers in this class of stock. Some good thoroughbred stallions and roadsters were exhibited, and there was a good turn out of hacks, hunters, and ponies. In cattle, a few superior Shorthorns, Ayrshires and Jerseys were exhibited, and a number of good dairy cows, which last, were, however, in very backward condition. The sheep pens contained a number of good exhibits; but the show of swine was not what might have been expected in a dairying district. There was a fine show of dairy produce and miscellaneous exhibits. The exhibition of machinery was a very small one as compared with previous years. The weather on the second day was all that could be desired for an out-door gathering, and there was a large attendance of visitors.

## The Kilmore Show.

THE Annual Show of the Kilmore Society was held on the 24th ult., on the nicely situated grounds, from which a fine view of the surrounding country is obtained. Amongst the draught horses were one or two good stallions—the balance being principally of the useful description. A few blood horses were shown, and a number of hackney's, ladies' hackneys, and hunters. There was a large exhibit of cattle, particularly of dairy cows, many of which, although of no distinct breed, were evidently splendid milkers—real good old sorts. Some fine long-wooled sheep were penned, as well as a few good pigs. The butter and cheese were first-class. His Excellency the Governor, the Earl and Countess of Carnarvon, the Marquis and Marchioness of Drogheda, and a large number of Members of Parliament visited the Show, and all expressed themselves delighted with their visit, and the opportunity it afforded of seeing the very interesting district.

## The Ballarat Show.

THE Ballarat Society's Show was held on the 24th and 25th of last month, on the grounds beside Lake Wendouree. Of late years the exhibits at this Society's Shows have been so numerous that the yards have been inconveniently crowded, so that a change of site has been mooted; but on account of the expensive nature of some of the buildings, there has been a hesitancy in taking action. However, as it is now apparent that a larger area is required, the Society should follow the example of Kyneton and procure it at once, so that they may be able to do justice to their extensive annual displays. The show of draught horses was an excellent one, comprising a number of high-class animals. There were a few good thoroughbreds and roadsters, and a large number of splendid pony pairs. There was a fine show of hacks

and a large entry of hunters, including some really grand jumpers. During the exhibitions of the hunters the fine grand stand was filled with spectators. The Shorthorn cattle were not numerous, but there were some high-class exhibits—Ayrshire, Jerseys, and dairy cows were shown, and there were two or three pens of prime fat cattle. No sheep are exhibited at this Show, owing to the Sheep Show being held earlier in the season. The pig pens contained some fine animals, comprising, in addition to the Berkshires, an Essex boar and some small breeds. There was a good show of dogs. Cats and ferrets also were exhibited. The poultry made an extensive, superior, and attractive class. A large number of pigeons and some native birds were shown. In the splendidly lighted sheep shed, there was a fine show of dairy produce and a large and interesting collection of miscellaneous exhibits, comprising chiefly articles of local manufacture, and some fine flowers and pot plants. There was a good show of buggies, and a considerable collection of machinery and implements. Although the weather was very disagreeable on Friday, the principal day of the Show, the people flocked in to the yards during the afternoon, so that there was a large attendance of visitors.

## Meeting.

### Council.

THE ordinary monthly meeting of the Council of the National Agricultural Society of Victoria was held on the 13th inst.

Present—Dr. Plummer, President, in the chair, with the Hon. J. Buchanan, M.L.C., and Messrs. F. Peppin, J. Gibb, W. Thomson, John Bond, D. Munro, D. R. McGregor, F. Henty, Robert Clarke, George Young, W. J. Lobb, S. G. Staughton, James Hearn, George Ramsden, John Blyth, W. Wragge, J. M. Peck, J. Currie, Walter J. Clark, J. Bunce, T. Harmer, C. Lynott, W. Glover, J. Garton, T. Learmonth, and J. C. Cochrane.

The minutes of the previous meeting were read and confirmed.

#### FINANCE.

The Finance Committee's report, submitting the monthly statement of accounts, and recommending payments amounting to £135 13s. 6d., was read.

Mr. McGregor moved the adoption of the reports, seconded by Mr. Brunton and carried.

#### WINE EXHIBITS.

The Secretary reported that the judging of wine exhibits, to which the exhibitors had consented, had been carried out at the Society's offices, on the 9th inst., by the judges who acted at the Show, viz.:—Messrs. E. Marks, T. Cooper, and H. M. Gooch. He requested that the Council would order on the two protests which had been received against the previous judgment, on account of three samples having been overlooked. Mr. Peck moved that the protests be allowed, and that the deposits in each case be returned. Seconded by Mr. Peppin, and carried.

#### CORRESPONDENCE.

From J. Hurst, apologising for non-attendance. Received.

From G. T. A. Lavater, Secretary Centennial International Exhibition, in

reply, stating that the matter of dealing with prizes for live stock was entirely without the jurisdiction of the Exhibition, but the attention of the Government had been called to it.

Mr. Thomson moved that the letter be considered with Mr. Brunton's motion. Seconded by Mr. Gibb, and carried.

From W. M'Nab Bros., stating that as they had noticed in a report of a Council meeting that there was some likelihood of the date of the Show being changed, they wished, as breeders and exhibitors of stock, to say that they would consider it a great injustice to have any alteration made, as they had been timing their cattle to calve for the usual August Show.

To be considered with Mr. Brunton's motion.

From Secretary Glenlyon, Franklin, and Daylesford Society, asking the co-operation of the Society to induce the Government to set aside a sum of money for eradicating the Californian thistle, a weed which was causing considerable alarm by its spreading, and depreciating the value of land in several districts of the colony.

Mr. Peck moved that the Council give every assistance in its power. Seconded by Mr. Thomson. Mr. Gibb suggested that something more definite was required. He thought that as the Glenlyon Society had moved in the matter, they should be asked to formulate some practical scheme whereby this weed, which threatened to become a serious nuisance to the colony, might be coped with. If the Society would do this, and submit their scheme, then the Council would give them their hearty assistance and co-operation. Mr. Peck agreed to this being embodied in his resolution, which was carried.

From Secretary Centennial Horticultural Exhibitions Commission, stating that it was their intention to hold during the Centennial Exhibition period, horticultural shows on a scale of such magnitude as had never before been attempted in the Australian colonies—one a spring show at Brighton in November, 1888, and another an autumn one at the gardens of the Royal Horticultural Society at Richmond in March, 1889. Received.

From C. H. Meaden, Acting Secretary Chamber of Commerce, enclosing copy of letter from tobacco trade section of the London Chamber of Commerce, with reference to the two prizes of £50 each for the best samples of home and colonial grown tobacco, which conveyed the further particulars in addition to those already published, "That the tobacco grown in the United Kingdom shall be sent for inspection on or before 1st March, 1888, and that of other places on or before 1st of December of the same year; and that the office of the Chamber had been moved to Botolph House, Eastcheap, London, E.C.," and requesting that publicity be given to same. Received and complied with.

From Secretary Agricultural Society of N.S.W., inviting assistance and co-operation in their efforts to give *velut* to the great Centennial Intercolonial Exhibition, to be held in Sydney in the last week of January next, when between £4000 and £5000 would be offered in prizes. Received.

From J. L. Thompson suggesting that separate prizes be given for sour and

sweet ensilage at next Show, as there was as much difference between the two, as between green stuff as brought into market and good hay.

Mr. Lobb moved that the letter be received, and referred to the Show Committee. Seconded by Mr. Gibb, and carried.

From J. Seymour Fort, private secretary to His Excellency the Governor, in reference to the Society's address of congratulation, which was presented to His Excellency for transmission to Her Majesty on the occasion of the fiftieth anniversary of the Queen's accession to the throne, transmitting a copy of a despatch which His Excellency had received from the Right Honorable the Secretary of State for the Colonies, containing Her Majesty's commands in regard to the addresses presented on that occasion. Received.

#### MOTION.

Mr. Brunton, in accordance with notice, moved—"That the resolution fixing the last week in August as the date of the Show be rescinded, with the object, if necessary, of changing the date." He explained that his only object in giving this notice was to expediate matters in the event of such arrangements being made with the Commissioners of the Centennial International Exhibition, as would necessitate an alteration of the date of the Show which was at present, as the notice explained, fixed for the last week in August. In view of the letter received from the secretary which was now to be considered, he left the matter entirely in the hands of the Council. The minutes and correspondence leading up to the present position of the subject were then read, when by general consent Mr. Brunton's motion was postponed till next meeting, and it was arranged that, in the meantime, the committee previously appointed should take action to ascertain the views of the Government in relation to holding a live stock show on the lines previously spoken of in connection with the Centennial Exhibition.

#### NOTICE OF MOTION.

Mr. Staughton gave notice of motion for next meeting as follows:—"That in consideration of the neighbouring colonies having passed a resolution to open their ports for the introduction of stock from Europe, we Victorians, are standing in our own light if we persist in keeping our ports closed, and thus give the other colonies an advantage."

#### PAPER.

Mr. Kendall then read his paper on "The Prevention and Suppression of Animal Diseases." (The paper is published in another column.)

Mr. Lobb proposed a vote of thanks to Mr. Kendall. Seconded by Mr. R. Clarke and carried.

Mr. Walter J. Clark moved that the paper be discussed at the next meeting of Council. Seconded by Mr. R. Clarke and carried.

After the business of the meeting the Council proceeded to "discuss" the first-prize wines, which had been judged on Friday, and which exhibitors had left in the office in order that the Council and the press might have an opportunity of seeing, or rather tasting, what the colony could produce. The general verdict was that a very high standard had been reached, and that the wines were highly creditable to the exhibitors.

# Correspondence.

## The Price of Food in Various Parts of the World.

To the Editor of the Journal of the National Agricultural Society of Victoria.

SIR,—Some little time back you kindly invited Society members to avail themselves of your columns in the matter of correspondence, and it is in response to your request that I now trouble you with a scrawl from my homely pen. I do not flatter myself that I can enlighten your readers on any subject, but your journal is so excellently printed on beautiful paper that I have often felt a desire to see how a letter of mine would look in it. One of my hobbies—a natural one—is to pick up scraps of information, and store them away in an old book for future reference, and although my leisure hours are few, I manage now and then, after daily toil is over, to enjoy myself in my own way by conning over what I have been for years collecting.

If you, Sir, have no objection I purpose in my first communication to your journal giving your readers a comprehensive glance at the price of food in various parts of the world.

Bread is sold in Belgium at 2d to 2½d per lb.; France, 1½d; Germany, 1½d to 3½d; Italy, 3d; Spain, 3½d to 3¾d; Switzerland, 2d; England, 1½d to 2½d; Ireland and Scotland, 2d; America, 2d to 2½d; Australia, 1½d. (Note.—All through this paper the prices quoted for America are those ruling at New York, and the Australian prices those of Melbourne.)

Flour realises per lb. in Belgium and France, 2d; Germany, 2d to 2½d; Italy, 3d; Switzerland, 3½d; England, 1½d to 2½d; Ireland and Scotland, 2d; America, 1½d to 2d; Australia, 1½d.

Beef (roast) is sold in Belgium per lb. at 10d; France, 11d; Germany, 10½d; Italy and Switzerland, 15d; Spain, 9d; England and Scotland, 11d; America, 6d to 8d; Australia, 4d to 6d.

Beef (for soup) per lb. in Belgium, 8d; France, 8d; Germany, 7d; Italy, 6d; Spain and Switzerland, 9d; England, 7½d; Scotland, 8d; America, 3d to 4d; Australia, 3d to 5d.

Beef (corned) per lb. in Belgium, 8d; France, 7½d; Germany, 6½d; Italy, 6d; Spain, 9d; Switzerland, 8½d; England, 9d; Scotland, 10d; America, 4d to 6d; Australia, 2d to 4d.

Veal per lb. in Belgium, 9d; France, 10d; Germany, 7d; Italy, 10d; Spain, 12½d; Switzerland, 9d; England, 11½d; Scotland, 12½d; America, 5d to 6d; Australia, 4d to 6d.

Pork (fresh) per lb. in Belgium, 8d; France, 7d; Germany, 8½d; Italy, 6½d; Switzerland, 9d; England, 8d; Ireland, 6d to 6½d; Scotland, 6½d to 8d; America, 4d to 5d; Australia, 5d to 8d.

Bacon per lb. in Belgium, 9d; France and Germany, 10d; Italy, 11d; England, 6d to 8d; America, 4d to 5d; Australia, 10d to 12d.

Butter per lb. in Belgium, 10d to 25d; France, 12½d; Germany, 11d; Italy, 14d; Spain, 12½d; Switzerland, 18d; England, 14d to 19d; Ireland, 18½d; Scotland, 16d; America, 12d to 15d; Australia, 11d to 16d.

Cheese per lb. in Belgium, 10d to 12½d; Italy, 13d; Germany, 12d; Spain, 14d; Switzerland, 11½d; England, 7½d to 10½d; Scotland, 10d; America, 7d to 8d; Australia, 6d to 12d.

Milk per quart in Belgium and France, 2½d; Germany, 2d; Italy, 3½d; Switzerland, 2½d; England, 3d to 4½d; Ireland and Scotland, 2½d; America, 4d to 5d; Australia, 5d to 6d.

Eggs per dozen in Belgium, 10d to 12½d; Italy, 9d; Germany, 10d; France, 9d to 10½d; Spain, 14½d; Switzerland, 10d; England, 9½d to 15d; Ireland, 7d; Scotland, 14d; America, 12½d to 15d; Australia, 12d to 18d.

Potatoes per bushel in Belgium, 2s 4d; France and Germany, 2s 1d; Italy, 4s 7d; Spain, 4s 5d; Switzerland, 2s 6d; England, 4s 6d to 8s; Ireland, 2s 10d; Scotland, 3s 10d; America, 5s 8d to 6s 6d; Australia, 2s 6d to 4s per cwt.

Rice per lb. in Germany, 4½d; Italy, 3d; Spain, 3½d; England, 1½d to 4d; Scotland, 2½d; America, 4d to 5d; Australia, 2½d to 3d.

Oatmeal per lb. in Germany, 4d; Ireland, 1½d; England, 1½d to 2½d; Scotland, 2d; America, 2d to 2½d; Australia, 2d.

On perusing the foregoing it will be seen that of all the articles mentioned, milk is the only

one sold in Australia at a higher rate than anywhere else. Why this should be so may be a matter easily explained by your farming readers, but to me it is a puzzler. Without further knowledge on the subject I can only come to the conclusion that the milk of other countries is well watered, and can, therefore, be sold at a cheaper rate than the unadulterated article retailed in our sunny clime. In the hope that I have not wearied you, Sir, or your readers,—I am, yours, &c.

J. ARBUCKLE REID.  
277 King-street, West Melbourne.

## The Prevention and Suppression of Animal Diseases.

(PAPER READ BY MR. W. T. KENDALL, M.R.C.V.S., BEFORE THE COUNCIL OF THE NATIONAL AGRICULTURAL SOCIETY OF VICTORIA, DECEMBER 13TH, 1887.)

MR. PRESIDENT AND GENTLEMEN—

In a former paper read before your society I pointed out the increasing prevalence of animal diseases, and the necessity of something being done in order to prevent or arrest them.

Since then another fatal disease affecting cattle, not included in the list I then mentioned, has made its appearance and carried off hundreds of valuable animals.

I refer to the disease which recently appeared amongst travelling cattle in Gippsland. I may also add in confirmation of what I then stated in regard to pleuropneumonia, that I am prepared to find any day between sunrise and sunset a hundred head of dairy cattle within a few miles of where you now sit affected with pleuropneumonia, besides a fair sprinkling suffering from tuberculosis, the milk of which is being vended daily in the streets of Melbourne and suburbs. Of what use, I would ask, is it to talk about prohibiting the importation of live stock from other countries when most of the dreaded diseases are existing under our very noses, and no attempt whatever is being made to arrest them. The public parks round Melbourne are about the best incubators for contagious diseases that could well be invented. The cattle turned into them belong to a large number of owners, many of whom sell milk. When a cow becomes dry it is sold and replaced by another in full milk. Diseased animals, or those that have been in recent contact with them, are to be met with in the public markets every day when they are held. Owners knowing that the disease perpetually exists in the parks and public grazing grounds rush off a cow to the market if it contracts a cough, or exhibits any other suspicious symptom. The result is that the disease is spread far and wide from these centres of infection.

While this continues it may well be necessary to build fever hospitals, and provide for an increasing number of cases of typhoid fever, diphtheria, and scarlatina, &c.

With these facts before us there can be no doubt about the immediate necessity of establishing a thorough system of veterinary inspection of all dairies, abattoirs, and meat markets, &c.; but it must be remembered that this would only be protecting the consumer, and could have little influence in checking the spread of those diseases from which the stock-owners of this country sustain such heavy losses. It has been urged that a more comprehensive "Diseases in Stock Act" should be obtained, and that a more efficient staff of inspectors, including at least a professional unit, should be appointed; but I am confident from a careful inquiry into the whole subject, that however desirable and useful this might be it would not then prove completely effective.

The diseases affecting live stock in this country exist under special conditions, and

require special treatment. In order to get at the very root and foundation of the matter, it is necessary that stock-owners themselves should be taught how to diagnose the diseases of animals in their earliest stages, to weed out all unhealthy animals from their herds, and to select sound healthy stock to breed from.

No law is enacted until the necessity, or supposed necessity, for such law arises. In like manner the encroachments of animal diseases due to a great extent to the unnatural conditions under which they exist, will, whether we like it or not, compel us to seek every possible means for their eradication and suppression.

The more we persist in interfering with Nature's laws, and blinding ourselves to her dictates, the more will she insist on their due observance. If we overstock a farm or run Nature at once steps in and says this shall not be! Death from starvation, or induced disease, thins down flock and herd to the proper number. If pastures are stocked with animals unsuited to the locality, or seeds are sown in soil unsuitable for their germination and growth, our efforts result in failure.

It is therefore useless to fight against fate, and however unwelcome these lessons may be, the sooner we learn them, the better shall we understand how to act. Every advance in science and art is found to run parallel with Nature. The terrible lightning has been tamed and made subservient to man's will. "Steam," says Emerson, "was until the other day the devil we dreaded, and every pot made with human hands had a hole in its cover to let off the enemy. Small pox and typhoid fever were regarded as evidences of Divine anger, till science proved that they could be prevented by vaccination and drainage.

The diseases which decimate our flocks and herds will likewise prove equally amenable to human control, when the ignorance resulting, to a great extent, from indifference shall have become dispelled, and a clearer insight is gained into the laws which govern their origin and spread. Hitherto no attempt has been made to teach veterinary science in any part of Australia, and those desiring to obtain an insight into its teachings have had to go to Europe or America to acquire it.

Some five or six years ago a deputation from the Veterinary Medical Association waited on the then Minister of Lands (the hon. Walter Madden), and requested that a site should be granted by Government on which to erect a Veterinary School.

A small piece of ground, with about 30 feet frontage in the old police paddock, Richmond, was promised, but soon afterwards a portion of it was given over for a Servants' Training Institute, and there the matter ended.

Although I had then had little experience of colonial institutions, I saw that it was useless to make any further attempt in that direction, and subsequent experience convinces me that had the Government erected and endowed a Veterinary School, it would for some years to come have been a failure.

In the first place any institution of the kind would have been comparatively useless without the means of giving practical instruction in the diagnosis and treatment of animal diseases, the want of which no amount of theory will compensate.

When the site referred to was found to be unavailable, I determined to adopt another course, and resolved to begin at the beginning by establishing a Veterinary Hospital, where patients could be received for treatment, with the object of its ultimately becoming an important adjunct to a Veterinary School.

It may be remembered that about three years ago I made strenuous efforts to induce the City Council to build a hospital near the new sale yards, on the Sydney-road, and although the scheme was well supported by

Another thing I miss in Ireland is the tall smoking chimneys denoting trade and busy manufacture, that are to be seen in most of the towns in England and Scotland. In Belfast and Dublin, of course, there are some, but all the way from Dublin to the west I scarcely saw a sign of a factory. This is partly accounted for by the scarcity of coal convenient.

In every part I have been to in Ireland the farms appear not nearly so well cultivated as in England. Even in the north, where things are not so bad, the farms do not present that tidy and clean appearance, with freedom from weeds, that is so noticeable in England and in parts of Scotland. Old Ireland will have to undergo a good hard shaking up before things are as they ought to be. The boatmen and others at Killarney were lamenting that times were so unsettled, as it prevented many tourists going there. Of the people I came in contact with all over Ireland I can say nothing but well. There is a tender spot in almost every Irishman's heart; there was more demonstration at the wharf when our boat left Dublin than ever I witnessed on a similar occasion. I think they yet might make a prosperous and peaceful nation if only they were rightly guided.

that it dries—that is, that it loses water. If we continue to heat it, and make it very hot, it will blacken, or char and smoke, and this comes from organic matter, which chars and burns away. If we stir and continue the heat, all the dark colour will pass off, the smoking will cease, and what is left will weigh a good deal less than the portion started with, and will be purely inorganic matter, the water and the organic matter having disappeared. We now see that part of the soil is water, part is organic, and part, and by far the larger part, of most soils is inorganic. Besides part is soluble and part is not. We shall find, moreover, that of this soluble matter some will burn away, hence is organic, and some will remain after heating, showing that it is inorganic. We also know that when plants are burned up all does not disappear, but a portion of the plant which we call ashes, is left. No matter what plant we burn we can always collect ashes. Wood and straw, and leaves and seeds, roots also and even blossoms, all leave an ash when burned. This is the inorganic part of plants, and when this is examined by the chemists, they find it consists of a number of substances, and that these are all found in the soluble portion of the soil. Now, these substances which compose the ash of plants are essential to the plants, and they are each and all essential; hence, as the plant grows from the soil, and is only blighted upon by the air, and wet by the rain, it must get them from the soil.

As we have said, they are all—every one—essential; it follows that if one or more do not exist in the soil, there will be no plant, at least no perfect plant. It will not grow. The experiment has been often tried and soils prepared, having all the substances present except one. Seeds planted in such a soil will start to grow and then dwindle and die. It is important, then, for us to know that these substances are in the soils, and whether our soils are likely to have enough of them in a soluble condition to supply the crops we wish to raise. It will be enough for us now to consider those which are most important. The reason why some are more important than others is, that they are likely to give out first in most soils—partly because there is not a large quantity in the soil, and partly because the plants take a good deal. It has been found that potash, lime, and phosphoric acid are more likely to give out than others, for reasons which will hereafter be explained. All soils are composed of materials which once formed parts of the solid rocks. Different kinds of rocks, when broken down as they have been by the action of water, frost, and sunshine, produce different kinds of soils, but all ordinary rocks and soils contain these and other essential constituents. Some rocks are hard, and are acted upon by the weather very slowly, even when broken down into particles fine enough to be called soil. Other rocks are easily acted upon, and yield up their soluble ingredients readily for the plants. Thus, soils differ greatly in their natural capabilities. There are many means by which available and essential constituents of plant-food may be increased and made soluble. One is the action of frost. If we take a handful of pebbles and wash them most thoroughly, and then rinse them in distilled water, which if evaporated will leave no residuum and then place them in a clean saucer or soup-plate, also washed and rinsed in distilled water, and finally place this, half full of the same absolutely pure water and covered by a pane of glass, where it will freeze at night and thaw by day for a week, we shall find, if we take out the stones and evaporate the water, that the water has dissolved a good deal out of the stones, and probably cracked and fissured them somewhat besides. This is what goes on in every soil every winter where freezing weather prevails. Again, when it rains, the pure rain-water dissolves some of the soil. The decay of organic matter produces carbonic acid gas; this is dissolved by the rain water, which is thus made a more efficient solvent. So in many ways the soluble portion of the soil is brought gradually into condition to be used by the plants. One might think, that in all ordinary soils a great waste of valuable plant-food would be going on all the time, unless the plants were very smart to use it up before the rains could wash it away; but here comes in one of those wonderful provisions of nature, the bearing of which upon the world it would be impossible to estimate. It is found in soils which contain even a small proportion of clay or of humus separate from the water, the most important elements of plant-food as it flows through them. Subsequently when the surface of the soil is very dry, the lower portions remaining moist, the water is drawn up by capillary attraction, and brings the dissolved portions again towards the surface, and there deposits them. Thus, the constituents of the

soil which enter into the composition of plants are constantly undergoing changes, which tend to maintain a certain degree of fertility.

The natural ability of soils to bear crops is exceedingly various, as we have indicated. Some will sustain no useful plants that would reward the labour of planting and harvesting; others will bear a paying crop once in a few years; others still may be cropped lightly, as with grass used for pasture, for many years; while some deep, fine soils, such as river bottoms, which means the low lands lying along streams, and some of the prairie land of the West, will bear heavy crops of grain for many years.

How to make weak soils fertile, and to keep up the fertility of the best, all of which in time fail, is a problem which every farmer has to study, and which may well form the topic for another chapter.

## Our Trade and our Food.

THE fact that this country consumes every year a much larger quantity of wheat than it produces is as well known as the steady decline every year of the acreage under wheat in the United Kingdom. What is of more importance—not to agriculturists only, but to everybody in England—is that there is every prospect of a still greater decline in the production of wheat, simply because it must, unless some great change take place in affairs all round, before long be impossible to carry on wheat-growing, except at a ruinous loss. Nobody will persist in carrying on a business which threatens to end in general bankruptcy. If prices continue to fall—and there is no proof that the bottom has been touched, it cannot under any circumstances pay to grow wheat. In fact, if farmers had been prosperous, wheat-growing would, instead of falling off, have steadily increased. But the wheat-grower is falling a victim to that foreign competition which is making all our tradesmen, merchants, and manufacturers, cry out against their diminished profits, scanty orders, and general lack of prosperous business. Our trade suffers really from the same disease which preys upon the vitals of farming and agriculture. And the sooner this truth is manfully faced by both parties the better. At present the plan is to blink at it, to forget it, and hide it out of the way. It is not wise to do so, and a nation which plays the ostrich in this fashion by putting its stupid head in the sand, is apt, Carlyle says, to be ignominiously awakened from its wilful trance by certain rude *a posteriori* shocks.

We need far more food in this country than it raises, but the need is aggravated by our own acts, and it may some fine day end in a frightful national disaster of famine and wars. For the food we depend upon will have to be during a great war run through a blockade of war vessels of perhaps two or three great Powers, who have combined in a gigantic league against our trade. Work and food are of far greater importance to this great people than anything else in the world. Thousands of persons have had to leave the land who ought to be engaged in its profitable cultivation; and daily statistics show that our great cities can neither absorb nor throw off the redundant population which crowds into them from the decaying and deserted agricultural districts. No optimism can overcome these stern facts; no making-very-much-believe, which the *Marchioness*, in the "Old Curiosity Shop," practised so successfully in drinking her decoction of orange peel and water as wine, will make things improve. There was a time when agriculture thrived again, when prices were high, and wages were high, when there was no complaining in our streets or in our fields, and when we swept the seas with our fleets, defying competition either in agriculture, manufactures, or in war. But all that is changed. Instead of growing our own food, we have to buy it abroad from people who, instead of taking our manufactures and other wares in exchange, are cutting us out of many foreign markets, and actually selling, cheaper than we can, their wares in our towns and cities where similar wares are manufactured.

We need every year nearly twenty-six million quarters of wheat. The available yield for home consumption from our own harvest just gathered is, Sir John Lomas calculates, rather under eight million quarters, so that eighteen and a half million will have to be made up by imports from the colonies and foreign countries. Our colonies and India could easily supply the balance, but it will be found that the money chiefly goes to the foreigner for the extra supply of food we require. We have barely commenced

## To tell the Age of a Horse.

To tell the age of any horse.

Inspect the lower jaw of course,  
The six front teeth the tale will tell,  
And every doubt and fear dispel.

Two middle "nippers" you behold  
Before the colt is two <sup>months</sup> years old,  
Before eight weeks two more will come;  
Eight months the "corners" cut the gum.

The outside grooves will disappear  
From middle two in just one year;  
In two years, from the second pair;  
In three the corners, too, are bare.

At two the middle "nippers" drop,  
At three, the second pair can't stop.  
When four years old, the third pair goes,  
At five a full new set he shows.

The deep black spots will pass from view  
At six years, from the middle two;  
The second pair at seven years;  
At eight the spot each "corner" clears.

From middle "nippers," upper jaw,  
At nine, the black spots will withdraw,  
The second pair at ten are white;  
Eleven finds the corners light.

As time goes on, the horsemen know  
The oval teeth three sided grow,  
They longer get, project before;  
Till twenty, when we know no more.  
—Colman's Rural World.

## A.B.C. of Agriculture.

### III.

We have seen that the condition in which the particles of the soil exist, affect its relation to the plants which may grow upon it. If they are fine and contain some clay and some organic matter in the condition of humus, then the relations of the soil to moisture and to the air are likely to be such as will favour the growth of plants. There are other properties of the soil not less important. These may be considered under

#### THE CHEMICAL CHARACTER OF THE SOIL.

If we take a portion of soil and let some pure water (distilled water) stand for a while in contact with it, and then, after carefully filtering the water perfectly free from the smallest material particles of the soil, evaporate it, we shall find a white residuum left after the water is all gone. This has been dissolved out of the soil by the water. If we use boiling water we shall get more, and if we use certain dilute acids, more yet. Moreover, if we take a portion of any good soil and heat it, we shall find, first,

several members of the Council and the public press, it fell through in consequence of the land being held in trust for market purposes only.

I then purchased the site of the present Veterinary Institute in Brunswick-street, and established a hospital, the result of which has been most gratifying. Since its inception a little over eighteen months ago, upwards of 500 patients, chiefly horses and dogs, have been admitted for treatment, whilst double that number of out-patients have been visited.

When the buildings were being erected ample provision was made for the accommodation of classes, including a lecture room, library, museum, and other necessary offices. Since then preparations have been steadily going on for the opening of a Veterinary School, and I have now the pleasure of announcing that a competent staff of teachers has been engaged, including Prof. Rivett, M.R.C.V.S., Dr. Joyce, M.D., the professors at the College of Pharmacy, and myself, and that classes will be opened on the second Friday in January next, as you will see by the prospectus lying on the table.

It may be some satisfaction to know that several intending pupils have already sent in their names, and there is every probability of the institution being self-supporting.

While it is, therefore, unnecessary to ask the National Agricultural Society to give any donation towards the foundation of the establishment, I may remind you of the great service done to foster and encourage the growth of veterinary science in England and Scotland by the Royal and the Highland Agricultural Societies respectively by awarding prizes and scholarships to successful students.

It may be thought that an institution of this kind would have been better under the management of a directorate, and that it ought to be supported by public subscription. The history of Dicks' College, Edinburgh, will be a sufficient reply to this. During the professor's life it was a great success, and turned out some of the best men the profession has known, but since it became vested in the hands of the Municipal Council through quibbling and quarreling this once celebrated institution has fallen into disrepute, and cannot hold a candle to the private one more recently established by Prof. Williams in the same city, whilst to the one established in Glasgow by Prof. McCall is equally successful.

It will be seen by the prospectus that a complete curriculum is offered, and as the Veterinary Surgeons' Act will come into force at the beginning of the New Year, students who desire to qualify themselves to practice as veterinary surgeons, will be able to do so and receive the same protection as that given to members of the profession in all other civilised countries, and persons desiring the aid of a veterinary surgeon will be able to distinguish between qualified and unqualified practitioners.

## Jottings in Ireland.

By J. D. PATTERSON.

As I have had a run through Ireland since writing to you—though only a flying visit—I'll try and give you a little idea of it as it appeared to me. I went across by boat from Glasgow to Belfast, leaving about 9 p.m., and arriving early next morning. The same day I went by rail to Port Rush, a nice little town on the sea coast—about the most northern part—from which electric tram cars run to the Giant's Causeway, a distance from it of about 9 miles. The electric trams, like our Melbourne cable ones, run without an engine with them. The electric current is conveyed by an iron rail about two feet from the ground running

alongside the tramway, and wings, in the shape of cart springs attached to the trams, are made to run along it. By placing the hands on the rail a shock may be had at any part.

The Causeway is of a most-peculiar formation, composed of pillars of dark coloured stone, mostly hexagon and heptagons, cleanly cut, and built into one another with the greatest precision. It is said that the same formation runs right across to Scotland. The Causeway itself, to where the waves dash over it, is about 150 yards long. The tram cars in some places run close along the edge of the cliffs, and past an old castle ruin, which must have been a great stronghold in olden times. The country on the way up from Belfast looks fairly well. Some of the oat crops are very good. Oats, barley, potatoes, and lint appear to be the principal crops grown. The potatoes are mostly on banked-up ridges three or four feet wide, and though thickly planted, the farmers are not satisfied with that, but grow cabbages with them along the sides of the ridges. They seem very eager to make the most of some parts of the land, and yet let other parts go almost to waste through weeds and rubbish. There is one weed they call "Ben," or rank weed which has quite overrun some of the fields. It is something like the large species of camomile, but the flower is yellow instead of white. They have some of our yellow flatweed here as well as in Scotland, but in neither place does it seem to interfere with the other pasture, or spread much.

From Belfast I came by train to Dublin. The country on the way is picturesque and beautiful, though not grand in scenery. It is nicely undulating, and in most parts fitly wooded, much the same as in England. From Dublin I had a run down to Killarney, the garden of Ireland, if not of Eden. The angels in the song had some reason to "doubt if Eden were more fair." After getting a view of the Lakes and their surroundings from Lord Kenmare's residence—which is the best spot to view them from—I give them the palm of anything I have seen yet for perfect beauty. Other places may surpass this in grandeur, but for quiet loveliness—Killarney. Lord Kenmare's is a charming place. We were shown about the Castle house and gardens, &c. Everything is in keeping with the beautiful surroundings. The Princess of Wales, when there a few years ago, was so taken with it that she wished to stay longer than the mapped out programme allowed; and no wonder.

There are three principal lakes—upper, middle and lower. Circular trips are arranged from the hotels to various parts, one of the best being that up through a mountain pass, called the Gap of Dunlow, to the top or the upper lake, where boats are sent by the hotel proprietors to meet excursionists. All are rowing boats. The peace of the Lakes is not allowed to be broken by the shrieking of a steamer's whistle. The first part of the trip is done in a jaunting car, or on it rather, as it has no inside; the middle part on ponies, and the rest by boat. Long before the ponies are needed the cars are besieged by boys wanting to get their steeds engaged for the four or five miles that are done on them. Their owners do the distance on foot, and as the ponies are not over mercurial, touch them up behind when they used it. Of all the places for mendicants Killarney may stand top. As soon as one batch was got rid of another would take up the running, and when we had got rid of all our pence and small change, we used to try to persuade the ponies to run away from them; but it was no use. They were no lame beggars these, and could go as fast as we could induce the ponies to trot—to raise a canter was out of the question. However, we got a lot of fun out of them; and the wild scenery in the Pass and the row down the Lakes were both charming and grand. We had about fifteen miles of a row, two able-bodied boatmen handling the

oars, and skilfully too, or we would have come to grief at the rapids, which are in the narrowest part of what they call the Long Range, a winding waterway about five miles long, leading from the upper to the middle lake. The rapids run under a very ancient bridge, built by the Danes—said to be the oldest in Ireland.

I had a very pleasant two days' stay at Killarney, and good company in an American and his brother-in-law, an Irishman, the latter 62 years of age, but as youthful and jovial as a boy.

A great part of the country from Dublin on the east coast to Killarney on the west—a distance of about 180 miles—is poor looking and miserable; and, as a natural consequence, the houses and inhabitants are poor, too. A large portion is taken up by bogs, or what has been bogs, from which peat is being dug extensively. There are some exceptions to the poorness of the soil, as on the way we passed through what they call the Golden Vale, said to be one of the richest parts in Ireland, though it was not marked by any particularly good yield of crops within sight of the railway at any rate. But this has been a dry season for them here, and some of the fields look more like the plains up north of Melbourne than one would expect to see in the Emerald Isle. It has been so dry that many cattle have died for want of water. I hear of cattle being driven a distance of eight or nine miles to water; a dry season is so unusual here that they are not prepared for it. It is only in places that it is so dry. About Killarney the grass is as fresh and green as with us in spring.

It is hard to know what to make of things in Ireland. You get such contradictory reports from parties of the different sides. One man will tell you that things are far worse than is made known; that many farmers are robbed, and otherwise abused, who would rather "grin" and bear their losses than make a fuss by informing the police. Another will tell you that things are not half so bad as made out; that every little petty offence is magnified into a crime, and made a noise about. However that may be, affairs are bad enough. I was pointed out a house beside the peaceful-looking Killarney where a man had only lately been murdered by some masked moonlighters, though he was not the man they were after, but only his near relation.

It is wonderful, too, the dodges some of the tenants try to get out of paying their rent, or to have it reduced. I was told of one who came to his landlord complaining of hard times, and not being able to pay; intending to show a bill of £5 as a sympathiser, by mistake putting a deposit receipt for £100 into his landlord's hands. I got this from the landlord himself, so there is no second hand about it. Moreover, this landlord is the owner of Flesk Castle, and a pleasant gentleman, who walked with us to our hotel after showing us round his residence. He is 72 years of age, yet makes it a rule to walk about fifteen miles a day. The Castle is in a fine situation, overlooking the Lakes, and was built by the present owner's grandfather. It is of the Tudor style of architecture, and though the stone was got on the estate, and labour cheap when it was built, it cost somewhere about £20,000. The lead alone used in roofing cost £3000, and does not make a good roof after all, though 7lbs to the square foot. It is affected by the climate. The roofs are kept covered with water to prevent the weather's influence as much as possible.

Though Killarney is in Kerry, I did not see many Kerry cows about. The Shorthorn seems most used for every purpose in Ireland. Another thing I miss is heavy horses. I was through the loading part of Guinness's brewery in Dublin, and they told me all the heavy horses used there were from Scotland.

to realise the value of a closer commercial union with our colonies, and are but just aroused to the necessity of defending our vast trade in all parts of the world. But what will be the use of spending millions upon forts and guns, ships and coaling stations, to defend a country which is losing its manufacturing, as it has lost its agricultural prosperity? It is surely time all silly word-splitting about free trade and fair trade were at an end. The question will be ere long one of "Any Trade," or "No Trade." We are the only country in the world that has silently and complacently looked on while the land, the great source of all wealth, has been allowed to slide out of cultivation till we cannot fill two-thirds of the mouths to be filled in this country, and till hands which might be busy on the land can neither find work on it nor anywhere else.—*Newcastle Daily Journal.*

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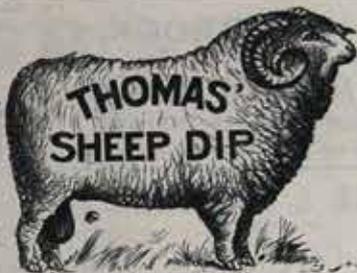
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The Wool consigned to Messrs. Helmuth, Schwartz & Co., London, by the Pastoral Society of New Zealand, was reported upon as "of Fine, Staple, and Sound, of Good Lustre and Soft Feel, and with little or no smell."

The Total Prizes taken at the places referred to number 157, including nearly £800 in Sterling Money.

**TESTIMONIAL.**

"I have very much pleasure in sending you a testimonial of my high appreciation of Thomas' Sheep Dipping Specific, with which you have supplied me. I have found it to answer well. The complete failure of an English Poisonous Dip to kill the Ticks, induced me to try the above. I am glad to state, with the greatest success. The eradication of the Ticks and Ova was so complete that on several occasions I have challenged inspection of my Stud Sheep and General Flock to find a living Tick amongst them. As for the condition of the Wool, and the health of the Sheep—the fact of my taking so many First Prizes at each of the Agricultural Shows, viz., Melbourne, Ballarat, Echuca, Sandhurst, Rochester, Kyneton, and several other Shows—sufficiently testifies, and my Sheep were entirely free of Ticks at Shearing. I have now much pleasure in giving in writing my opinion of your Specific, which I never hesitate to express publicly whenever the subject of Dip is referred to. Scale Park, Clunes, Victoria, Jan. 29, 1887. (Signed) LENAUX B. CARTER."

**WILLIAM ADAMSON & CO.**

Produce Brokers,

**MACKILLOP STREET,**

MELBOURNE,

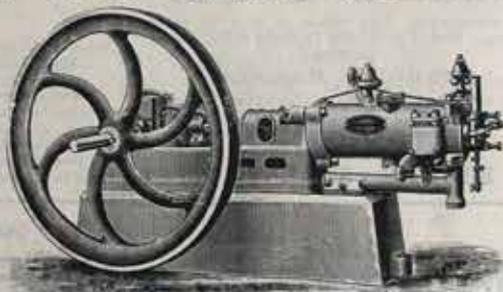
Hold Sales every Wednesday and Friday of

Dairy Produce, Poultry,

Carcase Pork, &c.

Account Sales rendered within Four Days from Date of Sale.

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Full power at a moment's notice. No Boiler required. The best and most economical engine in the market. Cost of gas, 1½d. per hour, with gas at 6s. per 1000 cubic feet. Over 1000 in use in the Australian Colonies. Made in all sizes, from 5-horse power, indicating 1 h.p., to 20 h.p., indicating 50 h.p. The new Vertical "Otto" Gas Engine takes up little floor space, is silent, and is equal in power to the horizontal pattern. May be had on Deferred Payment System. For price lists and further information, apply to

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SOLE AGENTS,

76 Flinders Lane West, Melbourne.

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WORLD RENOWNED  
**REAPER & BINDER**  
WINNER OF 34 OUT OF 39  
FIRST PRIZES AT  
FIELD TRIALS  
IN VICTORIA.  
SEASONS.  
1883 to 1887.

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TWINE OF  
SPECIAL QUALITY.  
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MELBOURNE

THE WORLD'S  
HIGHEST PRIZES

LATEST VICTORY JULY, 1887. GOLD MEDAL & TROPHY VALUE £100, FRANCE.

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WHOLESALE AND RETAIL  
**SEEDSMAN AND PLANT MERCHANT,**  
4 LONSDALE ST. E., MELBOURNE.  
Samples and Prices on Application.

**CURRIE & RICHARDS,**  
IMPORTERS OF  
**Plain & Corrugated Iron,**  
Manufacturers of Galvanized Iron Spouting,  
305 & 307 ELIZABETH ST., MELBOURNE.

**D. WHITLEY & CO.**  
**Grain & Flour Merchants,**  
COMMISSION AGENTS, &c.,  
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Chaff, Hay, Butter, and  
General Produce Merchants,  
GEELONG.

**CAULFIELD CUP.**  
**WHITE & ALLAMBY**  
Have replenished their Stock in view of ensuing season. Best ENGLISH GOODS ONLY kept in stock.  
**AMERICAN HARNESS,**  
Single and Double Carriage, Brougham, Gig, and Buggy, in ALL of which none but the best English and American Leather is used in making up.  
50 BOURKE STREET WEST.

EMERY WHEELS,  
GRIND STONES,  
BAND SAWS.  
  
LEATHER & RUBBER  
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Next Temperance Hall.

Agent for H. Diaston and Son's Celebrated  
Circular and Vertical Saws.

Importer of English and American Saws, Joist  
Tools, and Files.  
Circular and Mill Saws Be-toothed and Hammered.

**SPECIALTY.**  
N.B.—Machinery for Grinding every description of  
Tools, Machine Moulding and Paper Knives (any  
length), Razors, Scissors, and Cutlery, on an im-  
proved principle.

**WM. HUDSPETH,**  
Lorry and Spring Dray Builder,  
YARRA BANK ROAD SOUTH,  
(Below Langland's Yumistry.)

**THOMAS LANG & CO.,**  
Nurserymen & Seedsmen  
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& Doors from Queen Street.

All Vegetable and Agricultural Seeds tested to see  
they grow.  
Lists of Seeds or Plants Free on Application.

by Special Appointment to the Marquis of Normandy, K.C.M.G. & under the Patronage of His Excellency Sir H. B. Cochrane, K.C.B.

**DANIEL WHITE'S**  
**STEAM CARRIAGE WORKS,**  
244 AND 245 SWANSTON STREET,  
And 6, 8, 10, 12, 15, 17, 19 & 21 STEWART STREET, MELBOURNE.

Three Gold Medals for best Carriages at Melbourne Shows of 1883, 1884, and 1887, and Forty-four First Prizes at Exhibitions and Shows of 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, and 1887. Also Three First Awards of Merit (First Prizes) at International Exhibition of 1880 and 1881.

NOTICE.—Referring to above, D. WHITE desires to inform his numerous Customers and the Public generally that he has secured and completed, EXTENSIVE ADDITIONS TO HIS COACH FACTORY, and with the increased accommodation and Steam Plant, and the Largest Stock of Seasoned Timber in Melbourne, is now prepared to meet the increasing demand for his well-known Carriages and Vehicles. The new premises are in Stewart Street, immediately opposite the present Factory. Patented of the Improved Carriage and Huggy Hood Apparatus, for raising or lowering the Hood from the inside, to which I have added a most useful invention in the shape of a powerful spiral spring, whereby a lady can raise a hood with the greatest ease. N.B.—D. W. was awarded, by the judges of the late National Agricultural Society, 14 First Prizes (including only Gold Medal and Challenge Shield given) for 18 vehicles exhibited, a feat hitherto unknown.

**LANCASHIRE PATENT BELTING,**  
FOR  
Threshers and all Agricultural Machinery.

Is not affected by Heat, Water, or Steam. More Durable. Better Grip.  
Adopted by the Victorian Railways, and is used by all the leading manufacturers in Melbourne and suburbs. Prices less than single leather. All sizes from 1½ to 16 inch in stock.

All the Main Driving Belts for the Adelaide Jubilee Exhibition are supplied by Lancashire Patent Belting. SEND FOR CIRCULARS TO

**CAMPBELL, GUTHRIDGE & CO.,**  
13 William Street,  
Agents for Australasia.

MESSRS. CAMPBELL, GUTHRIDGE & CO.,  
Agents for Lancashire Patent Belting and Hose Company.  
Dear Sirs,—We have great pleasure in informing you that the Patent Belt we bought from you for our Threshing Machine has given us great satisfaction. We consider it much better than leather, and believe it more durable; we also find that it runs more smoothly in wind and keeps on the pulley better when raining, in fact, last season the belt only came off three or four times when at work, and we have seen a leather belt come off as many times in an hour in windy weather. We would not think of buying a leather one now; the cost of leather is about double what the Patent Belt costs, and we have great pleasure in recommending them to machine owners. We are, Gentlemen, Yours respectfully,  
HARPER & HAMMILL.

AT 177 TO 181 KING STREET,  
**STEVENSON & ELLIOT,**  
CARRIAGE BUILDERS.

**REDUCTION OF PRICES.**

Previous to the erection of new machinery, we have decided to reduce the quantity of our stock, and offer to the public, at greatly reduced prices, a splendid assortment of Carriages and Buggies, &c. As we use none but English and American materials, and employ the best skilled labour in the market, we can guarantee that the quality of our work is of the finest, and has been pronounced by judges to be unequalled anywhere for durability, style, or finish. All styles kept in stock, from Landaus to Farm Waggon; also variety of secondhand vehicles.

The trade supplied with first-class and seasoned materials.

**THE USE OF**  
**SULPHATE OF AMMONIA IN AGRICULTURE.**

For Grass Land.—1½ cwt. per acre; to be put on the land from August to October, before or after a shower of rain.

For Wheat, Oats and Barley.—1 cwt. per acre for wheat, in April; 1 cwt. per acre, for oats, in April; 1½ cwt. per acre, for barley, in August.

For Vines.—1 bushel on the vine border, and lightly fork it in, in the months of July to September. This quantity (1 bushel) to be for the nourishment of four vines.

For Onion Beds.—Give a good sprinkling over the beds two or three times during the growth of the onions.

For Potatoes.—1½ cwt. per acre as a top dressing, before the haulms appear above ground.

For Greenhouse Plants.—A large teaspoonful in a bucket of water, to water the greenhouse plants with twice a week. Not to be used, however, for heaths, rhododendrons, or orchids.

For Peach, Apricot, Plum, Currant, and Gooseberry Trees.—A similar solution to that given for greenhouse plants, in the months of July and September. Rose trees and garden plants are benefited by the use of the solution. Celery, cabbages and cauliflowers also grow well when watered with the solution.

For Raising of Healthy Plants from Seeds.—Sprinkle a good quantity of the sulphate on the seed beds, and then water them a week before sowing the seeds. Melons and cucumber plants also are much benefited by the sulphate of ammonia.

Note.—All vegetation, excepting heaths, rhododendrons, and orchids are rendered more luxuriant, healthier, and consequently free from the destructive attacks of the scavengers of Nature by the use of sulphate of ammonia, especially in the spring of the year, when vegetation requires a condensed antiseptic food and nourisher, to enable it to withstand the blighting effects of the north-easterly winds, which, being the least electrical of all the winds, lower its vitality, and thus conduce to diseases in the animal and vegetable kingdom.

To be had from the Works of the

**METROPOLITAN GAS COMPANY,**

In 2 cwt. Bags, at 18s. per cwt.

# D. FERRIER'S PATENT LEVER WOOL-PRESS

First Order of Merit awarded this Press at the Melbourne International Exhibition, 1880.

## HUMBLE & NICHOLSON

Makers, Geelong.



The usual screw is dispensed with, and the pressure brought to bear by means of a strong rope or chain, working in sheave pulleys overhead, attached to a Ram, and winding on a fusee, which is made in the shape of a suddenly tapered screw.

The rope works on the large part of the Fusee, when the pressure is light, and passes down to the taper and as the pressure increases, being worked by a lever fixed on the centre spindle.

The top Box is hinged to side Brackets, and turns down to the floor, which greatly facilitates the putting in of the wool, and renders any second floor unnecessary, and when filled is easily placed back in position.

When the bale is pressed and the sides sewn, the Ram is lifted by a small rope from the Fusee, turned by a handle.

It will be understood how very much quicker the power is brought into application by this means than by the ordinary screw press, and double the work is got through by the same number of men.

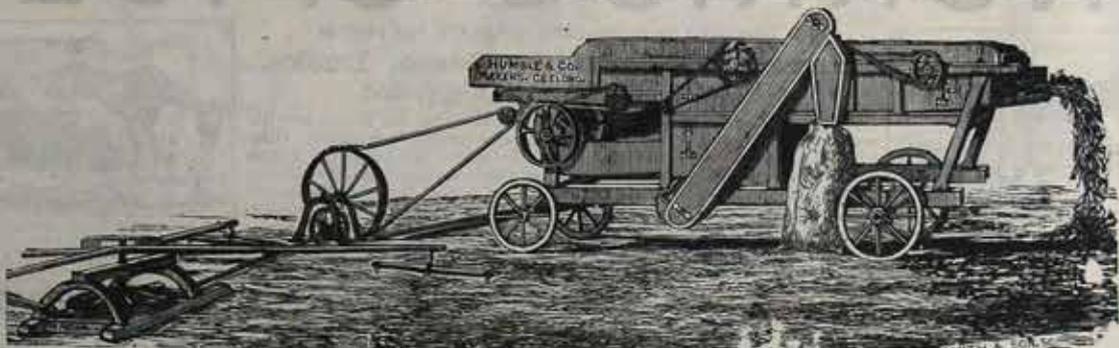
Special attention is directed to the fastening of the Packs before the Wool is put in, which is done in an exceedingly quick and simple manner: four pieces of wood are fitted into the recesses of doors, which hold the Pack securely in position and to the side catches for fastening the doors, which are held in position by a vertical bar, and relieves them simultaneously.

The side door is also held in its place by a catch, which at any time can be relieved instantly, the door falling back and allowing the bale to be removed.

At the Melbourne Exhibition competition this Press turned out 3 Bales of Scoured Wool in 28½ minutes, being considerably less than any other Press, although one had the advantage of being driven by steam.

HUMBLE & NICHOLSON, ENGINEERS.

## THRESHING MACHINE



FOUR-HORSE POWER THRESHING MACHINES.—These Machines are found to be very convenient to farmers who wish to thrash their own grain; or in some cases where three or four neighbours combine. They will thrash from three to four hundred bushels per day with horse power; or if worked with steam power, about six hundred bushels daily.

We have been making these Machines for the last seventeen years, and have been awarded a large number of prizes at the different Shows, including the National Show at Melbourne and other places. The above is strongly made with Wrought Iron Drum, Steel Spindle; all bearings of the best material, no time or expense being spared to turn them out in a substantial manner.

## HUMBLE & NICHOLSON,

VULCAN FOUNDRY, GEELONG.

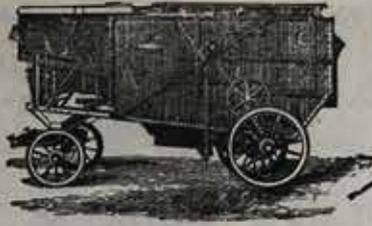
Manufacturers of TAYLOR'S PATENT REFRIGERATORS  
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TAYLOR'S RABBIT EXTERMINATORS,

The most effective when used with the chemical dust, which is supplied by Vulcan Foundry.

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- Thos. Corbett's (Shrewsbury) New Australasian Monarch Winnowing Machines, Colonial Tine Harrows, Cheese presses, Horse Hoes.
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And 4, 6, & 10 LITTLE COLLINS ST. WEST,  
MELBOURNE.



LONDON, 27 LOMBARD STREET.

**MACHINE BELTING.**

Saddler by Appointment to His Excellency Sir H. B. Loch, K.C.B.

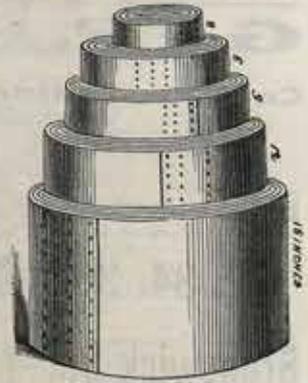
**MACHINE BELTING.**



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Machinery supplied on  
Liberal Terms  
of Time-payment.



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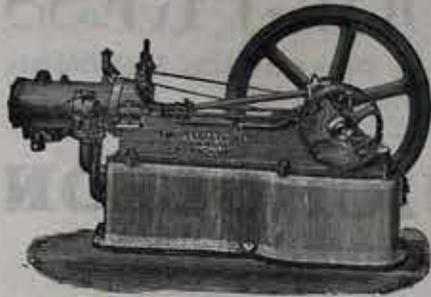
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| Gas Engines           | Hydraulic Machinery          | Crab Winches      |
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Is Unequalled for Giving LIFE, HEALTH, and Flesh to

Horses, Cattle, Pigs, Geese, Ducks,  
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Tried, Proved and Certified to be the Best Medicine for Horses ever discovered. Will coax the appetite when all other things have failed. Gives a bright eye to the Horse, makes his skin like velvet, his looks and temper good. Increases the quantity of milk in Cows, and enriches the quality. Fattens Pigs in half the usual time. Makes Geese, Turkeys, Ducks and Fowls as fat as butter, and double their value. Converts the commonest of Hay and Straw into a superior provender.



Sold by all Druggists, Grocers, and Storekeepers, in Tins, 1s., 2s., 5s., 10s., and 20s.

T. W. NORRIS & CO. (S. M. DALTON), Chemists, Sole Proprietors & Manufacturers.  
PRAHRAN, VICTORIA.

N.B.—Ask for and insist on having NORRIS'S SPICE. \*various Imitations are sometimes offered, BEWARE OF THEM.

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Have much pleasure in calling the attention of Agriculturists to their

"EUREKA" DOUBLE-FURROW PLOUGHS,

With Short or Medium Steel Mouldboards, Patent Wheels, and Cast or Wrought Iron Shares.

Combined Two and Three Furrow Plough, the Best and Cheapest Ploughs in the Market. Patent Wheels supplied to fit any make of Double-Furrow Plough. Horse Works, for One or Two Horses. Improved Three-Knife Chaffcutter, Fitted with Sieve Gear, Patent Adjustable Steel Mouthpieces, Stop and Reversing Motion. Cut two lengths.

Bentall's Chaffcutters and Corncrushers, All Sizes, Tank Sinking Ploughs and Scoops, Harrows, Scarifiers, Corn-screens, Winnowing Machines.

PRICE LISTS ON APPLICATION.  
BUCKEYE LIGHT DRAFT FOLDING BINDER.



Awarded Gold Medal at Grand National Field Trial, Shepparton, 1886, with highest number of points.

The "Buckeye" Folding Binder is the most complete Binder in the market. It cuts as low as a Mower; is strong, simple and durable.

The Lightest running Reaper and Binder in the World.

Agricultural Machine Works, Elizabeth Street North, Melbourne.

# NATIONAL AGRICULTURAL SOCIETY.



Vol. III.—No. 30. [Regd. as a Newspaper.]

MELBOURNE, JANUARY 13TH, 1888

GRATIS.

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Then 'twere well it were done quickly."

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SWANSTON STREET.  
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(Late of Three Crowns Hotel, West Melbourne)  
PROPRIETOR.

Caterer for The National Agricultural Society of Victoria, and various clubs.

Orders for Banquets, Fêtes, Dinners, Weddings, Suppers, on the shortest Notice in Town or Country.

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Tailor, Practical Shirt Maker,  
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Football, Cricket, Bicycle & Lacrosse Suits in stock or made to order. Clubs contracted with.  
Instructions for Self-measurement on application.  
SPECIAL SHIPMENT OF WHITE SHIRTS.

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Opposite Her Majesty's Hotel,  
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The finest qualities of American Tobaccos. Specialty—American Cut Tobaccos. Choice Brands Havannah Cutters. Specialty—Morris, Cabanas, and Heavy Clays.  
A high-class Hairdressing Saloon is open in conjunction with the above establishment.

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LIMITED,  
Millers & Grain Merchants  
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GENERAL COMMISSION AGENTS.

Subscribed Capital - £88,000.

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Consignors of Wool and other Produce and Advances made thereon

Every description of Agricultural Machinery and Implements, by all the best Melbourne Manufacturers and Importers on sale on favorable terms.  
Town Agents for transaction of every description of Farmers' business requiring Confidential Care and attention.

Advances on Grain at Current Rates of Interest. STORAGE ON VERY FAVORABLE TERMS.

F. & CO. Limited are prepared to ship Wheat if desired on Farmers' account for sale in London on advantageous terms.

£80,000 to Lend on Freehold or Leasehold Security

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**SCOTCH PIE SHOP**  
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The Most Popular RESTAURANT in the CITY of MELBOURNE.

Meals at all hours from 6.30 a.m. to 11.30 p.m. SUNDAYS INCLUDED.

Bride Cakes and all kinds of Pastry made to Order. Balls, Routs, Dinners, etc., Catered for in the Best Style.

Accommodation for 500. Special Dinners.

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PROPRIETORS.

THE OLD-ESTABLISHED  
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FIRST-CLASS ACCOMMODATION FOR COUNTRY AND INTERCOLONIAL VISITORS.

Wines and Spirits of the Finest Quality. Smoking, Reading, and Billiard Rooms.

Luncheon at 1 p.m. Night Porter.

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**Little's Sheep Dip**  
(NON-POISONOUS.)

BY ROYAL LETTERS PATENT.



**Best, Cheapest & Safest Dip**  
IN THE MARKET.

A CHEMICAL FOOD FOR THE WOOL.  
DEATH TO ALL INSECT LIFE.  
NUMEROUS TESTIMONIALS.

PRICES—  
5/6 per gallon in casks, 40 gallons each.  
6- " " drums 5 " "  
Orders under 5 gallons, 1/- per gallon extra.

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And the following Agents in Australia.  
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**Baths Hotel & Bathing Palace**  
26 BOURKE STREET, MELBOURNE.

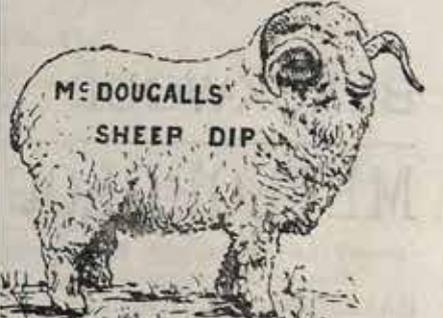
Centrally Situated, with Accommodation for One Hundred Visitors.

TURKISH, HOT OR COLD BATHS.  
Best Beverages of the Very Best Brands in the Market, and Cuisine Second to None.

Billiards. Night Porter.

**BARBETA BROS., Proprietors.**

**McDOUGALL'S**



**McDOUGALL'S SHEEP DIP.**  
PERFECT SAFETY. NON-POISONOUS.  
A world-famed Dip, and Second to None in the Market.

Price, 5/6 per gallon, in drums, making sufficient to dip 200 sheep, or under 1d. per sheep.

This Dip is AS CERTAIN as arsenic in killing insects without its dangerous and injurious effects on the sheep. It finely stimulates the growth of Wool, and improves its quality, leaving the Wool soft and in fine condition unlike Poisonous Dips in use, which burn and break the staple of the Wool.

MANAGERS FOR VICTORIA—  
**GOW BROTHERS,**  
8 MARKET BUILDINGS, WILLIAM STREET, MELBOURNE.  
Agents for Geelong—ARMSTRONG, HOWE & CO.  
Stock always on hand in Melbourne and Geelong.

**BINNY NICOLL & CO.,**  
Wool, Grain & Produce Agents,  
64 SPENCER STREET,  
MELBOURNE.

**IRVINE'S GRIPE DRENCH**

Has been used in these Colonies for the last 34 years, with remarkable success in all cases of Grippe and Flatulent Colic.

TESTIMONIAL.

"Irvine's Gripe Drench has never failed in my hands in relieving Colic or Grippe of the most violent nature. One dose is invariably sufficient; a second one is rarely needed."

DAN WARNER, Indian Horse Shipper, Kirk's Passar.

In Bottles, 2s. 6d. each. One Gallon Tins, 20s.

Sole Proprietor and Manufacturer.

**H. W. POTTS, Veterinary Chemist,**  
Corner QUEEN & BOURKE STS., MELBOURNE.

Irvine's Soft Horse Balls, 1s. each. "Stouther go" Blisters 2/6 per

**The M'CORMICK  
REAPER & BINDER**

Has been Awarded  
**105 FIRST PRIZES**  
In Australasia.  
THE 1886 MACHINE IS UNRIVALLED.



**RANSOMES'  
VERTICAL ENGINES**

2, 3 & 4 H.P.  
Extra Large Firebox and  
Boiler.

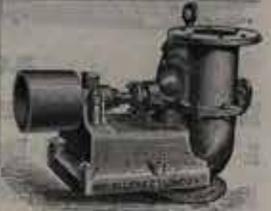


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PORTABLE ENGINES**

6, 8, 10, 12 & 14 H.P.  
The Most Suitable Engine for  
Irrigation Purposes.

**ALLEN'S  
Centrifugal Pumps**

8, 9, 10, 12 and 15 inch.  
Larger Sizes Imported Specially  
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Have in stock or to arrive shortly, all kinds of

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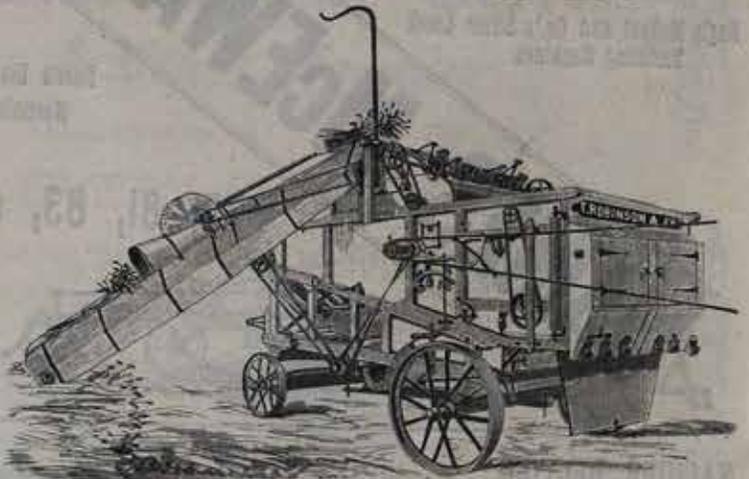
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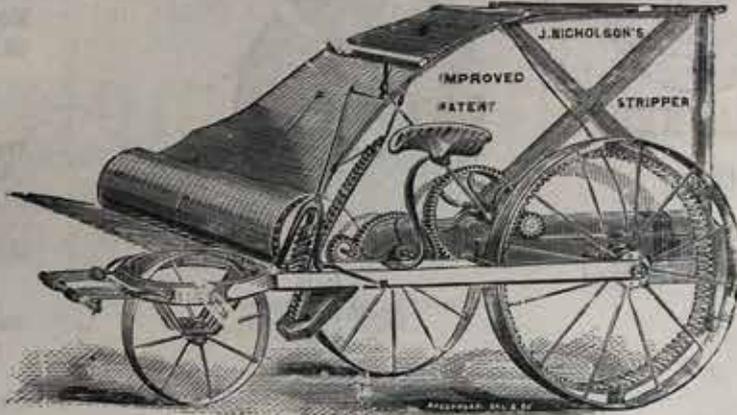
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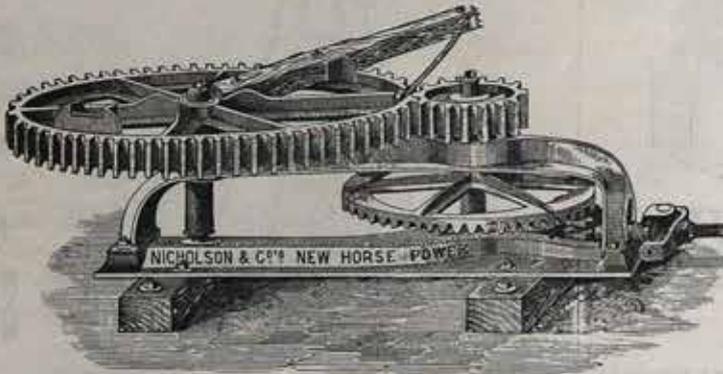
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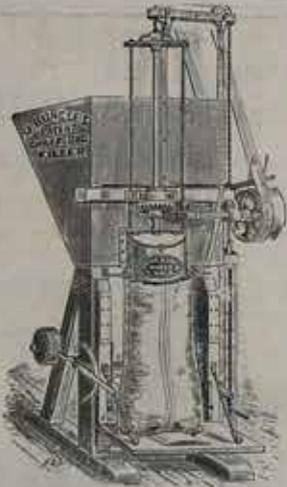
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or without Baggers. A few attempts have been made by some to supply such a want, but probably not having a theoretical as well as a practical knowledge of machines, have not been able to reduce the complicated movements in their machines, and which are perfectly unnecessary—as witness the Unique Simplicity and correctness in design, and the admirable working of **BUNCLE'S PATENT BAG FILLER** compared with the few others tried at work.

For the information and convenience of customers, a machine is kept constantly set up ready to show at work in **BUNCLE'S PARKSIDE IRONWORKS**, and many customers have witnessed **80 to 90 lbs.** of Chaff put in a bag in **15 seconds!!** which, after making allowances for time removing the full bag and replacing an empty one, would easily on an average keep **Four** of **Buncle's No. 1 Chaffcutters**—well, if there is any doubt, say **Three** Machines clear of all the Chaff they cut (medium length.) Of course the Machines are arranged to put in as light weight as you like, or you can fill up and burst all your Bags—to pieces. As a trade requirement (in addition to filling bags) the necessity for a **Mixing Machine** is a long felt want, the laborious and unsatisfactory way at present adopted cannot much longer be endured, and there is no necessity for it!! as **J. Buncle** can arrange to "Blend" the worst and the best samples "To a Hair" at the least possible expense with the best results.

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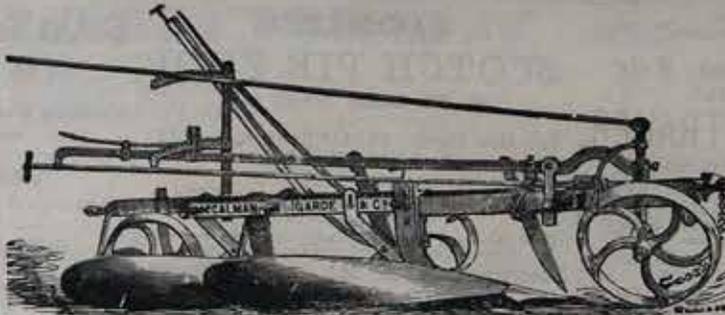
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Rack and Gear Steel Press for the use of large stations. Lever & Chain Press, with Folding Top Box, for the use of smaller stations. Lever and Chain Farmer's & Selector's Press. Price, £22 10s.

As the season for this latter kind is now approaching, those requiring them should lose no time in sending their orders. Owing to the general satisfaction given by those supplied for last season, orders are now freely coming in, and a large demand is looked for. The following is a fair sample of a large number of Testimonials to hand for those supplied last season:—

MR. PRICE WILLIAMS—

MELBOURNE, JAN. 23RD, 1885.

Dear Sir,—I have much pleasure in informing you that the Farmer's Wool Press I purchased from you last October, gave me every satisfaction. We turned out very compact small bales, about 3½ cwt., but could have them heavier if we wished with once down. By what the Wool Brokers tell me, they would clear themselves in two seasons to anyone having twelve bales. Since done with the Wool, I have had it in constant use as a Cheese Press, and I reckon it worth half its cost for that. We have sought on the levers. Any number of Cheeses can be put in at once. It would make a good Press for Hay or Straw, and for Grapes or Apples it is just the thing. I can highly recommend it as a most useful, substantial, and cheap article. Yours truly,

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**THE NATIONAL**

**Agricultural Society of Victoria.**

Notice is hereby given that the Preliminary General Meeting of the Governors and Members of the National Agricultural Society of Victoria will be held at the office, Kirk's Bazaar, Bourke Street West, on Thursday, 19th January, 1888, at 2 o'clock p.m., to arrange the business and receive notices of motion for the Annual General Meeting, to appoint Auditors, and to nominate gentlemen to fill the places of retiring office-bearers.

**THOMAS PATTERSON,**

SECRETARY.

Melbourne, 3rd January, 1888.

**THE NATIONAL**

**Agricultural Society of Victoria.**

**Shorthorn Derby Sweepstakes, 1890.**

**Hereford do do 1890.**

**Ayrshire do do 1890.**

**Jersey (late Alderney) do do 1890.**

A Sweepstakes of £1 each (10s. at time of nomination, and 10s. at date of general entry for Show), with £5 added in each case for Heifers calved between 1st July, 1887, and 1st July, 1888, to be divided and awarded as 1st, 2nd, and 3rd Prizes, for three-year olds, at the Society's Show, 1890.

Nomination of Calves of each breed respectively will be received on payment of a nomination fee of 10s. each. Calves to be nominated within one month of date of birth. Nominators to fully describe the color of each calf entered, and to state the name of the sire, dam, and sire of dam, together with the date of calving. Entry forms on application.

**THOMAS PATTERSON,**

Kirk's Bazaar, Melbourne.

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All communications for the Editor to be addressed to the Society's Office, Kirk's Bazaar, Bourke Street West, Melbourne.

Business communications to the Publishers, Melbourne Place, off Russell Street, Melbourne.

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**Dates of Forthcoming Shows.**

SECRETARIES of agricultural societies are requested to forward to the editor the dates on which their respective exhibitions will be held, also copies of their prize schedules as soon as they are published.

**JANUARY.**

Last Week—Intercolonial Show, Agricultural Society of New South Wales, Sydney.

**FEBRUARY.**

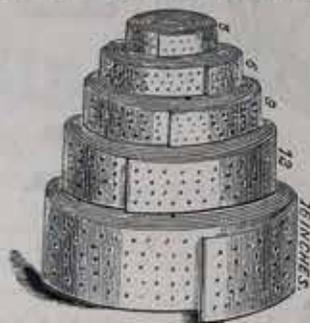
16.—Warragul. | 28.—Tatura.

**MARCH.**

- |                                      |                 |
|--------------------------------------|-----------------|
| 1.—Ballan Shire.                     | 14.—Baringhup.  |
| 8.—Mornington, Berwick.              | 15.—Morwell.    |
| 8.—West Bourke, Lancefield Junction. | 21.—Daylesford. |
| 14.—Ararat.                          | 21.—Dunolly.    |
| 14.—Maffra.                          | 22.—Bulu Bulu.  |
|                                      | 28.—Alexandria. |



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TESTIMONIAL.—(COPY.)

UNION FLOUR MILLS,  
Brunswick street, Fitzroy,  
March 17th, 1886.

Messrs. Frank Vial & Co.,  
Macaulay Road, Hotham.

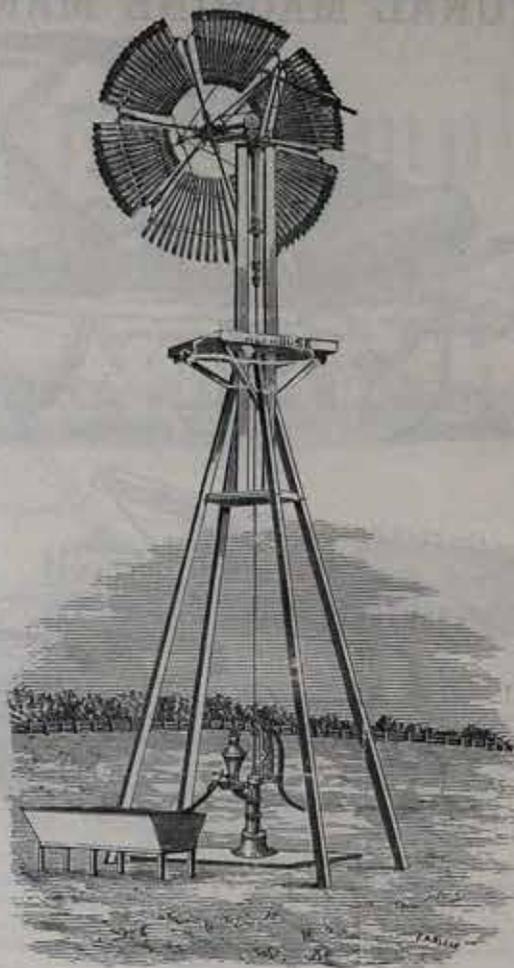
Gentlemen,—In reply to your enquiry respecting the (23") twenty-three inch double belt supplied by you to ourselves, we beg to state we have been working it for a period of seven months, and we find it to be all we could desire, as also is the other belting which we had from you.

We therefore feel great pleasure in recommending your belting to anyone requiring the same.

We are, Gentlemen, yours truly,  
(Signed) W. S. KIMPTON & SONS.

Other testimonials received too numerous to print, which with Price Lists, can be had on application.

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The **STRONGEST, SIMPLEST MOST DURABLE, and BEST SELF-REGULATING WINDMILL** in the Market.

Proved by Actual Experience to be Unequalled for Water Supply Purposes.

Is Absolutely the Strongest Mill in the Market.

Its Extreme Sensitiveness is one of its Greatest Merits.

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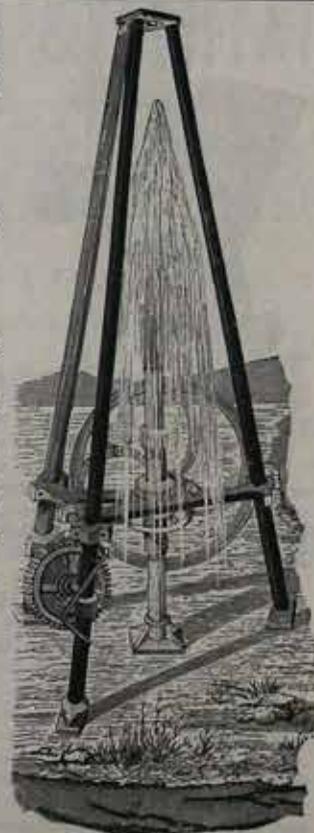
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This machine will take out 200 cubic yards of earth in  $\frac{1}{2}$  cubic yard loads in a day of eight hours: is simple, strong, yet light of draught, easily kept in repair, and has been pronounced by experienced judges to be the best Earth Scoop yet invented.

N.B.—This Scoop can be seen at Messrs. WRIGHT & EDWARDS' Stand.

The Journal  
OF THE  
National Agricultural Society  
OF VICTORIA

MELBOURNE, JANUARY 13th, 1888.

Polled Angus Cattle.

We have been favoured with the perusal of an excellent recent work on these cattle, written by Messrs. McDonald and Sinclair. As the breed has lately gained much favour in the colonies, and as its distinctive characteristics are not so well-known as they should be, we purpose culling some information from the work. Regarding the probable derivation of the polled varieties of cattle, there has been considerable speculation, while as far as present knowledge is concerned the subject is found to rest mainly on conjecture. It is argued by some that polled cattle are entitled to be ranked as an original and distinct species. The idea, which is believed to be the correct one, however, is that the original cattle from which existing races are derived, were all originally provided with horns, and that, therefore, the many varieties of hornless cattle, which have from time immemorial existed in various parts of the British Isles and elsewhere, must be regarded as forming distinct departures from the ancient or original order of things. The authors say "in the absence of proof to the contrary the conclusion would seem justifiable that the want of horns constitutes a deviation from the original form of the ox; that the deviation has been due, in the first place, to sudden organic changes, whether 'spontaneous,' 'accidental,' or 'proper' we need hardly inquire; and that by selection in breeding the new feature has come to possess the fixity of an original character. But while we believe that the absence of horns may have arisen from some such sudden variation, as has been indicated, we nevertheless maintain that the principal races of polled cattle are quite as well entitled to be classed as distinct breeds as any of the horned varieties, and that their chief distinguishing feature, the absence of horns, is now as firmly established as any of those varying characters, either in colour, form, or attributes that distinguish from each other the leading horned tribes." At the present time three distinct and well-defined breeds of polled cattle exist in the United Kingdom. Two, the Aberdeen or Angus, and the Galloway breeds have their headquarters in Scotland, and the third, the Norfolk and the Suffolk, in England. Our object is to deal mainly with the Angus breed, but it may be interesting to know that it is generally considered that the Galloways and the West Highland cattle have sprung from the same stock at a remote date; in support of which it is stated that even at the present day there is a close resemblance between a well-bred polled Galloway and a West Highlander, minus the horns. Although in general appearance the Galloway resembles the polled Angus breed, it is said the one is as far removed from the other in kinship as from any of the other British breeds. The Galloways are handsomely formed, all black, slightly ranker and coarser in the hair, rather thicker in the skin, and somewhat slower in maturity than the Angus cattle; but they are justly celebrated as graziers, and are noted for remarkable fixity of type. The Norfolk and Suffolk polls are supposed to be descendants of the Galloways, mixed with other native breeds. Their characteristic colour is a deep blood red. The breed has been greatly improved in recent years, and now ranks creditably among English cattle. With regard to the Angus cattle the authors set

forth the reasons which induce them to regard the Aberdeen or Angus polled breed not only as a direct branch of the aboriginal cattle of Scotland, but also as indigenous to the very districts which still form its headquarters, the north-eastern counties of Scotland, with Forfar and Aberdeen as chief centres. The improved breed is derived directly from the ancient polled cattle of Angus and Buchan—two varieties of the same type—known in the former as 'Doddies,' and in the latter as 'Humies.' They also show the great antiquity of the race in its hornless form in these two districts, believing that originally the loss of horns had arisen from those spontaneous variations, or accidental, or proper sudden organic changes, spoken of by Darwin and others previously alluded to. In describing these cattle the writers say—"The ancient symmetry of the breed has been more than maintained, and now in this respect it is surpassed by no other breed in the British Isles, or perhaps anywhere else. A really good northern poll leaves very little to be desired in the symmetry of its parts. The improved race have wider and better sprung ribs than their ancestors had, and are also longer and better filled up from the hooks backwards, as well as more richly fleshed, finer in the bone, of superior quality, and sweeter and more gay, especially about the head. Their general fattening properties too, notably in regard to early maturity, have been very greatly improved. Some admirers of the breed, who have a distinct recollection of the animals that gained fame in show-yards twenty-five or thirty years ago, maintain that, in comparison with these, the show-yard animals of to-day exhibit little or no improvement. They admit that there has been great improvement in the 'rank and file' of the breed, and that a much greater number of good specimens are seen in the show-yards now than formerly; but some of those celebrated animals that a quarter of a century ago enlisted their warm admiration, have never in their eyes been excelled. The same statements have been heard in regard to almost every breed of live stock in the country; but while in some instances they may be perfectly accurate, we believe that as a rule they are not so. We judge all things by comparison; and we believe that as we watch the progress of a breed that is being constantly improved, our standard of comparison becomes higher unconsciously. We cannot help believing, especially if full value were given to character or appearance of 'breeding,' that better animals of the polled Aberdeen or Angus breed have been shown within recent years than were to be seen a quarter of a century ago; and we are probably not far wrong in attributing the contrary impression, which has been mentioned, to the fact that those who hold that impression have not made full allowance for the higher standard of comparison which their long experience must almost of necessity have brought them to apply.

In general form a model polled animal differs considerably from a model Shorthorn. Both should be lengthy, deep, wide, even, proportionate, and cylindrical. The polled animal, however, should be more truly cylindrical in the body than the Shorthorn. Its points should be more quickly rounded off; or, in other words, the frame of the polled animal is not so fully drawn out to the square as that of the Shorthorn. Critics have pointed out in some of the best polled animals now or recently living, a tendency to approach too nearly to the square type of the Shorthorn. In a beef-producing animal, a broad, square frame can hardly be said to be a blemish; for if it is thoroughly well covered all over, it will carry more beef than a rounder frame. A compact, well-rounded frame, however, has always been a leading characteristic of the polled breed, and the main reason why a square Shorthorn-looking frame is objected to in a polled animal is, that such a form is

foreign to the breed, and therefore apt to arouse suspicions of impurity. The admirers of the breed claim for it valuable natural properties not found to an equal extent in any other breed; and they fear that should the breed lose its characteristically natural appearance, it may also lose its superiority in those valuable properties—"the genuine article should always bear its trade mark." Careful improvers of the breed are specially particular as to the hind-quarters. While they aim at developing long, level, thick, deep quarters, they also strive to retain the rounded appearance which was originally one of the dominant characteristics of the breed.

The head of the polled male should not be large, but should be handsome and neatly set on. The muzzle should be fine; the nostrils wide; the distance from the nostrils to the eyes of only moderate length; the eyes mild, large, and expressive; the poll high; the ears of fair size, lively, and well covered with hair; the throat clean, with no development of skin and flesh beneath the jaws, which should not be heavy; the neck pretty long, clean, and rising from the head to the shoulder top, and surmounted by a moderate 'crest,' which contributes to masculine appearance—a desirable point in a bull. The neck should pass neatly and evenly into the body, with full neck-vein. The shoulder-blades should lie well backwards, fitting neatly into the body, and not lying awkwardly outside it; they should show no undue prominence on the shoulder-top, on the points, or at the elbow. An upright shoulder in cattle is generally accompanied by a light waist—an important, and in all breeds a much too common, defect. The chest should be wide and deep, so as to give plenty of room for lung-development. The bosom should stand well forward between the fore-legs, and underneath should be well covered with flesh and fat. The crops should be full and level, with no falling off behind them; the ribs well sprung, springing out barrel-like, and neatly joined to the crops and loins; the back level and broad; the loins broad and strong; the hook-bones not too wide—narrower than in an average Shorthorn; the quarters long, even, and rounded, with no hollow from the hook to the tail; the tail should come neatly out of the body, not too far up the back, and not higher at the root than the line of the back. A high tail-head was to some extent characteristic of the ancient polled breed, but it is one of the defects that are being gradually removed by the more scientific systems of breeding now pursued.

Some good polled cattle, too, have been found to show a development of soft worthless flesh and fat on the rounds behind; but that defect, which is disliked very much, is also almost obliterated. The tail should hang straight down, close to the body all the way till it comes near to the level of the flank. On both sides of the tail the quarters should turn away in a rounded manner, swelling out downwards, and ultimately passing into thick deep thighs. The twist should be full, and the hind-legs set well apart, and not detached from the body until the level of the flank is reached. The flank should be full and soft, so that a good handful may be got out of it. The bottom line should be as even as the top and side lines; and the bones of the legs fine, flat, and clean, with plenty of muscle and flesh above the knees on the fore-legs. The body should stand neatly and gracefully on the legs; and when the animal is stationary, the fore-legs should be perfectly straight, and the hind-legs very slightly bent forwards below the hook. All over the frame there should be a rich and even coating of flesh. Even the hook-bones, and other prominent parts, should be well covered; and above all, there should be no patchiness—no hollows, and no rolls of hard flesh, with spaces of soft useless fat between them, such as are always found in a patchy animal.

Except in rare cases, the skin is fairly thick, but soft and pliable: it ought to be so free over the ribs, as that one could fill one's hand of it. The hair is, as a rule, not long, but fairly thick and soft; and in the best animals shows two growths, or rather two lengths—one short and thick, and the other longer and thinner. When walking, a good animal of the breed presents a very compact, graceful, and symmetrical appearance. Indeed it is fairly enough claimed for the breed that in these and in some other respects it has hardly any equals, and no superiors. The above description refers more correctly to bulls than to cows. The latter, of course, differ considerably in character. The head is much finer, the neck thinner and cleaner, with no crest; the shoulder top sharper, the bone altogether finer, the skin not quite so thick, udder large, and milk-vessels large and well-defined.

In appearance, as well as in other characteristics, the polled Aberdeen or Angus breed differs substantially from the polled Galloway race. The former has lived under a dry cold climate, and has been fed in the house during a large part of the year. The latter has its home in a moist climate, and has spent much more of its time in the open fields. The differences between the two are just such as might be expected from their different conditions of life. The Galloway, as already noted, has a thicker skin and stronger coat of hair, and has altogether a slightly more shaggy appearance than the northern polled cattle, and does not mature quite so quickly.

It is claimed that the northern polls surpass all other races of cattle in the production of beef. On that point there is of course considerable difference of opinion; for at the present day, when the beef-producing properties of our other leading breeds, notably the Shorthorn and Hereford, have been developed to so high a degree, it could not be expected that with anything like unanimity any one breed would be accorded the premier position. Be that as it may, we think the polled Aberdeen or Angus breed may safely be said to be inferior to none as all-round beef-cattle, and superior to all others in some respects. The brilliant and unequalled position it has latterly taken, alike in the show-yard and market-place, sufficiently establishes its claim to that description. In a strictly butcher's point of view, it has very seldom to yield to any other race of cattle.

The superiority over most other breeds, for the butcher's purpose, lies mainly in the excellent quality of beef, and in the high percentage of dead meat to live weight. As a rule, the beef of the northern polls is very well mixed, and contains a greater proportion of compact, finely grained flesh, and less soft, coarse fat, than most other kinds of beef. Inside, the carcass is usually well lined with fat of the finest quality; while in the density and quality of the carcass itself, the breed may fairly enough claim the premier position among all our leading breeds of cattle. Some place the small Devon breed alongside, if not even before it, in this respect; but with that exception, we do not think that any other breed in the British Isles will on an average yield so high a percentage of dead meat to live weight. In butchers' phraseology, it 'dies' well and 'cuts up' admirably. In all the leading fat stock markets in the country the breed is held in high estimation, and, as a rule, commands the very highest prices—in fact, generally a higher price in comparison to its size and live weight than any of the other leading breeds. This is especially the case at the great Smithfield Christmas Market in London, where the plump compact polls from the north never fail to find a ready sale at the highest quotations.

The breed is specially adapted for crossing with Shorthorns. Indeed, perhaps the very best beef-producing animal that has as yet been reared is a cross between a Shorthorn bull and a polled cow. Throughout the

north-east of Scotland that system of crossing is pursued very extensively. Nearly nine-tenths of the famous Aberdeenshire beeves, so highly prized in the London market, are crosses between these two breeds. The best system is to mate the polled cow and the Shorthorn bull; but the reverse system, which, owing to the scarcity of polled cows, is freely practised, also gives excellent results.

It is noticeable that, as a rule, those of these crosses that approach the most nearly to the Shorthorn type are, if anything, the largest in appearance, and attain the greatest live weight. It is equally well-known, however, that those which most closely resemble the polled breed not only bring the highest price when fat, and yield a larger percentage of dead meat to live weight, but also command the greatest number of customers and the readiest sale. An influential cattle salesman in England stated the other day, that for a black polled ox or heifer, or even a cow, he could find three buyers for one who would bid for an animal of any other variety; and that the longer he stood 'week after week' behind cattle in the markets, his estimate of black polled cattle as beef producers became greater and greater. At local fairs and sales of farm stock throughout the north-east of Scotland, lean black polled one and two year old cattle generally bring from £1 to £2 per head more than a corresponding class of roan-horned crosses. An Aberdeen butcher of long and extensive experience states that he considers it safe to give about 5s. more per cwt. for a well-fed polled animal than for a similarly finished horned cross.

Among some not directly acquainted with the improved Aberdeen or Angus cattle, an idea has prevailed that the breed is slow in coming to maturity—that it grows slowly and fattens slowly. Formerly that may have been the case; indeed there is no doubt that it was. Now, however, the breed has been so greatly improved in that respect that it matures almost as early as any of the other leading breeds. When well fed from their birth, good specimens of the breed become ripe at the age of from twenty-four to twenty-eight months; and it is also worthy of note that animals of the breed that are being fattened will retain the levelness and quality of their flesh longer than those of most other kinds.

Half a century ago the northern polled cattle were noted for their great milking powers. Youatt mentions that the polled cows of Buchan, small as they then (1832-35) were, gave from 3 to 4 gallons—from 12 to 16 quarts—of milk per day, and sometimes even as much as 7 gallons, or 28 quarts. The improvers of the breed have as a rule aimed chiefly at developing beef-producing properties; and thus the cultivation of milking powers has to some extent been neglected. As a rule, however, the northern polls give a good account of themselves in the dairy. Several tribes are excellent milkers, over 16 quarts per day being obtained from many cows; and we feel convinced that, with a little care on the part of breeders, the race might be brought into a prominent position among dairy cattle. The milk of the breed is noted for its quality, which is superior to that of the milk from several other breeds. The late Earl of Airlie, writing to the 'North British Agriculturist' on December 26, 1879, in reference to the milking properties of the breed, says: 'I have at present seventeen pure polled Angus milk cows in my dairy. The greater number of these give from 12 to 14, and sometimes 16, Scotch pints for a considerable time after calving. The milk is admitted to be much richer than that of either the Shorthorn or the Ayrshire. As regards the length of time for which they will continue to give milk my cow, Belle of Airlie 1959, dam of Belus 749, as pure a polled animal as any in the 'Herd Book,' used to be milked all the year round. Last year when I was from home they left off

milking her about a month before she calved and she died of milk fever, induced, as I believe, by the circumstance that she had not been relieved of her superabundant milk. The cow, Miss Macpherson 1252, of the Erica tribe, which I purchased recently of Mr. Adamson, is now giving six Scotch pints a day, more than nine and a half months after calving.' Writing at a later date on the same point, the Earl of Airlie says: 'The Scotch pint to which I referred is a measure of 12 gills, equal to three imperial pints, or 1½ imperial quarts. When I wrote on this subject I had some cows that (newly calved) gave 14 Scotch pints or 21 English quarts; and one cow, I think, 15 pints, or 22½ English quarts. I have now some cows that are giving as much as 12 Scotch pints, or 18 English quarts, daily, though quite three months calved. The cows are milked three times a day, which I believe to be the usual practice in Scotland. I do not know the weight, as the pint and quart are measures of capacity, so that of course the weight depends on the specific gravity of the milk. But it is admitted, I believe, that the milk of the polled Angus is richer in cream than that of either the Shorthorn or Ayrshire.'

## Wild Garden Plants.

"AND still where many a garden plant grows wild" is a line with which all admirers of Goldsmith are familiar. The beauty of the expression in the connection in which it is used is undeniable; but the fact of garden plants growing wild has been, and still is, a matter of serious consideration from an agricultural and pastoral point of view in this colony, where the conditions are so different to those prevailing in the old country. It is astonishing with what rapidity such plants as camomile, hoarhound, mint, &c., will spread from the site of an old garden, or from a place where thrown down carelessly, when once they get started. One is, perhaps inclined, to let them alone when seen at first on account of some association they may call up; but it should be remembered that plants out of place are weeds, and, as such, should be at once got rid of. We have been forcibly reminded of this lately by seeing what we remember as a few plants of hoarhound, "where once a garden smiled," now spread over a large area, which will necessitate a considerable expenditure of time and money to get rid of; so that we wish to impress on our readers the propriety of rooting out all such plants as soon as they appear, as thereby they may be saved much time and trouble in the future. To prove that this is no trifling matter we have only to refer to the spread of the sweet briar—another garden plant—which has rendered hundreds of acres of good land practically useless, or only reclaimable at much cost. The best plan we have heard of for dealing with this briar is to attack it in the winter time, when the ground is soft, by means of chains put round the clumps, which are to be dragged out by the roots with a team of bullocks, piled together, and afterwards burned. But if owners are wise they will adopt the suggestion here given, and wherever such plants as we have mentioned appear eradicate them at once, and give them no chance to spread, or they will do so to such an extent, and in such a manner, as will be simply astonishing; while, should the single

Messrs. Job Smith, D. G. Clarke, John Finlay, James Grice, and Richard Grice were also nominated.

FINANCE.

The Finance Committee's Report, submitting the monthly statement of accounts and recommending payments amounting to £44 2s., was read.

CORRESPONDENCE.

From T. Brunton, stating that he was unable to attend the meeting, and asking that the motion of which he had given notice *re* rescinding the resolution fixing the last week in August as the date of the Show, be postponed till next meeting.

The President stated that in view of the present position of matters this might be done, when Mr. White moved accordingly, his motion being seconded by Mr. Thomson and carried.

From John Bond, regretting his absence and stating that he was opposed to an alteration in the date of the Show.

RECEIVED.

The Secretary reported that a deputation had waited on the Hon. the Minister of Agriculture on the 5th inst., to urge him to grant a sum of money towards holding a Live Stock Show in connection with the Centennial International Exhibition. The propriety of voting a considerable sum (£1,500 being the amount asked) was forcibly presented by the members of the deputation to the Minister, who promised to consult the Treasurer and reply by letter. A letter which was received from the Secretary for Agriculture was then read. It stated that the Minister had agreed to provide a sum of £500 for the purpose (as above) on the condition that it be applied to the payment of prizes of more than £25 each, to be awarded and paid away for exhibits at the Show in question.

Considerable disappointment was expressed at the amount provided by the Minister of Agriculture, in view of the largely increased expenditure to be incurred through holding the Show in connection with the Centennial Exhibition.

Mr. Thomson moved that the matter stand over till the next meeting, when Mr. Brunton's motion would be considered. Seconded by Mr. Learmonth and carried. The President promised that, in the meantime, he would endeavour to induce the Minister of Agriculture to re-consider the matter on a broader basis.

From Victoria Juvenile Industrial Exhibition, asking the Council to assist them by giving prizes.

Mr. Thomson moved that one gold and five silver medals be offered by the Society, and that it be left to the President, Messrs. Munro and White, to arrange to which exhibits the prizes should be allotted. Seconded by Mr. Peppin, and carried.

ARRANGEMENTS FOR SHOW.

The Secretary requested the Council to order on the preparation of the prize list, which was apt to be delayed in completion, and the preparation of the Show Grounds. The matter of the prize list was allowed to stand over, and Mr. Thomson moved that the Works Committee be authorised to bring up a report on the requirements at the Show Grounds in order that, if any extensions or alter-

ations were resolved on, they might be undertaken at once. Seconded by Mr. R. Clarke, and carried.

The Secretary reported with regard to the replies to hand relative to the establishment of a Draught Horse Society, when the matter was referred to a special committee to bring up a report and recommendations to next meeting.

MOTION.

Inaccordance with notice Mr. Staughton moved—That in consideration of the neighbouring colonies having passed a resolution to open the ports for the introduction of stock from Europe, we Victorians are standing in our own light if we persist in keeping our ports closed and thus give the other colonies an advantage. When New South Wales and South Australia and—since he had given notice of his motion—New Zealand had agreed to open their ports for the introduction of fresh blood, it was foolish for this colony to stand out; for the other colonies imported stock, retained the pick and retailed the inferior to us. Where thousands of cattle came from New South Wales there was nothing to prevent an animal being imported through that colony.

Mr. Lobb seconded the motion as he believed in the introduction of fresh blood.

Mr. Graham Mitchell (Hon. Vet. Surgeon), was pleased to see a representative stock owner bringing forward this motion, as he had always been in favour of opening the ports to introduce fresh blood; but only under strict quarantine and regulations. He said that there should only be one or two quarantine stations for the whole colonies, which should be managed by a federal system, as he looked upon past quarantine regulations as a farce.

Mr. R. Clarke thought that the Society should take the matter up and appoint a Committee to go thoroughly into it and draw up a scheme for quarantine regulations to be submitted to the Government.

Mr. Walter Clark thought that the ports should be opened, and approved of a federal quarantine system as suggested by Mr. Mitchell, so that pure stock and fresh blood might be introduced to the colony without the necessity of doing it indirectly through the other colonies as had been done in several instances lately.

Mr. Cochrane thought that we already had as good blood as was to be found in the world, and that our ports should not be opened. If done at all, it should be done under strict regulations, as he agreed with what had been said about previous quarantine having been a farce.

The motion was carried, and a committee, consisting of the President, Messrs. Hurst, R. Clarke, Thomson, Lobb, the Hon. J. Buchanan, and the mover (Mr. Staughton), was appointed to devise a scheme for quarantine regulations to be submitted to the Government.

THE SYDNEY SHOW.

Mr. Staughton moved that the President and the Secretary be appointed to officially represent the Society at the Centennial International Exhibition in Sydney, and that they be supported by any members of Council who could make it convenient to be present. Seconded by Mr. Lobb, and carried.

It was notified on the agenda that a vacancy had occurred in the list of Vice-Presidents through the absence of Mr. David Mitchell from three consecutive meetings of Council.

The meeting then closed.

Dairying in Denmark.

BY PROFESSOR JAMES LONG.

I have received from Messrs. Petersen, of Copenhagen, a plan of the new system adopted by the newly started Co-operative Dairies, where the skim-milk is returned to the farmers. On the separating floor half is raised to the height of the stage outside upon which the milk is delivered. The milk from the cans as they arrive is emptied direct into a vat, from which it passes into the heater close to the separators. It is then separated by the centrifugal machine, and the skim-milk is elevated to a height of several feet, being poured into a trough and carried into another tank, in which it is heated again. From this it passes into another vat close to the entrance platform, and then, as the cans are emptied on arrival, they are immediately filled with warm skim-milk and returned by the same conveyance to the farmers. No better plan than this could possibly be adopted for work of this kind. It may not be known that this kind of co-operative dairying commenced only in 1885 in Denmark. In one of the first dairies started the members numbered 44, all of whom were small proprietors. They borrowed a sum of money at about 4½ per cent., one moiety of which they were required to repay within ten years, the remaining moiety existing subject to the mortgage on the premises. The expense of establishing the dairy was £1400; of this sum the building cost £800, the separators and other instruments about £470, and the movable plant £120. This dairy which was well supplied with water and other conveniences, commenced work in the spring two years ago, receiving the milk of 592 cows, the skim-milk and butter-milk being returned to the members at a fixed price. The balance of the receipts and expenses during the first six months work shows the following results:—

EXPENSES.

Price of 124,000 gallons of milk	£2,432
Wages	123
Carriage of milk	178
Fuel	86
Packages for the butter	59
Sundries	56
Interest on loan	24
	£2,958

RECEIPTS.

Butter	£2,574
Skim-milk	164
Cheese	29
Butter-milk, &c.	195
Fines from the staff	3
Stock	253
	£3,218

The stock consisted of wood used in the manufacture of barrels, of about 33,000 lbs. of cheese, and of the milk of the day, and a certain quantity of fuel.

The butter manufactured was exported to an agent in London, and generally sold at a price showing a profit of 3/4 per 100 lbs. over and above the market price in Denmark for the finest quality; 124,000 gallons of milk produced butter which represented an average of 26½ lbs. of milk, representing a value of 10 per cent. of the capital engaged, and of a profit of 8/0 to 9/0 per cow employed in sending milk to the dairy. In 1886, the manufacture of cheese was given up, as it did not cover the expense, and the skim-milk was then more advantageously returned to the farmer for the feeding of pigs. They receive it in the manner prescribed above in proportion to the quantity

plant or bunch be "scotched" at once, even if the doing so when first marked necessitates a special journey to the homestead for the necessary tools; the time will be well spent.

## The I.Y.U. Estate.

This estate, which was purchased by Messrs. Staughton Bros. three years ago, and which is about 5400 acres in extent, is situated in the Western Port District, between the Pakenham Railway Station, on the Gippsland line, and the Koo-wee-rup Swamp. Indeed, part of the swamp was comprised in the original run, but the estate is now exclusively purchased property, which is all securely fenced and subdivided. The country consists of well-grassed, lightly wooded flats and gentle rises, the timber having died off rapidly during the last decade. The house, in which Mr. S. G. Staughton and his family live during a portion of the year is a two-story brick one, standing well up from the Too-muc Creek, which runs through the estate. A flower garden, immediately in front of the house, and a fine orchard beyond stretching down to the creek side, show with what success flowers and fruit may be grown in the district. Mr. Staughton has an Althouse windmill with a pump beside the creek, which, by means of piping, gives the house, the overseer's cottage, the cattle sheds and the stable a constant supply of water through an ingenious system of self-regulating tanks, from which the overflow is carried off to supply a sheep paddock beyond. One of the most interesting features on the place is the fine herd of pure Angus polled cattle which now numbers 33 head. They are all remarkably quiet, and in very fine condition. At the time of our visit Mr. Staughton had a two-year old bull, a cow, a two-year old, and a yearling heifer in the sheds, preparing them for the Sydney Show where they should take a lot of beating, as they are all animals of very great merit. Amongst those running in the paddocks about the house, Mulberry, a fine big cow, was particularly noticeable for her splendid show as a milker. We were previously unaware—doubtless, in common with many others—that the polls excelled in this particular, but a perusal of the article published elsewhere will show that superiority as beef producers is not the only characteristic of the breed. Mr. Staughton, who takes a special interest in these cattle, makes a pet of almost every animal in the herd and delights in showing how really quiet they are. We could not help contrasting them with those on the station when we knew it more intimately some years ago, which were said to be the wildest cattle that went into the Melbourne yards. Indeed, it recurs to us that we were once charged and rushed off a horse by one of them on the Koo-wee-rup Swamp, for the run adjoined the one on which we were bred, so that the cattle mixed up and raids were made on both sides to get them out; in one of which we came to grief. Some never could be got out of the swamp, and, in fact, when the original herd was sold some never could be got out of the paddocks even with the best stockmen and cleverest horses. These reminiscences are worthy of record, as showing the surprising

change which may come over the stock of a district in a few years. Mr. Staughton has used his polled bulls on some Hereford cows, and, interesting to relate, the calves are polled and jet black, but with white faces, showing the persistence of the leading features of these two breeds. There are about 7000 sheep on the place which is worked in connection with Mr. Staughton's Eynesbury Estate at Melton. There is not much cultivation done, but enough hay is grown for the use of the stock. Mr. Staughton has been experimenting with a number of grasses, and has arrived at the conclusion that sweet vernal grass and Alsike clover are very suitable for the district and well worthy of being largely introduced. A drain plough, which has been extensively used on the place, and which has done capital work, is well worth notice. The plough which is a large and strong iron one, with a second coulter on the share nearly opposite the usual one, has been improved by Mr. Staughton, as in its original form, as turned out by the manufacturer it was quite unworkable. Mr. Staughton attached a beam of wood to the mould-board, making the latter in all about six feet long, and underneath the mould-board bolted a second piece of wood on which the plough rides in the furrow, making it quite easy to hold. With 12 bullocks, a drain 8 or 9 inches deep and 14 inches wide is cut by the plough, the material being thrown back about 2 feet 8 inches from the edge of the drain, which is as clean cut and as good as if done by spade. About 10 miles of drain a day can be cut with the plough, which in its present form is a really effective and excellent implement reflecting infinite credit on the ingenuity of the gentleman who devised it.

## Notes.

We direct attention to the advertisement on page 5, calling the preliminary general meeting of governors and members of the National Society on Thursday, 19th inst., when nominations take place for office-bearers for 1888. The annual general meeting for the election of members of Council by ballot takes place on Thursday, 16th February prox.

Although a standing advertisement of the Cattle Derbies appears on page 5, so that the matter may be kept before breeders, yet the entries in some of the breeds are not so numerous as they might be. It is to be hoped that owners will bear in mind that calves must be entered within one month of date of birth, and that they will avail themselves largely of the opportunity of entering.

In the last number of the *Agricultural Gazette* to hand, it is stated that Professor Brown, an eminent authority, has no belief in the efficacy of inoculation as a preventive of pleuro pneumonia, arguing that throughout Europe and the Colonies, where inoculation has been practised, the disease has not been stamped out. But we hold it is not through the inefficacy of inoculation that such is the case, but through the use of improper lymph. All our large cattle owners, who know how to procure the lymph at the right stage, are firmly convinced of the efficacy of inoculation as a preventive of pleuro, for they have found it to be such over and over again.

The celebrated imported Clydesdale stallion Young Ivanhoe, the property of Messrs. Grant and Graham, died last week at the residence of Mr. Grant, at Romsey, from disease of the liver. Amongst many other show yard honors, Young Ivanhoe was the winner of the Grand Champion Prize of Australia for the best draught stallion at the Shows of the National Society in 1884 and 1885. As the horse was only eight years old his death is a severe loss to his owners.

Mr. D. G. Clarke, of Richmond, has imported this month from New Zealand a shipment of eight pure polled Angus heifers and one bull, all of great merit. The heifers are from the stock imported direct from Scotland by the late Judge Ward, and the bull "Darkie" is a first prize taker at Oamaru. This draft of cattle has been sent by Mr. Clarke to his Richmond Vale Estate, Carrington, South Gippsland, where he has now altogether 54 head of polls. With so many importations of the polled Angus cattle to the colony, there should be a great display of this breed at the next Melbourne Show.

## Meeting.

### Council.

THE ordinary monthly meeting of the Council of the National Agricultural Society of Victoria was held on Tuesday, 10th January, 1888.

Present—Dr. Plummer, President (in the chair), with Messrs. F. Peppin, W. J. Lobb, D. R. McGregor, R. Clarke, S. G. Staughton, J. Hurst, W. Learmonth, J. Currie, C. Lynott, J. Garton, J. Jones, D. Munro, D. White, G. Young, J. Hearn, Walter J. Clark, W. Thomson, J. C. Cochrane, and J. Buncle.

The minutes of the previous meeting were read and confirmed.

#### COUNCIL'S NOMINATIONS.

Mr. Garton moved—"That the retiring members of Council, Dr. Plummer, Messrs. F. Peppin, W. J. Lobb, James Gibb, W. Learmonth, John Buncle, John Bond, Charles Lynott, S. G. Staughton, John Currie, John Hurst, Robert Clarke, Hon. C. Young, John Blyth, J. M. Peck, William Thomson, and T. Harmer be nominated for election."

Mr. Peppin stated that as he intended to visit England, and remain for twelve months, he wished to withdraw his nomination, although he hoped to be re-elected on his return. He would endeavour during his visit to increase his knowledge on all matters pertaining to agriculture, so that he might be the better able to further the interests of the Society.

Mr. McGregor said that he thought it would be a graceful act on the part of the Council to nominate and secure the re-election of Mr. Peppin, who was the senior Vice-President, and who, as well as doing much work for the Society, had also promoted the interests of agriculture by the introduction of high-class stock. He was certain if he would allow himself to be nominated he would be re-elected, when he could retain his official status, which would be of service both to himself and the Society. Other members of Council also urged this course on Mr. Peppin, who at length consented to his nomination.

and, therefore, the ripe quarters may be put aside for the present at least, although India may eventually be able to send us all the wheat we need, so far as a quantity is concerned. Now with regard to the quantities grown at home, as compared with those imported in the period during which the home produce has been going into consumption, we have prepared the following statement, taking the quantities shown to be imported by the Board of Trade returns, and working out the home production from the acreage and estimated yield of the 1886 harvest, as rendered by the Agricultural Department, in quarters of 480lb. for wheat, 400lb. for barley, 312lb. for oats, and 480lb. for beans and peas. The imports are given in Board of Trade quarters, excepting in the case of wheat and flour:—

HOME PRODUCTION AND FOREIGN IMPORTATION IN 1886-7.

HOME PRODUCTION.		Quarters.
Wheat (480lb.)	...	7,918,486
Barley (400lb.)	...	9,788,701
Oats (312lb.)	...	21,172,011
Beans (480lb.)	...	1,311,306
Peas (480lb.)	...	784,165

FOREIGN IMPORTATION.		Quarters.
Wheat and flour (480lb.)	...	18,121,210
Barley	...	4,585,600
Oats	...	5,187,212
Beans	...	589,269
Peas	...	569,949

In addition to the foreign imports thus shown we have received 7,226,642 quarters of maize (480lb.). The annual consumption of wheat in the United Kingdom is probably about 26,000,000 quarters, reckoned at five and two-thirds bushels per capita per annum, but the consumption of other articles is quite problematical. It is noteworthy that the Danubian provinces, Roumania especially, are now sending in much larger quantities of maize than the United States. Yet America exports only a small per centage of her maize crop, and might at any time overwhelm our markets with this cereal. It would appear that the comparatively small quantity of oats imported to the bulk grown at home, should not have the effect that it undoubtedly has in depressing values. The cost of imported breadstuffs in 1886-7, as estimated in the Board of Trade returns, has been £21,856,770 for wheat, and £9,441,228 for flour, together £31,298,998. In 1885-6 the estimated expenditure was £18,616,717 for wheat, and £7,948,044 for flour, together £26,564,761 for breadstuffs. These values of course were estimates, and we have no means of judging of their value as approximations; but as relative comparisons they must be useful. Thus our bill for products of foreign labor is increasing, whilst our own honest and industrious labourers are being discharged, because farmers cannot afford to employ them. These workers are fast learning the fatal fallacies of our one-sided and single-handed Free Trade policy, and unless our rulers afford them speedy relief, there are likely to be troublesome times ahead. Lord Derby and Lord Salisbury, and others of less note may talk platitudes, but these will not keep the wolf from the door—their door—and it is high time the country set itself earnestly to consider whether or not the social institutions of this country are to be maintained, and if British agriculture is to stand or fall.—*Mark Lane Express.*

## The Pig Pen.

### The Pig of the Future.

SIR J. B. LAWES, Bart., writes as follows in the *Agricultural Gazette*:—

"It is rather hard upon our agriculturists who have for a long period used every effort to produce—out of a long-eared, long-legged, hairy greyhound species of animal—a pig resembling a ball of hairless fat, to be told that the animal does not suit the wants of their customers, and that they must produce an animal which has a great deal more lean mixed with its fat. There can be no doubt whatever that the taste of the day has changed, and it will be interesting to inquire into the circumstances which have brought about this change in the requirements of the population.

"Many years ago when I was staying with the late Sir Henry Thompson in Yorkshire, he told me that the taste of the manufacturing popula-

tion was changing very much. There was a time when the great demand was for very fat Cotswold mutton, but recently the Down mutton with more lean and less fat was in demand. The explanation he gave for this change was as follows: 'Formerly a fat chop was put into the frying pan with potatoes, and both were fried together. Lately, however, the artisan population had become much better off, and took their fat in butter and more costly forms than mutton suet. It is to somewhat similar causes that the demand, not only for pork and bacon, but also for beef and mutton, in which fat and lean are more evenly distributed, has of late years arisen. It is not by any means the case that the demands of the population for fatty substances have in any way decreased, but simply that they can obtain their supplies in other and more palatable forms. The agricultural laborer, in my time, if he ate any meat at all with his bread, it was the fatest bacon he could obtain; and he rarely consumed any other form of fat. But this is all changed now, as he prefers meat with less fat, and takes his supply of fat in more palatable forms.

"There can be no doubt that butterine and the various forms of artificial butter have contributed largely to this altered state of things. The farmers in this country are not altogether blameless in having brought about this unfortunate state of affairs, as the quality of the butter supplied to our large towns was far from being as good as it ought to be, and the consumer appears to prefer a tasteless fat, which is supposed to be butter, but is not, to real butter which has, more or less, a rank smell or taste. The more recent advice which the farmer has received to meet the altered condition of the pig industry, is to convert his lard into butterine, and so compete with the foreigner in his own trade. How far such a course would be permitted, or if permitted would be successful, I cannot pretend to say. To produce so many pounds of increase in a pig by the cheapest forms of food which can be purchased, is no longer the main object. To produce pork in which fat alternates with the lean in regular layers, requires a different combination of foods. For laying on fat alone, probably no food is better than Indian corn; but for the other process a more nitrogenous diet is necessary, and probably skim milk with pea meal, and rice or barley would furnish the desirable ingredients.

Many years ago when we were experimenting on pigs, we noticed that the more nitrogenous foods produced a pig which grew more, and the flesh of which was in larger proportion to the fat, than was the case with pigs fed with foods containing less nitrogen; but we did not follow this subject further, as the taste of the day ran in the direction of very fat pork. There can be no doubt that the tendency to put on fat in masses, and without admixture of lean, has been developed in some breeds of pigs, so that give them what food you please, they will continue to fatten. It is important, therefore, to select pigs which retain some of their old characteristics, and by the use of suitable food I have no doubt that any one can produce the pork of the day on which the consumers have set their hearts."

## A.B.C. of Agriculture.

### IV.

#### IMPROVEMENT OF SOILS.

It is the object of the thoughtful husbandman to get paying crops, to have the land either getting better or more fertile, or at least not losing in productive power. Some land is so very rich and fine and deep, so well-drained and favourably exposed to sunshine and showers, that it may be cropped for many years without any apparent lessening of the crops, except as that result might be influenced by the weather. The most, however, be considered settled, that the time will surely come when even such soil will begin to fail; and more, these most fertile natural soils may always be made to yield much larger crops by means of fertilizers and tillage.

If we have correctly indicated the character of the best known soil and land, then one might suppose that to improve inferior soils we should try to make them rich and fine and deep and well-drained, and to secure as favourable an exposure as possible, and this is true. We have the power to do more or less of all these things for almost every soil where that particular work is needed.

Soils are made rich by application of fertilizers, and by every means by which plant food may

be increased in that portion accessible to the roots of the plants. Soils are made fine and deep by tillage—ploughing and harrowing, exposure to the frosts and thawing of winter, to the penetration of water and air. Soils are drained both for the removal of excessive moisture, for the sake of opening the lower parts of the soil so that the water of showers and rains shall pass downward into the soil rather than away upon the surface, and to secure the fertilizing influence of air, which is very great. When water flows downward through the soil the air follows it—in fact, helps it on.

As a rule—not always a good one—farmers avoid those lands which need drainage, much tillage and labor to free them from natural growths, stones, etc., and bring them into a condition favorable to crops. They prefer to take lands easily brought into tilable condition, and thus it often happens that some of the best lands of old farms are still unreclaimed, and offer tempting jobs for the young men.

There are a few rules in regard to maintaining fertility which should be followed. One is that all the unsold or unfed portions of crops should, if possible, be returned to the soil upon which they grew, or an equivalent should be returned. Thus, if wheat is raised, the grain sold, and the straw composted with the dung of animals, we form a manure which returns much that was removed by the crop. If the straw be partly or wholly fed to animals, still a large portion naturally finds its way back to the soil. A portion of the plant food supply of the soil is irrecoverably lost in the grain sold, in the bones of the animals, in the milk sold off the farm, etc. But we can calculate very nearly what this loss is and make it good at small expense if we do not delay too long. It is much better to feed than to sell hay and straw, because the tax upon the soil is so much less, and whoever does sell these products should surely plan to buy fertilizers to make good his drafts upon the soil. Near cities it is always easy to buy stable manure, and this is ordinarily the most economical. The hay, grain and straw are thus returned, the loss is not only made good, but the condition of the land is improving all the time, for this is the natural result of tillage.

In all well cropped soils the roots of the crops, together with portions which remain upon the soil, especially when grass is raised, form a gradually increasing amount of organic matter, which becomes incorporated with the soil by ploughing and tillage and adds greatly to the capacity of the soil. The presence of organic matter in the soil increases its fertility by equalizing the amount of water which the soil will retain, so it defends the plants against drouths. It not only absorbs water like a sponge when it rains, but in dry weather it abstracts moisture from the air, which it yields to the plant; besides it arrests and retains certain kinds of plant food, which might otherwise be washed away or down through the soil by rains. Again, by its color, it absorbs the heat of the sun and thus warms the soil, and by its slow decomposition, which is going on all through the growing season, it produces carbonic acid gas, which, being dissolved by the water, aids in dissolving other constituents of the soil to be taken up by the crops. Organic matter is therefore to be increased in soils in which it is not naturally too abundant, in every economical way. Hence composts consisting largely of such organic constituents as straw, leaves, swamp hay, sods, weeds, peat, swamp muck and wood mold, are to be recommended, quickened with stable manure or with wood ashes or lime, in place of concentrated fertilizers, which supply only the constituents supposed to be removed. Those articles, in the form of bone-dust, ashes, potash salts, etc., may well be added to any compost, and are thus often most conveniently applied to the soil.

There are other ways of increasing the organic matter in the soil besides those we have been considering. When the necessity is urgent, the soil very light, sandy, or leechy, or very stiff and hard to work, like many clays, we may raise a crop simply for the sake of ploughing it under, and may repeat the operation the same year or in subsequent years according to our judgment. The crops favorable for this purpose are oats and peas together in spring, or red clover sowed with some spring grain or upon winter grain and ploughed in the next June; buckwheat sowed in June and ploughed in when in blossom; Southern cow peas sowed in early summer and ploughed in before frost, after which most of their value is gone. These and other crops may be ploughed in, and when incorporated with the soil greatly increase its capacity for production.—*American Agriculturist.*

of new milk they bring to the dairy. The success of this experiment brought a number of new members, who were admitted on condition that they paid to the general account 10/0 for each cow they owned, this sum being placed to the reserve fund. In this way the number of cows employed in producing milk has risen from 592 to 954. The Association is not prohibited by its rules from purchasing when it can do so to advantage, and the profits which arise from such purchase are divided proportionately amongst the members, in accordance with the quantity of milk which they send. The same system is spreading throughout Schleswig-Holstein, where there are some hundreds of co-operative dairies existing, and they are still increasing. These dairies, however, are showing that it is possible to restrict the scope of their operations. In many cases they have given up the manufacture of cheese from skim-milk, and confine themselves entirely to centrifugal creaming and the manufacture of butter, the residue, as in the case of the Danish dairies, being proportionately divided between the suppliers of new milk. The adoption of this system is stated by M. Marie, in the *Journal d'Agriculture Pratique*, to have had considerable influence upon the breeding and fattening of pigs, and the diminution in the production of skim-milk cheese; and it has removed from the markets a quantity of an inferior article, and has not been unfavourable to the sale of cheese of a better quality. At first the average price of the butters of Schleswig-Holstein fell, especially in the great market of Hamburg, where the makers were reproached with having lost rather than gained in their capacity to make a keeping butter. It appears that the system of co-operation has done a great deal of good; more especially among the smaller makers, who are enabled to compete in the same markets that were formerly monopolised by the large proprietors. This is not unlike the system in the South of Ireland, which brings the butter of the peasant into Cork side by side with that of the larger makers; although in Ireland there is no comparison between the capacity of the large makers of the South and those of Denmark and Schleswig-Holstein. It is stated that already there are thirty large proprietors in the East of Holstein who have formed the base of a new association of considerably greater importance. They look to Berlin as their market, and there is no doubt that, taking all things into consideration, they will achieve a great success. Upon my last visit to Berlin I visited one very important factory, which sends out into the city eighty vans daily, each carrying milk, cream, and butter; and, so far, I believe there is no competitor of sufficient capacity to fight this great concern, which is one of the best managed dairies of the large type with which I have ever met.—*Mark Lane Express.*

**GIVE THE BOYS A SHOW.**—One of the best ways to interest boys in the farm, and develop a love of farming, which will hold them to agriculture instead of going to the city for work, in a railroad office, or on a street car, is to give them the ownership of, or an interest in some of the live stock on the farm, and encourage him to improve it by judicious breeding. A boy is a very human animal and needs motives set before him to induce him to do his best, the same as grown up people do. If he has to bow down to work month in and month out without anything coming to him beyond his board or clothes, nothing that he can call his own, he is quite likely to become disgusted with farming and to leave it as soon as ever he can do so. But, if he is made a partner, even in a small way, it will wonderfully change his view of the whole subject, and give him an interest in it that could not otherwise be aroused.—*Planter and Farmer.*

There are other sources of phosphoric acid besides bones. Pure phosphate of lime is found as a mineral in the rocks, and is ground up, acted upon by acid, and made available as a fertiliser.

### The Marking Power among Cattle

SOME interesting experiments to test the marking powers of different breeds of cattle are being carried on at the Agricultural College, Guelph, Ontario. From the observations made so far the evidence points most clearly to the superior marking power of the male over the female when both are pure or thorough in their breeding. Even in the case of breeds that do not profess typical or distinct markings the progeny have invariably followed the sire in colour both in male and female issues. White is found to be the purest, the strongest, and most reliable of all colours, if it is a colour at all. Very dark red, or even black and yellow Ayrshire cows, yield to a white sire of their kind, and if he be spotted red and white, the very clouding of his red and white is given through a white cow. The general conclusions arrived at show that—

- (1) The cows of many breeds herding continuously together do not endanger the special marking of the progeny of any of them.
- (2) The strongest colour in respect of influence upon progeny is white.
- (3) Whole colours, or one colour, are more certain of exact perpetuation than a mixture of them.
- (4) Colouring is more certain of being perpetuated when the sire has a marked nervous organisation.
- (5) Improved breeds, or those that have been especially bred from various sources to attain certain results, are not so decided in marking their progeny.
- (6) Dairy breeds are more powerful in marking than those disposed to make flesh and fat.
- (7) There does not seem to be much tendency to bad marking by breeding the same cow to bulls of different breeds.
- (8) A cow or bull having the colour of the original type of what is now an improved breed, with a very different colour, will produce more of the improved than of the old colour.

### The Cereal Year, 1886-7.

It is not our intention to enter into a retrospect of the harvest year, which ended on August 31, as we have chronicled week by week, and the interest in it, so far as causes are concerned, has now passed. It is solely with results that we wish now to deal. The statistics supplied by the Board of Trade returns enable us to show what we have purchased from abroad, and the Government quantitative estimates furnish data from which a good approximation may be made of what was produced by the harvest of 1886; the two sets of figures, therefore, will afford information which cannot fail to be of interest to our readers.

First of all it will be well to show the quantities of breadstuffs we have imported from the several sources of supply during the cereal year. These quantities we have reduced to quarters of 480lb., from the statement given in cwt. by the Board of Trade, because there are very few connected with the trade or otherwise who have any definite idea of quantity conveyed to their minds by cwt. of grain. Not only so, but the returns of sales of English wheat for title purposes are reduced to quarters of 480lb., and this uniformity may be of some advantage.

The quarters given in this connection are, therefore, a definite quantity by weight, as against the irregular and often indefinite quantities represented in statistics by the term.

The quantities of wheat and flour reckoned as wheat, at the rate of 45lb. of flour to 60lb. of wheat, imported from abroad during the cereal year (1886-7) as compared with the importation of the two preceding cereal years, will be seen from the following tabular statement:—

BREADSTUFFS IMPORTED IN 1886-7.	
WHEAT.	
	Qrs. of 480lb.
United States—Atlantic ports	5,116,550
“ “ Pacific ports	2,288,022
	7,404,572
India	2,495,939
British North America	952,818
Russia	712,678
Australasia	259,106
Chili	501,352
Other countries	242,034
Germany	236,412
Roumania	64,679
Egypt	30,986
Turkey	4,405
France	184
Total wheat	12,885,065

FLOUR AS WHEAT.	
	Qrs. 480lb.
United States	4,349,806
Austrian Territory	414,982
British North America	310,501
Germany	96,538
Other countries	41,078
France	23,240
	18,121,210

BREADSTUFFS IMPORTED 1885-6.	
WHEAT.	
	Qrs. 480lb.
United States—Pacific ports	2,505,637
“ “ Atlantic ports	2,375,688
	4,881,325
India	2,847,609
Russia	1,628,920
Australasia	560,999
British North America	547,713
Chili	429,687
Germany	424,497
Other countries	383,875
Egypt	121,826
Turkey	120,924
Roumania	77,885
France	792
Total wheat	11,976,052

FLOUR AS IN QUARTERS (480lb.)	
	Qrs. 480lb.
United States	3,217,731
Austrian Territories	466,211
Germany	540,944
British North America	149,806
Other countries	89,489
France	49,847
Total flour	4,314,028
Total	16,290,080

BREADSTUFFS IMPORTED 1884-5.	
WHEAT.	
	Qrs. 480lb.
United States—Atlantic ports	3,076,163
“ “ Pacific ports	3,050,661
	6,126,824
Russia	2,585,847
India	2,328,898
Australasia	1,309,592
British North America	433,393
Germany	386,075
Chili	290,888
Other countries	272,985
Egypt	98,214
Turkey	9,864
France	1,897
Total wheat	13,877,483

FLOUR AS WHEAT.	
	480lb. qr.
United States	3,864,441
Austrian Territory	2,051,103
Germany	455,836
British North America	145,581
Other countries	133,399
France	52,354
	6,702,814
Total	20,580,297

BREADSTUFFS IMPORTED 1884-5.	
WHEAT.	
	Qrs. 480lb.
United States—Atlantic ports	3,076,163
“ “ Pacific ports	3,050,661
	6,126,824
Russia	2,585,847
India	2,328,898
Australasia	1,309,592
British North America	433,393
Germany	386,075
Chili	290,888
Other countries	272,985
Egypt	98,214
Turkey	9,864
France	1,897
Total wheat	13,877,483

FLOUR AS WHEAT.	
	480lb. qr.
United States	3,864,441
Austrian Territory	2,051,103
Germany	455,836
British North America	145,581
Other countries	133,399
France	52,354
	6,702,814
Total	20,580,297

With regard to these figures as they stand, we wish to direct attention to the position occupied by the United States as the chief source of supply. California, in 1885-6, sent us more wheat than all the exports—in wheat—from the Atlantic seaboard. Yet the exporting power of the vast continent east of the Rocky Mountains may at any time develop itself to an extent, of which the Pacific Slope cannot possibly be capable, although the resources of California and Oregon alone are by many considered to be equal to the supply of nearly one-half of our needs. In the all important item of flour it will be seen that America is sending us more and more, and it is believed by many in the trade that the grades we receive are much of the nature of a bye-product, which the great milling establishments of the north-west can sell in, at a profit, at a lower price than they have as yet received for it, their main profit being made by the sale of the higher grades which are consumed there. If this is so—and we have reason to think that it is—the outlook for the British farmer is sad indeed. With regard to India, it will be seen that the quantities we have received during the three years cannot have had the depressing influence assigned to them, whether the exchange value of the rupee has acted as a "bounty" to Indian wheat-growers or not. Russia is now selling freely a large crop of excellent wheat, at prices considerably below the parity of all other wheats, those of our own native crop excepted;

**WOOL AND GRAIN.**

**THE AUSTRALASIAN MORTGAGE AND AGENCY**

COMPANY LIMITED,

With which is Incorporated

HASTINGS CUNINGHAM AND COMPANY LIMITED,

**WOOL AND GRAIN BROKERS.**

**THE AUSTRALASIAN WOOL STORES, MELBOURNE.**

Auction Sales of WOOL every Friday during the Season, and of SHEEPSKINS, HIDES, TALLOW, KANGAROO SKINS, &c., every Tuesday, Thursday & Saturday throughout the year.

Auction Sales of WHEAT, FLOUR, BARLEY, OATS, &c., every Wednesday during the Season.

Consignments fully Displayed and Carefully Valued by Experts prior to Sale.

PROCEEDS REMITTED PROMPTLY ON DUE DATE.

The Australasian Wool Stores,  
Collins Street West, Melbourne.

**WILLIAM ADAMSON & CO.**

Produce Brokers,

**MACKILLOP STREET,**

MELBOURNE,

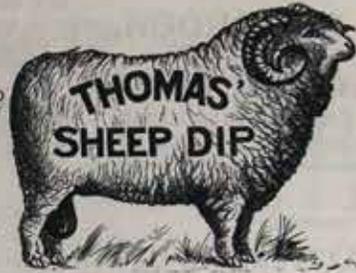
Hold Sales every Wednesday and Friday of

Dairy Produce, Poultry,

Carcass Pork, &c.

Account Sales rendered within Four Days from Date of Sale.

A Perfect SHEEP DIP Destroys all Parasites, Ticks, Lice, or Scab.



The CHEAPEST, Most RELIABLE, and Most LASTING

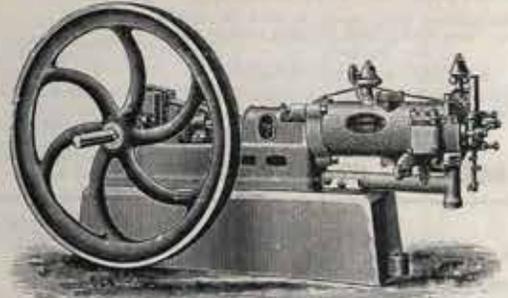
The Wool consigned to Messrs. Helmich, Schwartz & Co., London, by the Pastoral Society of New Zealand, was reported upon as "of Fine, Staple, and Sound, of Good Lustre and Soft Feel, and with little or no smell."

The Total Prizes taken at the places referred to number 157, including nearly £800 in Sterling Money.

TESTIMONIAL.

"I have very much pleasure in sending you a testimonial of my high appreciation of Thomas' Sheep Dipping Specific, with which you have supplied me. I have found it to answer well. The complete failure of an English Poisonous Dip to kill the Ticks, induced me to try the above. I am glad to state, with the greatest success. The eradication of the Ticks and Ova was so complete that on several occasions I have challenged inspection of my Stud Sheep and General Flock to find a living Tick amongst them. As for the condition of the Wool, and the health of the Sheep—the fact of my taking so many First Prizes at each of the Agricultural Shows, viz., Melbourne, Ballarat, Echuca, Sandhurst, Rochester, Kyneton, and several other Shows—sufficiently testifies, and my Sheep were entirely free of Ticks at Shearing. I have now much pleasure in giving in writing my opinion of your Specific, which I never hesitate to express publicly whenever the subject of Dip is referred to. Scale Park, Clunes, Victoria, Jan. 29, 1887. (Signed) LEONARD B. CARTER."

**THE "OTTO" SILENT GAS ENGINE.**



Full power at a moment's notice. No Boiler required. The best and most economical engine in the market. Cost of gas, 1½d. per hour, with gas at 6s. per 1000 cubic feet. Over 1000 in use in the Australian Colonies. Made in all sizes, from 5 man power, indicating 1 h.p., to 20 h.p., indicating 50 h.p. The new Vertical "Otto" Gas Engine takes up little floor space, is silent, and is equal in power to the horizontal pattern. May be had on Deferred Payment System. For price lists and further information, apply to

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THE WORLD'S HIGHEST PRIZES

**STUDYING FARMING.**—How many young men ever think of studying practical farming with some successful farmer? An old farmer—he was old in experience rather than years—called on us the other day and talked for an hour of his experience in draining lands; raising sheep and horned cattle; the breeds he kept and the best for such and such purposes; of his experiments with several varieties of apples; of how he "learned the poultry business," etc., etc. Now, is it going out of the way to say that not one young man in a hundred, who to-day proposes to follow farming for the rest of his life, seriously thinks of going out to live a year or two with one of these practical farmers, so as to learn the business. When a young man proposes to follow the law or medicine, as a profession, he goes to some good lawyer or physician and spends a year or two in "reading" law or medicine. Now, why should not a wide-awake, energetic, ambitious young man study farming with some practical farmer who has tried all these experiments? We think at the end of one or two years the young man would know absolutely more of practical farming than he would learn by himself in ten years. In other words, he would start out as a young farmer nearly where the older man, of whom he learned, stands to-day. If the young man makes a success he has got these things to learn, and learn by experience, too, and why not study with some good, practical, thorough farmer—go and work on his farm as a hired man.—*Planter and Farmer.*

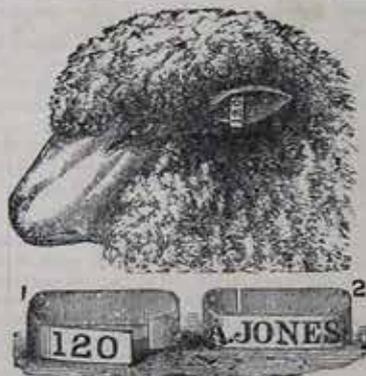
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PLAIN AND GALVANIZED,  
100, 200, 300, and 400 GALLONS.  
Taps fitted to any size required.

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FIRE BRICK LINED FURNACES



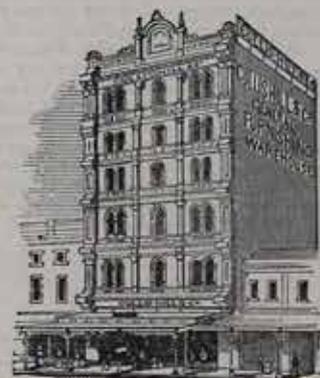
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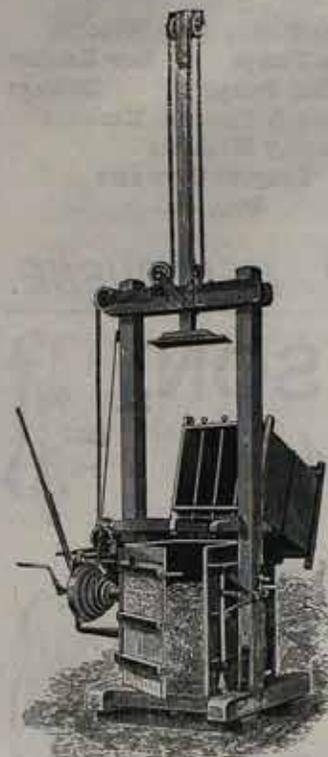
74, 76 & 78 ELIZABETH STREET MELBOURNE.

# D. FERRIER'S PATENT LEVER WOOL-PRESS

First Order of Merit awarded this Press at the Melbourne International Exhibition, 1880.

## HUMBLE & NICHOLSON

Makers, Geelong.



The usual screw is dispensed with, and the pressure brought to bear by means of a strong rope or chain, working in sheave pulleys overhead, attached to a Ram, and winding on a fusee, which is made in the shape of a suddenly tapered screw.

The rope works on the large part of the Fusee, when the pressure is light, and passes down to the taper end as the pressure increases, being worked by a lever fixed on the centre spindle.

The top Box is hinged to side Brackets, and turns down to the floor, which greatly facilitates the putting in of the wool, and renders any second floor unnecessary, and when filled is easily placed back in position.

When the bale is pressed and the sides sewn, the Ram is lifted by a small rope from the Fusee, turned by a handle.

It will be understood how very much quicker the power is brought into application by this means than by the ordinary screw press, and double the work is got through by the same number of men.

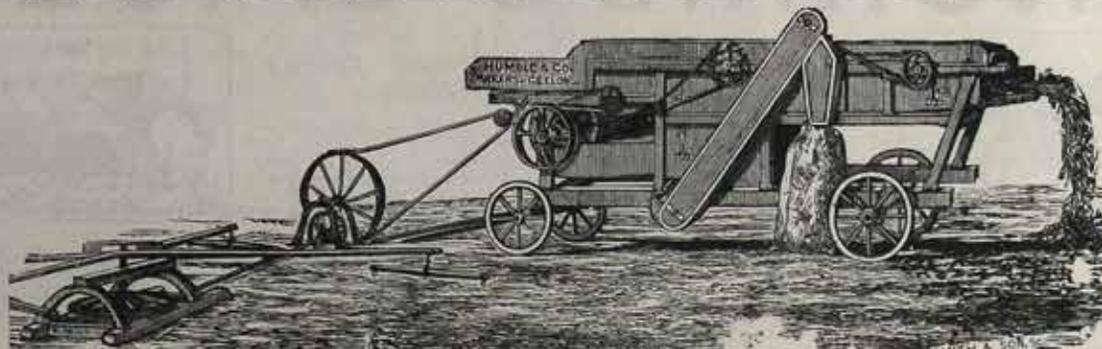
Special attention is directed to the fastening of the Packs before the Wool is put in, which is done in an exceedingly quick and simple manner: four pieces of wood are fitted into the recesses of doors, which hold the Pack securely in position and to the side catches for fastening the doors, which are held in position by a vertical bar, and relieves them simultaneously.

The side door is also held in its place by a catch, which at any time can be relieved instantly, the door falling back and allowing the bale to be removed.

At the Melbourne Exhibition competition this Press turned out 3 Bales of Scoured Wool in 28½ minutes, being considerably less than any other Press, although one had the advantage of being driven by steam.

HUMBLE & NICHOLSON, ENGINEERS.

# THRESHING MACHINE



FOUR-HORSE POWER THRESHING MACHINES.—These Machines are found to be very convenient to farmers who wish to thresh their own grain; or in some cases where three or four neighbours combine. They will thresh from three to four hundred bushels per day with horse power; or if worked with steam power, about six hundred bushels daily.

We have been making these Machines for the last seventeen years, and have been awarded a large number of prizes at the different Shows, including the National Show at Melbourne and other places. The above is strongly made with Wrought Iron Drum, Steel Spindle; all bearings of the best material, no time or expense being spared to turn them out in a substantial manner.

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VULCAN FOUNDRY, GEELONG.

Manufacturers of TAYLOR'S PATENT REFRIGERATORS  
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Three Gold Medals for best Carriages at Melbourne Shows of 1883, 1884, and 1887, and Forty-four First Prizes at Exhibitions and Shows of 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, and 1887. Also Three First Awards of Merit (First Prizes) at International Exhibition of 1880 and 1881.

NOTICE.—Referring to above, D. WHITE desires to inform his numerous Customers and the Public generally that he has secured and completed EXTENSIVE ADDITIONS TO HIS COACH FACTORY, and with the increased accommodation and Steam Plant, and the Largest Stock of Seasoned Timber in Melbourne, is now prepared to meet the increasing demand for his well-known Carriages and Vehicles.

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N.B.—D. W. was awarded, by the judges of the late National Agricultural Society, 14 First Prizes (including only Gold Medal and Challenge Shield given) for 18 vehicles exhibited, a feat hitherto unknown.

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FOR  
Threshers and all Agricultural Machinery.

Is not affected by Heat, Water, or Steam. More Durable. Better Grip.  
Adopted by the Victorian Railways, and is used by all the leading manufacturers in Melbourne and suburbs.  
Prices less than single leather. All sizes from 1 1/2 to 16 inch in stock.

All the Main Driving Belts for the Adelaide Jubilee Exhibition are supplied by Lancashire Patent Belting.  
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Messrs. CAMPBELL, GUTHRIDGE & Co.,

Agents for Lancashire Patent Belting and Hose Company,  
Dear Sirs,—We have great pleasure in informing you that the Patent Belt we bought from you for our Threshing Machine has given us great satisfaction. We consider it much better than leather, and believe it more durable; we also find that it runs more smoothly in wind and keeps on the pulley better when raining, in fact, last season the belt only came off three or four times when at work, and we have seen a leather belt come off as many times in an hour in windy weather. We would not think of buying a leather one now; the cost of leather is about double what the Patent Belt costs, and we have great pleasure in recommending them to machine owners. We are, Gentlemen, Yours respectfully,  
HARPER & HAMMILL.

"Orniston," Upper Maffra.

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TELEPHONE

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**SULPHATE OF AMMONIA IN AGRICULTURE.**

For Grass Land.—1 1/2 cwt. per acre; to be put on the land from August to October, before or after a shower of rain.

For Wheat, Oats and Barley.—1 cwt. per acre for wheat, in April; 1 cwt. per acre, for oats, in April; 1 1/2 cwt. per acre, for barley, in August.

For Vines.—1 bushel on the vine border, and lightly fork it in, in the months of July to September. This quantity (1 bushel) to be for the nourishment of four vines.

For Onion Beds.—Give a good sprinkling over the beds two or three times during the growth of the onions.

For Potatoes.—1 1/2 cwt. per acre as a top dressing, before the haulms appear above ground.

For Greenhouse Plants.—A large teaspoonful in a bucket of water, to water the greenhouse plants with twice a week. Not to be used, however, for heaths, rhododendrons, or orchids.

For Peach, Apricot, Plum, Currant, and Gooseberry Trees.—A similar solution to that given for greenhouse plants, in the months of July and September. Rose trees and garden plants are benefitted by the use of the solution. Celery, cabbages and cauliflowers also grow well when watered with the solution.

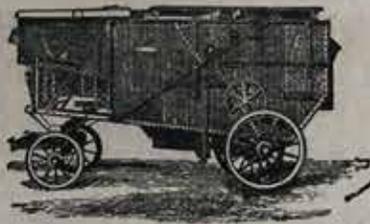
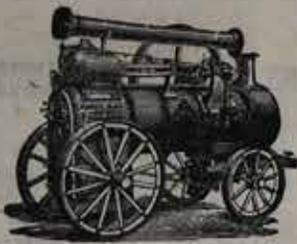
For Raising of Healthy Plants from Seeds.—Sprinkle a good quantity of the sulphate on the seed beds, and then water them a week before sowing the seeds. Melons and cucumber plants also are much benefitted by the sulphate of ammonia.

Note.—All vegetation, excepting heaths, rhododendrons, and orchids are rendered more luxuriant, healthier, and consequently freer from the destructive attacks of the scavengers of Nature by the use of sulphate of ammonia, especially in the spring of the year, when vegetation requires a condensed antiseptic food and nourisher, to enable it to withstand the blighting effects of the north-easterly winds, which, being the least electrical of all the winds, lower its vitality, and thus conduce to disease in the animal and vegetable kingdom.

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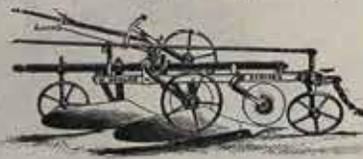
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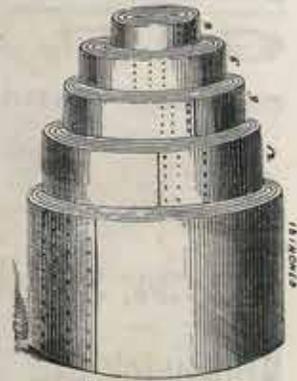
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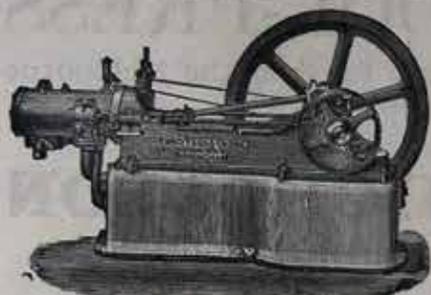
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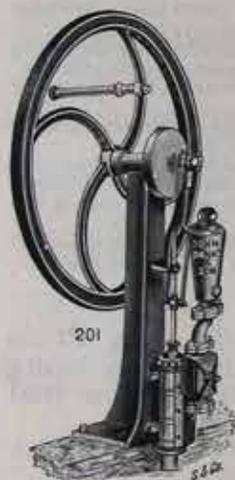
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Combined Two and Three Furrow Plough, the Best and Cheapest Ploughs in the Market. Patent Wheels supplied to fit any make of Double-Furrow Plough. Horse Works, for One or Two Horses. Improved Three-Knife Chaffcutter, Fitted with Sieve Gear, Patent Adjustable Steel Mouthpiece, Stop and Reversing Motion. Cut two lengths. Bentall's Chaffcutters and Cornrushers, All Sizes, Tank Sinking Ploughs and Scoops, Harrows, Scarifiers, Corn-screens, Winnowing Machines.

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Awarded Gold Medal at Grand National Field Trial, Shepparton, 1886, with highest number of points.

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The Lightest running Reaper and Binder in the World.

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# NATIONAL AGRICULTURAL SOCIETY.



## VICTORIA

Vol III—No 31.

[Incl. as a Newspaper.]

MELBOURNE, FEBRUARY 17TH, 1888

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Then 'twere well it were done quickly."

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**DEATH TO ALL INSECT LIFE.**  
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PRICES—

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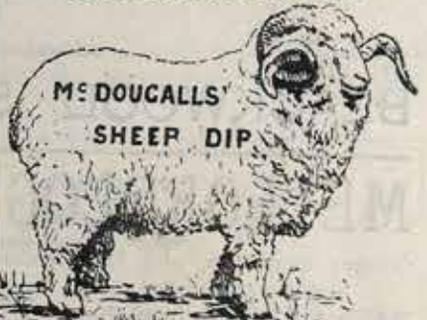
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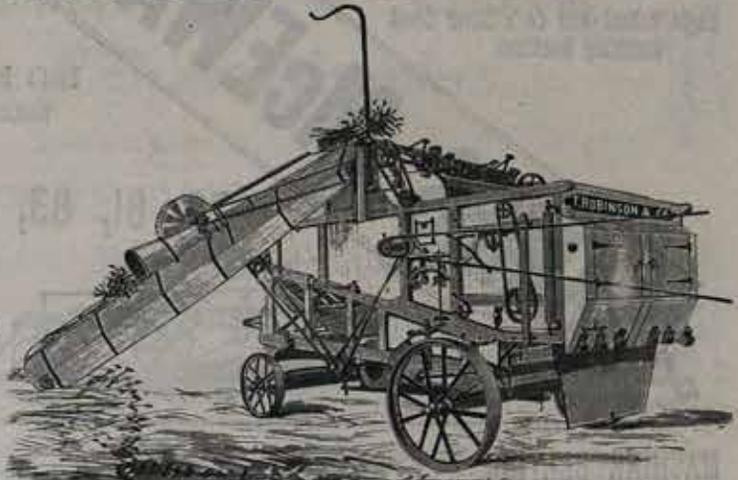
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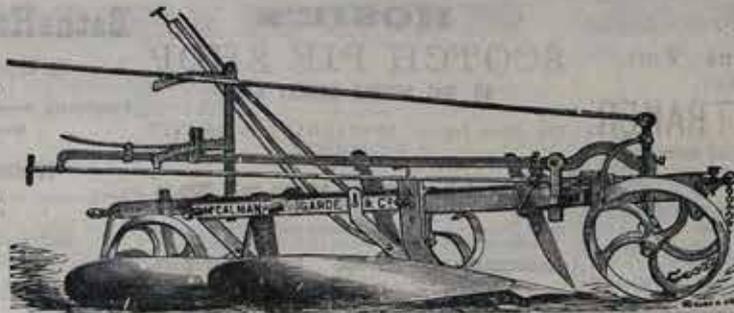
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Rack and Gear Steel Press for the use of large stations.  
Lever & Chain Press, with Folding Top Box, for the use of smaller stations.  
Lever and Chain Farmer's & Selector's Press. Price, £22 10s.

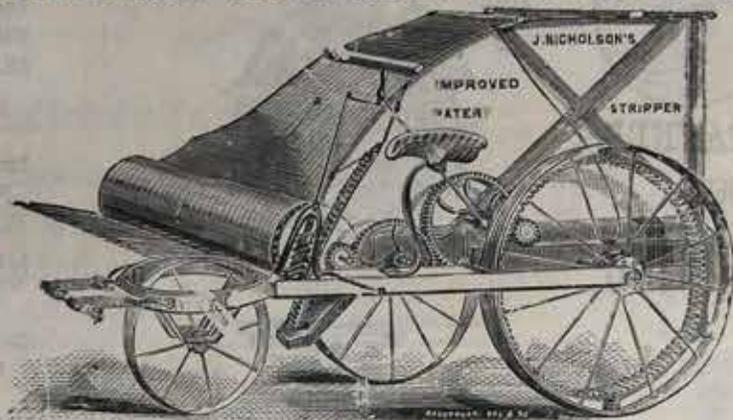
As the season for this latter kind is now approaching, those requiring them  
should lose no time in sending their orders. Owing to the general satisfaction  
given by those supplied for last season, orders are now freely coming in, and a  
large demand is looked for. The following is a fair sample of a large number of  
Testimonials to hand for those supplied last season:—

MR. PRICE WILLIAMS.—  
Dear Sir,—I have much pleasure in informing you that the Farmer's Wool Press I  
purchased from you last October, gave me every satisfaction. We turned out very compact  
small bales, about 34 net., but could have them heavier if we wished with once lozen. By  
what the Wool Brokers tell us, they would clear themselves in two seasons to anyone having  
twelve bales. Since done with the Wool, I have had it in constant use as a Cheese Press, and  
I reckon it worth half its cost for that. We have weights on the levers. Any number of  
Cheese can be put in at once. It would make a good Press for Hay or Straw, and for Grapes  
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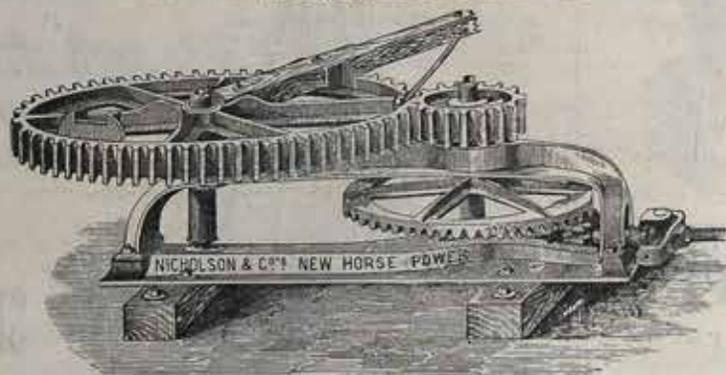
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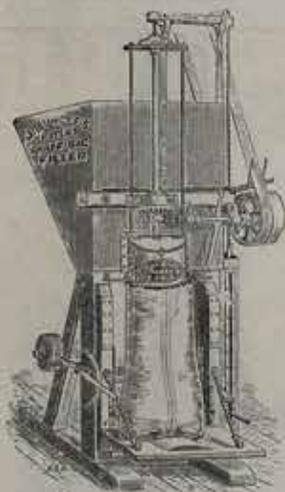
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## BUNCLE'S Patent Chaff Bag Filler.

**JOHN BUNCLE**, in stating what is well known, viz., the great competition in the Hay, Corn, and Chaff Trade, begs at the same time to call attention to his endeavour to lighten the toil and increase the profits from such a business, by designing and manufacturing a machine for the above purpose, and one which cannot be approached by any other maker at present, or recommended to equal in **Simplicity, Durability, and thorough Adaptability and Cheapness** combined as in the above Machine. The **BAG FILERS** are manufactured complete, ready to be sent to wherever ordered or in any of the colonies, either to fix in stores in connection with the fixed Chaffcutters, or to be attached to his well-known Travelling Chaffcutters previously supplied, and now supplied either with or without Baggers. A few attempts have been made by some to supply such a want, but probably not having a theoretical as well as a practical knowledge of machines, have not been able to reduce the complicated movements in their machines, and which are perfectly unnecessary—as witness the Unique Simplicity and correctness in design, and the admirable working of **BUNCLE'S PATENT BAG FILLER** compared with the few others tried at work.

For the information and convenience of customers, a machine is kept constantly set up ready to show at work in **BUNCLE'S PARKSIDE IRONWORKS**, and many customers have witnessed 80 to 90 lbs. of Chaff put in a bag in 15 seconds!!! which, after making allowances for time removing the full bag and replacing an empty one, would easily on an average keep **Four of Buncle's No. 1 Chaffcutters**—well, if there is any doubt, say Three Machines clear of all the Chaff they cut (medium length.) Of course the Machines are arranged to put in as light weight as you like, or you can fill up and burst all your Bags—to pieces. As a trade requirement (in addition to filling bags) the necessity for a **Mixing Machine** is a long felt want, the laborious and unsatisfactory way at present adopted cannot much longer be endured, and there is no necessity for it!! as J. Buncle can arrange to "Blend" the worst and the best samples "To a Hair" at the least possible expense with the best results.

The season is now coming on when all those who intend having the latest improved Machines should forward their orders as early as possible, to prevent disappointment in the day of their need.

J. Buncle's Machines have, as usual, been awarded First Prize at all the leading shows wherever he exhibited last year (1885), and the many improvements introduced and constantly copied by other makers, is the best proof of the value of the continued consideration in all that affects the profits and welfare of his customers.

Chaffcutters with 14-in. wide mouthpieces and Newest Designs, are now being manufactured to suit the increasing output of many of the leading Chaff Merchants. May your fortunes ever be associated with the earnest efforts to assist making them by,

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Hereford do do	1890.
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A Sweepstakes of £1 each (10s. at time of nomination, and 10s. at date of general entry for Show), with £5 added in each case for Heifers calved between 1st July, 1887, and 1st July, 1888, to be divided and awarded as 1st, 2nd, and 3rd Prizes, for three-year olds, at the Society's Show, 1890.

Nomination of Calves of each breed respectively will be received on payment of a nomination fee of 10s. each. Calves to be nominated within one month of date of birth. Nominators to fully describe the color of each calf entered, and to state the name of the sire, dam, and sire of dam, together with the date of calving. Entry forms on application.

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They hold AUCTION SALES of WOOL twice each week during the season and at frequent intervals during the winter months.

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One Month's Free Storage allowed on Grain.

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All communications for the Editor to be addressed to the Society's Office, Kirk's Bazaar, Bourke Street West, Melbourne.

Business communications to the Publishers, Melbourne Place, off Russell Street, Melbourne.

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**Dates of Forthcoming Shows.**

SECRETARIES of agricultural societies are requested to forward to the editor the dates on which their respective exhibitions will be held, also copies of their prize schedules as soon as they are published.

**FEBRUARY.**

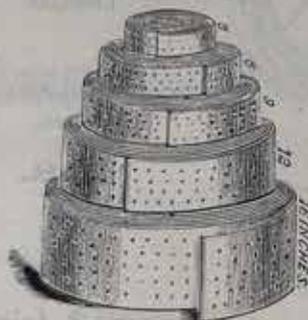
- 17.—Morrington, Berwick.
- 23.—Dandenong.
- 28.—Tatura.

**MARCH.**

- 1.—Ballan Shire.
- 8.—West Bourke, Lancefield Junction.
- 14.—Ararat.
- 14.—Sale.
- 14.—Baringhup.
- 15.—Merwell.
- 15.—Victoria, Huddellberg.
- 21.—Daylesford.
- 21.—Dunolly.
- 21.—Maffra.
- 22.—Bala Bala.
- 23.—Alexandria.



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UNION FLOUR MILLS,  
Brunswick-street, Fitzroy,  
March 17th, 1886.

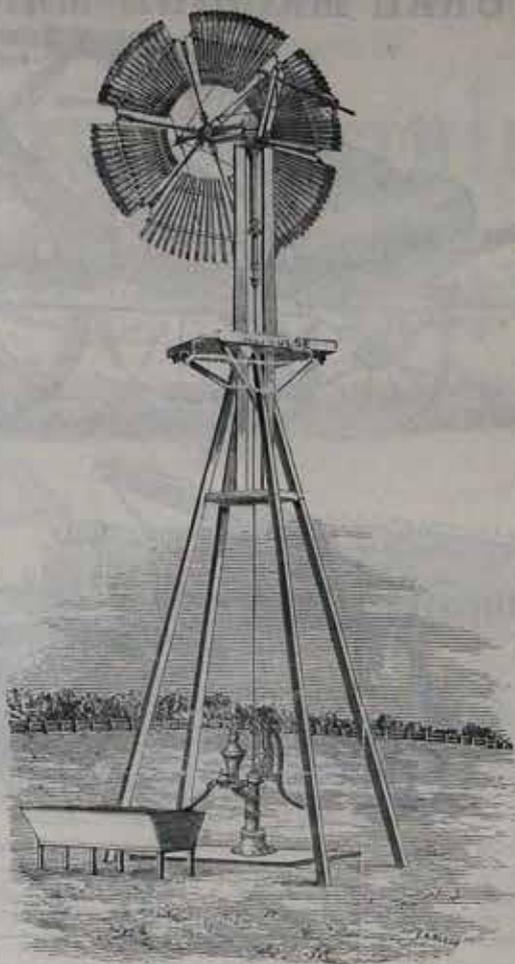
Messrs. Frank Vial & Co.,  
Macaulay Road, Hotham.

Gentlemen,—In reply to your enquiry respecting the (23) twenty-three inch double belt supplied by you to ourselves, we beg to state we have been working it for a period of seven months, and we find it to be all we could desire, as also is the other belting which we had from you.

We therefore feel great pleasure in recommending your belting to anyone requiring the same.  
We are, Gentlemen, yours truly,  
(Signed) W. S. KIMPTON & SONS.

Other Testimonials received too numerous to print, which with Price Lists, can be had on application.

# THE ALTHOUSE WINDMILL.



The STRONGEST, SIMPLEST  
MOST DURABLE, and BEST  
SELF-REGULATING WIND-  
MILL in the Market.

Proved by Actual Experience  
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Is Absolutely the Strongest Mill  
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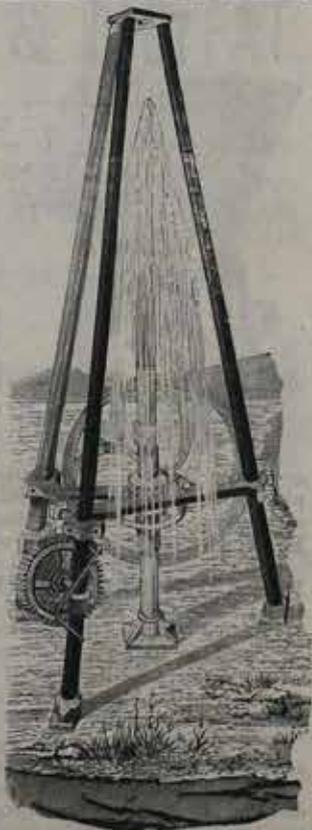
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Which has attained the greatest depth bored by any machine yet  
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This machine will take out 200 cubic yards of earth in  $\frac{1}{2}$  cubic yard loads in a day of eight hours; is simple, strong, yet light of draught, easily kept in repair, and has been pronounced by experienced judges to be the best Earth Scoop yet invented.

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The Journal  
OF THE  
National Agricultural Society  
OF VICTORIA.

MELBOURNE, FEBRUARY 17th, 1888.

## Federation of Agricultural Societies.

THE Agricultural Societies of New South Wales are to be congratulated on having formed a Union "for the purpose of united action by all the Societies of New South Wales, for the further development of the agricultural, pastoral, and horticultural industries, and of encouraging a correspondence and friendly intercourse among the Societies of the colony, and with kindred institutions in other countries and in the neighbouring colonies." The Conference at which it was resolved to form this Union was held in Sydney during the week of the Centennial Agricultural Exhibition, when the large number of Societies, represented by delegates, and the interest manifested in the proceedings augured well for the future success of the movement. The position of the Societies in the sister colony has been similar to that of those in Victoria, where the want of co-operation has placed these institutions at a disadvantage, and has hindered them from producing the best results. And this brings to mind the fact that the scheme for the Federation of the Agricultural Societies of this colony, which was so successfully and promisingly initiated, has not been carried out and worked on an independent basis, which is very much to be deplored, although there is some consolation in the statement in the National Society's annual report that, though such is the case, "there is no denying the fact that the movement has had a most healthful influence, and has been the indirect means of doing much good for the agricultural interest, as evidenced by the increased activity in the agricultural community, coincident with the initiation of the scheme, and the beneficial results which have since accrued." Frequently, in the course of their lives, individuals achieve the greatest results from side issues, apart from the main purpose in which they centre their efforts, and the same is sometimes the case with bodies of men, but we hope that the New South Wales Agricultural Societies' Federation or Union will become, in itself, a great power in the land, and we heartily wish it that success and influence which, properly organised and rightly directed, we believe it is possible for it to secure.

## Licensing Stallions.

ON more than one occasion we have written strongly on the unwisdom of allowing worthless stallions to be used for stud purposes. And as the subject will yet bear emphasising, we reprint the following from the *Farmers' Gazette*, as we can heartily commend it to the attention of our readers:—

"In dealing with the subject that has been so much under discussion lately—the im-

provement of horses generally—we have often pointed out that so long as worthless stallions are allowed to travel the country, serving mares at nominal fees, the good effect of well-bred sound sires must be to a great extent neutralised; some good ones (perhaps an increased number annually) will be bred, but still many bad ones. A recent number of *Agriculture* favours a suggestion that has been made before, and that we believe would meet with approval of all who are really anxious for a general improvement in the horses in the country. The writer we refer to says:—

"Many people may not be aware that the actual number of horses in Great Britain for the year 1886 was calculated by official statistics to be 1,425,359, or nearly approaching one and a half millions. In 1879 we had only 1,080,000, so that in round numbers our horses have increased 355,000 in nine years. Still, with all this, scarcity of good ones is the cry, and so much so that last year we imported 11,027 to make up for deficient quality. That there must be a screw loose somewhere is evident, and in spite of our efforts in horse societies, stud-books, and so forth, we must yet be breeding a lot of bad ones. Many people strongly advocate the licensing of all stallions that stand or travel for the service of mares, so that a stop should be put to the useless brutes that invade every county, to the damage of its stock and detriment of stallion owners, who are doing their utmost to procure reliable, well-bred, sound stallions. What the license fee should be, or how the fund thus gained should be administered, are matters of detail; but we certainly think the subject one of very considerable importance, and worthy of all attention. It may be noted that the most feasible plan, probably, would be to apportion the money derived in this way to the principal agricultural societies, in proportion to the sum collected within their limits, and that the total money collected, after the expense of collecting had been deducted, should be given back in the shape of prizes at shows. In this way no hardship would be incurred by owners of genuine animals, and the shows would be benefited by enhanced premiums derived from persons directly interested in horse culture.

"It is a standing disgrace to the intelligent British farmer that the face of the country should be marred by the wayside stallions that still block the way of progress and enterprise. They should certainly be consigned to oblivion as quickly as possible, and we believe the licensing system, as we have indicated, would go a long way towards bringing about this much to be desired result. Moreover, there is no reason why it should not work hand-in-hand with the new departure of Government grants. Unfortunately, in these impecunious days, farmers are still too often influenced by price alone, and what unscrupulous owners of cheap stallions will do for the sake of adding a few mares to their list would hardly be credited, and in too many instances his plan of giving the services of his horse for a song is only too successful. Now, a reasonable license fee would consign the majority of these so-called stallions to the gelding list, where they might possibly earn an

honest penny, instead of poaching as they do at present. We have only very briefly touched on this subject; but if closely looked into and put into practical working shape, it would be, we think, generally endorsed by all believers in breeding only the best."

## Extraordinary Vaccine Gestation.

We have been informed of a remarkable case of length of time of gestation in a cow which occurred lately at Toorak. The period extended from 23rd February, 1887, to 14th January, 1888, or 325 days, a heifer calf being produced. According to Mr. Tessier, an accurate observer for over 40 years, who gave the results of over 575 cows, the longest period of gestation was 321 days, the mean time being 303 days. Earl Spencer also carefully tabulated a record of 766 cows, the least period of which was 220 days, the mean 285 days and the longest period 313 days. He stated that he was able to rear no calf produced at an earlier period than 240 days. The longest period hitherto recognised by authorities as that at which a sound calf might be produced, was that given by Mr. Tessier of 321 days, but Australia now beats the record at 325 days.

## The Sydney Show.

THE Government of the colony liberally voted the sum of £7000 for the Centennial International Exhibition of the Agricultural Society of New South Wales, which was held in Sydney last month, and which we had the pleasure of visiting. About half the amount stated was given in prizes and the remainder expended in buildings; the principle being recognised that if liberal prizes were offered with the object of drawing together a large number of exhibits, it was also necessary that adequate accommodation should be provided. Of the new buildings erected on the grounds the most conspicuous was a commodious grand stand capable of holding about 4000 people, its construction being of wood, with iron pillars for front supports. The original contract for the stand, under which there are large luncheon rooms and bars, amounted to £1950, there having since been some small additions for extras. A large and well-planned building, containing a double row of loose boxes for stallions, with a court down the centre, was also put up at a cost of £1435. The pavilion in which the produce, fine arts, and miscellaneous exhibits were shown, was considerably extended, and a new building was put up for a working dairy, the latter costing £380. A new set of offices was also provided. The Show, in some sections was scarcely as representative as could have been wished, the time of the year at which it was held, and the necessarily hurried manner in which it was got up, telling somewhat against its being a thorough success, but when allowance is made for these drawbacks, the display on the whole must be considered highly creditable. The thoroughbred stallions made an attractive show, being the most valuable section amongst horses; while the mares and young stock, of which the number was, however, limited, were also

good. Some excellent coaching stallions and mares were shown, and a few good roadsters. A number of trotting horses, mares, and young stock were exhibited. The draught horses were not a strong section, nor was the season of the year conducive to their appearing to advantage. The four-in-hand horses, carriage and buggy horses, and hackneys showed to great advantage, being a strong and attractive feature of the Exhibition. The hunters' competition also brought out a strong muster of good horses, ridden in colours, their trials being watched with much interest; and there was a really good show of ponies. The Shorthorn cattle section was disappointing in numbers and general merit, though there were a few high-class exhibits, and the Herefords were not well represented. The Devons were not as numerous or superior as they should have been; while the polled Angus, though extra good, were confined to one exhibitor from Victoria. Ayrshire cattle mustered in strong force, there being many high-class exhibits, and the same remarks apply to the Jerseys, the competition being keen in both these popular breeds of stock. There were two or three pens of good grass fed Shorthorns and Devons and some fat stock. No sheep, excepting a few fat wethers were shown. The swine although not forming a large section, numbered some superior exhibits, particularly in the large white breed. There was a very large number of pens of poultry, pigeons, and canaries, but the season of the year was against them being in good plumage, and there was also a large show of dogs. There were good entries in wine and wool, the latter attracting considerable attention. The farm produce, in which valuable prizes were given for collections, was well represented. The chautipon prize collection from South Australia—not only on account of the excellent and varied character of the products it contained, but also owing to its admirable arrangement being one of the very best exhibits in the Show. Sugars were shown to a considerable extent, and there was a good collection of dairy produce, including butter, cheese, and hams and bacon, as well as some interesting exhibits of honey in the comb, and bees working under glass. In the working dairy building previously alluded to, a competition was carried out for cows giving the largest quantity of butter and milk. Cream separators were shown at work, and all the newest dairy appliances were exhibited forming an interesting and instructive feature of the Show. In the large pavilion there was a fine collection of plants; and fruit and flowers were also exhibited. The show of machinery and implements was larger than the one previously held in Sydney but it was not so extensive or attractive as that department of the Melbourne Show, and there were not very many exhibits in the buggy section. Two sheep-shearing machines by different inventors competed on the grounds, both doing excellent work. Under the heading of "apparatus and processes used in the common and liberal arts, colonial products, artisan's work, inventions, &c.," there was a considerable collection of interesting miscellaneous articles scattered throughout the large pavilion, which being well filled with exhibits, and set off with works of art and numerous trophies, made it a pleasant and instructive place of resort. We cannot conclude without acknowledging the many courtesies we received from Mr. W. W. Richardson, the Chairman of the Council, and Mr. F. Webster, the Secretary of the Society.

## General Progress of the Society.

(From the National Society's Annual Report.)

THE following statement which has been prepared with the object of showing the highly satisfactory and gratifying progress of the Society since 1880, will doubtless prove interesting:—

Year.	Income.	Amount awarded in Prizes.	Profit on Show.
1880	£1831 4 0	£430 13 0	£72 15 3
1881	2413 6 4	433 14 6	102 1 5
1882	3650 3 11	650 6 0	170 17 8
1883	5581 12 8	1327 2 0	421 5 7
1884	3615 1 7	1754 5 0	891 5 9
1885	5182 9 1	2968 6 0	1974 9 8
1886	7265 10 10	1991 3 0	3682 13 7
1887	8442 14 4	2267 7 0	3813 12 2

## Pea Thresher Trial.

THE competition for the prize of £150 offered by the Department of Agriculture, for the machine best adapted for thrashing peas, was held on the 2nd inst., on the farm of Mr. James Lockwood, of Lancefield, under the auspices of the West Bourke Agricultural Society. Of the machines entered four came forward, and two went through the trial. A considerable improvement was shown in the work done as compared with last year. The two most effective machines, which were both designed locally—one at Romsey, and the other at Lancefield—having produced an excellent sample of peas without any being broken or damaged. The judges recommended that Mr. Hansen of Romsey, be awarded £50, and Mr. Love £30. They also recommended that the Minister of Agriculture should offer a prize again next year, when they believed a thoroughly efficient machine would be produced. The principal, and, indeed, only fault found with the machines was that the shakers were not long enough, so that the peas were not thoroughly separated from the haulm. This is a defect which may be, and no doubt will be, remedied when, through the stimulus given to inventors by the liberality of the Department of Agriculture, a machine will have been produced which will be a boon to a considerable section of our farming community.

## Notes.

WE have been requested to notify to subscribers to the National Society who have not received the fourth progress report of the Royal Commission on Vegetable Products, that they may obtain same by calling at the Society's offices, at Kirk's Bazaar.

THE moral suggested by our experience of the Sydney Show where a wonderful increase was noticeable on the previous one, is the necessity for making most ample provision for the National Society's next Show which will be held at the time of the great International Exhibition, when there will be visitors here from all parts of the world. Those most intimately acquainted with the management of the National Society's Shows will be the most ready to admit the difficulty during the last two or three years of realizing the necessity of "rising to the occasion" when each annual event not only was larger than the previous one, but when the relative annual increase was each year also greater; so that at the coming Show when not only the Society is specially desirous of making a grand display, but when there is no doubt the agriculturists and pastoralists and those whose business is associated with them, will, if sufficient inducements are offered, specially endeavour to have their interests well represented, caus-

ing the "relative annual increase" to be still greater, it will be a wise precaution to make provision accordingly. As the agricultural exhibition was a prominent feature in connection with the Centennial celebrations in Sydney, and as this Society's Show will be held at the time when visitors are here from the other colonies and all parts of the world, it will fall in with, and will doubtless be considered part of the general demonstration, on which account alone—with the object of making it thoroughly representative the most liberal treatment should be expected from the Government. In any case as it will be an extra occasion, an extra effort should be made in order that the Society's patrons in this colony, as well as visitors from the neighbouring colonies and the nations of the world may pronounce the verdict, "the Society has done its work well."

THE Milch Cow Competition and the Working Dairy formed an attractive feature at the Sydney Centennial Show, the fact of Professors of Agriculture from the different colonies having been appointed judges, giving it additional importance. We could not help remarking that many who spoke and wrote about it did so as if the idea was an entirely new one in the Australian colonies, and had originated with the Sydney Society. Some people seem to think that because a thing is new to them it is absolutely new. However, in this case, it was not so, for the National Society last year put up a building and held a butter producing competition, and also purchased milk in order to have the cream separator shown at work, the separated milk being sold on the grounds. Having established this point, it is right to say that, in Sydney, the idea was amplified by the exhibition of all the latest improvements in dairy apparatus, in which they appear to be well advanced. As dairy husbandry is an important industry, there is room for Victorian Societies to do good work in imparting instruction with a view to enable our farmers to produce a uniform article suitable for export.

TO an admirer of good horses it was a treat to see those of the mounted constables in Sydney. The ones used by the Government were all bays, with black points, not big, about 15½ hands high, with fine heads and necks, and indeed good quality all over. We did not see a trooper on a bad horse, and they were almost all fit for a gentleman to ride down Collins-street. Horses bred in that warm climate certainly have a firmer, cleaner appearance than those bred in a colder atmosphere.

"It is quite a mistake to suppose that the area of Indian wheat cultivation is to extend so as to flood our markets with wheat in a manner such as we never before experienced. The area will increase, no doubt, and so will the total amount, though, for reasons to be given later, not in the same proportion, but in a smaller ratio. The difficulties of increasing the area of land actually under the plough are too great to admit of its being accomplished by leaps and bounds. It may be said, if that is so, why has Indian wheat so suddenly appeared in quantity? Well, simply because on much of the land it now occupies while growing it has been substituted for some other crop. No doubt, this substitution may go on to some extent further, but there is a limit to it. The people must have food sufficient to live on; and when we speak of people, we speak of teeming millions, of which in this country we have no conception."

A CALIFORNIAN paper recently gave an account of a 3000 acre wheat farm, occupied by a widow in that State, and from which she harvested this year an average of nine sacks of wheat per acre, weighing about 2000 tons. She owns one combined harvester

which will cut, thrash, and sack thirty acres of wheat per day. When her wheat crop was matured and ready to harvest she started her own harvester and hired four more, and the five were driven over her land with 20 men and 120 horses, cutting, thrashing, and sacking 180 acres of wheat each day. She sold her crop for £12,000.

It is stated that steam digging machines, which have hitherto been looked upon in a rather unfavourable manner by the majority of agriculturists, are rapidly increasing in public estimation amongst the heavy clay land farmers of the eastern English counties. One of Mr. Frank Proctor's machines is now being exhibited in working order at Thetford, Norfolk, and is said to be giving the greatest satisfaction, while the popularity of Mr. Darby's machine, the "original steam digger" is illustrated by the fact that the proprietor has received applications for digging upwards of 4,000 acres during the coming winter. It may be interesting to note that the latter machine, which was invented by Mr. T. C. Darby, of Pleshey, near Chelmsford, has been reconstructed in a new and perfected form by Mr. F. Savage, of Lyon, and will be exhibited at the Smithfield Club Cattle Show.

## Meeting.

### Preliminary.

The preliminary general meeting of the governors and members of the National Agricultural Society of Victoria was held on Thursday, 19th January, 1888.

Present: Dr. Plummer, president, in the chair, and a fair attendance of members.

The minutes of the last preliminary general meeting were read and confirmed.

#### APPOINTMENT OF AUDITORS.

Mr. John McDonald was re-appointed professional auditor, and Mr. John MacKiehan honorary auditor.

#### NOMINATION OF OFFICE-BEARERS.

The list of nominations prepared by the Council in accordance with By-law 2 was read, when the following additional nominations were made—viz., Messrs. John Finlay, Thomas Adams, and J. K. Joynt.

#### NOTICE OF MOTION.

Mr. W. Thomson gave notice of the following motion for the annual general meeting—viz.:

"That a new rule to permit members who reside more than twenty miles from Melbourne to vote at all elections for office-bearers by ballot-papers, although they may not be able to be present at the meetings at which the elections are held."

The meeting then closed.

## Council.

The ordinary monthly meeting of the Council of the National Agricultural Society of Victoria was held on Tuesday, 14th February, 1888.

Present: Dr. Plummer, president, in the chair, with Messrs. F. Henty, James Gibb, F. Peppin, S. G. Staughton, W. Learmonth, George Young, J. Hurst, Walter J. Clark, J. M. Peck, J. Hearn, T. Brunton, D. Munro, C. Lynott, J.

Garton, John Bond, D. White, T. Harmer, W. Thomson, J. Currie, John Bunce, J. C. Cochrane, the Hon. J. Buchanan, M.L.C., and the Hon. C. Young, M.L.A.

The minutes of the previous meeting were read and confirmed.

Apologies for non-attendance were received from Messrs. D. R. McGregor, W. Wragge, and W. Glover.

#### ELECTION OF VICE-PRESIDENT, VICE DAVID MITCHELL, ESQ.

Mr. Peck moved that Mr. Mitchell be re-elected; seconded by Mr. Currie and carried.

#### FINANCE.

The Finance Committee's report was read. It submitted the monthly statement of accounts, and recommended payments amounting to £103 4s. 6d.; also that the Committee had agreed to let the Cabmen's Union have the use of the Show grounds for a picnic one day in March, at a charge of twenty guineas, with a deposit of twenty guineas as a guarantee that any damage done would be made good.

Mr. Currie moved the adoption of the report; seconded by Mr. Munro and carried.

#### AUDITORS' REPORT.

Messrs. John MacDonald and John MacKiehan reported that they had examined the books and accounts for the year ending 31st December, 1887, and had found everything in order and correct. They had certified to the balance-sheet for the year 1887 as correct.

Mr. Currie moved the adoption of the report, and that a vote of thanks be passed to Mr. MacKiehan as honorary auditor; seconded by Mr. White and carried.

#### ANNUAL REPORT.

The Council's annual report to subscribers, which had been drafted by the secretary, and approved by a committee, was submitted.

Mr. Munro moved that the report be taken as read and adopted; seconded by Mr. Brunton and carried.

#### WORKS COMMITTEE.

The Works Committee reported that they visited the show grounds on the 20th ult., inspected the buildings and resolved to recommend—

1. That the whole of the old buildings be repainted.
2. That the urinals and closets be roofed and that doors be put before the latter.
3. That the lower front quarter of the side of each one of the whole of the cattle stalls be lined with boards so as to make a double lining between the front of the stalls.
4. That the spouting round the sheds be beaded with scotia.
5. That the tops and beading of the woodwork of the pig pens be painted, and that the hinges of the gates be blacked.
6. That the picket fences and gates round the trotting and jumping course be lime-washed.
7. That the present carriage shed be enlarged, three bays to be put in, and the present verandah put south side of lower bay.
8. That a picket fence be put from the money-box at each end of the

grand stand to the fence round the trotting course, so as to enclose the front of the stand, and that two gates be put at entrance end also that a fence be put round the bank of the excavation to the brick wall at both ends of the stand.

9. The Committee instructed the Secretary to employ W. Sims, jun., to go on by day labour with the boarding of the cattle stalls in accordance with clause 3.

After a discussion the President moved the adoption of the report, excepting that the alternative of painting or lime-washing the picket fences be left over; seconded by Mr. Munro and carried.

The President then brought up suggestions that a building should be erected for wine exhibits, which should be judged before the show; also larger building for poultry, a building for a working dairy, a post office and a telephone.

Mr. Thomson moved that the President's suggestions be adopted. Seconded by Mr. Bunce, and carried.

The President also stated that the question of a large main hall, and the covering of the machinery ground, had been spoken of, and would have to be considered in the near future.

#### QUARANTINE REGULATIONS.

The Quarantine Committee submitted alternative reports, the one approved of, after considerable discussion, being to the following effect:—"The Committee appointed to deal with the question of a scheme for quarantine regulations for stock has taken into consideration the subject remitted to them, and in view of the ports having been opened since their appointment, they recommend that the Council request the Minister administering the Act to make the quarantine regulations for the importations of stock from foreign countries as stringent as possible, with the object of preventing the introduction of disease," to which the Council added, "and that the Committee be authorised to confer with the Minister with a view to perfecting quarantine regulations, and making them of a federal character."

Mr. Peck moved adoption of report. Seconded by Mr. Thomson and carried.

#### STUD BOOK.

Mr. Clark, on behalf of the Stud Book Committee, moved that the secretary convene a meeting of subscribers to the Draught Horse Society and horse breeders at an early date; seconded by Mr. Thomson and carried.

Mr. Brunton's motion, *re* rescinding resolution fixing date of Show for the last week in August, was further postponed till next meeting.

#### CORRESPONDENCE.

From Secretary Royal Agricultural Society of England, and Secretary Highland Agricultural Society of Scotland, in reply, forwarding information *re* dates of entries and particulars of Shows. Received.

From Secretary Royal Agricultural Society of England, in reply, stating information *re* the Society's efforts for the encouragement of Dairying, was contained in the documents forwarded with previous letter; also that, at that moment (Dec. 29th, 1887), a Government Committee was sitting to enquire into and report upon agricultural and dairy schools in Great Britain, and recommending appli-

cation for a copy of their report, which would, no doubt, be useful for the purposes of the Society. Received.

From the Victorian Farmers' Protection Association, submitting a draft programme of principles, to form the basis of a political organisation throughout the country districts of the colony, for consideration and for suggestions and amendments. When replies were received it was intended to print same, and submit the whole for final consideration and approval at a conference to be held in the Athenienn, Collins-street, on the 4th April next; and to afterwards distribute copies of the amended programme in order that it may form the basis of united action at the next general election.

Postponed for consideration till next Council meeting.

The Hon. C. Young stated that, as this was the last meeting before the annual elections, he desired to express on behalf of the Council their high appreciation of the assiduous efforts of their President (Dr. Plummer), and to propose a hearty vote of thanks to him for his conduct in the chair during the past year. The motion was seconded by Mr. Buncle, in eulogistic terms, and carried unanimously.

The President said he was very much obliged to the Council for their kind expressions of approval. He hoped that the Society would make as much progress in the next eight years as it had been shown in the annual report to have done in that past period. (Applause.)

The meeting then closed.

Mr. Kendall's anticipations may be fully realised, but the fact that one hundred pounds or guinea being required in advance for a four years' course of study will probably limit the number of pupils.

I maintain that private schools will not meet our present requirements. The State undertakes to provide agricultural education at Dookie Experimental Farm, and other schools are being established on the lines of English and Continental schools, where veterinary instruction is given and considered a most important branch. A Veterinary Class should be initiated without further delay at our agricultural schools as they become established in different districts. The question of educating duly qualified Veterinary Surgeons may be left for future consideration. At present we want information diffused throughout the colony in regard to the general principles of Veterinary Science, to enable the youth of the colonies to prevent and treat diseases, etc., arising amongst their own stock and those of their neighbours when beyond the reach of professional aid, as must be the case in many districts for sometime to come.

During the last five years several Veterinary Surgeons from England, America, and the other colonies have visited Victoria but finding little or no employment returned from whence they came with one or two or three exceptions. The present Minister of Lands has promised to entertain another application for a site for a Veterinary School in lieu of the one withdrawn at Richmond, and steps will be taken as soon as possible by the Veterinary Medical Association to establish a school to be placed under the supervision of the Government.

I will not encroach further on your space by referring to other statements in Mr. Kendall's paper, as what I have said will be sufficient to show the necessity of the authors of papers read before your Society keeping within reasonable bounds, and not laying themselves open to have their statements called in question, or assuming positions likely to be assailed in the interests of the public.—Yours, etc.,

GRHAM MITCHELL, F.R.C.V.S.

### How to make Farming Pay.

THE following practical paper on the advantages of combining higher culture with an ordinary agriculture, was read by Mr. F. Wurm in Adelaide last month:—

"In conforming to the wishes of the Committee of the Chamber of Manufactures to read a paper in connection with the general subject illustrated by my exhibit at the Jubilee Exhibition, I do not wish to assume to myself a superior knowledge on the subject, but simply to add my mite to the advancement of our adopted country. In bygone days, when the other colonies relied almost exclusively on us for their supply of breadstuffs, wheat-growing was a very lucrative culture, and on 80 to 160 acres farmers lived in affluent circumstances, spending considerable amounts for hired labour; since, by reason of progress sufficient for themselves, these markets have been slant off from us. To enable our competing in the world's market we have had to cheapen production. Large holdings, worked by the latest invented labour-saving machinery, became a necessity, cheap production giving cheap produce. However, with all these advantages, no one would now admit wheat-growing to be lucrative. The farmers' balance has been for several years in succession on the wrong side of the ledger, and the present good harvest will leave but little profit to many a farmer; but the most deplorable fact is that many hands, formerly employed on farms, have either left our shores altogether or swelled the ranks of our unemployed in the city. With the natural advantages Providence has placed so freely at our disposal, such should not be the case. It has become an absolute necessity, to insure the welfare of the country, that we should no longer hesitate to take advantage offered to us by our soils and climate, which will freely yield some of the richest products the earth affords. To introduce the highest culture will necessitate the practice of patience and perseverance, and care, thrift, and economy will, in a few short years, turn the homestead into a happy contented home. There is not a single item in my exhibit that could not, with profit to the farmer, be combined with our ordinary wheat-growing. I feel convinced that, to make farming a profitable pursuit, it has become absolutely necessary that the higher culture should be introduced on almost every farm. The produce of the vine, olive, and mulberry realising a so much higher

value would be the stay and support of the farm. By the introduction of sericulture into the then independent kingdom of Lombardy, the high returns resulting to the landowners enabled them to devote large expenditures for the benefit of the ordinary agriculture, and the fertile fields and meadows with the irrigation works, the noble mansions of the proprietors, surrounded by neat prosperous villages, the splendid cities of beautiful streets and bridges and grand Cathedrals, are all the consequence of the introduction of the silkworm. Lombardy has an area of 8,264 English miles (about the forty-fifth part of South Australia proper), with a population of 3,039,055, or about three people to every five acres. Chambers says:—'The cultivation of the mulberry and the rearing of the silkworms forming in Lombardy a principal occupation of the population. In Lombardy alone 17,000,000 mulberry trees are required to furnish food for the worm, and the silk exported from the Lombardo-Venetian provinces alone yields an annual revenue estimated at about £5,000,000.' All through Italy—still rightly called the school of sericulture—the farmer's principal income is derived from his oil, silk, and wine, but wheat, maize, rice, and cheese and fruits are produced in large quantities. In France peasant proprietorship would have collapsed long ago were it not for the oil, wine, and silk. These constitute the Treasury, and ensure the successful ordinary agriculture. The introduction of new industries into any country is ever met with apathy and distrust. For instance, the Prussians, who would not even plant a potato until the arm of the law forced them to do so. In France sericulture lingered for centuries. The greatest impulse to expand took place under Louis XIV. Frenchmen are fond and proud of their vineyards, and justly so; but in its past history it has happened several times that vineyards had to be destroyed, for it was asserted that corn was rendered dear by the number of vines planted. About 1730 this cry was again raised, and the King fell upon the happy thought to forbid the planting of vines except an equal number of white mulberry-trees were also planted. This increased to a considerable extent the mulberry plantations, and with it the production of silk. Chambers has the following under the head France:—'The cultivation of the mulberry tree derives importance from its bearing on the production of silk. In 1842, 41,275 hectares of land were planted with these trees. The production of silk, which began at the opening of the seventeenth century, and which in 1790 had reached such vast dimensions that the produce at that period was already 6½ million kilogrammes of cocoons, worth 16½ million francs. Since that period it has exhibited great variations. From 1840 to 1853 the production continued steadily to increase from 17 to 26 million kilogrammes; but the diseases to which the silkworms have been liable since that period have reduced the yield of silk to so great an extent that in 1857 it scarcely amounted to 7 million kilogrammes. Assured of the rich benefits that would accrue to us by a largely extended cultivation of the mulberry, the olive, the vine, and other fruits, I would particularly ask our farmers to devote a little of their energy to this purpose. If only a small beginning is made, if too much is not attempted at once, then there need scarcely be any extra outlay, nor much extra work. To farmers, I would suggest the enclosing of 10 acres, secure from horses, cattle, etc. Of this plant 1 acre with Zante currants and white mulberry-trees, the Zante currants yielding heavy crops when trained with long branches. The mulberry-trees would act as the uprights of the trellises. The vines are trained with several fruit branches, which are either tied or passed through the branches of the tree, which are to be trained to 4 feet standards on either side. This mode is very agreeable to the eye, and as the currant grape comes to maturity before the branches of the mulberry have attained any great size, the fruit does not suffer by means of being deprived of the sun's influence. This mode of training would, however, be quite unfit for any other grape. The trees and vines are to be planted alternately in rows, with a distance of 12 feet between tree and vine; a space of 16 feet is to be left between the rows. If the one row begins with a tree, the next should begin with a vine; planting thus affords more room to the trees, and considerably improves the appearance. On another 2 acres I would suggest the planting rows of fruit and carob trees alternately, 24 feet from tree to tree, and at a distance of 16 feet from this row of trees plant a row of muscatel vines, leaving 12 feet space between the vines, continuing thus alternately rows of trees and vines. If care be taken to plant in one row of trees a deciduous and in the

## Correspondence.

### The Prevention and Suppression of Animal Diseases.

To the Editor of the Journal of the National Agricultural Society of Victoria.

SIR,—

As no discussion took place on Mr. Kendall's paper, read before the Council of the National Society, on the above subject, and published in your journal for December last, I have to request your permission to refer to a few of his remarks which are calculated to convey an erroneous impression.

1st. Mr. Kendall says, "I am prepared to find, any day between sunrise and sunset, a hundred head of dairy cattle within a few miles of where you now sit, affected with Pleuro Pneumonia." This extraordinary statement would imply that our dairy cows are nearly all diseased. I have only been able to meet with five cases during as many weeks, although I take every means in my power to discover cases of this disease with a view of keeping up a supply of inoculating virus. Although it has been unusually prevalent lately, I hold Mr. Kendall's estimate is very much over the mark.

2nd. Again he says, "Hitherto no attempt has been made in any part of Australasia to teach Veterinary Science," whereas in the year 1877 a Veterinary Committee of the National Agricultural Society was formed with the view of initiating a Veterinary School or course of instruction; a memorial was also signed by the leading stock owners of Victoria urging the establishment of a Veterinary School. The Veterinary Medical Association was soon after formed and a site for a Veterinary School was granted by the Government to them. Mr. Kendall was the hon. secretary to the Association, but, instead of carrying out his duties or resigning his position, he anticipated the Association by starting a private institute, now called a college, on the lines proposed by the Association.

3rd. And again he says, "It may be some satisfaction to know that several intending pupils have already sent in their names and there is every probability of the Institute being self-supporting, etc." It is to be hoped that

next an evergreen first, it will look more attractive, more pleasing to the eye. As to the selection of fruit trees, I should say the fig and apricot are most fit, when the sordid motive of money-making is to be considered. They are easy to preserve and command a ready sale. But other sorts should be planted, for they constitute a treasure on the farm: for where ripe fruit is freely consumed by the family it will promote health, and be no small treat to old and young. Farmers have not many luxuries, but they might easily supply themselves with vegetables and a succession of ripe fruit the whole year round if they will but take the trouble to plant. On the remaining 7 acres olive-trees are to be planted in rows 64 feet apart, and 24 feet in the rows. The open spaces could profitably be devoted for growing vegetables, pumpkins, mangoes, etc. Should the farmer at any time see the good economy to extend his plantations he could fill in these spaces, the rows of olives harmonising with the other plantation would constitute the 10 acres a symmetrical whole. All the trees should be trained high enough to allow of the use of horses in the cultivation of the ground. The plough and harrow can do all the required work, except a little hand-hoeing close to the trees. Fruit-drying is a simple matter, and experience and observation are the very best teachers. Currants are picked when fully ripe, and they will sometimes dry in one day, rarely requiring more than three. When about half dry the bunches are lightly tapped with the open hand. This detaches all the berries, and the stalks are raked off. When sufficiently dry, the fruit is passed through an ordinary wheat winnow and this completes the process. Muscatel, bunch or dessert raisins require a little extra attention. During the growth of the fruit allow no second crop to set, and if the vine be overcrowded remove some bunches. This entails no loss as the remainder grow so much larger and finer. When fully ripe they are, after snipping all small and bad berries off, placed on trays facing the sun, and at an angle of 45 deg. They will require turning once or twice according to the weather, and must be protected from night dews and rain. When of a chocolate colour they are taken indoors. Here they still continue drying, and as they give off carbonic acid gas they should be placed in a dry unoccupied room. The most important thing to learn is to know the right time when they are dry enough, and this is only gained by experience. The dessert raisin is in Europe only successfully produced in the neighbourhood of Malaga, and there only within little more than a league from the seashore. This raisin, it is said, will not keep for export to India and Australia, but a large, showy sweet grape, not luscious like the Muscatel, is produced, called the bloom raisin. This is made up into dessert raisins for export. In the London market this fruit is quoted at 56s., while the Muscatel is at from 112s. to 145s. per cwt. We shall have to endeavour to produce to perfection this grand fruit so as to successfully compete with the Spaniard in the home market. Whether we shall quite succeed has to be seen. In the meantime we can produce a creditable article that will command a ready sale. Figs are very easy to cure, but to have fine fruit they should be picked every day as they ripen. I dry them on galvanized iron, and when ready for packing I dip them into salt brine, after which they are pressed into boxes. The apricot dries readily, but I think an extensive and profitable trade could be done in this fruit with England by shipping the par-poled pulp in kegs, adding an ounce of salicylic acid to every 50 lb. of fruit ensuring its perfect condition. This acid is perfectly tasteless, but possessed of excellent medicinal qualities, and would therefore prove no detriment to the fruit. Peaches are placed in a basket or sieve and lowered for a few seconds into a copper with boiling water: the skin then comes off like magic, the fruit dries better and readier, and retains a soft spongy feeling and excellent taste. Plums when nearly dry should be put for a short time in an oven, not, however, heated sufficient for ordinary baking. This will arrest any ravages by insects and give an excellent glassy appearance to the fruit. The carob bean requires no preparation, but the fruit is of great import on farms. Dr. DeLass, in his recent works on Buried Cities Recovered, or Travelling in Bible Lands, speaking of this tree, says:—'From our observation in the East we are inclined to believe that the "locusts and wild honey," referred to as the diet of John the Baptist, was the fruit of the carob-tree, and the diba, or honey, extracted therefrom. The popular name for this tree in Palestine is "the locust," and the fruit is known everywhere as the "bread of St John." In Arabia it is called carob, from the hornlike

shape of the pods or fruit, which are considered very wholesome, and are always found in the markets among the other fruits of the land. These pods are sometimes called "husks," and without doubt are the husks the Prodigal in his distress would fain have eaten. This tree is found all over Palestine. Two may be seen growing on the side of Olivet, just above the Garden of Gethsemane. It is a dark evergreen, with heavy foliage affording a delightful shade. The fruit is fed to horses, cattle, and swine, and is a common article of food among the natives. The trees are generally registered, property in them is capital, and marriage portions are frequently given in "locusts," or the fruit of the carob. A grove of these trees is considered as valuable as a vineyard or olive grove, and a single tree often yields 1000lb. of pods.' To extract the oil from olives an ordinary corn-crusher will answer the purpose where there is but a small crop to be dealt with for crushing the berries. The pulp is put in pieces of gunny-bags, six at the time, one above the other, and by an ordinary lever press the oil and watery portion of the fruit is extracted, the pure oil swimming at top is easily skimmed off. To pickle olives the fruit should be picked just before it begins to colour. A strong ley is made of fresh wood ashes, and when cooled down the clear liquor is poured over the olives, a cloth has to be put on the top to keep them down. If the fruit is left swimming on the top, the air will discolour and spoil it. After twenty-four hours immersion the ley is poured off, and for three days every twelve hours fresh water, and every twenty-four hours for another four days is used to extract the bitter flavour from the fruit. At the end of this time they should be tasted, as some like a little of the bitter retained. As soon as deemed fit for the palate they are put in a brine strong enough to float an egg. In Italy, where sericulture is of such great importance to the national wealth, almost all the mulberry plantations belong to large landowners, who have in some instances transformed whole forests into mulberry plantations. They sell the leaves to the peasants by contracting for one-half the crop of cocoons. These people have to pick the leaves themselves, for which purpose they have an open bag like an apron hanging in front of them, and leaf by leaf is dragged into it. This is a very tedious, laborious, and as the trees are mostly high standards, even dangerous employment. When the harvest is over the denuded branches are all cut back. Now, by far the better process for the health of the trees, and to retain the leaves fresh until required for use, is to cut the whole shoot at once to within one eye of the stem, and this reduces the most laborious employment in connection with sericulture to a minimum. The education of the worm has also been simplified. I will endeavour to shortly describe it. On wooden uprights every 18 inches feeding trays are fixed, about 3 feet wide and 6 feet long, with a thin latten border 2 inches high, and a wire netting bottom of 1½ inch mesh. At about one foot above this a spinning-room is fixed. This is a kind of Venetian shutter, and there is a space of seven-eighths of an inch between the lath, which are also slightly tapered towards the top, and are 1½ inches in depth. On the top of this brown paper is pasted. All the refuse from the feeding-trays falls on this paper, and is easily removed by the attendant. When spinning time approaches little ladders are placed from the feeding to the spinning tray and the insect mounts and spins its cocoon in these convenient-sized spaces. There will be but little false silk and few double cocoons. When harvesting the brown paper is torn off, and the cocoons are gathered together. During the earlier stages of the insect's life smaller meshed frames are placed on the larger, and the sides of the sieves out of a winnower would suit to all ages of the insect, and by their use our farmers' wives or daughters might obtain the experience required to feed large numbers. In Austria, Prussia, Baden, France, Switzerland, the highest ladies in the land occupy themselves personally with sericulture, and it is a well authenticated fact that the Chinese Empress and Princesses wear their own silk. Much could be done by our ladies to give an impetus to the silk industry by their desiring to follow the example set to them in other lands. With what pride would they look upon their heavy damask curtains or other fabrics made of silk reared by themselves. The pleasure of such a success would far outweigh the trouble it has taken to achieve it. I have endeavoured to describe the several processes with as much brevity as possible, and will similarly glance at the pecuniary returns. It may appear utopian, particularly to our farmers holding thousands of acres, that great results could accrue to us by planting a few acres; but remember, time

passes swiftly. The old Scotchman's advice to his son—'Plant a tree, Jock; it grows while you sleep'—is very much to the point. I hope you will not deem me egotistical, but I can scarcely avoid saying here something about myself. In 1881 I planted a little more than 2 acres, after about the same style as advocated by me to-night. Ever since 1883, seeing the excellent results, I have added season after season some acres to this, and if left in health intend to do so in the future, and I feel convinced that any farmer beginning with a small plantation is sure to follow the same course. In my calculation of results I will keep well within what the actual returns could with safety be relied on to yield. The one acre planted with the 140 current vines at the end of ten years have yielded liberal crops during the last five years, and would yield at least 20lb. of the dried fruit, at 3d. per lb., or 6s. per vine—£35. The 140 mulberry trees on the same area at this age would supply 80lb. leaves each, or food for 1600 silkworms, or a harvest of 5lb. of cocoons, which at 2s., 10s. per tree, would mean £70. Deduct for labour one-half of this amount if you like, but in sericulture, when a small lot is only kept, and no extra labour engaged, it is, as Sir Samuel Davenport calls it, 'Money dropped from heaven.' The same trees at the age of 16 to 20 years would yield annually up to 200lb. leaves, or food for 4000 insects, bringing a harvest of 12 to 14lb. cocoons, which at 2s. per lb., would yield say £1 5s. per tree. The last amount, therefore, at the end of the tenth year would be about £70 per annum. The two acres planted with Muscatel and fruit trees would, at the same age, yield 10lb. of raisins per vine at 4d. lb.—3s. 4d., and the trees 4 bushels of fruit each at 2s. to 3s. per tree, or at least £50 per acre. Anyone acquainted with the subject will allow this a very low estimate. In fact, our dessert or bunch raisins fetch, at present readily a 150 to 200 per cent. higher price than assumed here. The rows of olive trees, numbering 240 or threeabouts, would at the same age (10 years) yield at least 1½ to 2 cwt. each, or say only 3 gallons of oil per tree at 5s., or £180. At this time a smaller harvest will have been gathered from the olive trees, but the annual proceeds continue to increase for more than a century. I have taken no notice in my calculations of the oilcane, which, like the carob bean, is of very superior value as fodder for stock. Amber cane, which is much more likely to be produced in a perfect state here, where we have a long summer and prevalence of limestone soils, than in North America, with their short summers and scarcity of limestone soils, in which the cane is said to flourish to the greatest perfection, should already have met with more attention by our farmers. Our Government might obtain for us particulars as to the crystallizing of the sugar. The American Government, seeing the importance of the subject, employed chemists to discover how to crystallize the syrup, and after ten years' trial succeeded at last. The Yankees now can beat all other sugar out of their market by their cheap home production, and all we farmers require is the assistance of the Government so far as to obtain for us the methods how to crystallize the syrup. We can readily produce rich cane. This £350 income from small plantation would require no more labour power than usually employed. The bulk of the work, with the exception of ploughing and pruning, could be done by the farmers' family. It is interesting, instructive, light, and a healthy employment, and much more suitable to them than what in many instances is accorded to them at present. Although I have so much referred to the benefits that would arise to our agriculturists, I would wish to be able to raise some amount of enthusiasm on the subject of tree planting in every landowner, and to this end would quote that universally admired author, Sir Walter Scott, who on this subject says:—'You can have no idea of the delight of a planter. He is like a painter laying on his colours; at every moment he sees his effects coming out. There is no art or occupation comparable to this. It is full of the past, present, and future enjoyments. I look around and see thousands of trees growing up, all of which—I may say almost each of which—have received my personal attention. I look back to the time when there was not a tree here (Abbotsford); only the bare heath. I remember five years ago looking forward with the most delightful expectations to this very hour, and as each year has passed the expectation has gone on increasing. I do the same now—I anticipate what this plantation and that one will presently be if only taken care of, and there is not a spot of which I do not watch the progress. Unlike building, or even painting, or indeed any other kind of pursuit, this has no end, and is never interrupted, but goes on from

day to day and from year to year with a perpetually augmenting interest.

"There is no doubt, but that if we only will, if the will to do so is energetically undertaken, we would soon transform South Australia into a land of beauty and of plenty, of population and wealth—a second Lombardy."—*Adelaide Observer*.

## A.B.C. of Agriculture.

V.

IN our previous consideration of the improvement of soils, we have named exposure to the sun, tillage, fertilization and drainage, and considered in the last article particularly that fertilization which is almost inseparably associated with the increase of the organic matter in soils, or the maintenance of a suitable proportion of the same.

### THE RELATIONS OF THE SOIL TO WATER

are so intimately connected with the subject of tillage, fertilization and warmth of the soil, that we will do well to consider some of them before proceeding further.

Soils often retain for a long time more water than is good for crops, and when this dries away they will be found to be in many cases the driest of all soils, except, perhaps, blowing sands, which can hardly be called soils. Other soils are perpetually water-soaked, while others are wet in the spring and in wet seasons, but though cold and late, are nevertheless tillable in favorable years. All such soils need to have the water artificially removed. The water may come solely from the rains; it may come from rain and water flowing from higher ground, or it may come up in springs from beneath the land itself. If it comes from other ground, that source should be cut off by ditches and the water conducted away. If it comes from springs, they should be found and the water from them conducted away, either in open ditches or in deep-laid covered ones, which are better, because the surface of the field may then be left smooth. Such land will usually be found to be soft upon the top, covered with a growth of sedge and other coarse plants, and lacking a good outlet for the water. Besides, just below the surface there is often found a stratum of sand and clay almost impervious to water, which compels all the water to flow off over the surface, or remain where it is. To reclaim such land, the first thing is to find a favorable outflow for the water. This should be not less than four or five feet below the general surface of the field; but we often have to accept such an outlet as we can get.

Now, water may be effectually removed from land by surface-drainage, but this has many obvious objections; the passage of men and animals, and the cultivation of the ground tend to fill the ditches, and they must be kept open with much labor; besides, the face of the field is much disfigured. Under-drains, if well laid, avoid all this. Still this is not the principal advantage of a system of under-drains. When water runs over the surface of land, it has great opportunity to remove particles of plant-food of various kinds, which would be, so to speak, filtered out of it if it passed through the soil. If we place drains, say, thirty to thirty-three feet apart and three or four feet deep, evenly laid, under such a soil as we are considering, the water in the soil will sink nearly to the level of the drains. It will, of course, be followed by the air, and so the soil will become porous, and under the influence of both air and water down to that depth. The soil thus acted upon is deepest at the drains, and notably a little less deep half way between them. When heavy showers or protracted rains come, the drains will run full for a time, but should be so small, if of tile, as not to carry all the water off too quickly, as, if somewhat retarded in its outflow, it will wash less valuable material from the soil. The rains thus percolating slowly through the whole depth of the soil, carry with them and leave in the soil much that is valuable. Rain-water contains a little ammonia and nitric acid, both most valuable, and carbonic acid, which is a solvent of plant-food. Though the water of drains at times removes some plant food, it is really very little, and the changes which take place in the soil, namely, drying it, warming it, aerating it, causing decompositions in it which render plant-food available, and rendering the sub-soil accessible to the roots of plants, are of the very highest value. In addition to these

benefits of thorough drainage, it will seem paradoxical to assert that

### DRAINAGE IS A SOURCE OF MOISTURE IN THE SOIL.

It is nevertheless true. In dry, hot weather, the temperature of the soil changes rapidly, as we test it on the surface, and every two or three inches as we descend to the level of the drains. The soil of well-drained land is full of air, and it is a property of air, as of other gases, to be always in motion, especially if it contains, dissolved in it, or as a part of it, any gas which is in excess of that which other adjacent air contains. The tendency is to equalize. The air deep in the soil is cool, and contains little moisture; the air blowing over the field is hot, and though anxious to take up more, yet has much more moisture than the cool air of the soil. According to the laws of diffusion of gases, the warm air penetrates the soil, becomes itself cool, and leaves much of its moisture for the good of the plants, even in the day-time, while at night, if it be clear, the rapid radiation of heat from the soil makes the surface cool, so that dew deposits freely upon it, which is absorbed by the spongy and porous soil, and so the soil, which is in fine tilth, and well drained, gets from the air moisture enough to carry its crops through any ordinary drought.

When there is actually liquid water in the subsoil, at the level of the drains, during a dry time, and the soil is fine and of an absorbent nature, the water will rise in it like water in a sponge, and so minister to the needs of plants whose roots penetrate below the dry surface stratum. Thus thoroughly drained land is found to withstand drought better than any other, drawing its supplies of moisture from the atmosphere, or from the subsoil, or from both, as the case may be. To secure the highest benefit from drainage, it must be accompanied by thorough tillage. Many soils of a heavy, clayey nature, which are not obviously wet, so as to suggest drainage, are as much benefitted by it as wet soils, because tillage is made easier, the subsoil is rendered permeable to air and moisture, and because the water passes through and not over the soil. Drains should be laid according to a definite system, which we cannot here discuss; but, however and wherever laid, the top of the drains should be made impervious to water, and all water be forced to enter up through the bottom. This is generally easy to do by packing and ramming clay upon the top of the tiles for about a foot. When done, it is plain that the water can bring up with it very little silt, which might clog the drains. Tiles are far cheaper than any other material, in most cases. They cost less, laid than ordinarily costs to haul the stones for stone drains, even if the stones lie thick upon the ground.—*American Agriculturist*.

or whether a higher intelligence suggests something different is needless to investigate. But among mutton-eaters there is an increasing demand for more lean and less fat, as is the case with Down mutton. And in parts of the world where sheep are raised as much for their meat as their wool, this is going to be a leading element in the question of what breed of sheep to raise.

There has been and is yet a strong current in favor of baby beef, or early maturity. And there is no doubt that it is profitable to the producer to prepare his heaves for market in the shortest possible time. But there comes a complaint from the delicate stomachs of beef eaters as well as the gourmand that such beef is too fat and soft. That it is not streaked or marked as the beef in which had been kept in a good healthy and growing condition until it had attained two and a half years, and then finished off by high feeding. The demand is almost universal at our butchers' stalls for more lean and less fat, especially through the hot months. Tallow, which used to be the most valuable part of the beef, has become the poorest. Forty years ago the butcher robbed the beef of nearly all the tallow, as it was worth twice as much per pound. Now they crowd on all they can, as it is not worth half as much as good lean beef. Formerly the great demand for tallow for candles made the fattest beef the most valuable. Now, when the tallow has to be sold by the butchers to the chandlers to be worked into butter, there is a loud demand for a different character of beeves. And breeders will be compelled to make this a leading question. In some breeds of pigs, sheep and cattle, there is a strong tendency to put on fat in masses without a suitable admixture of lean. It is evident, therefore, that in the future selection and breeding of stock, there will have to be more attention paid to the character of the meats consumers have set their hearts upon.—*Colman's Rural World*.

## The Advantages to be Derived by Cross-Breeding Poultry.

For all useful purposes, apart from breeding for exhibition, the value of cross-breeding cannot be too wisely known or too largely cultivated by those who wish to make poultry pay.

Cross-breeding is so closely associated with successful poultry farming, that it should be the first consideration in the art of poultry culture.

1. Cross-bred chickens are less liable to disease; roup, gapes, or "going light," is very rare amongst them, whilst there pure-bred and more delicate companions often succumb to one or other of the ills chickenhood is heir to.

2. It is generally admitted, and rightly so, that cross-bred chickens grow quicker, are therefore fit for the market sooner than pure-bred, so the former should be the more profitable.

3. Damp soil, which is unsuitable to the cultivation of the Dorking, would not militate against the produce of a cross with that breed, and the raising of fowls for market purposes could scarcely be made to pay in England without the aid of the Dorking.

4. Individuality is not wholly lost by crossing, for there need not be a single mongrel in the poultry yard if the breeding is in intelligent hands.

5. Cross-breeding, though it alters the appearance of the plumage, does not cause deterioration, but just the reverse in the case—the act of crossing very greatly prevents deterioration.

6. There can be no doubt that the laying qualities of several breeds, and, indeed, of poultry generally, would be improved by crossing, since it is possible to breed for an increased production of eggs; so the greater diffusion of better laying blood by crossing would be a distinct advantage.

7. Fowls, if judiciously crossed, will, as a rule, attain a greater size than if pure-bred. It may be said that size is of no importance. In my opinion the cultivator of poultry cannot entertain a greater fallacy than this. As I pointed out in a previous letter in your columns, size is of a paramount importance from an economical point of view. Size should be made up—not of bone or an abundance of feather—but of meaty development of breast; it must also be borne in mind, that the cost of raising large and meaty fowls is scarcely more than

## The Pig Pen.

### More Lean Meat.

THERE is in progress a decided change in the public taste and demand for beef, pork and mutton, with less fat and more lean. It is not the lean caused by poor or scanty feeding, but that kind of meat which is produced by breeding the choicest class of animals, in the direction of marbled meat, finely streaked with alternate fat and lean. The hog which is a mere lump of lard, is no longer acceptable to the consumer of fresh pork. This kind of meat, especially in the cooler parts of the year, is in immense demand in our town and city markets. Hence such butchers as pride themselves in furnishing their choice customers with such pork chops or roasts as can only be furnished from a certain class of hogs, are beginning to be particular about the character and condition of the hogs they buy. And some of them are necessarily educated to be the best judges of the meat of the hog. Swine feeders are beginning to wake up to the question of producing an animal which is composed of something more agreeable to the taste of the epicure. And in the future hog-breeders will have to take this into consideration.

The same with mutton. In former years the lovers of this delicious meat demanded the fat Cotswold. Whether it be that the world is abandoning the robust exercise of the farm or the chase, and hence have not the taste, nor the digestive organs, to demand such fat mutton,

has of smaller or inferior birds. It is, therefore, obvious that large, carefully bred stock must command the best price.

It is also a mistake to think that all cross-bred fowls are of a nondescript colour and have various coloured legs. First crosses are usually uniform in shape, body colour, and in colour of legs. Very little importance should be attached to fancy points if poultry breeding for profit is desired. Though similarity in colour is more pleasing to the eye, yet it does not add to the credit side of the concern, and may be obtained as readily in cross-bred as in pure-bred stock.

Now the all-important matter of size and the minor matter of colour of leg almost entirely depend on the hens bred from. They should be as large as possible, as the chickens will, as a general rule, take after them in size as well as in colour of leg.

My experience has greatly impressed me with the all-round merit of cross-bred fowls; they are excellent layers and table fowl, and, as far as downright usefulness goes, they "fill the bill" completely.—*Live Stock Journal.*

When fruits are mature they make preparation for falling, just as mature leaves do. A distinct line is formed upon the stem of the fruit, in preparation for the separation. When the apple or pear is mature it will separate from the tree without any pulling; mere lifting the fruit from its hanging position to a horizontal one will cause the separation from the tree to take place at once.

**EVAN EVANS,**  
Tent and Carpaulin Manufacturer,  
ELIZABETH STREET NORTH,

Near the RAYMARET, Melbourne  
Every description of Tents, Carpaulins, Horse Rugs, &c. made to order on the shortest notice. A stock always on hand. Country orders punctually attended to. The trade supplied on the most favorable terms.

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MELBOURNE.

**H. GREENWOOD,**  
Flour and Corn Merchant.  
CRUSHING DONE FOR THE TRADE.

**GEORGE DAVEY,**  
MANUFACTURER OF CHAFF BAGGING MACHINES,  
The First Introduced to the Public,  
AND THE BEST AND SIMPLEST MADE.  
Can be attached to Travelling Chaffcutters. Inspection invited.  
Mining and Agricultural Machine Maker.  
60, 62, and 84 MAIR STREET, BALLARAT.



PATENT LABELS for SHEEP, &c., stamped with any name not exceeding nine letters, and numbered from 1 to 10,000. Price, 10s. per hundred, 5s. per thousand; 100 sent by post for 11s. to any address in Australia, Tasmania, and New Zealand, excepting New South Wales and Queensland.

Send for sample and descriptive circular.  
MANUFACTURERS of Patent SHEEP and CATTLE MARKERS, Sheep & Cattle Brands, Steam Ink, Tatoo Brands, Tallying Registers, &c.

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(Late GILLESPIE BROS.)

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MERCHANTS,  
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PLAIN AND GALVANIZED.  
100, 200, 300, and 400 GALLONS.  
Taps fitted to any size required.

HOUSEHOLD, ENGINE, AND BLACKSMITHS' COAL,  
BEST QUALITY.

Horse Feed of all Kinds, Wholesale and Retail.  
Purchaser and Seller of Country Chaff.

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Coal & Produce Merchant,  
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**C. C. SANDERS & CO.,**  
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Have always on hand a Superior Stock of Saddlery, consisting of Double and Single Buggy Harness; also, Carriage, Gig, and other Harness; Kinglids and Colonial made Ladies' and Gents' Saddles and Bridles, Carriage, Buggy, Hunting, Jockey, and other Whips, from the best English Makers.

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SPURS, &c. &c.

ESTABLISHED 1857.

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Old-established Agricultural Implement and Farm Wagon Manufactory

Celebrated for the excellence and durability of all work sent out.

Makers of the First Iron Plough in the Colony.

BUY NONE OTHER THAN  
**W. C. STOTT'S**  
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FIRE BRICK LINED FURNACES



For Copper Washing Boilers with Everlasting Bottoms, will Boil in Half the Time of the Ordinary Furnace, with Half the Fuel

To be had of all Leading Ironmongers.

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FOR



**FURNITURE,  
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**THE AUSTRALASIAN MORTGAGE AND AGENCY**

COMPANY LIMITED,  
With which is incorporated

HASTINGS CUNINGHAM AND COMPANY LIMITED,

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**THE AUSTRALASIAN WOOL STORES, MELBOURNE.**

Auction Sales of WOOL every Friday during the Season, and of SHEEPSKINS, HIDES, TALLOW, KANGAROO SKINS, &c., every Tuesday, Thursday & Saturday throughout the year.

Auction Sales of WHEAT, FLOUR, BARLEY, OATS, &c., every Wednesday during the Season.

Consignments fully Displayed and Carefully Valued by Experts prior to Sale.

PROCEEDS REMITTED PROMPTLY ON DUE DATE.

The Australasian Wool Stores,  
Collins Street West, Melbourne.

**WILLIAM ADAMSON & CO.**

Produce Brokers,

**MACKILLOP STREET,**

MELBOURNE,

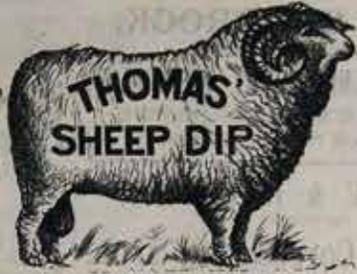
Hold Sales every Wednesday and Friday of

Dairy Produce, Poultry,

Carcass Pork, &c.

Account Sales rendered within Four Days from  
Date of Sale.

A  
Perfect  
SHEEP DIP  
Destroys  
all  
Parasites,  
Ticks, Lice,  
or Scab.



The  
CHEAPEST,  
Most  
RELIABLE,  
and  
Most  
LASTING

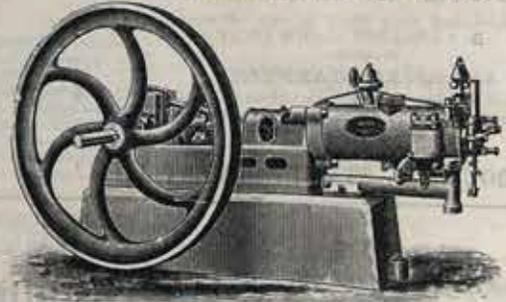
The Wool consigned to Messrs. Helmuth, Schwartz & Co., London, by the Pastoral Society of New Zealand, was reported upon as "of Fine, Staple, and Sound, of Good Lustre and Soft Feel, and with little or no smell."

The Total Prizes taken at the places referred to number 157, including nearly £600 in Sterling Money.

—TESTIMONIAL—

"I have very much pleasure in sending you a testimonial of my high appreciation of Thomas' Sheep Dipping Specific, with which you have supplied me. I have found it to answer well. The complete failure of an English Poisonous Dip to kill the Ticks, induced me to try the above. I am glad to state, with the greatest success. The eradication of the Ticks and Ova was so complete that on several occasions I have challenged inspection of my Stud Sheep and General Flock to find a living Tick amongst them. As for the condition of the Wool, and the health of the Sheep—the fact of my taking so many First Prizes at each of the Agricultural Shows, viz., Melbourne, Ballarat, Echuca, Sandhurst, Rochester, Kyneton, and several other Shows—sufficiently testifies, and my Sheep were entirely free of Ticks at Shearing. I have now much pleasure in giving in writing my opinion of your Specific, which I never hesitate to express publicly whenever the subject of Dip is referred to. Scale Park, Clunes, Victoria, Jan. 29, 1887. (Signed) LEONARD R. CARTER."

**THE "OTTO" SILENT GAS ENGINE.**



Full power at a moment's notice. No Boiler required. The best and most economical engine in the market. Cost of gas, 1½d. per hour, with gas at 6s. per 1000 cubic feet. Over 1000 in use in the Australian Colonies. Made in all sizes, from 5 h.p. power, indicating 1 h.p., to 20 h.p., indicating 50 h.p. The new Vertical "Otto" Gas Engine takes up little floor space, is silent, and is equal in power to the horizontal pattern. May be had on Deferred Payment System. For price lists and further information, apply to

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SOLE AGENTS,

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WORLD RENOWNED  
**REAPER & BINDER**  
WINNER OF 34 OUT OF 39  
FIRST PRIZES AT  
FIELD TRIALS  
IN VICTORIA.  
SEASONS.  
1883 to 1887.  
THE WORLD'S  
HIGHEST PRIZES

HEMP & MANILLA  
TWINE OF  
SPECIAL QUALITY  
I.G. FOSTER  
AGENT,  
A'BECKETT ST.  
MELBOURNE

LATEST VICTORY JULY, 1887. GOLD MEDAL & TROPHY VALUE £100, FRANCE.

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**WHITE & ALLAMBY**  
Have replenished their Stock in view of ensuing  
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in stock.  
**AMERICAN HARNESS,**  
Single and Double, Carriage, Brougham, Gig, and  
Buggy, in ALL of which none but the best  
English and American Leather is  
used in making up.  
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**Agent for H. Disston and Son's Celebrated Circular and Vertical Saws.**  
*Importer of English and American Saws, Joiners' Tools, and Files.*  
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**SPECIALTY.**  
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Three Gold Medals for best Carriages at Melbourne Shows of 1883, 1884, and 1887, and Forty-four First Prizes at Exhibitions and Shows of 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, and 1887. Also Three First Awards of Merit (First Prizes) at International Exhibition of 1880 and 1881.

NOTICE.—Referring to above, D. WHITE desires to inform his numerous Customers and the Public generally that he has secured and completed EXTENSIVE ADDITIONS TO HIS COACH FACTORY, and with the increased accommodation and Steam Plant, and the Largest Stock of Seasoned Timber in Melbourne, is now prepared to meet the increasing demand for his well-known Carriages and Vehicles.  
The new premises are in Stewart Street, immediately opposite the present Factory.  
Patentee of the Improved Carriage and Buggy Hood Apparatus, for raising or lowering the Hood from the inside, to which I have added a most useful invention in the shape of a powerful spiral spring, whereby a lady can raise a hood with the greatest ease.  
N.B.—D. W. was awarded, by the judges of the late National Agricultural Society, 14 First Prizes (including only Gold Medal and Challenge Shield given) for 18 vehicles exhibited, a feat hitherto unknown.

**LANCASHIRE PATENT BELTING,**  
FOR  
**Threshers and all Agricultural Machinery.**

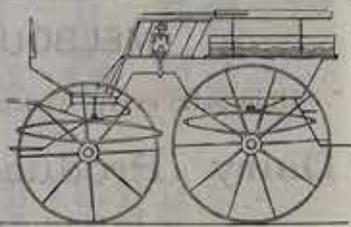
Is not affected by Heat, Water, or Steam. More Durable. Better Grip.  
Adopted by the Victorian Railways, and is used by all the leading manufacturers in Melbourne and suburbs.  
Prices less than single leather. All sizes from 1 1/2 to 16 inch in stock.  
All the Main Driving Belts for the Adelaide Jubilee Exhibition are supplied by Lancashire Patent Belting.  
SEND FOR CIRCULARS TO

**CAMPBELL, GUTHRIDGE & CO.,**  
13 William Street,  
Agents for Australasia.

Messrs. CAMPBELL, GUTHRIDGE & Co.,  
Agents for Lancashire Patent Belting and Hose Company,  
"Orminster," Upper Maffra,  
23rd May, 1887.  
Dear Sirs,—We have great pleasure in informing you that the Patent Belt we bought from you for our Threshing Machine has given us great satisfaction. We consider it much better than leather, and believe it more durable; we also find that it runs more smoothly in wind and keeps on the pulley better when raining, in fact, last season the belt only came off three or four times when at work; and we have seen a leather belt come off as many times in an hour in windy weather. We would not think of buying a leather one now; the cost of leather is about double what the Patent Belt costs, and we have great pleasure in recommending them to machine owners. We are, Gentlemen, Yours respectfully,  
HARPER & HAMMILL.

TELEPHONE No. 635.

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A Large Stock of English and Colonial Pattern Carriages, Dog Carts and Buggies always on hand.  
Catalogue, with Testimonials, Post Free, on Application.

**THE USE OF**  
**SULPHATE OF AMMONIA IN AGRICULTURE.**

For Grass Land.—1 1/2 cwt. per acre; to be put on the land from August to October, before or after a shower of rain.  
For Wheat, Oats and Barley.—1 cwt. per acre for wheat, in April; 1 cwt. per acre, for oats, in April; 1 1/2 cwt. per acre, for barley, in August.  
For Vines.—1 bushel on the vine border, and lightly fork it in, in the months of July to September. This quantity (1 bushel) to be for the nourishment of four vines.  
For Onion Beds.—Give a good sprinkling over the beds two or three times during the growth of the onions.  
For Potatoes.—1 1/2 cwt. per acre as a top dressing, before the haulms appear above ground.  
For Greenhouse Plants.—A large teaspoonful in a bucket of water, to water the greenhouse plants with twice a week. Not to be used, however, for heaths, rhododendrons, or orchids.  
For Peach, Apricot, Plum, Currant, and Gooseberry Trees.—A similar solution to that given for greenhouse plants, in the months of July and September. Rose trees and garden plants are benefitted by the use of the solution. Celery, cabbages and cauliflowers also grow well when watered with the solution.  
For Raising of Healthy Plants from Seeds.—Sprinkle a good quantity of the sulphate on the seed beds, and then water them a week before sowing the seeds. Melons and cucumber plants also are much benefitted by the sulphate of ammonia.  
Note.—All vegetation, excepting heaths, rhododendrons, and orchids are rendered more luxuriant, healthier, and consequently free from the destructive attacks of the scavengers of Nature by the use of sulphate of ammonia, especially in the spring of the year, when vegetation requires a condensed antiseptic food and nourisher, to enable it to withstand the blighting effects of the north-easterly winds, which, being the least electrical of all the winds, lower its vitality, and thus conduce to disease in the animal and vegetable kingdoms.

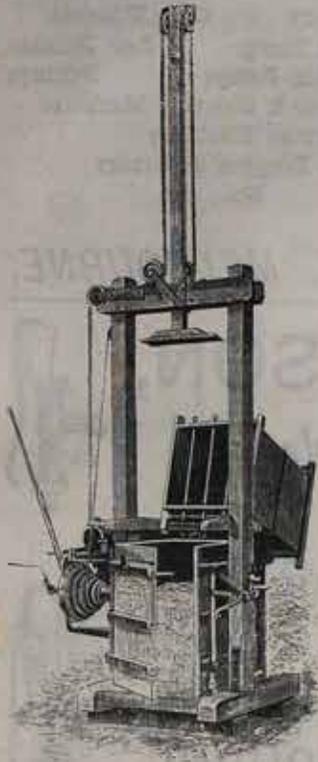
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In 2 cwt. Bags, at 18s. per cwt.

# D. FERRIER'S PATENT LEVER WOOL-PRESS

First Order of Merit awarded this Press at the Melbourne International Exhibition, 1880.

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The usual screw is dispensed with, and the pressure brought to bear by means of a strong rope or chain, working in sheave pulleys overhead, attached to a Ram, and winding on a fusee, which is made in the shape of a suddenly tapered screw.

The rope works on the large part of the Fusee, when the pressure is light, and passes down to the taper end as the pressure increases, being worked by a lever fixed on the centro spindle.

The top Box is hinged to side Brackets, and turns down to the floor, which greatly facilitates the putting in of the wool, and renders any second floor unnecessary, and when filled is easily placed back in position.

When the bale is pressed and the sides sewn, the Ram is lifted by a small rope from the Fusee, turned by a handle.

It will be understood how very much quicker the power is brought into application by this means than by the ordinary screw press, and double the work is got through by the same number of men.

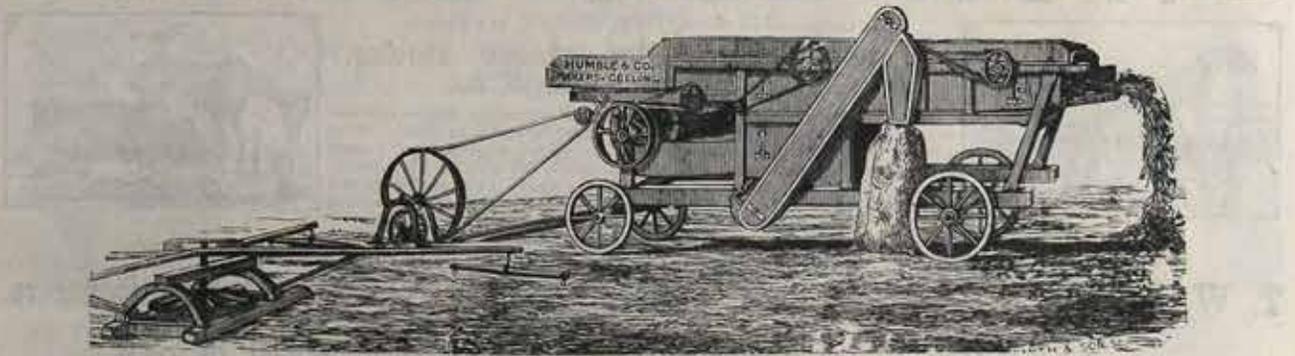
Special attention is directed to the fastening of the Packs before the Wool is put in, which is done in an exceedingly quick and simple manner. Four pieces of wood are fitted into the recesses of doors, which hold the Pack securely in position and to the side catches for fastening the doors, which are held in position by a vertical bar, and relieves them simultaneously.

The side door is also held in its place by a catch, which at any time can be relieved instantly, the door falling back and allowing the bale to be removed.

At the Melbourne Exhibition competition this Press turned out 3 Bales of Scoured Wool in 28½ minutes, being considerably less than any other Press, although one had the advantage of being driven by steam.

HUMBLE & NICHOLSON, ENGINEERS.

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FOUR-HORSE POWER THRASHING MACHINES.—These Machines are found to be very convenient to farmers who wish to thrash their own grain; or in some cases where three or four neighbours combine. They will thrash from three to four hundred bushels per day with horse power; or if worked with steam power, about six hundred bushels daily.

We have been making these Machines for the last seventeen years, and have been awarded a large number of prizes at the different Shows, including the National Show at Melbourne and other places. The above is strongly made with Wrought Iron Drum, Steel Spindle; all bearings of the best material, no time or expense being spared to turn them out in a substantial manner.

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Manufacturers of TAYLOR'S PATENT REFRIGERATORS

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ALSO

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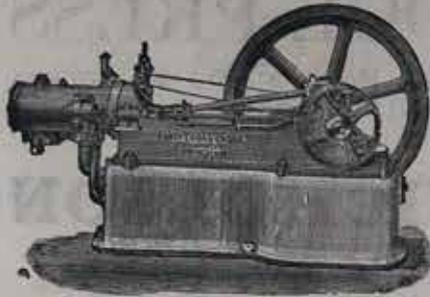
The most effective when used with the chemical dust, which is supplied by Vulcan Foundry.

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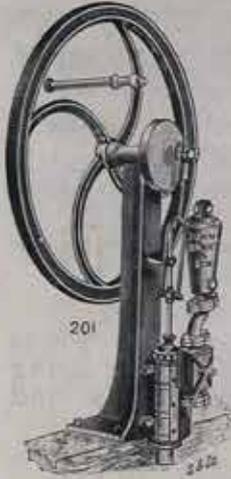
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Iron, Lead, & Compo. Pipes, Water Supply Goods.

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# NORRIS'S SPICE

Is Unequalled for Giving LIFE, HEALTH, and Flesh to

Horses, Cattle, Pigs, Geese, Ducks,  
Fowls, Pigeons, Dogs, &c.

Tried, Proved and Certified to be the Best Medicine for Horses ever discovered. Will coax the appetite when all other things have failed. Gives a bright eye to the Horse, makes his skin like velvet, his looks and temper good. Increases the quantity of milk in Cows, and enriches the quality. Fattens Pigs in half the usual time. Makes Geese, Turkeys, Ducks and Fowls as fat as butter, and double their value. Converts the commonest of Hay and Straw into a superior provender.



Sold by all Druggists, Grocers, and Storekeepers, in Tins, 1s., 2s., 5s., 10s., and 20s.

T. W. NORRIS & CO. (S. M. DALTON), Chemists, Sole Proprietors & Manufacturers.  
PRAHRAN, VICTORIA.

N.B.—Ask for and insist on having NORRIS'S SPICE. Spurious Imitations are sometimes offered, BEWARE OF THEM.

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Have much pleasure in calling the attention of Agriculturists to their

"EUREKA" DOUBLE-FURROW PLOUGHS,

With Short or Medium Steel Mouldboards, Patent Wheels, and Cast or Wrought Iron Shares.

Combined Two and Three Furrow Plough, the Best and Cheapest Ploughs in the Market. Patent Wheels supplied to fit any make of Double-Furrow Plough. Horse Works, for One or Two Horses. Improved Three-Knife Chaffcutter, Fitted with Sieve Gear, Patent Adjustable Steel Mouthpiece, Stop and Reversing Motion. Cut two lengths. Bentall's Chaffcutters and Corncrushers, All Sizes, Tank Sinking Ploughs and Scoops, Harrows, Scarifiers, Corl.-screens, Winnowing Machines.

PRICE LISTS ON APPLICATION.

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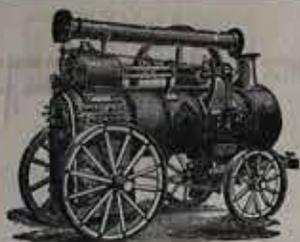


The "Buckeye" Folding Binder is the most complete Binder in the market. It cuts as low as a Mower; is strong, simple and durable.

Awarded Gold Medal at Grand National Field Trial, Shepparton, 1886, with highest number of points.

The Lightest running Reaper and Binder in the World.

Agricultural Machine Works, Elizabeth Street North, Melbourne.



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Thos. Corbett's (Shrewsbury) New Australasian Monarch Wincrowing Machines, ColonialTine Harrows, Cheese presses, Horse Hoes.

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79, 81, 83, and 319 ELIZABETH STREET,

And 4, 6, & 10 LITTLE COLLINS ST. WEST,  
**MELBOURNE.**



LONDON, 27 LOMBARD STREET.

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Saddler by Appointment to His Excellency Sir H. B. Loch, K.C.B.

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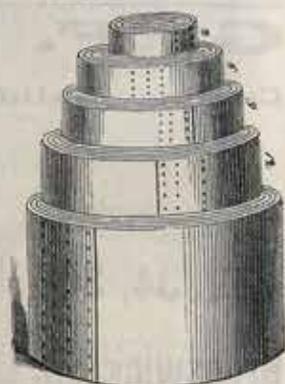
Contractor for Machine Belting, Saddlery, &c., to the Government, War & Naval Departments of Victoria.

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Machinery supplied on  
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 of Time-payment.



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Importers of AGRICULTURAL, MILLING, MINING, SAWING, PUMPING, and  
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**105 FIRST PRIZES**  
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THE 1886 MACHINE IS UNRIVALLED.



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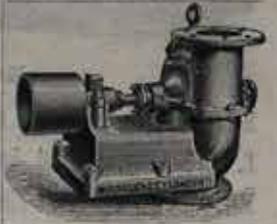
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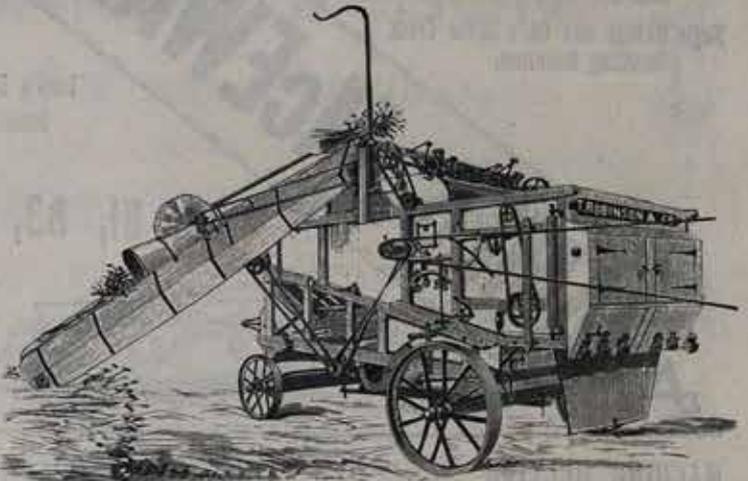
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# NATIONAL AGRICULTURAL SOCIETY.



## VICTORIA

Vol. III.—No 32. [Regd. as a Newspaper.]

MELBOURNE, MARCH 16TH, 1888

GRATIS

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Then 'twere well it were done quickly."

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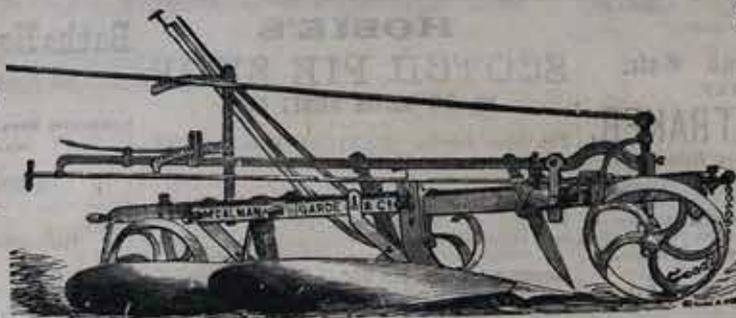
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Rack and Gear Steel Press for the use of large stations.  
Lever & Chain Press, with Folding Top Box, for the use of smaller stations  
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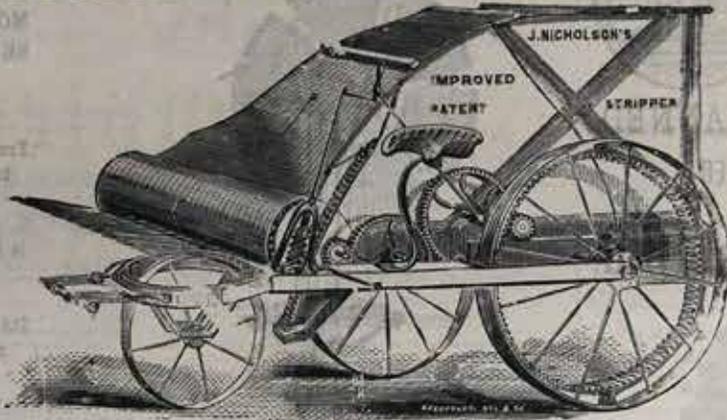
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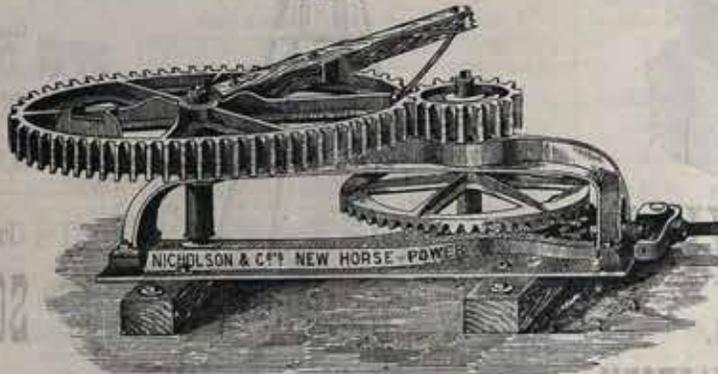
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Have much pleasure, while recommending their Design and Manufac-  
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facturers) have also to state, as a proof of the still maintained  
Superiority of their Machines, that at the late

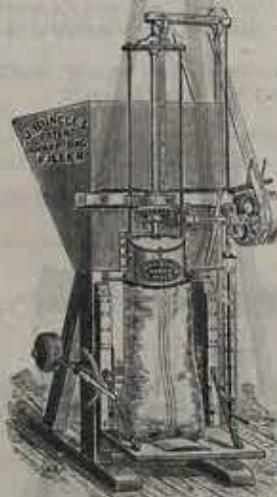
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They were placed in competition with the Best  
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A copy of this Journal, which is published monthly (on the Friday after the Council Meeting), is also forwarded to each member.

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**THOMAS PATTERSON,**

SECRETARY.

Kirk's Bazaar, Melbourne.

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**Agricultural Society of Victoria.**

Shorthorn Derby Sweepstakes,	1890.
Hereford do do	1890.
Ayrshire do do	1890.
Jersey (late Alderney) do do	1890.

A Sweepstakes of £1 each (10s. at time of nomination, and 10s. at date of general entry for Show), with £3 added in each case for Heifers calved between 1st July, 1887, and 1st July, 1888, to be divided and awarded as 1st, 2nd, and 3rd Prizes, for three-year olds, at the Society's Show, 1890.

Nomination of Calves of each breed respectively will be received on payment of a nomination fee of 10s. each. Calves to be nominated within one month of date of birth. Nominators to fully describe the color of each calf entered, and to state the name of the sire, dam, and sire of dam, together with the date of calving. Entry forms on application.

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Kirk's Bazaar, Melbourne.

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They hold AUCTION SALES of WOOL twice each week during the season, and at frequent intervals during the winter months.

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One Month's Free Storage allowed on Grain.

Liberal Advances made at bank rates on receipt of produce into warehouse.

Full rates of interest allowed on fixed deposits, current accounts, and financial business of all kinds conducted.

Branch in Sydney: No. 93 Pitt-street.

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Loans and other Financial Arrangements Negotiated.

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**Notices.**

All communications for the Editor to be addressed to the Society's Office, Kirk's Bazaar, Bourke Street West, Melbourne.

Business communications to the Publishers, Melbourne Place, off Russell Street, Melbourne.

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**Dates of Forthcoming Shows.**

SECRETARIES of agricultural societies are requested to forward to the editor the dates on which their respective exhibitions will be held, also copies of their prize schedules as soon as they are published.

**MARCH.**

21.—Dykesford.	22.—Bain Balm.
21.—Dunolly.	25.—Beaufort.
21.—Maifra.	23.—Alexandra.

**OCTOBER.**

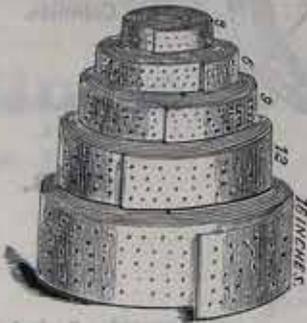
4.—Bacchus Marsh.	10, 11.—Sandhurst.
9, 10.—Rochester.	23, 24.—Tatura.

**NOVEMBER.**

14, 15.—Hampton and Hayesbury, Campedown.



DOUBLE OAK-TANNED  
WELL-STRETCHED  
**MACHINE BELTING.**



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"UNIVERSAL"  
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MANUFACTURERS OF  
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Special Lists for BELTS for IRRIGATION PURPOSES.

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TESTIMONIAL.—[COPY.]

UNION FLOUR MILLS,  
Brunswick-street, Fitzroy,  
March 17th, 1886.

Messrs. Frank Vial & Co.,  
Macauley Road, Hotham.

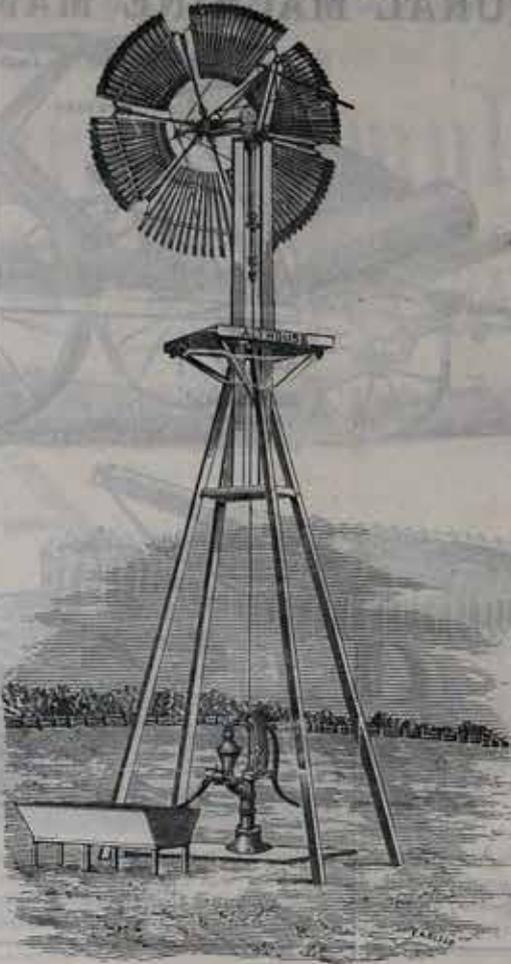
Gentlemen.—In reply to your enquiry respecting the (23") twenty-three inch double belt supplied by you to ourselves, we beg to state we have been working it for a period of seven months, and we find it to be all we could desire, as also in the other belting which we had from you.

We therefore feel great pleasure in recommending your belting to anyone requiring the same.

We are, Gentlemen, yours truly,  
(Signed) W. S. KIMPTON & SONS.

Other testimonials received too numerous to print, which with Price Lists, can be had on application.

# THE ALTHOUSE WINDMILL.



The STRONGEST, SIMPLEST MOST DURABLE, and BEST SELF-REGULATING WIND-MILL in the Market.

Proved by Actual Experience to be Unequaled for Water Supply Purposes.

Is Absolutely the Strongest Mill in the Market.

Its Extreme Sensitiveness is one of its Greatest Merits.

Its self-regulating capacity is perfect

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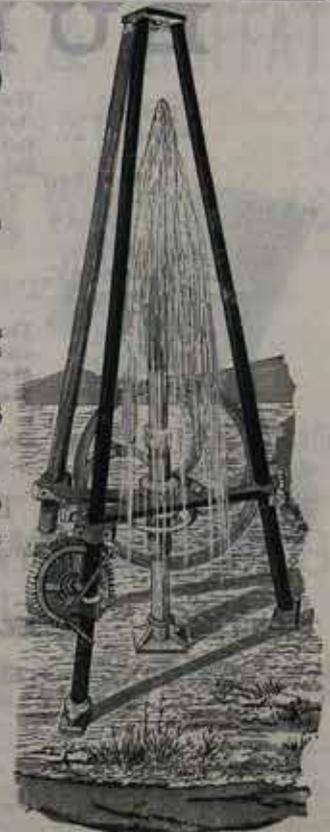
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## The Journal

OF THE

### National Agricultural Society OF VICTORIA.

MELBOURNE, MARCH 16th, 1888.

#### An Authoritative Agricultural Tribunal.

A RECOGNISED authoritative central body which may be appealed to in all matters relating to the conduct of agricultural societies and their various rules and objects is much required. The National Society which is often appealed to by country societies in a measure serves this purpose but a common agreement should be arrived at amongst the whole of the societies of the colony and action should be taken by them to combine for their mutual advantage, and to constitute it an authoritative body in the same way as the Victoria Racing Club is recognised in the racing community. Those who admit the advantages of such an idea are afraid to take it up on account of the cry, "Centralization." But the cry in this case is simply humbug. Every sensible community recognises a head—even the bees have their queen—so that the agricultural societies would find it immensely to their advantage to combine with this object. One of the greatest discoveries of modern times is the power of organization, and why should the agricultural societies be behind in taking advantage of it. Unfortunately the scheme for the federation of the societies hangs fire, but this is a different matter which might, however, help on the other. Were a general code agreed on and such a tribunal recognised as its custodian and executive there would then be rules applicable throughout all the societies of the colony. Take for instance the breeding year; at present there is possible and has actually occurred the anomaly of an animal being shown as a three-year old at one show, and a month or two afterwards at another as a two-year old on account of one society having a date for a breeding year, and another not having one. We cite no other instance for we feel certain that those acquainted with the working of societies know enough of them. We believe the matter brought forward in this article only requires to be stated in order to commend itself to the judgment of those interested.

#### Development of New Breeds.

THE article on Divergence and Development of Breeds, which we publish elsewhere, draws attention to a subject of considerable interest. It is astonishing how persistently our breeders adhere to the recognised fashionable breeds and types from the old country, and never apparently think of modifying them to suit the climate and surrounding conditions; on the same principle we suppose that unfortunate colonials are doomed to wear a hard black hat and black

coat when walking down Collins-street on a broiling hot midsummer's day, because such costume happens to be the fashion on the other side of the world. It is questionable whether many of the breeds of the stock we have introduced here could not, by judicious mating, crossing, and culling, be very much improved for local and peculiar requirements, but the tendency is to stick to the old grooves and to recur to animals of the original type to keep the breed in such grooves. In the case of the Merino sheep, a departure has been already taken, which, however, has been forced on by local surroundings, but in the larger animals there is room for enterprise in the establishment of new breeds in the same way that those we now have have been established; for notwithstanding the opinion of a well-known sheep breeder, expressed in a recent newspaper correspondence, we hold that a wonderful modification of type is possible even in the life-time of one individual, and as we believe the possible models are not yet exhausted, there is room here for some enterprising breeder to immortalise himself.

#### Irrigation and Intense Culture.

IN his interesting lecture, delivered at Tatura last month, Mr. Deakin, the Chief Secretary, spoke, by request, on the possibility of making a good living on small areas under irrigation. He showed by data obtained from California, where the conditions were almost similar to those in Victoria, that it was possible for a family to live well on 10 or 20 acres of irrigated land, the values of which lands had risen considerably since his visit two years ago; and he also showed by later data that the results obtained from irrigated lands, generally, were now 20 per cent. better than when he wrote his report. He stated that riverside land, which, when he was in America, was valued at £5 an acre, was now, where irrigated and planted, worth £40 to £60 per acre. Farmers, however, must not think that these results were brought about without a great amount of labor and attention. It was not by merely turning on water and carelessly sticking in trees that success was attained. Intense culture meant assiduous attention and care, every tree and plant being tended with solicitude, and every inch of ground being carefully and thoroughly tilled. It is, however, scarcely necessary to go to America to see grand results under these conditions, for the Hawthorn railway runs beside a piece of land on the bank of the Yarra which was, two years ago, the site of an old garden—a deserted unproductive wilderness. Some Chinamen took this area of two or three acres in hand, and by dint of careful cultivation and watering from the Yarra, changed it in a very short time into a most productive spot. Although we pass the place daily in the train, we have not inquired definitely as to results, but any practical man with half an eye can see that the grounds (altogether, independently of land syndicates), have increased in value—300—say, 500 per cent.—quite up to any American record.

We have always believed in the possibility of profitably irrigating reasonable areas of

suitable land contiguous to rivers or streams, but even yet we cannot see that the whole of our vast northern plains are going to be revolutionised; when we consider our water supply and take into account the expense of the works and the cost of the labor necessary in intense culture—not forgetting the want of combination which seems persistently to characterise our farmers. However, as "knowledge is of things we see," and as others have said they have seen the thing done elsewhere we bow to their superior knowledge and judgment, though pending the fulfilment of their prognostications we crave the privilege of "honest doubt."

#### "Improving" Exhibits.

THE exhibition system (says the *Live Stock Journal*) has outgrown—as so many English institutions have—the plans and intentions of the original promoters. Those who now take part in it—either as exhibitors or purchasers, or even mere spectators—very soon are confronted with practices which the framers of the original rules never dreamed of, and which, therefore, the rules do not prevent. Some of the practices are wholly objectionable, and some arise out of nothing worse than misdirected ingenuity. Among the latter section is a custom which has grown up within the last 30 years in England of permitting exhibitors of sheep to oil, curl, and stain the fleeces. Gradually it seems to have been tacitly conceded that ewes and rams offered as suitable for breeders may be shown red, yellow and white, or else saturated with oil so as to resemble a barber's wig. All such practices should be strongly reprobated, and if no rule exist, one should be passed to meet them. Australian exhibitors have scarcely reached such a fantastic stage, but there are several practices already creeping in which should be nipped in the bud, as there is nothing more calculated to bring ridicule on the whole show system.

1857

#### The Berwick Show.

THE thirty-first annual exhibition of the Mornington Farmers' Society, which was held at Berwick on the 17th ult., was a very successful event. The day was dull in the early morning, but afterwards cleared up, and was all that could be desired; enabling visitors to see the picturesque surroundings of the Show Grounds to advantage, and to thoroughly enjoy their outing. Some good draught stallions were shown, and there was a lot of superior mares, while the young stock, though promising, were not numerous. A few useful blood horses were shown, including a fine imported Arab and there was a good class of blood mares. Several big upstanding coaching stallions were paraded, and there was a really fine show of ponies. Hackneys and ladies' hackneys were well represented, the classes being large and the competition keen; and there were a few good hunters. A number of useful spring cart horses were shown, as well as some fast trotters and walkers. Shorthorn and Hereford cattle were poorly represented, but the display of Ayrshires

and Jerseys was a large and superior one—indeed, so good as to be a credit to any Show Yards in the world, as a travelled judge who adjudicated on them remarked at the luncheon when replying to the toast of the judges. Sheep and swine were not numerous, the latter showing a great falling off from former days; and there were only a few pens of poultry. The dairy produce—butter and cheese—was of a very high class, and the farm produce, though small in quantity, was very creditable. The show of fruit was not large, the wet season having been against its ripening well. Some good wines were shown, and there was an interesting collection of ladies' fancy work. A rough-riding contest was held on a piece of ground adjoining the yards, and was a great source of amusement to the spectators, though, doubtless, to the riders it was rather serious business. The grounds were so inconveniently crowded with exhibits that the Committee will have to set about procuring a larger area to meet the growing requirements of the Society.

*The Dandenong Show, 1871*

THE seventeenth annual exhibition of the Dandenong and South Bourke Agricultural and Horticultural Society, which was held at Dandenong on the 23rd ult., was a very creditable one, and was in keeping with the general progress of the town and district, which within the last few years has been simply surprising. Draught horse stock were fairly well represented, the most noticeable feature being the very fine show of mares. Blood stock was scarcely up to the standard of earlier days, but there were some good exhibits. The hunters, hackneys, and ladies' palfries and ponies were very good sections, and there was some sensational high jumping. Shorthorn cattle seem to have disappeared, and there were few Herefords. There was a good show of Ayrshires, and a particularly fine display of Jerseys, and some little Brittainies, the smaller dairy breeds seeming to have taken possession of the place. Not many sheep or swine were shown; and the show of poultry was small, though some of the pens contained good birds. In the well-lighted pavilion just erected on the grounds, there was a very fine show of fruits, flowers, dairy produce, and miscellaneous exhibits, altogether forming the most attractive feature of the yards. During the afternoon the grounds were crowded with visitors, and everything passed off well. The office-bearers of the Society are certainly deserving of praise for the energy displayed in the conduct of their business.

*The Tatura Show.*

THE autumn show of grain, fruits, &c., of the Tatura Agricultural Show was held on the 28th ultimo. The exhibits being spread over the grounds in the different permanent sheds failed to produce as good an effect as if they had been brought together in one large pavilion, but they gave ample evidence of the fertility of the Goulburn Valley and

of its possibilities in the immediate future when irrigation is more extensively practised. A prominent feature of the show was the plant of the lately established Mooropna Fruit Evaporating Company which consisted of Spaw's evaporator and appliances, which were shown at work. There was a considerable show of grain, the wheat, oats, and barley being very good. A quantity of green broom corn, together with the article manufactured into brooms, was shown. Some well-known amber cane and some good samples of maize were staged. The fruit was very fine, the grapes in particular being excellent. A number of bunches of the Zante currant grape were exhibited. Vegetables were not largely represented, but there were some pumpkins of a huge growth. The object of the society in holding this autumn exhibition is principally to encourage the development of new industries and to stimulate a departure from the usual grain growing groove. In order to advance their object the society invited the Hon. Alfred Deakin, the Chief Secretary, to lecture on irrigation on the grounds. The lecture was delivered by Mr. Deakin in a marquee in the yards, and was attentively listened to by a good attendance of farmers.

**Meetings.**

*Annual.*

The annual general meeting of the governors and members of the National Agricultural Society of Victoria was held on Thursday, February 16th, 1888.

Present: Dr. Plummer, president, in the chair, with a large attendance of subscribers.

The notice calling the meeting was read.

The minutes of the last annual meeting were read and confirmed.

ADOPTION OF ANNUAL REPORT.

Mr. T. Brunton moved the adoption of the Council's annual report to subscribers, which was taken as read. Seconded by Mr. J. Currie, and carried.

FINANCIAL STATEMENT.

The clause of annual report relating to finance was read to the meeting, when the audited statement of receipts and expenditure for the past year was taken as read, and adopted, on the motion of Mr. T. Brunton, seconded by Mr. Learmonth.

MOTION.

In accordance with notice, Mr. W. Thomson moved—"That a new rule be adopted to permit members who reside more than twenty miles from Melbourne to vote at all elections for office-bearers by ballot papers, although they may not be able to be present at the meetings at which the elections are held. Seconded by Mr. W. J. Lobb, and, after a discussion, carried.

ELECTION OF OFFICE-BEARERS.

At noon the President had appointed Mr. W. J. Lobb his deputy, to act while the business of the meeting was transacted. When the business was concluded the President relieved Mr.

Lobb, and conducted the election till 3 p.m., when the polling closed.

Mr. George Young, James Hearn, and R. G. Stevenson were appointed scrutineers, and the result of the poll was found to be as follows:—A. Plummer, 185; W. J. Lobb, 173; J. M. Peck, 172; S. G. Staughton, 161; John Bunce, 159; C. Lynott, 157; Robert Clarke, 153; James Gibb, 153; John Currie, 147; John Hurst, 143; Job Smith, 142; W. Learmonth, 140; F. Peppin, 139; W. Thomson, 137; Richard Grice, 131; Charles Young, 129; John Blyth, 125; John Finley, 114; J. K. Joynt, 110; John Bond, 94; D. G. Clarke, 93; Thomas Harmer, 87; Thomas Adams, 67.

The President therefore declared the first seventeen, viz.—Messrs. A. Plummer, W. J. Lobb, J. M. Peck, S. G. Staughton, John Bunce, C. Lynott, Robert Clarke, James Gibb, John Currie, John Hurst, Job Smith, W. Learmonth, F. Peppin, W. Thomson, Richard Grice, Charles Young, and John Blyth, duly elected members of Council.

Mr. T. Learmonth moved a vote of thanks to Dr. Plummer for conducting the election. Seconded by Mr. J. K. Joynt, and carried.

The meeting then closed.

*Council.*

THE ordinary monthly meeting of the Council of the National Agricultural Society of Victoria was held on the 13th March, 1888.

Present—Messrs. Francis Henty (in the chair), S. G. Staughton, James Gibb, Richard Grice, J. M. Peck, Job Smith, T. Brunton, J. C. Cochrane, W. Thomson, W. Glover, W. Learmonth, W. J. Lobb, James Garton, C. Lynott, John Jones, George Young, George Ramsden, John Currie, D. Mitchell, John Hurst, John Blyth, James Hearn, W. Wragge, D. White, D. Munro, D. R. McGregor, the Hon. J. Buchanan, M.L.C., the Hon. C. Young, M.L.A., and Dr. Plummer.

The minutes of the previous meeting were read and confirmed.

The Secretary reported to the meeting the gentlemen who had been elected members of Council at the annual meeting.

ELECTION OF PRESIDENT.

Mr. Peck proposed that Dr. Plummer be re-elected president. Seconded by Mr. Garton, and carried unanimously.

Dr. Plummer then took the chair. He said he thanked the Council very much for re-electing him. He looked upon being elected President of the National Society as a high honour, and when, as in his case, the appointment had been conferred a number of times, it was almost more than he could expect, and, indeed, more than he could bear. During his long experience he had never sat with any body which pulled together better than this Council, as the minority always supported that which was approved by the majority, and all worked together for the common good.

ELECTION OF VICE-PRESIDENTS.

Messrs. T. Brunton, James Gibb, and W. J. Lobb, were unanimously elected Vice-Presidents of the Society, each gentleman returning thanks for the honour conferred on him.

## New Poultry Shed for the National Show Grounds.

AMONG the many excellent suggestions offered by Dr. Plummer, at the termination of his year of office as president of the National Agricultural Society, was included one that a new and more commodious building for the exhibition of poultry should be erected. The worthy president's suggestion, if carried out, of which there can be no reasonable doubt, will meet a long felt want, a want which has kept the National Agricultural Society's display of poultry in the background as compared with those of centres which lacked the advantage possessed by this Society of being in the very heart of the principal breeding establishments of Victoria. Possessed of a good supply of some of the best coops in the colony, with an entry fee within the reach of all, and with prizes which, if they do not offer any special inducement to exhibitors, are yet sufficiently liberal to allow of those who are moderately successful defraying expenses, while the distance from town is not so great that it need deter anyone desirous of competing, the National Agricultural Society's Poultry Show has up to the present been only a partial success. If we revert to the last show this fact will not excite much surprise. Some of the best birds in the colony—we might, indeed, say, the best which have ever been in the colony—were entered and were presumably on view, but even the judges, who are supposed to have the whole building to themselves, must have been very keen sighted if they succeeded in discerning the respective merits of the competitors. That they failed to do so is now a matter of history, and that there were many heart-burnings and disappointments at their decisions is also a thing of the past. But the lessons of the past are always available as guides to improvement in the future, consequently we must be pardoned if we refer to them for that purpose. The present building has from the first been defective. It was never large enough, is badly ventilated—a most important consideration where a number of highly bred fowls have to be considered, without mentioning the risk to visitors—and was also very defective as regards light. How far in the way of improvement Dr. Plummer's recommendation is intended to extend we are not aware, but we trust that a few suggestions why the new building should be very much larger than the present one will not be deemed out of place. A society constituted of the leading agriculturists and pastoralists of the colony is very apt to look upon the poultry and kindred sections as merely side shows, of minor importance, and consequently not deserving that attention which is devoted to the main objects of the institution. But a very little reflection ought to suffice to dispel this idea. Poultry breeding is, or should be, a part of the internal economy of every farm, for that it is profitable no one denies, though, strange to say, our poultry breeders have not yet been able to cope with the local demand either for eggs or table fowls. The National Agricultural Society's Show is the one event of the year at which farmers gather in the greatest numbers, consequently it is the one at which they should have the best opportunities afforded of studying the qualities of the stock to be kept on their farms, that is if the Society desires to improve its show from an educational standpoint. But there is also another reason, and a pecuniary one, why poultry interests should be studied. The general public, consisting largely of citizens, who know very little and probably care less of the points of well bred cattle and sheep, frequent the National Show in large numbers, and to this portion of the community the poultry section affords one of the greatest attractions, inasmuch that most people profess to have some knowledge of

poultry. Ladies particularly admire this section, and it requires little knowledge of the art of the caterer for public amusement to know that to interest the fair sex is to take one of the primary steps to secure financial success. Our special reporter, on the occasion of his visit to the Brisbane Show, drew attention to the fact that there were 701 entries in the poultry section, and that the portion of the show grounds containing poultry was densely crowded during each day of the show. In Ballarat a few years ago poultry afforded a very weak display; but on the recommendation of the judges, who were procured from Melbourne for the first time, increased accommodation was offered and the prize list extended, the consequence being that Ballarat has now the largest display of poultry of any agricultural society in the colony. Geelong was not long in seeing the advantages of providing for poultry, the experiment resulting in a marked success. Sandhurst has, within the last two years, provided free coops for poultry, and its display last year was so large that further material will have to be supplied next season. Kyneton tried the experiment last year of offering more facilities for the display of poultry, which resulted in a largely increased entry. If these comparatively outside societies have succeeded so well, what is to prevent the National Agricultural Society making even a greater success of its poultry section! The Victorian Poultry and Dog Society in the past year had a member's roll of 300, not 1-20th of whom were on the lists of the National Society. Would it not be worth while offering inducements for some of these breeders to become subscribers, and so extend the interests of the Society? This can now be done by constructing a poultry house of sufficient capacity for the proper display of the exhibits, with, perhaps, a revision of the schedule of prizes to include some classes not already provided for. The co-operation of the Victorian Poultry and Dog Society ought certainly be given towards any improvement in the poultry section, for they would share in the benefits to be derived from increased advantages to breeders. We trust that Dr. Plummer's suggestion will be carried out to the fullest extent, and that all poultry exhibitors will mark their appreciation of his efforts by making an entry which will place the poultry show of the National Agricultural Society in advance of that of any other agricultural society in Victoria.—*The Leader.*

## Divergence and Development of Breeds.

WITHOUT discussing the question of the descent of any particular breed of cattle from *Urus* or from *Longifrons*, of horses, sheep, pigs, poultry, dogs, or cats from any one original type, or the question whether we can properly speak of more than one original type of any race, we may fairly assume that under domestication, if not previously in the wild state, animals have shown a tendency to distinct and often progressive variation, and that we have as a consequence a great diversity of breeds.

That this tendency is arrested when a new breed has attained to what is called, for the sake of convenience, "fixity of type," we cannot for one moment maintain. All experience is against such a supposition. Variation, more or less, according to the particulars of parentage and the conditions of life, is still the rule, and when that variation, under any special combination of circumstances, takes constantly one direction, we have in the course of a few generations a changed and distinct type. Thus new breeds are formed.

The change may be effected by design, that is to say, the design of a single mind. A man, for instance, might give himself the task of producing any imaginable characteristic, or combination of characteristics in his animals, and, with skill and time, if the task were a possible one, might succeed in carrying out his design; but often, probably it happens that there is no such singularity of purpose. A breed arises from "the force of circumstances,"

as the result of man's wants, so that, although there is no expressed or defined purpose in the mind of any one breeder to form such a breed as eventually is developed, there is, in the minds of many breeders concurrently, a desire to produce the sort of stock found to be most suitable to certain local conditions and most readily saleable in the local markets. The raw material of the country is thus gradually improved, and the ordinary intercourse of trade circulates and mixes the improved material. Before the days of railways this process went on in circles confined to certain districts, until each of those districts had its distinct breed; but since steam power has opened communication between the ends of the country and among the intervening counties, England is altered as regards possibility of the quiet growth of new breeds. The circulation of material is general and rapid, instead of being limited and slow, as it was when the Teesdale farmers and landowners were founding a breed of cattle, which was destined to be introduced to the world mainly through the work of the Brothers Colling; and when the Herefordshire farmers originated that breed, which the Tomkins family took up with an amount of success that has linked their name with its early history.

It is possible that in the future we may have new breeds (if any demand for them should arise), formed and established by design, and in much less time than it took to develop the Shorthorn and the Hereford. We now know more than our forefathers knew of the ways and means of doing this, and our facilities for acquiring whatever material may be wanted are immeasurably greater than any they had. Within a few hours we can bring together any breeds we wish to combine; our travelling facilities and fat stock shows give us great opportunities of seeing the results of various crosses and combinations; and our agricultural literature is rich in discussion of the principles of breeding and in details of experiment. Some of the successful experiments of recent years may be noticed in a further consideration of this subject another day. In the meantime, one or two of the alleged desiderata in the breeding of cattle may be briefly mentioned.

Repeatedly, within the last few years, the complaint has reached us from America that the horn is a great inconvenience when cattle have to be taken long distances by railway or by sea, and the process of "dishorning" is sometimes adopted to prevent the injuries consequent upon packing in trucks or on board ship a large number of horned animals. So far as this question influences the breeders and buyers of stock in America, the Angus or Aberdeen, and the Norfolk breeds of Polled cattle have an advantage over the Shorthorn and Herefords in competition for general favour, and friends of the two latter breeds have declared respectively that the producer of a breed of Polled Herefords or Polled Shorthorns (a curious contradiction in terms) would be a public benefactor. Now, to earn whatever gratitude might be due to the founder of such a breed (time and competence granted), would be a task of no insuperable difficulty, but the beneficence of the result might be questionable after all. Perhaps, when the Polled *fac simile* of the Shorthorn or the Hereford got fairly established as a virtually pure breed, trustworthily for the constant reproduction of the altered characteristics, horns might come specially into requisition, for one reason or another, and the successful breeder away of the horn might find imposed upon him, or might leave to his successors, the task of restoring it. The process of breeding away the horn, although easy enough to any man of good judgment, ample experience, and sufficient capital to procure the materials for his purpose, with length enough of time to enable him to work that purpose out, would be found, nevertheless, to require something in the way of sacrifice. An owner of good horned Herefords and Shorthorns might fairly reckon upon a moderate interest for his capital invested, from the sale of the surplus offspring of his animals at prices proportionate to the value of his purchased stock; whilst the experimenter must not hope for any considerable return until the completion of the work he sets himself to do. A large proportion of the offspring of crosses effected with the design of bringing out something new, would be, almost certainly, worthless mongrels, or nondescript cross-bred animals, of no use for any special object. They must go to the butcher, or to the ordinary farmer, at ordinary price. Whether in the event of final success, the prices obtainable can ever repay the producer for all his sacrifices and delay, the result alone can tell. The owner of a wholly choice and pure bred herd would scarcely be prudent, perhaps, if he were to try,

The following Committees were then appointed—

**FINANCE.**—The President, and Messrs. D. R. McGregor, John Currie, Thomas Brunton, and John Blyth.

**WORKS.**—The President, and Messrs. David Munro, D. R. McGregor, John Bunclie, T. Brunton, George Young, and D. Mitchell.

**SHOW.**—The President—*Horses*—Messrs. James Gibb, W. Thomson, James Hearn, James Garton, and R. Grice. *Cattle*—Messrs. Robert Clarke, C. Lynott, J. Hurst, Job Smith, J. M. Peck, J. C. Cochrane, and the Hon. J. Buchanan. *Sheep, Swine, and Produce*—Messrs. S. G. Staughton, W. J. Lobb, W. Glover, J. C. Cochrane, W. Wragge, and Robert Clarke. *Poultry, Dogs, Buggies, and Harness*—Messrs. W. J. Lobb, W. Learmonth, D. R. McGregor, W. Glover, and George Ramsden. *Machinery and Implements*—Messrs. David Munro, George Young, D. White, John Bunclie, John Hurst, W. Thomson, and Hon. C. Young.

**PARADE.**—The President, and Messrs. J. M. Peck, James Garton, James Hearn, C. Lynott, John Currie, and Richard Grice.

**EDITING.**—The President, and Mr. D. Munro, and the Hon. James Buchanan, M.L.C.

**EXECUTIVE.**—The President, and Messrs. D. R. McGregor, T. Brunton, John Currie, John Blyth, and J. M. Peck.

**QUARANTINE.**—The President, and Messrs. J. Hurst, R. Clarke, W. Thomson, W. J. Lobb, S. G. Staughton, and the Hon. J. Buchanan, M.L.C.

#### INTRODUCTION OF MICROBES.

The President alluded to the introduction of chicken cholera microbes, regarding which the Council should, he thought, express an opinion.

Mr. Blyth thought that it was a matter about which the utmost caution should be exercised. He moved—"That the Council approve of the cautious course adopted by the Government in relation to the introduction of microbes and trust that they will continue to exercise such caution." Seconded by the Hon. J. Buchanan, who said he approved of the action of the Government in appointing the gentlemen they had done to act in conference with others in neighbouring colonies. Personally he had no great fear of the disease as he believed it had been in the colony 20 years ago. He had found himself indebted to Pasteur's investigations, for, acting on the advice gathered from his works, he had stopped the disease in his yard when his neighbour lost all his fowls. Doubtless, however, if the disease were now introduced it would again spread and decimate the yards.

The motion was carried.

#### POSTPONED BUSINESS.

Circular from Victorian Protection Association, submitting programme of principles to form the basis of a political organisation.

Mr. Thomson moved—"That the circular be laid on the table." Seconded by Mr. Blyth, and carried.

Mr. Brunton, in accordance with notice, moved, "That the resolution fixing the date of the Show for the last week in August be rescinded." Seconded by Mr. Thomson, and carried.

#### DATES OF SHOW.

Mr. McGregor moved, "That the Show be held on the 28th, 29th, 30th, 31st August, 1st September." Seconded by Mr. Learmonth and carried.

#### CORRESPONDENCE.

From Walter J. Clark, apologising for non-attendance. Received.

From John Jones, asking seven months' leave of absence, as he intended to visit America and Europe, and also requesting a letter from the Council, which would be of service to him in enabling him to obtain information which might be of use to the Society.

Mr. Mitchell moved that the request be complied with. Seconded by Mr. Smith, and carried.

The President stated that Mr. F. Peppin had asked him to obtain twelve months' leave of absence for him.

Mr. Lobb moved that leave of absence be granted to Mr. Peppin, and that a letter be forwarded to him. Seconded by Mr. Smith, and carried.

From Rev. John Thomson, Flemington, asking the use of the Show Grounds for a Sunday-school pic-nic on the 2nd April. Granted.

From J. Morrison, asking permission to attach a service pipe to the Society's main at the Show Grounds. The Council regretted they could not comply with the request.

From Royal Society of New South Wales, forwarding list of prizes for essays containing results of original research or observation. Received.

From L. Lindley Cowen, Mooroopna, Secretary to an Association for fostering the production of special products, and asking assistance from the Society in obtaining aid from the Government in the shape of subsidies to pioneers in new industries. Ordinary cereal crops would not pay, so that encouragement should be given to farmers to adopt advanced systems of cultivation. The mining industry received £80,000 for prospecting, and something should also be done for the farming interest.

Mr. Gibb moved that the circular be received, and that it be considered at next meeting, as he thought it might be profitably discussed. Seconded by Mr. Mitchell, and carried.

The meeting then closed.

## Correspondence.

### Show Judging.

To the Editor of the Journal of the National Agricultural Society of Victoria.

SIR,—

I presume the Council of the National Society will soon be taking steps to prepare the prize list for the forthcoming Show. With such in view, kindly allow me to make a suggestion or two.

I would suggest that the Council formulate a system of judging live stock by points based (where practicable) on weights and measures.

Many complain that Agricultural Shows are not as educational as they ought to be. The plea urged is that one set of judges reverse what another set did, and hence the educational advantages are lost and the design in view is frustrated and lost in confusion.

I take it for granted that anything tending to lessen the friction in this matter would be acceptable. Much clamour has taken place on the single judge system, it being urged as a panacea for every woe in this line by its advocates, who claim for it perfection to a degree—doctors differ! In my opinion the principle of judging is at fault, as the Societies delegate their powers and throw their responsibilities upon others, viz., "the judges by asking them to say which is the best animal without laying down any rule or submitting any test by which such judgment shall be given. Under such a system (or want of system) where no reasons are expected why any particular decision was arrived at, and when such is not popular, no wonder the present system is occasionally brought into disrepute. To substitute one judge for three would only touch the practice, leaving the principle as before; it must therefore fail to remove the friction.

My suggestion is, let the Societies take upon themselves their proper functions, and give the ideal of what a perfect animal is by publishing a wood-cut or plate of the ideal at the top of each section on the prize list and fix the weight of the ideal animal, and proportion the parts of same by a fixed measure, leaving such parts as cannot be reduced to measure to the wisdom of the judges; such as the eye, the touch, the gait, &c., &c., &c., the whole of which a well-prepared scale of points would cover; print the scale of points on the prize list, and let the public know how the judges arrived at their decision when the awards are made.

In my opinion there would be much less of the rule of thumb in arriving at a decision than under the old system. I admit the first cost and trouble in carrying out the above would be considerable, but, Sir, who so competent and proper as the National Society.

Then, again, why should an animal be handicapped because he is aged if he can make the best total of points. I submit, he is nearest the ideal, and for men to base their judgment in a Show Yard on the commercial value on an animal being guided by age is misleading.

Allow me also to make a suggestion on the judging of dairy cows. As this was carried out last year the judges award was not made known to the public until Saturday, the fifth and last day of the show, when a very large per centage of the country visitors had returned to their homes. Now, Sir, if the merits of a dairy cow are to be decided simply on the merits of producing the most butter or milk during the three or four days she is on the Show Ground, then, Sir, it is not judging but simply a test, the record of which could be kept by an hireling. This, in my opinion, is not as educational as it ought to be, the animal in this case is largely a creature of circumstances, such as time of calving, an unusual amount of labour in domesticating her, training her to eat the most forcing articles of diet; also such a temperament as would free her from fretting in a strange, exciting place, &c., &c., &c.

My suggestion is to judge a dairy cow by points, the one being the nearest the ideal, or, if the butter and milk test must be applied, then let the first day of the Show suffice for this, after which, make the award for the benefit of the public attending the Show.—Yours, &c.,

March 10th, 1888.

FARMER.

Early, late and often is the proper rule to be observed in the feeding of young poultry. Do not forget that the young chicks are infants.

circumstances under which it is placed, as it is unable, like animals, to go far in search of "fresh fields and pastures new." It is the province then of farmers to aid the plant in securing as many of the necessary conditions as possible, by preventing the usurping of the plant food in the soil by weeds, by augmenting the supply of plant food in the soil by the addition of manure, by tillage, &c., and by protecting it as far as possible from the thousand and one ills to which plants, like animals, are heir to.

Generally speaking the newer the seeds the quicker they germinate, but there are exceptions in which a certain age is beneficial, as in this case the seeds are more mature, probably from chemical changes having taken place by which the germination is facilitated. The time which seed will keep depends on the thickness of the covering, and also on their chemical composition, those containing oil sometimes suffer from the oil becoming rancid. The liability to decompose has been also noticed to be greater in such seeds as contain much nitrogen as albuminoids.

Seeds should be fully ripe when gathered so that the embryo is fully developed, when this is not the case, the storing up of the reserve material is checked, and the young plant suffers in consequence.

The most suitable temperature for the germination of seed is stated by Sachs to be between 68 and 86 deg. Fahr. Seeds fail to germinate below a temperature of about 34 deg. Fahr., and although they will bear exposure to a considerable degree of cold without suffering, at a temperature of 168 deg. Fahr. the vitality of most seeds is destroyed.

The depth at which seeds should be sown depends on the size of the seed, small seeds requiring a very thin covering. In no case is it advisable to place the seed in the ground deeper than is absolutely necessary, since deep sowing compels the plant, to send up a long stem before it is able to secure its air food, and this in its early stage puts an undue strain on all the organs of the plant. At a depth of more than seven inches, seeds are said to fail to germinate, although many will retain their vitality for a considerable time when buried deeper, and will germinate when brought nearer to the surface. This accounts for the appearance of new plants in places where the soil has been deeply ploughed, or where large quantities of soil have been shifted as in the making of railway cuttings, &c.—*New Zealand Country Journal*

*The Turf, Field, and Farm*, than which there is no better authority on the subject, says that "in buying a horse first look at the head and eyes for sign of intelligence, temper, courage, and honesty. Unless a horse has brains you cannot teach him to do anything well. If bad qualities predominate in a horse, education only serves to enlarge and intensify them. The head is the indicator of disposition. A square muzzle, with large nostrils, evidences an ample breathing apparatus and lung power. Next see that he is well under the jaw, with jawbones broad and wide apart under the throatle. Breadth and fullness between the ears and eyes is always desirable. The eyes should be full and hazel in colour, ears small and thin and thrown well forward. The horse that turns his ears back every now and then is not to be trusted. He is either a biter or a kicker, and is sure to be vicious in other respects, and being naturally vicious can never be trained to do anything well. So a horse with a rounding nose, tapering forehead and a broad full face below the eyes is always treacherous, and not to be depended on. Avoid the long-legged stilted animal, always choosing one with a short straight back and rump, withers high and shoulders sloping, well set back and with good depth of chest, fore legs short, hind legs straight, with low down hock, short pastern joints, and a round mulish foot. By observing the above directions a horse may be selected that is graceful in his movements, good-natured, and servicable—one that will be a prize to the owner.—*Planter and Farmer*.

## A.B.C. of Agriculture.

### VI.

We have discussed the soil as to many of its more important qualities and characteristics, its relations to the air and water, to frost and warmth, and in some degree the presence of and maintenance of a supply of plant food. Clearing, tillage and fertilizing bring the soil into condition to receive the seed. It is an object with the farmer that the plants constituting the crop, whatever it be, should, as a rule, have undisputed possession of the soil. This is hardly possible even upon the virgin soils of the prairie States.

Weeds will dispute the right of the corn, or the wheat, or the oats, to every inch of soil. Weeds must be fought before the crop goes in and after it comes off the land, if the farmer would get full value for his labor, for his manure, and even partial immunity from weeds in the future. It will not do to attempt to fertilize liberally enough for the weeds and the crops too. There are many crops which will give fair returns upon land so poor that weeds will hardly grow; but every highly-enriched soil will produce weeds which, if left alone, will nearly annihilate any crop among which they may be growing.

We may divide weeds into three classes:—

*First*.—Those which come from seed and ripen seed every year.

*Second*.—Those the seed of which matures and is received into the ground one year, and the plant grows, blossoms and ripens its seeds the next; and

*Third*.—Those which live in the soil from year to year.

We assume that everybody knows what a weed is, and yet it may be well to define the word. As we shall use it we refer to plants that are not wanted, growing in soil subject to tillage, and liable to be disturbed by the plough, harrow, spade, rake, hoe and other tillage implements; but brush in the furrows, shrubs in the pasture, and even trees which interfere with cultivation and do more damage than they are worth, are all really weeds, and so to be regarded by the farmer. We must, however, say a word for the trees, for though they may interfere with tillage, we must consider their value for shade and as beautiful objects, relieving the eye from the otherwise tedious monotony of bare roads and treeless fields. So think it well over before removing a weed of this kind. A concise definition of a weed has been given, which is certainly both comprehensive and complete; it is, "a plant growing out of place."

*Annual weeds* may be most easily killed when they first show themselves above ground in starting from the seed. At this time of its life it has little vitality of its own as an independent plant. Its life has been derived from the seed, and to the seed, or parts of the seed, it clings for nourishment and support until it is well established. Many of the worst weeds are in this stage very small, and if in the moist Spring time, ploughed land has laid quiet for a few days, the surface may on close inspection be seen to be covered with minute plants, frequently exhibiting some bright color, red or brown or green. At this time a light harrowing, or any thorough disturbance of the surface on a warm, bright day, will destroy myriads in an hour. A week later the piece might need ploughing again to kill them, and then ten times as many might escape.

One crop killed, another is liable to start up at once, or immediately after the first shower. The light harrowing may be done again, unless the frequent tramping of the teams and men will compact the soil too much. The putting in of the crop may answer the purpose well, and the crop may be up in time for the tillage in the rows to begin before other weeds get much of a start. The quantity of seeds of weeds in rich soil in which thorough weeding has been neglected, even for a single year, is something truly amazing. Crop after crop may be destroyed, and still they will start as fresh as at first, but when the crop is well set, regular tillage will keep them down among so-called "hood crops," while the strong growth of grain and most other sowed crops may be depended on to smother them, so that comparatively few will produce seed.

Tillage implements cannot be expected to stir the whole soil where a crop is growing, but

while the rows or drills is well disturbed a good portion of fine earth is thrown upon each side, and so the whole surface is renewed. It is very fortunate that of these little weeds many are smothered by being covered by a small quantity of earth, so that those which survive and are subsequently found growing in the rows are comparatively few, and usually such as were protected by standing close to valuable plants. Weeds in the seed leaf, are therefore killed by being uprooted, disturbed, cut up, or smothered. If allowed to live they gain strength daily, and must ordinarily be cut up below the ground, or uprooted, operations involving much labor—ploughing, tilling by the cultivator or horse hoe, or hand pulling. This class of weeds is especially annoying in ground under plough and summer tillage; those of a more permanent character occurs chiefly in grass land.

*Biennial weeds* are those which start from the seed one year and mature the next, if they have the chance; if not, sometimes they die, but usually they hold on and trust Providence to give them another season.

We generally sow the seeds in the manure, or with grain or grass; or they, as do many others, remain for years in the soil before the influences of air and moisture and warmth are just right to cause them to grow. When they come up in soil under summer cultivation they are attacked and killed; or are neglected, and grow just as annual weeds do, and we make no note of them. They make small show the first season wherever they gain a footing, or rather a rooting. In the Autumn one may notice many inconspicuous plants in the grass, with a few leaves on short stems lying close to the ground. If uprooted, they will be found to have a great root in proportion to the show they make above ground. They may generally be killed out by ploughing and tillage for two years after manuring with farmyard manure. If the crown of the root be cut off a little below the top of the ground, it is almost surely fatal, but this requires an immense amount of labor, and is really chiefly applicable upon lawns and grass plats. It is these biennial or two-year weeds that become such an intolerable nuisance in permanent meadows and pastures, gradually multiplying until the grass is rooted out or crowded out by them. All true biennial weeds, like carrots, parsnips, mullins, etc., may be destroyed if we can prevent their going to seed for two or three years, but when the principal seed stalks are thrown up and mowed off close to the ground, a second growth of short-stemmed seed heads may form so close to the ground that they cannot be cut, and these leave seed for the next year. Where sheep can be turned upon the land they will generally prefer the weeds to grass, at least for a variety of food, and will nibble off the blossom and seed-heads thoroughly. This, however, is a poor preparation for mowing land for winter, and is rarely admissible unless a top-dressing of manure or good compost can be applied as a mulch or winter protection, as well as for a fertilizer. Thus it is obvious that weeds of this character are easily eradicated by the plough and tillage, but only with great difficulty and labor where the plough cannot be used; hence in such places great care should be had to prevent their gaining any foot-hold, and when first seen they should not be neglected, but taken out, by cutting out individual plants or pulling by hand.

*Perennial weeds* are those the roots of which live from year to year. Some extend themselves by seeds, while the roots (or stool) alone enlarge and grow stronger. The common Ox-eye Daisy, or White-weed, so common in mowing lands, is of this character. Others extend themselves by runners, others by underground stems, and these are worst of all because so hard to kill. The Red sorrel, Canada Thistle and Snap-dragon are weeds of this kind. The methods of destroying weeds, the life of which is upon the surface of the ground, are many and simple. Most of them may be destroyed in the seed-leaf, like annuals and biennials; and when established, by hoeing, ploughing and tillage, like biennials. Long-established ones which form large stools or clumps have to be dug out, but these are likely to occur only in neglected spots, as roadsides or fence-rows.

(To be continued.)

The value of potash as a destroyer of woolly aphid on apple trees has been demonstrated in California, where it is found that wood ashes applied close to the trunk prevent the insects from working down to the roots, which remain free from them for two or three years afterwards. Gas lime spread on the surface over the roots is also effective in destroying the aphid.

but the man who keeps, besides a herd of the best of their breed, an ordinary herd, farming upon a large scale, might safely, if he were so disposed, devote a portion of his space to experimental breeding, valuing only as ordinary stock the animals set apart for purposes of experiment, and so losing nothing in the meanwhile, and taking his chance of a handsome gain in the event of a successful result.

Improvement, however (apart from Transatlantic wants, imaginary wants, or passing fancies), often suggests itself to the observant and thoughtful breeder. An animal perhaps proves many degrees better than the rest of its family in its breeder's possession; and that breeder, if he be worthy the name of breeder, will ponder how he can make that advanced exception the model and standard of his herd. He will breed up to it; at least, he will try. It is in this way that we may take advantage of the law of divergence or variation, and occasionally develop, if not a new breed, the highest merits of which an old breed is capable.—*Live Stock Journal*.

## The Relative Values of Home and Foreign Wheat.

MR. W. T. BATES, manager of the Bee Flour Mills, belonging to Messrs. Bassendall and Sons, of Liverpool, in a recent essay on this subject remarks that the most important qualities of wheat are strength, colour, and flavour, and goes on to say:—"Some few wheats possess all these, but generally one in excess. We shall, however, find it to our advantage to buy these various qualities in separate wheats, and combine them for a standard flour. These different properties are the product of different countries and latitudes, as well as of climate. To the latter even more than soil cultivation and latitude, are due the strongest and best wheats of the earth. We can even classify our wheats and divide them broadly into qualities almost, according to climate. Thus the strong wheats of America are produced on the elevated prairie, which have a cold dry winter, and a hot dry summer. Russia, with a similar climate, produces similar wheat, while the seaboard of both countries, being damper, produces a milder, weaker wheat. With a milder climate we get the autumn-sown winter wheat, and still further south, with a still milder winter, we get the white wheats of California, Australia, Chili, Cape Colony, and others, while Oregon, being damper, yields a similar wheat, but milder, and perhaps of better flavour: as a rule the stronger the wheat the less flavour it has, while the milder the wheat the better the flavour, but excessive moisture is of course destructive of both qualities, as is also excessive heat and dryness, as witness the desecrated climate of Egypt, which has no moisture but that supplied by the Nile, this seems to be destitute of any good quality. The wheats of India, which are produced under hot conditions, are vastly different from the latter; they have strength and give fairly good results, but their strength is as much a matter of dryness as gluten. The difference between these wheats and the Russian is very marked, while gluten of the latter is wiry and tenacious, that of the former is harsh and bitter, the result of climate alone. The antipodes of this almost, is the mild, mellow glutened wheat of England, the produce of our damp and humid climate. This wheat has one or perhaps two qualities in which it is unexcelled by any in the world, viz., flavour and colour. If this wheat entered into every mixture and its flour into every loaf of bread, we should eat our bread and butter with more pleasure than we do now. We have of late years milled strong, dry, waterdrinking wheat not because it made more agreeable bread or pleased the public taste, but because the bakers, our customers, demanded it, and why? Simply because it enabled them to make a greater number of loaves and larger profits. As the bakers are our customers, it is our duty to please them, and as they demand strength we must give them what they want, and at a certain price. It would be easy enough to make an ideal mixture out of the choicest wheats, but we should find a difficulty in getting customers at a price that would pay us. No, we must make our mixtures so they please and pay, that is the whole secret."—*Mark Lane Express*.

## Our Science Column.

### Germination.

THE aim of all organised beings is to propagate their kind, the plant as well as the animal has this end in view, and its life, which in some cases last but a few hours, and in others hundreds of years, is devoted to this purpose. In the production of its seed the plant uses up the rarest and most valuable portions of its own substance, and it is found that there is a migration, as it were, of these constituents into the seed, or spores, causing a corresponding deficiency in other parts of the plant, the parent robbing its own body in order to make provision for its offspring. Every farmer knows that after the grain has ripened, the straw has a much less feeding value than before, and that in the case of hay it is necessary to cut the grass before it has reached maturity, in other words, before the feeding constituents have been transferred from the stalks to the seed. Again in root crops, these are only of value as food during the first year, after a seed stem has been thrown up they are worthless. The seed therefore must be a rich mine of plant food, and this is not without a purpose.

In order to gain an insight into the structure of seeds, take a pea, a green pea from the pod will answer admirably, or if this is not procurable, soak a dried pea in water for some time, remove the outside covering or testa, noticing that at one point there is a mark, showing where the seed adhered to the pod, this is the hilum. Just above the point covered by the hilum will be noticed a little spear-like projection, this is the radicle or young root. If the two lobes of the pea be opened, it will be found that the radicle terminates at its upper end by a little process curves inward between the two lobes, this, the plumule or young bud, is generally made up of two or more minute leaves. The lobes are in reality fleshy leaves, and since there are two, the pea and similar plants are termed dicotyledons. The cotyledons or seed leaves, the plumule, and the radicle, together, constitute the embryo, which, in the case of the pea, it will be noticed, fills the testa.

It is not the same with all seed, in some cases the embryo occupies but a small portion of the space, the remainder being filled with reserve material, constituting the perisperm. On examining a grain of wheat or other cereal, in the same way as the pea, it will be found that the lobes are absent, and the germ or embryo, containing the plumule and radicle the same as the pea, takes up but little of the space, the remainder being starch, gluten, &c., which is the reserve material. Of the chemical composition of seeds, the so-called proximate constituents are divided into two groups, those that when oxidised in the animal body produce heat, or force, and those that produce flesh; and it is on the relative proportion of these two classes of substances that the suitability of any food for the requirements of animals depends. The first class, the heat givers, is made up of carbohydrates starch, sugar, &c., and of hydrocarbons, fats, oils, &c. The second class, the flesh formers, are made up of substances containing nitrogen, and are known by the name of albuminoids. Seeds are particularly rich in these two kinds of animal food in consequence of the migration of plant food into the seed, as before mentioned. They are, however, as existing in the seed, not in a form suited to the requirements of the young plants, and before they can be assimilated they have to be changed. It is an essential condition of plant food that it should be soluble in water, in order that it might pass through the membranous coverings of the small cells of which the

entire plant is constructed. In different plants we find different forms of these proximate constituents, thus in the cereal grains we find an abundance of starch, in seeds like linseed we find no starch, but in its place oil or fat. In all seeds we find albuminoids, but these also vary in their nature to a certain extent in different plants. The ash or mineral portion of seeds contains a high percentage of potash, phosphoric anhydride, and lime, which are essential elements of plant food.

The conditions necessary for germination in all cases are:—(1) moisture; (2) a certain temperature; and (3) a supply of air. What happens when a seed germinates? The first point noticed is that the seed swells from the absorption of moisture, and if we place a thermometer in a mass of germinating seeds, we shall find that the temperature is above that of the surrounding air, this is owing to chemical changes going on within the seed, the energy of chemical action having been transformed into heat energy, and so rendered evident. After a time, the duration of which depending on the kind of seed and the fulfilment or otherwise of the conditions mentioned, the covering of the seed will be ruptured, and the small root or radicle, will force its way through into the soil. Next the small plumule or stem will show itself, and tend to point upwards, gradually unfolding its tiny leaves, the plumule and radicle together forming an entire plant.

During this time a considerable change has gone on in the material of the seed, the starch, or the fat present in it, are gradually converted into dextrin and sugar, and the albuminoids into a class of bodies known as peptones. These changes are brought about by a special ferment formed in the seed, called diastase. The substances resulting from its action, the sugar and peptones, are soluble in water, and by the process of osmosis are able to pass from one part of the plant to another through the coverings of the cells. In this way the little plant is fed. Malt, which consists of germinated barley, is sweet from the sugar produced from the starch in the grain; and the action of the ferment diastase is so energetic that one part of it is said to be capable of converting 2,000 parts of starch into sugar.

In the case of dicotyledonous plants, the reserve material stored up in the lobes is gradually used up, whereas, in monocotyledonous plants, the substance of the perisperm furnishes the food. When the young plant has absorbed all the food in the seed, and sometimes even before it starts collecting food on its own account. It is here sometimes that the farmer can materially assist the young plant. Thus, in the case of turnips, where the seed lobes are but small and the material is soon used up, it is well known that phosphates in a soluble form (superphosphate) gives it a vigour that soon makes a perceptible difference in its growth, and enables it to withstand the ravages of insect pests. When the young plant is exposed to the air and sunlight, its leaves turn green, and it is then able to take up carbonic anhydride from the air, retain the carbon which unites with the elements of water to form carbohydrates; probably sugar in the first instance, and then starch, and this finally goes to form the cellulose or frame work of the plant. Its roots increasing in length and number, are during this time penetrating the soil in search of mineral and nitrogenous food. In order to resist wear and tear, the tips of the roots soon become covered with small sheaths. As the supply of air food is practically constant, the growth of the plant will depend considerably on the food it is able to obtain from the soil. In the case of poor and sandy soils, it is noticed that in order to obtain their proper supply, plants develop an extra number of roots so as to draw their food from a larger surface to make up the deficiency.

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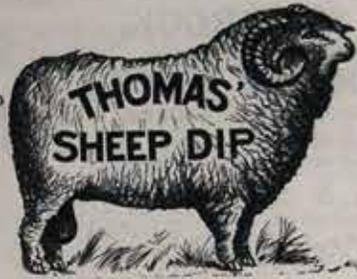
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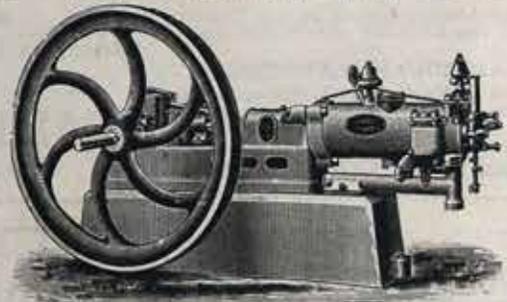
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If the history of all the various flowers were to be told, what an interesting record it would be! Take the dahlia as an instance. Its ancestor was a wild plant which grew plentifully in the high, sandy plains of Mexico. A drawing in an old Spanish book called "The History of Mexico," by Hernandez, and published in 1661, has been identified as a single dahlia. Cervantes, the curator of the Botanic Garden of Mexico, was the first cultivator of the flower, and he sent a plant in 1798 to Madrid. There it was seen in blossom by the Abbe Cavanilles, who described it and named it after Professor Dahl of Stockholm. In 1802 the Abbe sent roots to the Jardin des Plantes, in Paris, and in 1804 the flower was raised in England from seeds sent from Madrid. When Humboldt visited Mexico in the same year he found the dahlia growing wild, and forwarded seeds to Berlin and Paris. Our dahlias are said to have sprung from Humboldt's plants, and the first flowers were collected in England in 1806. In due course the double dahlia was developed, and the flower is now one of the most stately ornaments of our gardens.

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Three Gold Medals for best Carriages at Melbourne Shows of 1883, 1884, and 1887, and Forty-four First  
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1885, and 1887. Also Three First Awards of Merit (First Prizes) at International Exhibition of 1880 and 1881.

NOTICE.—Referring to above, D. WHITE desires to inform his numerous Customers and the Public  
generally that he has secured and completed EXTENSIVE ADDITIONS TO HIS COACH FACTORY,  
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can raise a hood with the greatest ease.

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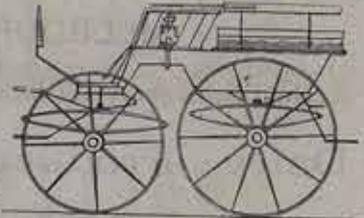
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For Grass Land.—1½ cwt. per acre; to be put on the land from August to October, before or after a  
shower of rain.

For Wheat, Oats and Barley.—1 cwt. per acre for wheat, in April; 1 cwt. per acre, for oats, in  
April; 1½ cwt. per acre, for barley, in August.

For Vines.—1 bushel on the vine border, and lightly fork it in, in the months of July to September.  
This quantity (1 bushel) to be for the nourishment of four vines.

For Onion Beds.—Give a good sprinkling over the beds two or three times during the growth of  
the onions.

For Potatoes.—1½ cwt. per acre as a top dressing, before the haulms appear above ground.

For Greenhouse Plants.—A large teaspoonful in a bucket of water, to water the greenhouse plants  
with twice a week. Not to be used, however, for heaths, rhododendrons, or orchids.

For Peach, Apricot, Plum, Currant, and Gooseberry Trees.—A similar solution to that given for  
greenhouse plants, in the months of July and September. Rose trees and garden plants are benefited  
by the use of the solution. Celery, cabbages and cauliflowers also grow well when watered with the  
solution.

For Raising of Healthy Plants from Seeds.—Sprinkle a good quantity of the sulphate on the seed  
beds, and then water them a week before sowing the seeds. Melons and cucumber plants also are much  
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Note.—All vegetation, excepting heaths, rhododendrons, and orchids are rendered more luxuriant,  
healthier, and consequently freer from the destructive attacks of the scavengers of Nature by the use  
of sulphate of ammonia, especially in the spring of the year, when vegetation requires a condensed  
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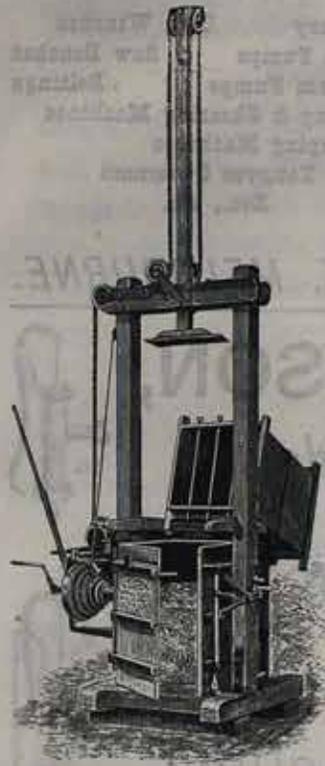
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First Order of Merit awarded this Press at the Melbourne International Exhibition, 1880.

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The usual screw is dispensed with, and the pressure brought to bear by means of a strong rope or chain, working in sheave pulleys overhead, attached to a Ram, and winding on a fusee, which is made in the shape of a suddenly tapered screw.

The rope works on the large part of the Fusee, when the pressure is light, and passes down to the taper end as the pressure increases, being worked by a lever fixed on the centre spindle.

The top Box is hinged to side Brackets, and turns down to the floor, which greatly facilitates the putting in of the wool, and renders any second floor unnecessary, and when filled is easily placed back in position.

When the bale is pressed and the sides sewn, the Ram is lifted by a small rope from the Fusee, turned by a handle.

It will be understood how very much quicker the power is brought into application by this means than by the ordinary screw press, and double the work is got through by the same number of men.

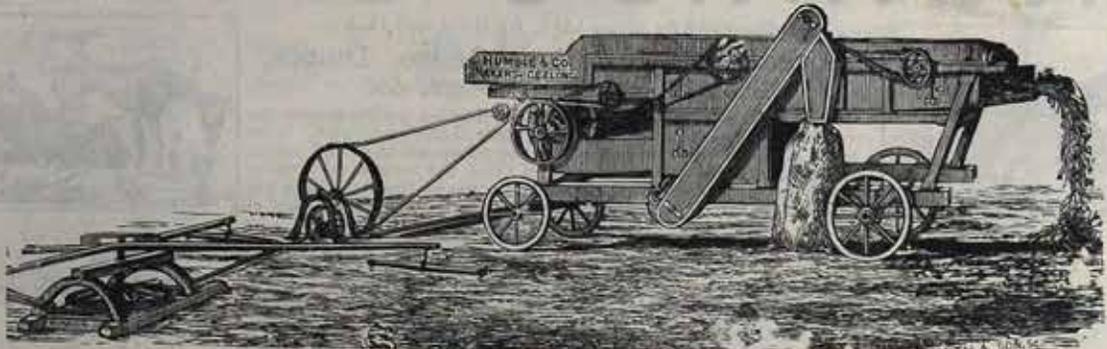
Special attention is directed to the fastening of the Packs before the Wool is put in, which is done in an exceedingly quick and simple manner: four pieces of wood are fitted into the recesses of doors, which hold the Pack securely in position and to the side catches for fastening the doors, which are held in position by a vertical bar, and relieves them simultaneously.

The side door is also held in its place by a catch, which at any time can be relieved instantly, the door falling back and allowing the bale to be removed.

At the Melbourne Exhibition competition this Press turned out 3 Bales of Scoured Wool in 28½ minutes, being considerably less than any other Press, although one had the advantage of being driven by steam.

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FOUR-HORSE POWER THRESHING MACHINES.—These Machines are found to be very convenient to farmers who wish to thrash their own grain; or in some cases where three or four neighbours combine. They will thrash from three to four hundred bushels per day with horse power; or if worked with steam power, about six hundred bushels daily.

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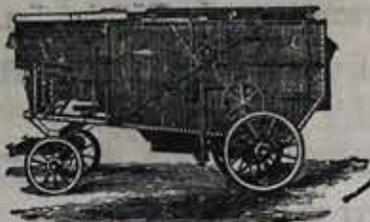
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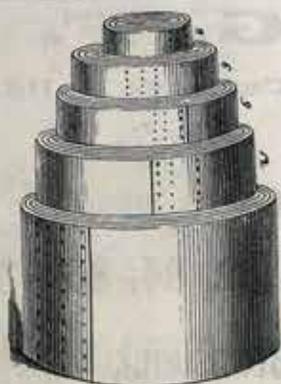
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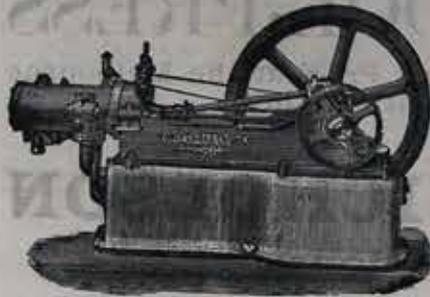
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# NATIONAL AGRICULTURAL SOCIETY.



## VICTORIA

Vol. III.—No. 33. [Read as a Newspaper.]

MELBOURNE, APRIL 13TH, 1888

GRATIS

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Then 'twere well it were done quickly."

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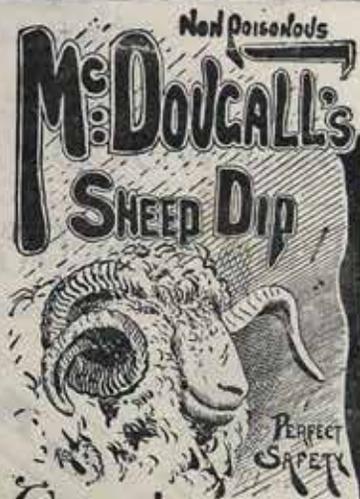
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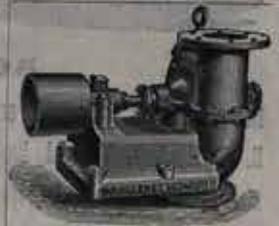
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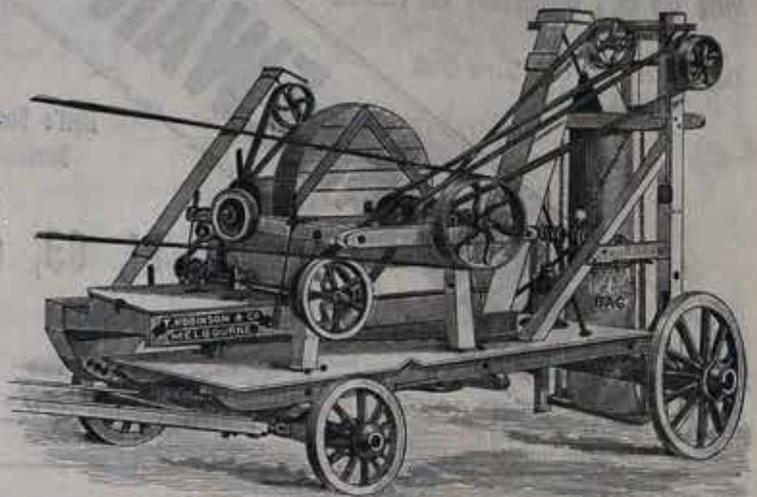
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**Lithographers,**

**Printers, Manufacturing Stationers, &c.**

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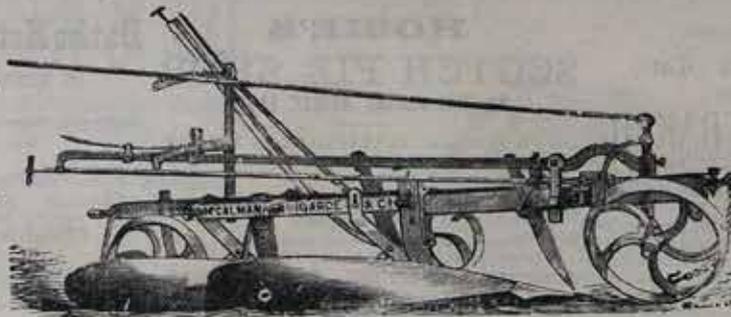
Horse Hoes,

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For dam sinking.

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**Catalogues free on application.**

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## Williams' Rack & Pinion Wool Press

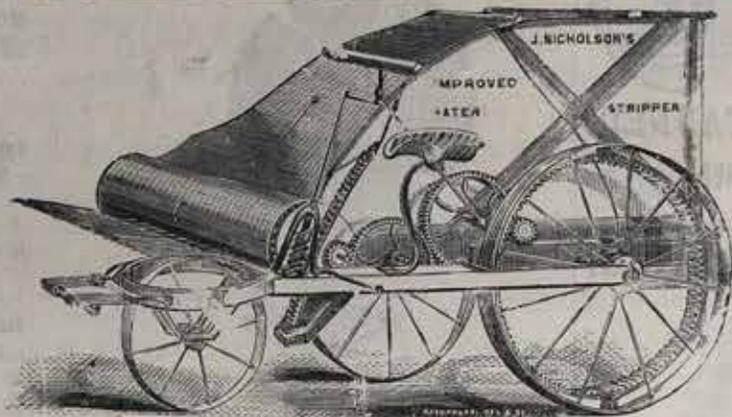
Rack and Gear Steel Press for the use of large stations. Lever & Chain Press, with Folding Top Box, for the use of smaller stations. Lever and Chain Farmer's & Selector's Press. Price, £22 10s.

As the season for this latter kind is now approaching, those requiring them should lose no time in sending their orders. Owing to the general satisfaction given by those supplied for last season, orders are now freely coming in, and a large demand is looked for. The following is a fair sample of a large number of Testimonials to hand for those supplied last season:—

Ms. PRICE WILLIAMS—  
Dear Sir,—I have much pleasure in informing you that the Farmer's Wool Press I purchased from you last October, gave me every satisfaction. We turned out very compact small bales, about 34 cwt., but could have them heavier if we wished with once down. By what the Wool Brokers tell me, they would clear themselves in two seasons to anyone having twelve bales since done with the Wool. I have had it in constant use as a Cheese Press, and I reckon it worth half its cost for that. We have weights on the levers. Any number of Cheeses can be put in at once. It would make a good Press for Hay or Straw, and for Grapes or Apples it is just the thing. I can highly recommend it as a most useful, substantial, and cheap article.—Yours truly,  
HUGH GORDON.

# JOSEPH NICHOLSON & CO., AGRICULTURAL MACHINE MANUFACTURERS.

J. N. & Co.'s Patent Gearing Strippers have been Awarded 24 First Prizes at the Agricultural Shows in 1887, proving their excellence, and the universal esteem in which they are held.



Prices—4ft. 6in. drums,  
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Prices—5ft. drums,  
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Prize Grass Seed Strippers, specially adapted for the Colonies.

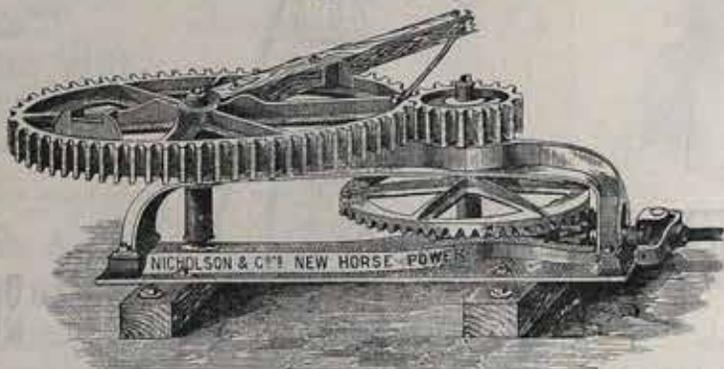
Price, including two Poles,

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Address—

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Reapers and Mowers,  
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Stripper, Improved  
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Send for Catalogues.  
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This most useful Horse Gear is made entirely of Iron, simple in construction, very strong, and easily managed. It is also fitted with a spring clutch, which prevents the poles from striking the horses' legs when the Machine is stopped. The pole or poles (as it can be used either as a Single or Double Horse-power) are fixed in such a manner that the pull is direct; the strain thus being reduced to a minimum, the speed is sufficient without the expense of an intermediate motion. Priced Catalogues free by post.

## BUNCLE & SON

Have much pleasure, while recommending their Design and Manufacture of the parent machines (now copied by all the Colonial Manufacturers) have also to state, as a proof of the still maintained Superiority of their Machines, that at the late

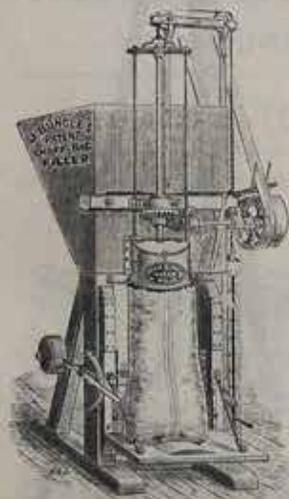
### Centennial Agricultural Show

(Held in January last in Sydney)

They were placed in competition with the Best and Latest Improved Machines from **South Australia** and **New Zealand**, also others in the Colonies, as well as from **English Manufacturers**, yet, on Examination and Trial,

**BUNCLE & SON'S**

Were Awarded the **First Prize**  
for the



### BEST TRAVELLING CHAFFCUTTER

Also **FIRST** and **SECOND** for the **BEST CHAFFCUTTERS** suitable for Wholesale and Retail Stores; also **BAG-FILLERS** of the Latest Improvements.

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We sell the cheapest, lightest, strongest, most durable, and convenient Buggy in the market.

A large and select stock always on hand. Customers would save time and money by calling on us before purchasing elsewhere, as we sell at

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The privilege of membership consists of power to vote at the election of all Office-bearers, of free admission to the Library, Reading Room, Lectures: and, with two ladies, to the Societies' Exhibitions and Grounds at all times.

A copy of this Journal, which is published monthly (on the Friday after the Council Meeting), is also forwarded to each member.

Member's Tickets may be obtained on application to the Secretary at the office, or from Mr. JOHN HEDRICK, the Collector.

THOMAS PATTERSON,

SECRETARY.

Kirk's Bazaar, Melbourne.

THE NATIONAL

Agricultural Society of Victoria.

Shorthorn Derby Sweepstakes, 1890.	
Hereford do do 1890.	
Ayrshire do do 1890.	
Jersey (late Alderney) do do 1890.	

A Sweepstakes of £1 each (10s. at time of nomination, and 10s. at date of general entry for Show), with £5 added in each case for Heifers calved between 1st July, 1887, and 1st July, 1888, to be divided and awarded as 1st, 2nd, and 3rd Prizes, for three-year-olds, at the Society's Show, 1890.

Nomination of Calves of each breed respectively will be received on payment of a nomination fee of 10s. each. Calves to be nominated within one month of date of birth. Nominators to fully describe the color of each calf entered, and to state the name of the sire, dam, and sire of dam, together with the date of calving. Entry forms on application.

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Kirk's Bazaar, Melbourne.

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Capital, £3,000,000.

HEAD OFFICE—MELBOURNE.

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They hold AUCTION SALES of WOOL twice each week during the season and at frequent intervals during the winter months.

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AUCTION SALES of WHEAT, OATS and FLOUR are held each Wednesday during the grain season.

One Month's Free Storage allowed on Grain.

Liberal Advances made at bank rates on receipt of produce into warehouse.

Full rates of interest allowed on fixed deposits, current accounts, and financial business of all kinds conducted.

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JOHN HEDRICK & CO.,

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Loans and other Financial Arrangements Negotiated.

Bulk Stocks of Grain held by Farmers can be sold by Auction or privately from samples sent by Post, avoiding storage charges.

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Notices.

All communications for the Editor to be addressed to the Society's Office, Kirk's Bazaar, Bourke Street West, Melbourne.

Business communications to the Publishers, Melbourne Place, off Russell Street, Melbourne.

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Dates of Forthcoming Shows.

SECRETARIES of agricultural societies are requested to forward to the editor the dates on which their respective exhibitions will be held, also copies of their prize schedules as soon as they are published.

AUGUST.

8, 4—Corowa.  
28, to 1st September—National, Melbourne.

SEPTEMBER.

5, 6—Donald  
12, 13—Albury  
20, 21—Echuca  
26—Elmore  
27—Moira, Cashel

OCTOBER.

4—Bacchus Marsh  
4, 5—Benalla  
9, 10—Rochester  
10—Shepparton  
10, 11—Bendigo, Sandhurst  
10, 11—Villiers & Heytesbury, Warrnambool  
17—North-Eastern, Murchison  
23, 24—North-Eastern and Goulburn Valley, Tatura  
31—Seymour

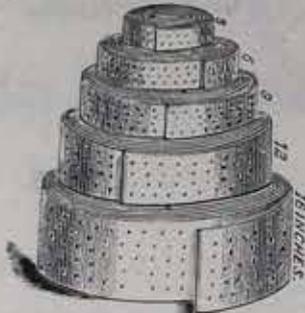
NOVEMBER.

14, 15—Hampden and Heytesbury, Camperdown.



DOUBLE OAK-TANNED  
WELL-STRETCHED

# MACHINE BELTING.



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Special Lists for BELTS for IRRIGATION PURPOSES.

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TESTIMONIAL—(copy.)

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March 17th, 1886.

Messrs. Frank Vial & Co.,  
Macaulay Road, Hotham.

Gentlemen,—In reply to your enquiry respecting the (23") twenty-three inch double belt supplied by you to ourselves, we beg to state we have been working it for a period of seven months, and we find it to be all we could desire, as also is the other belting which we had from you.

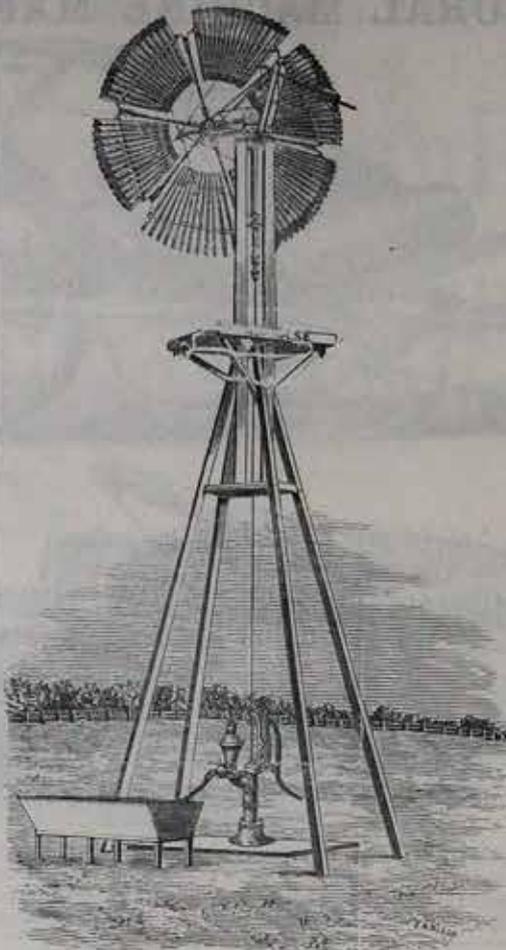
We therefore feel great pleasure in recommending your belting to anyone requiring the same.

We are, Gentlemen, yours truly,

(Signed) W. S. KIMPTON & SONS.

Other testimonials received too numerous to print, which with Price Lists, can be had on application.

# THE ALTHOUSE WINDMILL.



The STRONGEST, SIMPLEST  
MOST DURABLE, and BEST  
SELF-REGULATING WIND-  
MILL in the Market.

Proved by Actual Experience  
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Is Absolutely the Strongest Mill  
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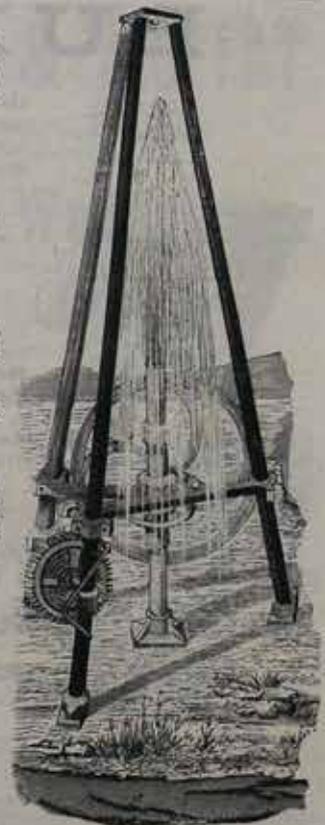
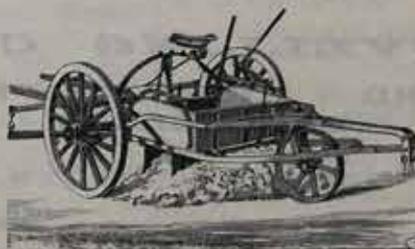
Manufacturers of Steam Engines, Boilers, Sheep Washes  
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## AUSTRALIAN WATER AUGER

Which has attained the greatest depth bored by any machine yet  
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(CHESNEY'S PATENT)

The Latest brought before the public.

This machine will take out 200 cubic yards of earth in  $\frac{1}{2}$  cubic yard loads in a day of eight hours; is simple, strong, yet light of draught, easily kept in repair, and has been pronounced by experienced judges to be the best Earth Scoop yet invented.

N.B.—This Scoop can be seen at Messrs. WRIGHT & EDWARDS' Stand

# The Journal

OF THE

## National Agricultural Society

OF VICTORIA

MELBOURNE, APRIL 13th, 1888.

### Education in Dairying.

THE necessity for some properly organised scheme for the education of the dairying community in Victoria has long been apparent, but hitherto no practical steps have been taken to institute a thorough system of education in dairy practice. At the last Show of the National Society a test of dairy cows was successfully carried out, and the nucleus of a working dairy was shown, in the form of a cream separator at work, and the making of the butter produced by the competing cows. This, however, is capable of extension, and a movement is now being made which it is much to be hoped will be brought to a satisfactory issue, for it has for its object the establishment of a travelling dairy and other schemes, which will show our farmers, by practical demonstration, how a superior article is to be produced, and it will also have the further object of devising means of placing the resulting produce on the markets of Europe, in such a shape as to command a ready sale—thus directly benefitting the producers, and advancing the interests of the colony generally, by materially increasing the amount of money derived from one of our staple products. It is shown in an article we publish elsewhere, that in England the necessity for further education in dairying still exists—notwithstanding what had been already done—if the farmers there wish to make an article to compete with the produce of other countries which is sent to their market. As the English market is shown by a speaker at a meeting, reported elsewhere in this number, to be our principal outlet for surplus produce, it will be the more readily admitted—when it is seen what efforts are made by Continental countries to hit the taste of English consumers—that no time should be lost, and no effort spared, to organise a scheme which will provide the necessary education for our Victorian farmers, for it is proved by the inferior and unequal quality of much of the produce sent to the merchants' sales in Melbourne, that producers are sadly in want of such education. It was stated by the gentleman previously alluded to, that the value of our produce in this industry alone, could be increased by three-quarters of a million of money annually, if even the quantity of produce now made were turned out of a quality or standard, such as it might be were farmers properly educated to their business; so that the Government should have no hesitation in voting a substantial grant, in order that such a result might be attained. With the necessary funds at their disposal, the thoroughly practical men who have the carrying out of this scheme of dairy improvement could not fail to make it a success. Similar movements in other countries, under less favourable circumstances, have re-

sulted most satisfactorily, so that the Government and the people of Victoria will lose their reputation for enterprise if they delay longer in taking the necessary steps to place the dairying interest on a satisfactory and profitable footing.

### Individual Merit in Pedigree Stock.

A CORRESPONDENT of the *Indiana Farmer*, writing on the subject of a standard for Shorthorns, says:—"People are beginning to buy Shorthorns with their eyes on something besides the catalogue, and the idea is becoming quite prevalent that a good Seventeen is a much better investment than a poor Duchess." This principle of recognising the value of individual merit as well as pedigree is one which our breeders should apply in the purchase of all stock, for too often pedigree alone is the guide by which buyers go. Doubtless the reason for this is that few really are judges of stock, consequently being afraid to trust their opinion, they buy on paper, the result often being most unsatisfactory; for deficiencies and imperfections tend to increase and to become intensified in the offspring when animals of faulty conformation are mated—length of pedigree notwithstanding. An erstwhile noted breeder was wont to say that six good crosses—that is, crosses of animals of acknowledged merit, were worth any number of g.g.d's., and there was much in his contention. While admitting all this, however, we do not wish for a moment to underrate the value of pedigree, or to go so far as those who say they are satisfied with "the pedigree in the beast." An animal may have very great individual merit and yet be comparatively worthless as a breeder, on account of lacking that prepotent power which is the birthright or possession of those animals only whose type is fixed by inheritance from a line of ancestors of a similar type. As is well known a cross-bred animal—that is, the result of a first cross or happy nick of dissimilarly bred sire and dam, will often have great individual merit, and be a splendid show yard beast, but through lacking the prepotent power before alluded to is a failure at the stud. In support of this we have only to remind our readers of the numbers of horses especially which have been brought out here with a great flourish of trumpets—horses taking to the eye of the general public, and also favored by many experienced judges, but which have failed entirely in producing the type of stock their supporters and devotees promised us. Again, with regard to individual merit, some extremists say "it all goes in at the mouth," but although it is really marvellous what can be done by feeding, the possibilities of improvement and development must be latent in the animal, or the pampering will be of no avail. The proper course, therefore, to pursue, would seem to be to reject faulty animals no matter what pedigree they may claim, and to choose animals of individual merit, taking care to ascertain that their pedigrees are such as to insure their possession of that prepotent power without

which they have little chance of giving satisfaction when used for breeding purposes.

### A Scrub Destroyer.

BRUNI, in the *Australasian*, calls attention to a scrub destroyer which seems to be such that we think every publicity should be given to it. In our columns lately we called attention to the spread of wild garden plants, and the injury to property consequent thereon, so that we are pleased to learn that a practicable and cheap means of getting rid of such intruders has been hit on after lengthened experiments by Mr. N. J. Murchison. The scrub exterminator is prepared in the form of a powder, 100 lbs of which dissolved in 300 gallons of water forms a liquid strong enough to destroy scrub, briars, thistles, &c. For 2d. per gallon a liquid may be prepared which will destroy all vegetable pests. It appears that the active principle of the poison is soon dispersed, so that after it has been sprinkled on noxious plants and proved fatal to them, its effects on the soil soon pass off, and the ground may be utilised for growing profitable vegetation.

### The Heidelberg Show.

THE annual exhibition of the Victoria Agricultural Society was held at Heidelberg on the 15th ult., and proved a very successful event, especially in point of attendance, to which trains being run to the town for the first time contributed in no small degree. In several sections of the Show there were many high-class exhibits, but in others a falling off was noticeable. The draught stallions were not numerous, and they appeared to be smaller than we have formerly seen, a fact noticeable in other Show-yards as well as here, and one to be deplored, for we cannot expect our young stock to be as good as they used to be if the sires used lack size. Some fine mares were shown, but the young stock were not equal to their dams, thus proving that better sires are needed. Some high-class thoroughbred stallions and mares were shown, making this section of the Show a very interesting one. A few good hunters, ladies' hunters, and hackneys were shown, as well as a number of nice ponies. The Shorthorn cattle were not numerous, but there were some very superior exhibits as was the case in the Ayrshire and Jersey breeds—some splendid animals being shown in each class. The swine were a good class, but sheep were few in number. The dairy produce was a small section, but there was as usual a fine collection of fruit and vegetables—always a feature in the Heidelberg Show. A small collection of machinery, and a number of buggies were also on the grounds, which during the afternoon were crowded with visitors, who, however, had to beat a hasty and early retreat on account of rain coming on.

The ovary of a hen is said to contain 600 embryo eggs. About 20 of those mature the first year, 120 the second, 135 the third, and a decline follows as the hen grows older.

## The Daylesford Show.

THE Glenlyon, Franklin, and Daylesford Agricultural Society's Show was held at Daylesford on 21st ult. His Excellency the Governor and Lady Loch visited the town, and the day was observed as a general holiday, so that the attendance was large, and the weather being particularly pleasant, this fertile and salubrious district was seen to great advantage. The exhibition was in many respects a very creditable one, giving evidences of the richness of the locality. The draught stallions were good, and there was a very fine show of draught mares, this high-lying, cool, and heavy-soiled country, being admirably suited for producing superior cart stock. Very few thoroughbreds were shown, and the hackneys and light stock generally were poorly represented. There was a small show of cattle, but some good Herefords, Jerseys, and Ayrshires were penned. A few good sheep and some superior pigs were shown. The fruit was very fine, being quite an attractive exhibit, and the grain and roots gave further evidence of the fertility of the district. Dogs and poultry were shown, but not in large numbers. There was a fair turn out of machinery and implements, and a number of useful buggies and other vehicles. The grounds have been enlarged since the last Show, and, as the district is such an attractive and fertile one, this Society should be rapidly progressive.

## Meetings.

### Council.

THE monthly meeting of the Council of the National Agricultural Society of Victoria was held on Tuesday, 10th April, 1888.

Present—Dr. Plummer, President (in the chair), with Messrs. D. Mitchell, J. Bunce, Job Smith, James Gibb, S. G. Staughton, Richard Grice, W. Wragge, Robert Clarke, C. Lynott, J. Hurst, J. M. Peck, J. Currie, George Ramsden, James Hearn, George Young, J. Garton, T. Brunton, D. White, W. Glover, and the Hon. C. Young, M.L.A.

The minutes of the previous meeting were read and confirmed.

#### FINANCE.

The Finance Committee reported that they had appointed Mr. D. R. McGregor chairman for the year; also that Mr. John Blyth had resigned his seat on the Committee in consequence of pressure of business preventing him from attending meetings.

The monthly statement of accounts was also submitted, and accounts amounting to £84 8s. 5d. were recommended for payment.

Mr. Currie moved the adoption of the report. Seconded by the President, and carried.

Mr. Brunton moved that Mr. George Ramsden be elected a member of the

Finance Committee in the room of Mr. Blyth. Seconded by Mr. Currie, and carried.

#### POSTPONED BUSINESS.

Circular read from J. Lindley Cowen, asking assistance of Society in obtaining aid from Government in the shape of subsidies to pioneers in new industries.

Mr. Brunton moved that the circular lie on the table. Seconded by Mr. Garton, and carried.

#### CORRESPONDENCE.

From Rev. John Thomson, Flemington, thanking the Council for the use of the show grounds for his Sunday-school picnic at Easter. Received.

From Secretary for Agriculture, in reply, stating that the Minister had appointed the 11th inst., as the date he would receive a deputation *re* a grant towards improving the status of the dairy industry.

The President stated the action he had taken (as per report of meeting in another column), and explained that it had been necessary to act as had been done, in order to secure the co-operation of gentlemen in Melbourne, for the agricultural conference.

Mr. Bunce moved that the Council endorse the action of the President. Seconded by Mr. White, and carried.

A large deputation was then appointed to wait on the Minister.

From C. J. Coates, Secretary Royal Agricultural and Horticultural Society of South Australia, asking the Society to request the Government to join with those of the other colonies, to prevent the introduction of any hay, straw, or litter from New Zealand, where the Hessian fly, which had made ravages amongst the cereals of Europe, had appeared.

Mr. Peck moved that the letter be received and referred to the Minister of Agriculture with a request that his immediate attention be directed to the matter mentioned therein. Seconded by Mr. Smith, and carried.

From Walter Macfarlane, formerly Secretary to the Society, stating that some members of the Society having expressed a wish to see his portrait in the office, he forwarded a photograph for the acceptance of the Council.

Mr. Smith moved that the letter be received, and that Mr. Macfarlane be informed the Council would have pleasure in accepting his portrait, and having it hung in the office. Seconded by Mr. Bunce, and carried.

From Cozens and Harvie, applying for space at the next show.

Mr. Gibb moved that the letter be referred to the Executive Committee, which Committee, in view of the probably large number of applications, should also deal comprehensively with the question of the re-allotment of sites for stands on the show grounds, and report to the Council. Seconded by Mr. Smith, and carried.

From Hon. Secretary Centennial Horticultural Society, forwarding prize schedules, and asking the aid of the Society by contributing towards the

expenses of the exhibition, or encouraging members to exhibit.

Mr. Staughton moved that the Secretary be informed that the Council regretted they were debarred from contributing towards the funds, but that they would endeavour to give individual assistance. Seconded by Mr. Bunce, and carried.

From Victoria International Regatta, with the quotation, "The security of the kingdom is increased by every man being more or less a sailor," and asking subscriptions. Object approved—to lie on table.

#### COLLECTING COMMITTEE.

Mr. Gibb moved that the whole council be appointed a collecting committee, to obtain donations towards the prize fund of the next Show. Seconded by Mr. Mitchell, and carried.

In connection with the privileges of donors, Mr. Lynott stated that several members had said to him they thought their member's ticket should admit them to the Grand Stand, and that if the present subscription were not high enough to cover such admission, they would rather pay an increased amount, so that they might have admittance.

Mr. Bunce stated that when the Grand Stand was erected, it was distinctly understood that a charge should be made for admission to it.

At the instance of Mr. Lynott, the whole question of privileges was referred to the Executive Committee for report.

The question of calling a general meeting of the members of the Society, to arrange for members to vote for office-bearers by ballot papers, sent to them by post, was brought forward, but was postponed.

#### WORKS COMMITTEE.

The Works Committee reported that they had appointed Mr. David Mitchell, chairman for the year; also that they had instructed the Secretary to request Messrs. Billing and Son, Architects, to prepare plans and specifications of the works passed at a previous meeting. Plans were submitted, but it was resolved that before these be adopted the Works Committee again visit the grounds, to determine on the positions of the various new buildings.

Mr. Bunce moved that the meeting adjourn to Thursday week for reports from the Works and Show Committees, the latter being engaged in the preparation of the prize list for the next Show. Seconded by Mr. Smith and carried.

The meeting then adjourned.

## Draught Horse Society.

A MEETING of the members of the Draught Horse Society of Victoria, and draught horse breeders, was held at the office of the National Agricultural Society of Victoria, on Tuesday, 20th March, 1888, pursuant to advertisement and notice.

Mr. Walter J. Clark moved that Mr. W. Grant (Romsey) take the chair. Seconded by Mr. E. H. Campbell, (Kirk's Bazaar), and carried.

## Co-Operation and Education in Dairying.

The following is the text of a lecture recently delivered by Professor H. J. Webb, principal of the Aspatric Agricultural College, at a public meeting convened to consider the advisability of starting a dairy school there in connection with the college. We understand the proposal was unanimously adopted, and preliminary steps have been taken to establish a first-rate dairy school for the north of England:—

There is probably no subject at the present moment attracting more attention in agricultural circles in England, than dairy farming and dairy education. The growing of grain on poor land seems to be carried on at a loss in England, owing to the unequal competition with countries like America, India, Russia, and Egypt. Farmers, at last recognising this fact, have in many instances laid down a good deal of their land to grass, and turned their attention to the production of mutton, beef, and dairy produce. In the production of good mutton and beef England cannot be beaten; but as far as butter and cheese are concerned, England is behind every country in Europe, and farmers find to their cost that English butter will not fetch in the market as much by 2d. a lb. as butter from Denmark and Normandy.

What is the cause of this?

- 1st. Want of uniformity in quality.
- 2nd. Want of education.

Uniformity can only be obtained by co-operation among dairy farmers, and by the adaptation of the same methods of manufacture.

What is required, then, is co-operation and education.

The late secretary of the Royal Agricultural Society was of opinion that the British dairy farmers would never obtain the best results from their farms, until they adopted a system of co-operation as they do on the Continent. But before we can successfully compete with foreign nations in the production of butter or cheese we must have a proper system of dairy education.

We can do nothing without education. The time is past for British farmers to live and work by rule of thumb. The application of science to agriculture and the introduction of machinery has altered the whole position of farming. The time is past when scientific farming was the great joke of the practical man, and the farmer who laughs at science "will soon laugh," as school-boys say, "on the wrong side of his mouth." During the last century England and Ireland exported to all parts of Europe, even as far as St. Petersburg, and foreign butter was of such a bad quality it was never eaten in England. Now everything is changed. England pays twelve millions of money to foreign nations for butter alone, and English butter fetches the lowest price in the market. I have no intention of occupying your time with a long lecture this evening; but I will explain to you in as few words as possible, the systems for making butter adopted by the two chief butter countries of Europe—France and Denmark. I select these two countries for the following reasons:—First, because in describing the French methods, I believe I shall be describing the best system of making fresh butter; for we get our best fresh butter from Normandy; and in describing the Danish system, I shall give you the best system for making keeping butter, the butter from Denmark being far the best for this purpose.

**The French System.**—In Normandy and Brittany the dairy is of supreme importance and everything else is quite subservient to it.

Milking takes place twice, and in most cases thrice, a day by milkers with carefully washed hands. All the utensils used in the process of butter making are very simple, and they are kept scrupulously clean. The dairy is always placed on the ground floor in a cool place facing the north, and in a spot where water is readily accessible. Ventilation is carefully looked to.

The French are most particular to have their dairies as far as possible from all stables, pigeries, &c., so as to prevent any unpleasant effluvia reaching the dairy. A thermometer is always used, so that they can always churn at the same uniform temperature from 50 degs. to 53 degs. Fahrenheit. This temperature is maintained by cooling in summer and warming in winter.

The skimming takes place while the milk is perfectly sweet and placed in stone vessels to ripen. It is a most important thing to remem-

ber that the sooner the milk is skimmed and ripened the more delicate is the flavour of the butter, and the higher the price it obtains in the market.

The simplest of barrel churns are mostly used, and butter comes in least time when the temperature is 57 deg. Fahrenheit.

In winter the churn is warmed before the cream is poured in, and churning takes place in the middle of the day. In summer the coolest period of the day is selected, and the churn is half filled with cold water and allowed to stand for some time before using.

Careful attention having been given to the temperature and the speed of the churn, the operation is carried on until the butter has begun to come in small particles not much larger than a grain of mustard seed.

If the operation is continued beyond this point, the small particles of butter cohere and imprison amongst them small particles of buttermilk. This buttermilk can never be properly extracted when it once gets in, and as it decomposes readily it turns the butter rank.

The next process is that of washing the butter. The butter is drawn off, and clear, cold water is substituted. Three or four turns of the churn is given, and then the water is drawn off. This is repeated until the water comes out as clear as when it went in. After this the butter requires only a little consolidation with a wooden worker for choice, although many use their hands.

The butter is generally made on the day before the market day in the nearest town, and the lumps of butter are wrapped in a clean linen cloth. In the market are butter factors, who buy up a large number of lumps of butter of various sizes and different qualities, which, at the close of the market, they send to the factories. At these factories the lumps of butter are sorted according to their different qualities, and those of each quality are mixed up together by machinery.

As a result of this process, all the packages of the same brand are of the same quality. The French are also very particular as to manner of packing. Thus, being able to supply an article of good, uniform quality, and well packed, they are enabled to get a good price. I might mention that the competition among the factors in Normandy and Brittany is so great that the farmer is certain to obtain the market value of his produce.

I will now say a few words concerning the butter of Denmark and the Danish system. Seventy years ago Danish butter was the worst in the market; now it is, perhaps, the best in the market, and certainly the best butter for keeping. It is important to notice that this change has been brought about by the application of scientific principles to the manufacture, and the institution of efficient dairy schools throughout the country, which are supported by the Government.

The essential difference in the manufacture of French and Danish butter results from the fact that French butter is eaten almost directly, and is not made to keep any great length of time, whereas Danish butter is an essentially keeping butter. In Denmark the dairy farms are much larger than in Normandy, keeping from 50 to 300 cows. The cream is separated from the fresh milk by a separator, and then set to ripen till the next day. It is necessary that the cream should be ripe or acid not only for the development of flavour, but to obtain a larger percentage of butter.

In churning, the machine generally used is that known as a Holstein churn; the process is essentially the same as for making fresh butter up to the point when butter first begins to come; then, instead of washing the buttermilk out of the butter, no water is used, but the butter is taken out of the buttermilk while it is in a granular state, and the buttermilk is pressed or squeezed out, generally by hand. Mr. Jenkins, from whom I have derived a great deal of my information on Continental dairy farming, has pointed out that the system of making fresh butter is essentially a wet process, while that of keeping butter is essentially a dry one, although the principles of the two processes and the preliminary stages of each are identical.—*The Farmers' Gazette*.

It is a good practice when a hen hatches to take the box she set in and burn the contents, without taking them out. No matter if the box is scorched. The lice will all be killed, and that is the prime object. Some clean the box out, burn the old nest, then thoroughly scald the box. Either plan is good, but in either do not forget to burn the old nest.

## Bob Acres on Money and Credit.

It is always better to say nothing than nothing to the purpose; and though my farming friends may grow tired of my cut-and-dry maxims, yet, with their leave, I mean to speak about the uses of money and credit, and the evils the latter sometimes produces in trade and farming. I am convinced that a man has no more goods than he gets good by; for to the avaricious and covetous man goods are often evils. Earthly possessions must never be brought into competition with the durable riches, and the jewels of the mine cannot be compared with the jewels of the celestial kingdom. Therefore you will understand that I talk merely about temporal things in a worldly-wise spirit.

The purse is a great institution in this country, and monuments have been erected in its honor; for when people put up a memorial tablet or obelisk adorned with golden letters to a rich man, it is mainly because his virtues shone in the light of his gold. A man's virtues and honours make a loud report when he goes off as an eighty thousand pounder, while his poor neighbour who dropped in the street with a frayed coat and torn shirt, and very little of the latter, though perhaps as good a man, is scarcely thought worthy of a shabby genteel funeral. What do we behold in the rich that makes us do them honour? In most instances it is neither genius, learning, nor wit, and yet there are sound reasons for approving of the deference paid to wealth when the latter is worthily associated with an honourable and virtuous life, but not otherwise. One of the forces of the universe about which we hear very little from scientists is the force of ready money. The reverence paid to money would almost make a dog doff his doublet. This may appear mean or unworthy, but certainly a thousand pounds looks like an accumulation of prudence and forethought, and confers far more comfort than Sancho Panza's blanket. There is warmth, food, and lodging in the money, and it generally constitutes a better defence against the world than either chain or armour. I have heard about pills that when taken internally were said to be good in preventing earthquakes, but as the world goes at present, they were almost nothing when compared with the power of gold. Gold will cure bad reputation if used according to the prescription of Dr. Mammon. It will make the deformed, the old, and the ugly appear beautiful. It will restore grey hair to its original colour. It will remove pimples from the skin, or if it doesn't it will make them appear ornaments. Gold is a universal remedy, more powerful far than Holloway's pills or ointment. If you are a rich man your gold will speak for you and make other tongues dumb, while wisdom is a poor man in a diamond set in lead.

The absorbing love of money is no doubt an extravagant passion in some men's minds. The proportion of babies born into the world with silver spoons in their mouths is, after all, rather limited, while the ardent desire for riches attacks every man at some period of his life if it does not stick to him the whole journey through. Man, with all his occasional littleness, is a glorious being, and sadly he prostrates his better nature when he sinks into a mere money-grubbing machine. At the same time, Providence is against the want of thrift, and in trade and farming it is necessary to learn both how wisely to save and wisely to spend. The man who has not a certain amount of reserve or working capital in his business or on his farm must trade on the means of others, and there is always some danger in handling money that is not your own. A poor man on his legs is higher than a rich man on his knees. If you wish to be independent, do not float on the capital of others. Do not suppose that you will ever swim into a region of gold on an ocean of credit. Credit is a thing that has to be bought and paid for, because people will not risk their money in your hands for nothing. Of course, some people starting life are compelled to borrow such assistance as credit affords, but it is better to pinch and save in order to be able to walk on your own legs, for certainly the farmer or trader who is up to the ears in debt is walking on the legs of others. Money begets money, but credit begets poverty. We need not quarrel with the opinions of the world, and with the majority respectability is commonly measured by the acre. Of all the cares in the world give me golden cares, for an empty purse fills the face with wrinkles. In this life we have to deal with the world as it is, and not with the world as it ought to be. Therefore, though piety and worth will go in at

Mr. Allen (V.S.) moved that owing to the small attendance, the meeting adjourn to Tuesday, 10th April, at 4 o'clock, p.m. Seconded by Mr. Walter Clark and carried.

The meeting then adjourned.

## The Dairy Industry.

### AN IMPORTANT MOVEMENT.

A MEETING of members of the Council of the National Agricultural Society of Victoria, and other gentlemen desirous of promoting the interests of the dairy industry, was held at the Society's Office, Kirk's Bazaar, on Friday, the 6th inst.

Present—Dr. Plummer, in the chair, with Messrs T. Brunton, D. Whitley, D. Wilson, of Mount Egerton, J. Bartram, J. K. Joynt, Dunn, Wightman, and Gordon, of Alexandra, Mason, of Yan Yean, and others.

The Chairman said that the Council of the National Society had determined to have a working dairy at their next show, but it had been suggested that a travelling dairy should be established thereafter; and advantage had been taken of the Agricultural Conference to have a meeting to consider the matter, which was one of much moment to the colony.

Mr. Whitley said that when he was in England six years ago, he took a great interest in the working dairies which were then being brought into operation there. He visited various districts, and saw the good that was done by these travelling dairies, which in many cases had raised the value of the butter produced 2d. to 3d per lb. When he returned to the colony he wrote a letter to the *Argus* on the subject, but no practical steps were taken to give effect to his suggestions. This was probably owing to the fact of severe droughts prevailing in the northern colonies, which were on that account large consumers of our dairy produce, giving us an outlet for our surplus. Now, however, these droughts had broken up, and we must find markets in Europe. Some time ago he had shipped butter in Orient boats, and found that it had arrived in good condition. This year again he had shipped some 100 casks in vessels with dry air chambers, and he had proved that butter could be landed in London in the same condition as it left here. Farmers had never been educated to send off their butter as soon as produced, their inclination being to hold for a rise; but he would suggest that refrigerating stores be established in Melbourne to receive the farmer's butter from the country as produced, whence it should be shipped weekly in boats having suitable storage accommodation. This, however, could not be successfully carried out unless the farmers were taught to produce a good article. In most movements of this kind a great deal of money was expended in the payment of a staff to arrange and carry out the system proposed; but in this case the machinery of the National Society was available, so that there was security that money would not be frittered away in needless expenses. He would suggest that a Committee of the Council of the National Society be formed, to act with a Committee representing the country districts, to resolve on the best means of giving effect to his idea. A powerful deputation should also be formed to wait on the Minister to ask for a substantial grant of money, first, to pay for the expense of establishing a travelling dairy, and to give prizes to men who sent home the best produce. He thought that probably shipments would only last about four months in the year, which would be sufficient to clear off the surplus. Butter could be landed in England at a cost, including all

expenses, of 1½d. per lb., and 9d. and 9½d. could be got for it. Indeed New Zealand people were getting 1s. per lb. for butter properly packed in casks, and he was certain that if a right article were produced we could get 10½d. per lb., which would mean an increase of three-quarters of a million of money per annum resulting from the sale of dairy produce alone. So they were quite justified in asking a large grant from Government to aid in bringing this about.

Dr. Plummer said that the meeting had been hurriedly called to suit the Conference, but he would have to bring the whole matter before his Council before becoming committed to details, as only the Council's general consent to a working dairy had been obtained.

Mr. Whitley then moved "that the Minister of Agriculture be asked for a grant of £5000. to be used for the development of the dairy industry of the colony by the establishment of a travelling dairy and other practical means considered necessary for furthering the dairy interest." Seconded by Mr. Wightman.

Mr. Bartram, in supporting the motion, said that he considered the sum asked small in relation to the magnitude of the interest involved, which was now greater than mining, to which the Government granted £80,000 per annum. He thought that if £10,000 were voted it would be well spent, for there was a certainty of the result of such expenditure being such a gain to the community as to amply justify the outlay. He was confident that if the vote were obtained no money ever granted by the Government would or could be more beneficial in its results.

The motion was then carried unanimously. The Secretary was instructed to write to the Hon. the Minister of Agriculture to ask him to fix a date for a deputation, and it was resolved to obtain the co-operation of a large number of members of Parliament, many of whom had already expressed warm sympathy with the movement.

Mr. Bartram proposed that a Committee, consisting of Messrs D. Whitley (Melbourne), D. Wilson (Mount Egerton), and R. W. Wightman (Alexandra), be appointed to act with a Committee of the National Society to carry out the project in the event of the deputation to the Minister being successful. Seconded by Mr. Dunn, and carried.

A unanimous vote of thanks was passed to the Chairman, and the meeting closed.

## Correspondence.

### Development of New Breeds

To the Editor of the Journal of the National Agricultural Society of Victoria.

SIR,—

In your leading article on "Development of New Breeds," I think you refer to my recent article on evolution. To my surprise, you seem to think I have expressed an opinion that modification of breeds cannot take place. Would you allow me briefly to explain that I am a full believer in the wildest dreams of any breeder as to the powers of selection and the general environments to modify and mould a breed—within a species.

What I doubt the truth of is the evolving of one animal out of another. I do not believe man descended from monkeys—sheep never did or can spring from opossums. Horses do not descend from asses. I do believe that man can mould our animals into any form he chooses within the breed—that

is, a sheep though modelled by the will of the breeder, remains unmistakably a sheep.—I am, &c.,

THOMAS SHAW,

Wooriwyrite, 19th March, 1888.

## Show Judging.

To the Editor of the Journal of the National Agricultural Society of Victoria.

SIR,—

I read, with a good deal of interest, the letter in your last number on the above subject, written by "Farmer." I don't know if he will get his ideas carried out, but they are worth considering. In reading the letter one thing occurred to me that I wish to suggest to the Council of the National Society, and that is, that they should keep a record of the size and weight of the first prize animals in the live stock classes, so that they might be available for reference by breeders. It has always seemed to me that this is a point where the Society might make its Shows more educational, for if the measurements of stock at various ages were carefully taken and kept, breeders would know in years to come whether the general tendency was towards improvement or not. This is a point on which we breeders differ very much—some say our stock are improving, others say they are nothing like what we used to have in the good old days. If the National Society would adopt my suggestion, and keep accurate records, they would be interesting to us at the present time, and in future years they would be very valuable and instructive.—Yours, &c.,

BREEDER

April 5th, 1888.

## Additional Class for Ayrshire Cows

To the Editor of the Journal of the National Agricultural Society of Victoria.

SIR,—

At the Agricultural Show to be held in Melbourne in August I hope the committee will class the Ayrshires differently. Under the old rules the dry cows have to compete against the milkers, and a lot of good cows are not shown, as out of a possible 100 points they lose 33 (the number allowed for a good milk vessel), and consequently a dry cow has very little chance against a newly calved one, and a man to make a living cannot have his cows calve always at the same time of the year. If there were a class for cows in calf, but not in milk, I am sure the Society would get a big entry for it.—Yours, &c., 3. C.

April 6th, 1888

Oats are of great value for turkeys, although not usually fed. Equal parts of wheat, bran, and corn meal, also make a good feed.

Among the numerous cures for gapes is dipping a feather in camphor, and swabbing on the throat. It is claimed that the cure is effected by one good application. It is also said that two or three drops in the drinking water will prevent the worm lodging in the throat. One thing is sure, and that is that the remedy is not any worse than the disease, and no harm can come from giving it a trial.

To fatten pigs, potatoes should never be given raw. It is more economical, as well as profitable, to boil the potatoes until done. A mixture of bran and barley meal with boiled potatoes, all mashed well together, makes one of the best foods for the fattening pig. The bran and barley meal should be given with the potatoes in the ratio of a peck of the former to two bushels of the latter.

kind of animal from which it is derived. It is impossible to return to the same acres the manure made from the very same crops that were removed from them, so it ordinarily happens that the fields of a farm are unequally fertilised. For certain crops heavy manuring gives best returns, while with others excessive manuring with barnyard manure causes a tendency to undue development of leaf or top, to the detriment of the grain or tubers. These are matters of experience and farm practice, which hardly come within the scope of our A. B. C. articles.

It is not alone through barnyard manure that lost fertility is restored by means of fertilizers, yet this is regarded as the universal manure. Its ash constituents consist of the very same which constitute the ash of plants, and it has besides ammonia and often nitric acid, making it a fertilizer of universal application and usefulness. It has, however, its disadvantages. It is bulky and heavy, making in some cases the item of cartage a heavy one, sometimes actually offsetting the value of the manure; that in its application upon some fields would cost more than it was worth. Besides this, it always contains the seeds of weeds, which often give much trouble. We do all we can to extirpate them, and then sow a fresh crop of weeds whenever we apply barnyard manure.

## How to Judge a Draught Horse.

J. Minot, French veterinarian, in his book, "Appreciation of the Horse," gives the following directions for the choice of heavy draught horses:—"The choice of a heavy draught horse is a great deal easier than of a race horse, yet it is important to know how to distinguish the best, strongest, most enduring, those that will feed well, those that are fiery, and those that are slow. The draught horse derives his power from several causes—the development of those parts which constitute bulk, the energy of its muscular action, and the firmness and hardness of its organs. The exterior characteristics of a good, heavy draught horse are a large, deep chest, straight shoulders, a little inclined, fleshy, a thick body, yet not too much belly, straight loin, the hind-quarters a little depressed, thick through the thighs, and a long perineum. The horse that has a long perineum, prolonged down from the anus, and thick and short muscles of the thighs, is a very strong and a good draught animal. The walk of a heavy draught horse is immaterial; there are draught horses that are quick, and there are those that are slow. The light, quick horses are good for farm work where the ground is light and even; the heavy, slow horses, with firm tread, are excellent for new, sticky ground, and on bad uneven roads. A horse for drawing loads, to be well formed ought to be high in front, having high and projecting withers, large chest, front legs strong and well spread apart, back and loins straight, hind-quarters a little depressed, muscular, short in the flank, large sinews. With such a shape a draught horse is solid and able to resist all the knocks from uneven roads, and weight which presses upon it when going down a hill. To be too fiery is a fault in a horse drawing heavy loads on an uneven road. In this case a strong and slow horse is better; it will resist fatigue more, and do more service."—*Planter and Farmer.*

**SALT.**—Farmers hold different opinions about the propriety of placing salt within reach of cattle at all times; but so many of our best class of farmers have practised and approve of this plan, that it must be considered safe. Cattle must gradually become used to it, by having a little given them every day for a month or so, and then placing it in a little box attached to the manger in the stable, where they can reach it at any time, or in a trough in the pasture. If the animal has it always in reach, it will eat no more than is good for it. The gastric juice is supposed to get its chlorine from common salt, and it therefore plays an important part in digestion.

## Influence of Sire and Dam.

WHEN it comes to the relative influence of sire and dam there are two entirely distinct questions; if we mean the relative influence of the sire or dam on the improvement of the stock of a region, why, then, the sire is the most potent. The sire may sire a thousand animals. If on the individual offspring then it is a very different question. Away back in the olden time it was assumed that the mother had the greater influence on the nervous system and on the secretory organs; and the father the influence on the muscular system and on the covering. This was again propounded by Linnaeus in a work on the sexual characteristics of plants, about the middle of the last century. That was revived again by Orton in a prize essay on breeding a few years ago, which prize was published by the Highland Agricultural Society, and has been the subject of considerable discussion since. Linnaeus' work was published in Latin in 1760, and was then a little later published in English in 1786. So far as I know that was the first formulation of that doctrine in English. It has figured quite largely since, and I am inclined to accept it as a whole; though I would not carry it out as far as a great many would. That the male parent determines the external characters generally, the outward structure, the locomotive organs, the framework, bones and muscles, organs of sense, and skin; while the female parent chiefly determines the internal structures, the vital organs, the heart, the lungs, glands, digestive apparatus, giving tone and character to the vital parts of secretion and growth, and also has the most to do with the nervous system. I mean that this is the general rule; not that this is always so. We may have a creature resembling the sire more than the dam, or the dam more than the sire; but this may be taken as a general rule. And Mr. Orton takes this theory, and runs back still further and makes a study of hybrids, and finds it generally true with them. If this be true then, if we are breeding for speed in horses, why the stallion is the more important; if we are breeding for beef, for mutton, for wool, then the sire is the more potent animal, and we get improvement more rapidly through him; if we are breeding for milk; if we are breeding for any of the secretions; if we are breeding for instinct, for temper, then the female. I am inclined to believe that this, as I have said before, is true as a general rule.—*Rural World.*

**A REMEDY FOR PHYLLOXERA.**—A gentleman who is largely interested in the manufacture of wine in Germany, and who has been all over the world studying the different processes of wine making in various countries, in conversation (says a San Francisco paper), gave some interesting information regarding phylloxera. "When phylloxera first made its appearance in France and Germany," remarked the gentleman, "the agricultural societies passed a law that all vines should be eradicated, the ground re-ploughed, and no vines planted for three years. The inspector, after the expiration of this time, had to re-examine the ground, to see that no traces of the pest remained. After the inspection the vine-planters were allowed to re-plant the vines. Of course the three years in which the ground lay idle meant a loss of thousands of dollars, as the vine-planters did not want to grow anything else. I asked the three months' grace from the Agricultural Society, and obtained it. I set to work to find something that would eradicate the pest. My efforts were successful, and when the three months had expired there was not a trace of phylloxera in my vineyard. My method was to use South Sea Island guano. I put it in mashtubs, and made a sort of liquid by mixing it with water. We saturated the ground covered with vines deeply as possible, and even painted the stems of the vines with brushes. The result was that not a trace of the pest remained; and we never had a better crop of grapes than that year."

## Smut in Wheat.

THERE are two kinds of smut. The stinking smut, or "bunt" is called *Tilletia caries*, and is found almost solely on wheat, though it sometimes attacks barley. The cases in which the spores are contained are leathery, and can easily be carried in with the crop. The true smut is loose on the head of grain, destroys the glumes or chaff, and attacks wheat, oats, barley and many grasses. Bunt is easily prevented by dressing the seed wheat with a solution of bluestone in water, which destroys the spores attached loosely to the seed. True smut is the *Ustilago segetum* of botanists, and its spores lie scattered upon the ground, ready for any grass or cereal that may spring up. Bunt, or ball smut can be prevented, the other can only be mastered by cultivating root or leaf crops. The individual spores of each smut are very minute, and at first they put forth a root, which is comparatively large; from this issue a number of small roots, which enter the grain, and then the young cereal plant is filled with what is called mycelium. This mycelium is of much the same character as the "spawn" that is found in a bed of horsedung (a white cottony mass). The mycelium is truly the plant of the smuts, and the ball smut or bunt and the powdery or black smut are the fruits or seeds. The smut cannot be matured until the plant on which the mycelium is feeding begins to send up material for forming its grain, and then, if the mycelium has run up one side only of the head, the plant will mature its own seeds upon that side, and smut balls or black smut upon the other.

**ARE WORMS PESTS?**—Some people think that they are benefitting their gardens by carefully collecting all the worms, and giving them to the fowls. No doubt the fowls are the better for the worms; but their gardens will be the worse for the loss of them. They class earthworms with snails and slugs as "pests," instead of which they are valuable agents as drainers of the soil, and as manufacturers of the soil itself. They bring up the subsoil and deposit it on the top, after having improved its condition by passing it through their bodies. At least this is what Darwin said about worms.

**PRESERVING HARNESS.**—Wash the harness-wipe it dry, and oil at once. Use animal oil—neatsfoot is best—and put a little lamp-black in with the oil. Never grease harness when it is dry. Never make harness warm in the sun or before the fire before oiling. The best way to treat dirty harness is to put it in a tub, pour warm water on it, leave it for an hour to soak, scrub all the grease and dirt off it, wipe it dry with some rough cloths, and then apply the oil, and hang it up (without any twists in it) in a shed or other place away from the sun. Perhaps it may need a second coat of oil after a couple of hours' hanging. After another hour, wash again with soap and water, to take off the outside grease and to close up the pores of the harness. If this is done about twice a year a set of harness will last nearly a lifetime.

**SMALL FARMS BEST.**—Anyone who takes the trouble to inquire will find in every case that the prosperous farmers are those who cultivate small acres thoroughly, and grow anything that the land is capable of producing. The unsuccessful farmer is he who wants to grow nothing but wheat and hay, who would rather put in a thousand acres anyhow than cultivate two hundred properly, even though he got no more off the larger area than could be got from the smaller. Even in a bad season it pays to cultivate well. But it is a fact that growing wheat alone will never pay in the end. A true farmer sells fruit, vegetables, eggs, bacon, cheese, cattle, horses, in fact, everything that can be grown, produced or made upon the farm, and he uses every proper means to do so. The wheat-grower "scuffles in" a lot of seed on a lot of land, and then stands by and grows at Providence, the Government, the papers, the Parliament, and all creation, if the whole forces of nature are not strained to make perfect his imperfect work.

heaven's gate, nearly all other doors are opened by a golden key. I am not now talking about griffins or other winged monsters when I say that an ass loaded with gold will climb to the top of a castle. Nevertheless, when all is said about the worldly virtue of competence and the advantage of possessing money, we find that a great fortune in the hands of a fool is a great misfortune. Wealth gives dignity to virtue, but it is a certain fact and worth observing that a great fortune in the possession of a vicious or unworthy man produces social degradation in a neighbourhood, for the poor and uneducated hold money in such reverence that the bad example of a rich man keeps vice in countenance. On the other hand, the force of a virtuous life is increased when it is accompanied by noble possessions. An empty bag cannot stand upright. Even when it is filled with air it is still empty; and in like manner a man without means cannot stand independently among his fellowmen. I have known honourable poor men, and I have seen saints in rags; but, according to the opinion of the world, poverty imposes a certain amount of social degradation, and penury is absolutely fatal to some manly virtues. Poverty never yet kept a man out of heaven, but wealth has often done so; thus we may make curses out of positive blessings by allowing them to assume an overmastering influence over our minds. Wealth ought to be considered the means, but never the end. El Dorado is, after all, a barren country, a land of wilderness and waste, strewn with the skeletons of men and horses. On the other hand, the votaries of learning and science must frequently find in their own favourite pursuits a sufficient reward, for there are no gold mines on Parnassus. The wealth of the imagination does not commonly bear a currency value. It is not, however, for the love of money, but for what Burns calls the "glorious privilege of being independent," that I advise my farming and business friends to save a part of their means as they journey through life, and above all things, to keep their working capital free from all entanglement.—*The Agricultural Gazette.*

## Pigs with More Lean Meat.

It has been noticed (remarks Professor James Long) for some time that the taste of the public for pork and bacon has changed in a considerable degree, and it has been pointed out from time to time that the greatest of all consumers of pig meat, the agricultural labourer, now prefers meat which contains more lean in proportion to fat. How is this change to be brought about in the pig? At the Irish Conference, the great Limerick curer, Mr Shaw, pointed out what is known to many in the trade, that not only must the meat be more evenly interlarded with lean, but more must be produced on the best parts, and less on the inferior. Being connected with a farmers' business organization, I have had the opportunity of investigating this matter practically, both as regards the retail and the wholesale trade, and I find that in many cases where the purchaser requires sides of bacon without the inferior parts, known as the fore ends, he is required to pay a serious increase in the price per cwt., and yet he very often prefers to do this to taking the whole side, on account of the difficulty experienced in selling this inferior part. In the retail trade even the lower class of East London tradesmen find a difficulty in realising as much as 5d. a pound for the fore ends of a very prime side of bacon. I am satisfied that the lower classes are more willing to pay for a rasher, or slice of the best part of bacon and of hams in small quantities, than they are to buy an end of bacon weighing 5 lbs. or 6 lbs. at the small price of 4½d. per pound. Again, with regard to the streakiness of the meat, the retailer is unwilling to accept sides of bacon at almost any price, where the fat has considerable depth. It hangs on his hands, and the public will not buy, whereas bright meat well streaked, and attractive from this cause, sells at the best possible price. The advice which has been given to breeders is to select pigs of a different type—those which while having

deep sides, broad lions and fine hams are yet lighter in front, thinner in collar, and almost the opposite of the fattening breeds of pigs which we have been accustomed to. At one of our recent meetings, before commencing to judge the pig classes, I was appealed to by one of our oldest breeders and judges on this point. "Do not," said he, "lend any countenance to this new theory, inasmuch as if you cast aside the heavy-fronted pig you will lose quality, and quality is the all-important point to obtain." The question arises, what is quality? I conceive it to be, as regards the animal, a capacity to put on quantities of fine meat on the best parts, fineness of skin and bone and hair. The coarse-haired pig naturally produces coarse meat, but there can surely be no connection between fineness of skin and hair, as indicative of fineness of meat, and the heaviness of the front of the pig. The same argument might apply to the Tamworth, as against the small or the middle white. The Tamworth has a long face and snout, and fine chops. The whites, on the contrary, are short in the snout and heavy chops. To obtain meat with less fat, and with a larger proportion of lean, I believe it will be necessary to breed from longer pigs, which have longer necks, heads and snouts, as well as longer ears. This is found in the Tamworth, and used to be found to a greater degree than it is at this moment in the Berkshire, which has been for some time approximating to the white pigs in its capacity to fatten, and to decline in its productiveness of lean. Sir John Lawes says that in his experiments years ago, the nitrogenous foods produced pigs which grew faster, and in which the lean was more in proportion to the fat, than was the case where pigs were fed much less liberally upon nitrogenous foods. He points out that for laying on fat alone there is no food better than maize; but for producing more lean, probably skim milk, with peamed rice, or barley would furnish the necessary substances. It would appear that the object of the pig-breeder, indeed of the stock-feeder in general, is never attained. Having arrived at one point of perfection, he is compelled to commence *de novo*, on account of the change in the public taste, and perhaps it is as well that it should be so, or stock-breeding would rapidly decline. The Tamworth have now a chance if they avail themselves of it for it is quite certain that to meet the public requirements we have no strain of the old races, which are suitable—all being much too great in their capacity to produce fat in opposition to lean.

## A.B.C. of Agriculture.

### VII.

#### FERTILIZATION OR ENRICHMENT OF THE SOIL.

We have already seen that a certain portion of the plant is derived from the soil, and besides that the soil supplies moisture to the roots and a firm holding place to the roots. It is through the moisture or water of the soil that all its food enters the plant. This water then takes with it to the plant whatever it has in solution, but the plant has the power of selection and will not take all that the water brings. That which it needs it takes, and other things also, which it has no real use for, but which do it no harm. Thus in a soil retentive of fertility, one crop may follow another and be benefited by plant food which one set of plants neglected.

Various plants growing in the same soil have very different ash constituents, although the same water containing the same things in solution must be their only source of supply. This fact alone clearly shows that all plants have to a greater or less degree the power of appropriating from the soil those things which they need and of rejecting others, in whole or in part.

Those substances which form the ash of plants may be enumerated by simply naming the elementary bodies of which they are composed. Thus, oxygen, sulphur, phosphorus, potassium, etc., or, more understandingly, by naming the common combinations in which these elements occur and in which they exist in the ash if not in the plant itself. For example—sulphuric acid, phosphoric acid, potash, lime, etc.; or, again, as these combine among themselves sulphate of lime, sulphate of potash, phosphate of lime, etc. There are ten of these substances which are almost universally found in the ash of all agricultural plants. In their pure forms some are alkaline, others earthy, and others acid, and one silicic acid, not acid (sour) in the ordinary sense, acts like an acid toward the others, which are called bases. These substances are thus classified and named:—The bases are—potash, soda, lime, magnesia and oxide of iron. The acids are—muriatic or chloro-hydric acid, sulphuric acid, phosphoric acid, silicic acid and carbonic acid.

Under favorable circumstances any one of the acids will combine with any one or more of the bases, and form bodies called *salts*, because they are in some respects like the combination of muriatic acid and soda, which is the common salt of our tables and cookery, and the chemical name of which is the chloride of sodium. Then we have other chlorides, as of potassium calcium (lime), magnesium and iron. Sulphuric acid forms sulphates of soda, potash, lime, magnesia and iron. Phosphoric acid forms phosphates, silicic acid, silicates, and carbonic acid carbonates in the same manner.

All these substances (salts) are found in varying proportions in the ash of plants, and in different proportions and combinations in the ash of different parts of plants—as in the roots, stem, bark, leaves and fruit or grain. Besides these there are two exceedingly important bodies, one a base *ammonia*, the other an acid, *nitric*, which exists in plants and in solids, but which are dissipated during the combustion of the plant when we get the ash, so that they are never found in completely burned ashes. These are both compounds of the element *nitrogen*, and this plays an exceedingly important part in soils, plants, and fertilisers. Every fertile soil must contain all these substances in such forms that they may be, in part at least, dissolved by the water of the soil. As already stated, if one or more fail, we have either no healthy growth, or no growth at all. If all are present in sufficient measure, and the mechanical condition of the soil, its relations to moisture, and perhaps also to humus (which is partly decomposed vegetation found in all fertile soils), are right, then we may expect abundant crops.

Continual planting and removal of crops of any kind, even long continued pasturing, deprives the soil of more or less of these ash constituents, and finally on the best soils some will fail to be abundant enough for an ordinary crop, so we can get only very meagre returns from the land, unless we supply the missing or reduced constituents. It is the experience of the world that the manure of the animals which feed upon the crops, restores in a great degree the lacking substances, and, besides, adds plant food in the form of ammonia salts, while at the same time by its decomposition in the soil it renders available plant food which was locked up in the soil.

#### BARNYARD MANURE

is a potent restorer of fertility to exhausted soils, and not only so, but it ordinarily greatly increases the fertility of soils in good heart. Its composition varies according to the food which the animals eat, somewhat according to the kind or kinds of animals and according to the litter and bedding employed. Its texture, form, the rapidity of its fermentation, etc., are dependent upon the

It is asserted on the authority of a Cuban journal, that since the sunflower has been cultivated in certain swampy districts on the bank of the river Potomac, malarial fever has almost ceased to be endemic there. Similar beneficial results appear to have followed the cultivation of this plant in the neighbourhood of the Scheldt, in Holland. The editor of the *Monthly Journal of Pharmacy*, who has been engaged in observations on sunflowers, found that during the month of June, 1885, a quarter of an acre of sunflowers exhale with a mean temperature of 70 deg. Fah., at mid-day exactly 1,950 gallons of water, in the form of vapour, or 65 gallons a day. He attributed the malarial action of the sunflower not only to its properties of absorbing and destroying the malarial miasm, and of emitting an abundance of pure oxygen, as taught by other writers, but also to its great capacity, owing to its rapid and vigorous vegetation, of absorbing and utilising the moisture of the soil in districts which are unfit for human habitation. He suggested that the aromatic might perhaps be possessed of antiseptic virtue.

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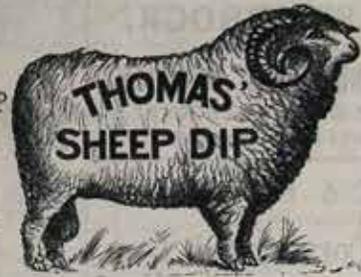
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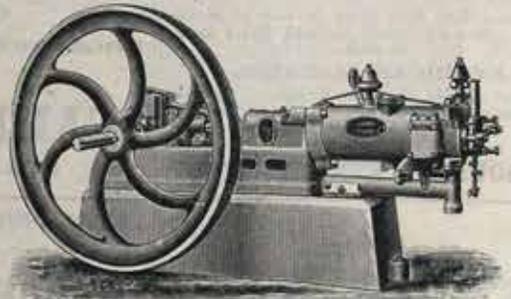
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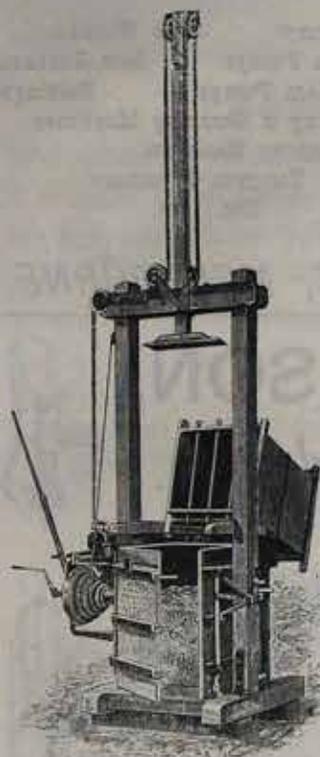
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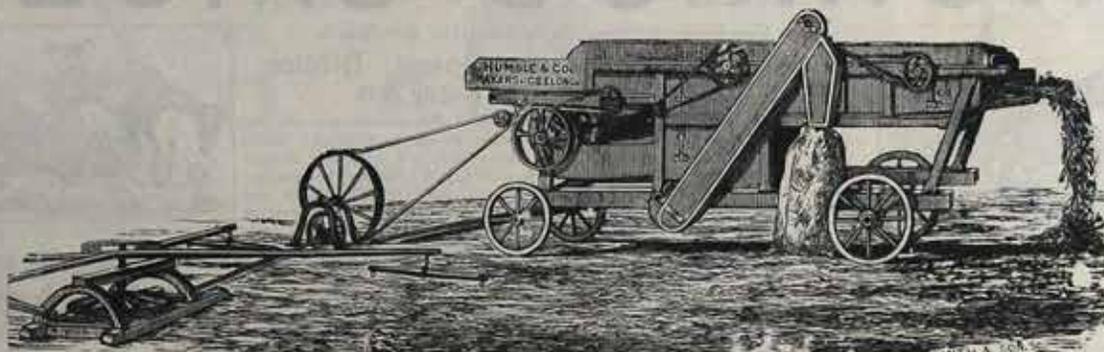
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NOTICE.—Referring to above, D. WHITE desires to inform his numerous Customers and the Public generally that he has secured and completed EXTENSIVE ADDITIONS TO HIS COACH FACTORY, and with the increased accommodation and Steam Plant, and the Largest Stock of Seasoned Timber in Melbourne, is now prepared to meet the increasing demand for his well-known Carriages and Vehicles.

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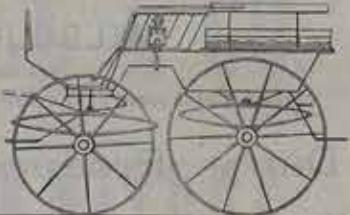
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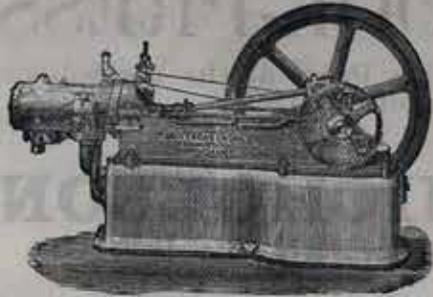
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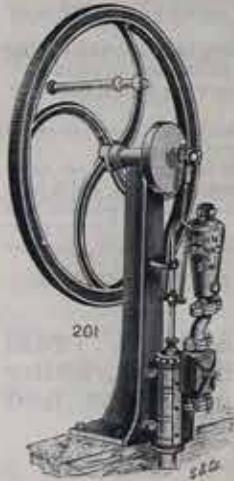
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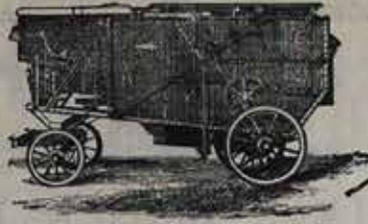
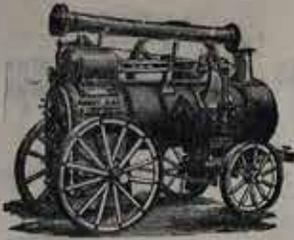


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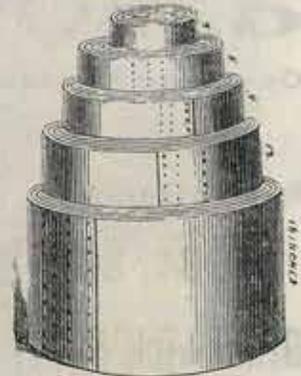
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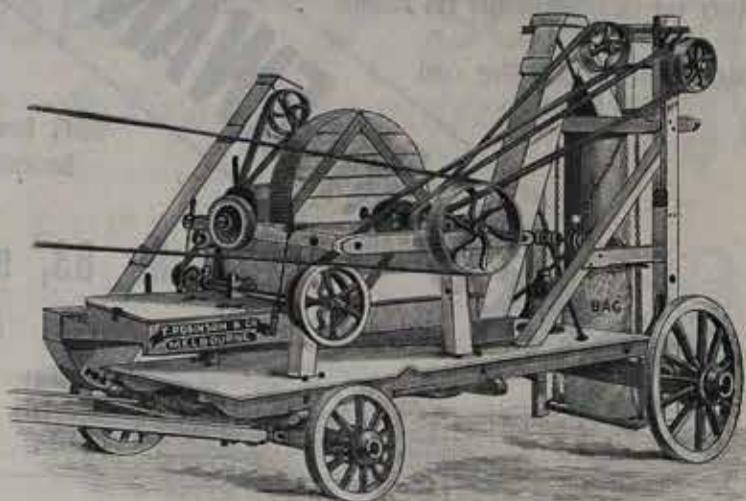
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# NATIONAL AGRICULTURAL SOCIETY.



Vol. III.—No. 34. [Issued as a Newspaper]

MELBOURNE, MAY 18TH, 1888

GRATIS

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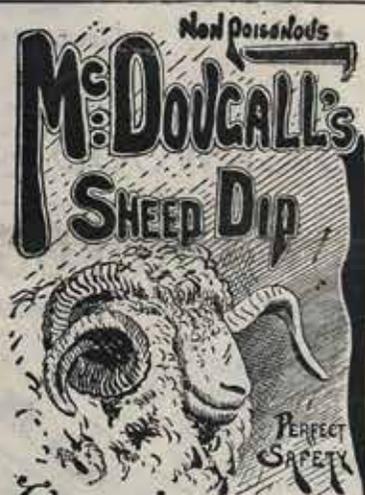
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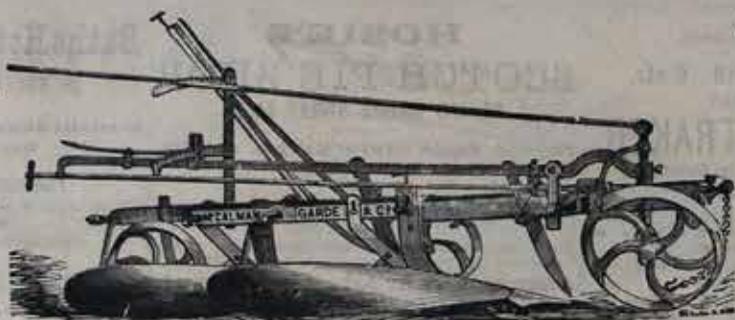
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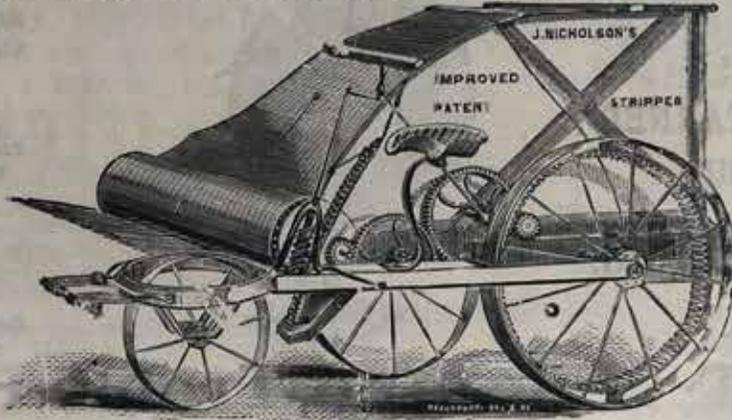
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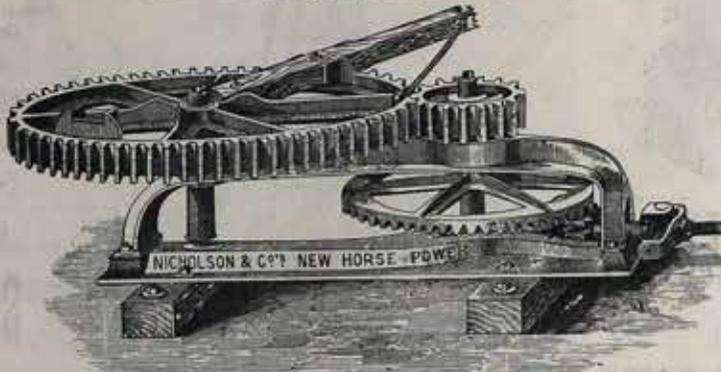
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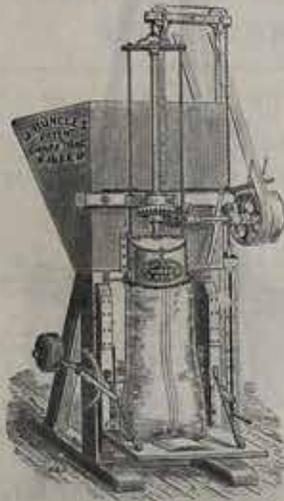
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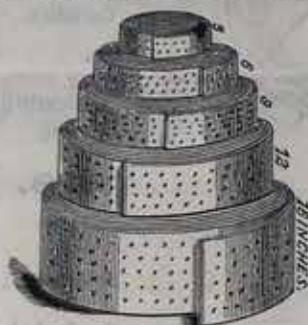
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A Large Stock of the "PREMIER" BELT LUBRICANT, and Well-Seasoned BELT LACES, kept in Stock.

TESTIMONIAL.—(copy.)

UNION FLOUR MILLS,  
Brunswick-street, Fitzroy,  
March 17th, 1886.

Messrs. Frank Vial & Co.,  
Macauley Road, Hotham.

Gentlemen.—In reply to your enquiry respecting the (23") twenty-three inch double belt supplied by you to ourselves, we beg to state we have been working it for a period of seven months, and we find it to be all we could desire, as also is the other belting which we had from you.

We therefore feel great pleasure in recommending your belting to anyone requiring the same.

We are, Gentlemen, yours truly,  
(Signed) W. S. KIMPTON & SONS.

Other Testimonials received too numerous to print, which with Price Lists, can be had on application.

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Its Extreme Sensitiveness is one of its Greatest Merits.

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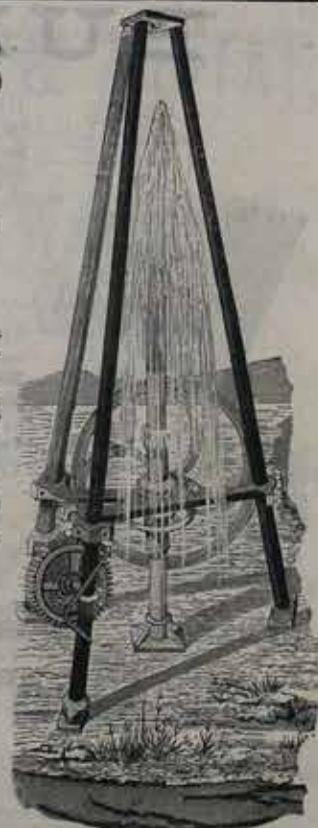
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Have stood the test of 35 Years.

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LOWEST POSSIBLE PRICES

for the class of work we manufacture.

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Agricultural Society of Victoria.

Member's Subscription	-	£1 per annum.
Life Member Do.	-	£3.
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The privilege of membership consists of power to vote at the election of all Office-bearers, of free admission to the Library, Reading Room, Lectures; and, with two ladies, to the Societies' Exhibitions and Grounds at all times.

A copy of this Journal, which is published monthly (on the Friday after the Council Meeting), is also forwarded to each member.

Member's Tickets may be obtained on application to the Secretary at the office, or from Mr. JOHN HEDRICK, the Collector.

**THOMAS PATTERSON,**

SECRETARY.

Kirk's Bazaar, Melbourne.

**THE NATIONAL**

Agricultural Society of Victoria.

<b>Shorthorn Derby Sweepstakes, 1890.</b>		
Hereford do	do	1890.
Ayrshire do	do	1890.
Jersey (late Alderney) do	do	1890.

A Sweepstakes of £1 each (10s. at time of nomination, and 10s. at date of general entry for Show), with £5 added in each case for Heifers calved between 1st July, 1887, and 1st July, 1888, to be divided and awarded as 1st, 2nd, and 3rd Prizes, for three-year olds, at the Society's Show, 1890.

Nomination of Calves of each breed respectively will be received on payment of a nomination fee of 10s. each. Calves to be nominated within one month of date of birth. Nominators to fully describe the color of each calf entered, and to state the name of the sire, dam, and sire of dam, together with the date of calving. Entry forms on application.

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Notices.

All communications for the Editor to be addressed to the Society's Office, Kirk's Bazaar, Bourke Street West, Melbourne.

Business communications to the Publishers, Melbourne Place, off Russell Street, Melbourne.

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Dates of Forthcoming Shows.

SECRETARIES of agricultural societies are requested to forward to the editor the dates on which their respective exhibitions will be held, also copies of their prize schedules as soon as they are published.

**AUGUST.**

8, 9—Corowa.  
 28, to 1st September—National, Melbourne.

**SEPTEMBER.**

5, 6—Donald	20, 21—Wangaratta
5, 6—Wagga	20, 21—Echuca
5, 7—Yarrawonga	21—Wedderburn
7—Murtoa	26—Boort
11, 12—Rochester	26—Elmore
12, 13—Albury	26, 27—St. Arnaud National Show of Department of Agriculture
12, 13—Horsham	27—Cashed
19—Dimboola	
10—Ararat	
19—Natinuk	

**OCTOBER.**

2—Numurkah	10, 11—Sandhurst
3—Eoroa	10, 11—Warrnambool
3—Inglewood	17—Murchison
4—Bacchus Marsh	23, 24—Tatura
4, 5—Benalla	31—Seymour
10—Shepparton	

**NOVEMBER.**

9—Clunes	15—Traralgon
14—Heathcote	21, 22—Kyneton
14, 15—Camperdown	

only be shown them by a thorough and extensive system of Dairy Schools; and while we are hesitating over a few thousand pounds and talk of beginning in an experimental way on a small scale, foreign countries are annually spending their tens of thousands with lavish hands, and are gaining as their reward an annual payment of £15,000,000 from the British consumer in exchange for their butter and cheese, every pound of which we might produce ourselves." Some statements are then given as to the amount expended by other countries to teach their farmers everything that can be known about Dairy Produce and Agricultural Science. In France £23,000 a year are spent on Intermediate Agricultural Schools, and £10,000 a year on a Central Institute in Paris, besides a number of Farm Schools where practical work is taught. In Germany there exists a Central College at Berlin, which has a department for dairy work, and large grants are made for Agricultural Education. In Denmark £11,000 a year is spent to stimulate agriculture by education for a population of less than £2,000,000. In Italy there are at least two first-rate Dairy Schools receiving aid from Government where practical education is given. The universal experience of these countries is that they owe much to their Schools, and that their success "is due to a considerable extent to the improved methods of manufacture which are constantly being introduced through these Institutions." The production of butter in Ireland is being improved in many parts by means of Travelling Dairies, and it is much required, as nothing could be worse than the methods of butter making in many parts of Ireland. Professor Carrol, of Glasnevin, whose figures, as a high authority, are reliable, has stated that the value of the butter made in Ireland is £6,125,000, and that if the farmers were better educated and used improved methods in making it, the same quantity of butter would be worth £7,500,000. These figures, showing that £1,125,000 additional could be earned by the Irish farmers as the result of better teaching, amply justify Mr. Whitley's statement that with a proper system, the dairy produce of our Victorian farmers could be increased by three quarters of a million a year. It is then stated that to those who think cheese and butter-making are only simple operations, it may be pointed out that while it is a simple thing to make these articles in a common place inferior way, it is not so simple to make them to the best possible advantage, so as to command the highest price. The necessity of education and the advantages of the improved systems are dwelt on, and it is said that the obvious course is to open schools in central places where all these things can be taught, and to which the farmer or anyone working for him could go for a few weeks at a time to learn. Regarding the Cork Market, the principal Inspector, Mr. Forrest, writes:—"During recent years a very marked improvement has taken place, and I am happy to be able to state that the Munster Dairy School has contributed in no small measure towards bringing about so desirable a result. As a Butter Inspector in the Cork Market for many years, I have had better opportunities than most people of judging of the merits of the School as a Training Institution. Many of the finest specimens of butter coming to our market I found were made by its pupils." The article, after strongly advocating the necessity for education, concludes thus:—"A great opportunity is open to the Government to found a national system of Agricultural Education, which would give it new life, and great will be the blame due to them if they neglect the duty, or from mistaken motives of economy rest content with an insufficient and, therefore, unsuccessful attempt." Having regard to the present position of the Dairying Industry in this colony, this latter weighty clause is well worthy of the careful consideration of our Victorian Government.

## Notes.

We are requested to notify that the London Chamber of Commerce has extended the time for receiving exhibits of Colonial-grown tobacco intended to compete for the Chamber's Special L50 Prize; particulars of which we published some months ago. Samples will be received in London till 1st December next.

We have received a pamphlet on the destruction of the rabbit pest by irrigation, in which the writer deprecates the idea of getting rid of the pest by microbes—those mysterious microbes to the action of which, by the way, the prevailing premature baldness of the human race is now attributed—and insists on irrigation as being the only means whereby the complete extirpation of bunny may be effected. The writer modestly says: "Let the Government undertake to give me £24,000,000 to irrigate Victoria, and I will engage to perfectly irrigate every necessary acre." We quote no further.

As showing what is being done elsewhere in the way of tree planting, we may mention that Messrs. Kennedy and Co., nurserymen, Drumfries, have received an order from Her Majesty's Commissioners for over a quarter of a million tree plants to be delivered to the Crown receiver at Douglas, for planting on the Crown Lands in the Isle of Man. The order comprises nine different varieties of trees, the largest number of one sort being 160,000.

The Queensland National Association is taking steps to have the following resolutions passed into law—(1). That a tax or license fee be imposed on all entire horses over two years, namely draught stallions, £10, thoroughbred and all other stallions, £20. (2). That these fees be collected through the office of the Inspector of Stock. (3). That the money, after the expense of collecting is deducted, be apportioned to the leading Agricultural Societies in the various districts of the colony. That the said Agricultural Societies should at their annual exhibitions select a certain number of stallions for fitness and soundness, and apportion such money as may be available as premiums, on condition of their standing or travelling the season in such districts at the maximum fee of 40s. per mare. (This last being debated).

The Executive of the Deniliquin Society have been most successful in collecting, for at their Show, which will be held on the 19th July next, in a list of prizes of £1,446, a sum of £810 13s. has been specially subscribed. Very valuable prizes are offered for wool, and a number of specials for sheep.

## Meetings.

### Council.

An adjourned meeting of the Council of the National Agricultural Society of Victoria, was held on Thursday, April 19th, 1888, pursuant to notice.

PRESENT—Dr. Plummer, President (in the chair), with Messrs. Job Smith, D. R. McGregor, W. Thomson, R. Clarke, W. Glover, G. Young, J. Garton, J. Hearn, R. Grice, W. Wragge, J. Buncle, and J. Currie.

The Works Committee reported:—

1st. That the outside fence of the Show Grounds at the Railway Entrance be altered to take in more ground.

2nd. That the building for poultry and dogs be put up near the Railway Entrance Gates.

3rd. That a building for a working dairy, 80ft. x 50ft., be put up close to offices, with sitting room for spectators.

4th. That the further or inner end of the large hall under the stand be enclosed for a building for wines.

5th. That posts, at intervals, be put up in front of the Grand Stand, between its ends and the Trotting Course, instead of picket fences and gates, as previously ordered.

7th. That an extra closet be put up at the upper far corner of the Grounds.

8th. That the partitions between all the Cattle Stalls be boarded.

9th. That gates be put on the Fat Cattle Pens, and that there be a gate opening outwards at the end of the Pens, next the Stock Entrance Gate.

10th. That a drain be put along lower side of Pig Pens, with underground pipes to carry off water.

Clause 1 was adopted.

In connection with Clause 2, Mr. Garton moved—"That there be two buildings, one for poultry, and one for dogs. The building for poultry to be 150ft. x 35ft., and that for dogs 100ft. x 35ft. The position to be as recommended, near the Entrance Gates." Seconded by Mr. Glover, and carried.

Mr. Smith moved—"That Clause 3, *re* wine room, be adopted." Seconded by Mr. Young, and carried.

Mr. Hearn moved—"That Clause 5, *re* posts in front of Stand, be adopted." Seconded by Mr. Garton, and carried.

Mr. Smith moved—"That W. Sims be employed to do work of boarding cattle stalls as per Clause 8." Seconded by Mr. Garton, and carried.

Mr. Garton moved—"That the whole report be adopted." Seconded by Mr. Smith, and carried.

Mr. Clarke moved—"That there be standard or movable posts provided for the judging rings." Seconded by Mr. Glover, and carried.

Mr. McGregor moved—"That plans and specifications be prepared for buildings and works as resolved upon, and that tenders be called for same." Seconded by Mr. Glover, and carried.

### CORRESPONDENCE.

From Rev. Ralph Brown, offering a special prize of 30 guineas for a group of Jersey cattle, one bull and five cows or heifers not under two years old.—Received with thanks.

From John Detmold, offering some suggestions, which were dealt with when the prize list were under consideration.

The Prize List as drawn up by the Show Committee was then submitted, and was drawn up as now published, with the exception of the Centennial and the Grand Champion Prizes and the Show Regulations.

Mr. Garton moved—"That the Council adjourn to that day week to arrange the above." Seconded by Mr. Wragge, and carried.

The meeting then adjourned.

An adjourned meeting of the Council of the National Agricultural Society of Victoria was held on Thursday, 26th April, 1888, pursuant to notice.

PRESENT—Dr. Plummer, President (in the chair), with Messrs. Job Smith, W. J. Lobb, T. Brunton, J. Hurst, J. Blyth, D. R. McGregor, J. M. Peck, J. Hearn, C. Lynott, J. Gibb, S. G. Staughton, George Young, D. White, J. Currie, J. Garton, G. Ramsden.

Clause of letter read from Secretary for Agriculture in relation to the proposal of the

## The Journal

OF THE

# National Agricultural Society

OF VICTORIA.

MELBOURNE, MAY 18th, 1888.

## The National Society's Prize List.

With this number of our Journal we issue as a supplement the Prize List of the Great Annual Exhibition of the National Agricultural Society of Victoria, which will be held on the Show Grounds, Flemington, on Tuesday, Wednesday, Thursday, Friday and Saturday, the 28th, 29th, 30th, and 31st August and 1st September next. The programme is the most elaborate and also the richest which has yet been prepared by the Society; over £3,000 of prize money being offered for competition. This amount includes the sum of £500 offered by Parliament as Grand Champion Prizes of Australia, which prizes have contributed largely to make the Society's exhibitions thoroughly national and representative; and an additional sum of £500 offered by the Government as Centennial International Prizes for Live Stock, with the view of inducing the agriculturists and breeders in the various Colonies to make a special effort to be largely and creditably represented on the occasion of the Centennial Exhibition, when visitors will be here from all parts of the Globe. No important change from last year's programme has been made in the classes for horses, except in His Excellency the Governor's special prizes, which are offered for a carriage colt or filly instead of a pair, with a view to inducing a larger competition, as it is thought that breeders have more likelihood of having single animals of great merit than pairs of an equal standard. The condition for Hunters has also been altered, and recent Steeplechase Winners have been barred. In the Cattle the Polled Angus have been raised up next the Herefords and placed on an equal footing with them, as this breed has come rapidly to the front in public estimation. In Swine, classes for breeds other than Berkshires have been introduced, as numbers of pigs of different breeds are expected from the other Colonies. In Dogs and Poultry the classes have been entirely re-constructed and very much extended, the Society having been promised liberal support from fanciers in these classes, which are expected to be very much more extensive and attractive than at any of the Society's previous Shows. We direct particular attention to the general regulations, in which some important alterations have been made. Entries have been closed earlier than usual, with a view to giving more time for office arrangements, and also of enabling the Works Committee to have a reasonable time at their disposal to make preparations on the Show Grounds after the amount of accommodation required is known. Several new regulations with regard to bring-

ing stock forward which are entered, and parading when on the Grounds, &c, have been introduced, as it is found that the larger the Shows become the more necessary it is to have rules to meet all cases. From the enquiries already made for space for exhibits, and from communications from the other Colonies regarding stock, it may be inferred that the coming event will eclipse all its predecessors, and it is very probable that the entries which close on the 1st August will be found to be largely in excess of those of any previous year.

## Stud and Herd Books.

ALTHOUGH the Draught Horse Stud Book has not yet been brought to a successful issue, there is no denying the fact that it would be an immense advantage to breeders and to the colony generally to have one, and perhaps by keeping the subject constantly before the public, good results may yet be arrived at. We still think, however, that the proper way of dealing with the matter is to "Let a Victorian, or, better still, an Australian Draught Horse Stud Book be commenced on something the same principle as was adopted in the foundation stock of the Jersey Herd Book," as we stated in a previous number, and as we recommend to the attention of those interested. The Council of the National Society has acknowledged the value of genealogical records by insisting on thoroughbred Stallions being registered in the Stud Book—as otherwise they might lay the Society open to being in a position in which its hall mark might be placed on a mongrel. At a discussion recently, at the Queensland National Society, on a "Tax on Stallions," reported in the Society's *Journal*, Mr. McAndrew said—"He remembered a horse which was, in appearance, the finest in the colony, and which had 80 mares guaranteed to him at 8 guineas a head. This horse stood four years, and then it was found that he got no good foals, and he was a cross between two distinct breeds. Consequently, he added, he was a believer in pure breeding, although he believed in substance as much as anyone." This case confirms our statement in last number, about first crosses often having great individual merit, but being useless to breed from, and it is also a strong argument in favour of their being Stud Books for Horses. The same argument applies equally to cattle, and we are pleased to see that a movement (reported elsewhere in this number) has been made to establish a Herd Book for Polled Angus Cattle, and, as it has been taken up by good men who have an interest in its being carried out, it is almost certain to be brought to a successful issue. In dogs, too, the necessity is being recognised, and the National Society, by adopting the Kennel Club Rules in accordance with local requirements and by insisting on registration of dogs, has moved another step forward. We trust that Stud and Herd Books for all the recognised breeds will yet, ere long, be under way, for we hold that, till such is the case, breeders are not deserving of that reputation for enterprise which is generally allowed to be characteristic of Australians.

## Dairy Schools.

As the question of "Dairy Education" is attracting so much attention at the present time, we purpose dealing with an excellent article by W. S. B. McLaren, M.P., in *The Fortnightly Review*, under the above heading, which shows what has been done by other countries in this direction, and which further shows the propriety of and necessity for action being taken in this colony. The article states that, "while the demand for technical education for the benefit of our manufacturing industries has been increasing steadily in volume during the last quarter of a century until the Government is pledged to pass a Technical Instruction Bill during the present Session, complete apathy may be said to have reigned regarding the equally important subject of Agricultural Education. For though there have been certain Agricultural Colleges in existence, such as the Royal Agricultural College, which struggled hard for life for many years, and though they have educated a few men at high fees, there has been no popular cry for Technical Education for farmers and dairymaids, such as there is for the education in art and science of manufacturers and mechanics." It is then stated that, thanks to the British Dairy Farmers' Association and Lord Vernon's School, the necessity for Dairy Schools at any rate has been forced into prominence. England could not now hold her own in wheat production, owing to cheaper production from other countries, and the acreage has fallen one million and a quarter acres, or about a third during the last 15 years. Simultaneously the number of cattle have increased by 700,000, being now rather more than 10½ millions, showing that farmers are turning their attention more and more to dairy produce, and that this, more than the fattening of cattle attracts them is shown by the fact that the number of sheep have increased three and three quarter millions. In 1875, the imports of butter and margarine (or butterine as it was then called) was nearly one and a half million cwt., and were worth £8,500,000. In 1886, they were two and a half million cwt., and were worth £11,000,000, of which, margarine was nearly £3,000,000. In cheese the increase has been a hundred thousand cwt., and the amount imported is now about one and three quarter million cwt., but its value has decreased nearly £800,000, being £3,870,000. At present the production of British butter is said to be less than two million cwt., while much is of inferior quality—the best kinds of margarine bringing higher prices than the lowest classes of butter, while the fall in price which was occasioning such distress amongst dairy farmers was due to the inferior quality more than anything else. "Here, then, is the case for Dairy Schools. There is an enormous demand for good butter and cheese. There never was so great a demand. The production at home only half supplies it, and much of that half is bad. Farmers can no longer grow wheat to pay, but they can do much better out of dairy produce, and could probably make a profit if they only knew the right way to work. This right way can

over the foibles of Mr. Dow or anyone else, and if they thought it would be to the good of the country to have a dairy show on their grounds they should do so, so that they had better let the tenders be called.

Mr. Peck moved that the meeting at its rising adjourn to Thursday week for the consideration of tenders, and that contractors be allowed to 1st of August to finish works. Seconded by Mr. Currie, and carried.

From Robert Clarke, apologising for absence, which was caused through illness. Received.

From Borough of Essendon, calling attention to the Railway Bridge over Racecourse-road, Newmarket, and asking the Council to contribute, say, £300 toward the work of raising and widening it.

Mr. Thomson moved that the latter be received. Seconded by Mr. Peck, and carried.

From Department of Agriculture, forwarding copies of pamphlet entitled Farmer's Guide to Manuring. Received with thanks.

From D. Wilson, postponed letter re prizes—Received.

NOTICES OF MOTION.

Mr. Thomson "That the motion, re putting up Dairy Building on Show Grounds be rescinded."

Mr. Thomson—(By-law)

"That fourteen days at least, before an annual election for members of Council, the President, or his deputy, shall send or cause to be sent to all members of the Society residing twenty miles and upwards from the Post Office, Melbourne, a ballot paper with the names of all candidates who have been duly nominated; and each member desiring to vote shall erase therefrom all names he thinks fit. But any ballot paper containing more than the requisite number of names shall be rejected by the President or his deputy. And such ballot papers shall be signed by the member voting, and returned sealed on or before the closing of the poll on the day of election, and the said ballot papers shall be opened and counted when the returning officer is making up the poll."

The meeting then adjourned.

A Polled Angus Stud Book.

A meeting of the breeders of Polled Angus cattle, called by circular, with the object of taking steps to form a society and bring out a herd book for pure stock of that breed, was held at the office of the National Agricultural Society of Victoria, on Friday, 27th April, 1888.

Present: The Hon. J. G. Dougharty, M.L.C. (who was voted to the chair) Messrs. S. T. Staughton, M.L.A., S. G. Staughton, J. B. Docker, D. G. Clark, Stuart Reid, and others. Mr. T. Patterson acted as secretary. Letters were read from A. Kaye, W. H. Haley, and F. J. T. Craddock, regretting their inability to attend the meeting, and stating their intention of co-operating. The Secretary also stated that he had seen Mr. David Syme, who had expressed his intention of giving the movement his hearty support.

After a discussion, Mr. Staughton moved that it is necessary in the interest of Polled Angus breeders to establish a herd book for pure Polled Angus cattle. Seconded by Mr. Clark, and carried.

Mr. Dougharty proposed that owners of Polled Angus cattle in Australia be communicated with by circular, informing them of the resolution passed by the meeting, and asking them whether they wished to take advantage of the opportunity of registering their stock in the herd book, and if so, if they would forward a list of the animals they

wished to enter, together with all particulars, pedigrees, &c., before the 27th July next. Seconded by Mr. Docker, and carried.

Mr. Staughton moved that a committee, consisting of Messrs. D. Syme, S. G. Staughton, S. T. Staughton, David Mitchell, D. G. Clark, W. H. Haley, J. B. Docker, Henry Hoyt, Stuart Reid, and the Hon. J. G. Dougharty, be appointed to carry out the work of forming a stud book, the committee to be called together on the 21st July. Seconded by Mr. Clark, and carried.

A vote of thanks was passed to the chairman, and the meeting closed.

Travelling Dairy Committee.

A meeting of the members of the Travelling Dairy Committee was held on Tuesday, April 17th, 1888, pursuant to notice.

Present—Dr. Plummer (in the chair), Messrs. T. Brunton, J. Hurst, Job Smith, D. Whitley, D. Wilson, and R. W. Wightman.

After a general conversational discussion,

Mr. Wightman moved that the operations of the Working Dairy be commenced at the National Society's Show in August. Seconded by Mr. Whitley, and carried.

Mr. Brunton moved that one plant capable of working the milk of 80 cows, and another of working the milk of 20 cows be obtained, to be worded first at the Melbourne Show by experts, and then to be travelled round to the country shows and worked at them. Seconded by Mr. Hurst, and carried.

Mr. Wightman moved that a building 80ft. by 60ft. be put up on the grounds of the National Society for the Working Dairy, the committee to pay half the cost of same. Seconded by Mr. Hurst, and carried.

Mr. Whitley moved that the country be divided into three districts, and that one plant be obtained to be travelled and worked in each district by experts, in addition to those working at Shows. Seconded by Mr. Wilson, and carried.

After a further discussion, in which it was agreed that provision should be made for the dairies being worked two seasons, that a Grand Intercolonial Show of dairy produce and appliances should be held somewhere in Melbourne. That if a gentleman with a knowledge of the whole subject in London could be found to write a report as an expert, a report should be obtained from him; and that provision should be made for endeavouring to get a refrigerating or cooling system applicable to dairies in this warm climate. The following general allotment of the proposed Government grant was then resolved on:—

6 travelling dairies at £20 each	£1,000
Expenses in connection with working same	2,000
Building for establishing Dairy (half cost)	400
National Intercolonial Show—Prizes	500
Report from Expert	200
Refrigerating and Incidental	900
Total	£5,000

The Committee then resolved to submit the foregoing resolutions and scheme of expenditure to the Minister of Agriculture. They adjourned and met again on the same day at the Minister's room, when the resolutions and scheme were submitted to Mr. Dow, being warmly supported by the Hon. J. Buchanan, M.L.C., who was present at the interview. The Committee also suggested that, on behalf of the Government, Mr. Martin, the Secretary for Agriculture, and Mr. Buchanan should be added to their number. After the scheme had been thor-

oughly discussed and fully explained, the Minister informed the Committee that they might go on with it, and the Government would let them have the money as required. The Committee thanked the Minister, and withdrew.

A meeting of the members of the Travelling Dairy Committee was held at the office of the National Agricultural Society on Thursday, the 26th April, 1888, pursuant to notice.

Present—Dr. Plummer (in the chair), with Messrs. Job Smith, J. Hurst, T. Brunton, D. Wilson, and D. Whitley. The minutes of the previous meetings were read and confirmed.

CORRESPONDENCE.

From R. W. Wightman, apologising for non-attendance through illness. Received.

From C. Yeo, apologising for non-attendance.

Mr. Wilson moved that, as suggested by the Minister of Agriculture, Mr. Yeo be elected a member of Committee. Seconded by Mr. Smith, and carried.

From Secretary for Agriculture, stating that the Minister wished to convey his thanks to the Committee for their co-operation with him in devising measures for the improvement of the Dairying industry in the colony. He considered it undesirable to increase the number of the Committee except by perhaps the addition of Mr. Yeo, who would represent the Northern localities, and that it would be anomalous to appoint Mr. Martin who, as Secretary for Agriculture, would have to attend to the payment of accounts. The Minister also suggested the desirability of starting with one imported travelling plant from which others as required, might be established in the colony; also he wished to be relieved from paying half the cost of the building on the National Society's grounds, as it would form a precedent on which other societies could base claims for similar concessions. If the Committee would furnish particulars of a pattern plant he would have it sent for at once, so that it might be in time for the National Society's Show.

After a discussion, Mr. Whitley moved that the clause of the letter relating to the payment of half cost of a building on the National Society's ground be referred to the Council of the Society. Seconded by Mr. Hurst, and carried.

Mr. Whitley moved that the Agent-General in London be requested to supply the most modern and economical working dairy plant for cheese and butter, complete, except driving power capable of working the milk of 80 cows to arrive before 1st August. Seconded by Mr. Hurst, and carried.

Mr. Whitley moved that Mr. Bartram be requested to order three A.I. (about 90 gallons per hour) and 4 Baby (about 12 gallons per hour) Laval Separators. Seconded by Mr. Wilson, and carried.

Mr. Whitley moved that an advertisement be put in the paper inviting makers of dairy plant to communicate with the Secretary, and to submit plans, specifications, prices and other particulars of working dairy plants; to be in before Wednesday week, the 9th May. Seconded by Mr. Smith, and carried.

Mr. Whitley moved that the Committee advertise for a practical dairy expert to travel with working dairy and give instructions to farmers. A liberal salary to first-class man open to 23rd May. Seconded by Mr. Smith, and carried.

Mr. Smith moved that the Committee adjourn to that day fortnight, unless called previously by the President. Seconded by Mr. Hurst, and carried. The meeting then adjourned.

Dairy Instruction Committee, that the Government should pay half cost of a building on the Society's Grounds for a Working Dairy, which proposal the Minister wished to be relieved, as it would establish a precedent on which other societies would base claims.

Mr. Smith moved that the Society put up the necessary building, and undertake the whole cost of same. Seconded by Mr. Gibb, and carried.

The President stated that the gentlemen nominated for the Committee on Dairy Education had not been formally appointed, when Mr. Lobb moved that the President, Messrs T. Brunton, J. Hurst, and J. Smith be appointed to the Committee. Seconded by Mr. Blyth, and carried.

Mr. Billing, the architect, who was present, explained that the Works Sub-Committee had referred the question of lighting the Poultry Shed to the Council, when the responsibility of providing proper light was placed on the architects.

#### PRIZE LIST AND REGULATIONS.

The Secretary submitted three items in the conditions which required attention. In relation to the first, it was resolved that stallions should be barred in pair of buggy horses as well as single buggy horse. In relation to the second, it was resolved that a limit of 9 months be placed to the time allowed for a cow or heifer shown as in calf to produce a calf, or the prize would be forfeited. In relation to the third, it was resolved that the definition of young poultry should be under twelve months at time of entry.

Mr. Peck asked permission to introduce an addition to the list, and proposed that a prize be given to the fastest walking horse. Seconded by Mr. Lynott, put, and lost.

Mr. Hearn proposed that in thoroughbred stallions (class 19) the words (registered in stud book) which had been struck out, be re-inserted in the list. Seconded by Mr. Lynott, and carried.

Letters were read—in reply to a circular from the Society—from Messrs. Burton and Knox, J. Healey and Co., and Damyon Bros., stating they preferred that prizes should be given for carriages and buggies, as before, and that in order to make the judging more satisfactory, they would recommend that the Master Coachmakers' Association be asked to nominate men of known practical ability from whom the Council could select their judges.—Received

Mr. Smith moved that the prizes and classes for buggies, &c., remain the same as last year, with the addition of classes for Victoria and pony phaeton. Seconded by Mr. Garton, and carried.

The allotment of Grand Champion Prizes was then proceeded with, and alterations were made in the cattle. The prizes for Devons and Britanias being struck out, the Shortborns made £20, and Polled Angus raised to £15. Bacon and Hams were raised to £10 each. Barley to £10; and Hops was made £5. This allotment being subject to the approval of the Department of Agriculture.

The Centennial Champion Prizes were then allotted for live stock, and passed for the approval of the Department of Agriculture, on the motion of Mr. Job Smith. Seconded by Mr. Lobb.

Letter read from Secretary Poultry and Dog Society, asking the Society to adopt the rules of the Kennel Club of England.

Mr. Garton moved that the Kennel Club Rules be adopted. Seconded by Mr. Lynott, and carried.

Mr. Lynott moved that, at the time of entry, intending exhibitors must produce a certificate of entry with the Registry kept by the Victorian Poultry and Dog Society.

That Society being the local custodian of a Stud Register recognised by the Kennel Club. Seconded by Mr. Gibb, and carried.

The Show Regulations were then considered.

It was resolved that entries should close on Wednesday, the 1st August, at noon, and that late entries would be received on payment of a double entry fee till 12 noon on Saturday, 4th August.

That entry fees be 5s. on each exhibit, except poultry and dogs, which should be 2s. 6d. That non-members be charged 10 per cent. on the value of the prize in each class, provided that no entry fee, excepting in dogs and poultry, shall be less than 5s.

Mr. Lobb proposed the adoption of Clause 26 of the Regulations of the Royal Agricultural Society of England, imposing fines for the non-exhibition of animals entered for the Show. Seconded by Mr. Hurst, and carried.

It was resolved that "Colonial" should refer to all the Australasian Colonies.

A Regulation imposing a fine of 5s. in all cases were persons in charge of stock refusing to obey the orders of the steward's to take their animals out on parade was passed.

Mr. Wilson's letter re prizes in dairy selection was postponed.

Mr. Hurst proposed that a Regulation be framed to the effect that live stock must be removed from the Show Grounds within one week after last day of sales, or the usual charges will be made. Seconded by Mr. Ramsden, and carried.

Mr. Hurst brought forward a circular from the Atmospheric Refrigerating Company, and moved that the Secretary request the Company to exhibit at the Show. Seconded by Mr. Lobb, and carried.

Mr. Lobb brought up the rabbit question, and moved that the Council recommend the City Council to dispense with market dues on rabbits, but the matter was not pressed.

Mr. Lynott moved that the Prize List and Regulations be adopted and printed. Seconded by Mr. Hurst, and carried.

Mr. Staughton complained of the sale of liquor to men in the dormitory, causing drunkenness on Show nights, when Mr. Hearn moved that the matter be referred to the Executive Committee. Seconded by Mr. Staughton, and carried.

The meeting then closed.

The ordinary monthly meeting of the Council of the National Agricultural Society of Victoria was held on Tuesday, May 8th, pursuant to notice.

Present—D. R. McGregor, Esq., (in the chair), with Messrs. J. C. Smith, S. G. Staughton, J. M. Peck, W. Wragge, W. Thomson, G. Young, J. Garton, J. Bunce, J. Hearn, J. Currie, R. Grice, C. Lynott, T. Brunton, Walter J. Clark, D. Munro, and the Hon. J. Buchanan, M.L.C.

The minutes of the previous meetings were read and confirmed.

#### FINANCE.

The Finance Committee's report submitting the monthly statement of accounts, recommending payments amounting to £117 15s. 9d., and stating that the Committee had authorised the Secretary to let the Show grounds to the employees of the *Herald* and *Sportsman*, for a picnic on the 24th inst., at the usual charge of £10 10s., with a deposit of £10 10s. against damages.

Mr. Currie recorded the adoption of the report. Seconded by Mr. Brunton and carried.

#### CORRESPONDENCE.

From Dr. Plummer (President) stating that he was confined to the house through

indisposition—of forwarding the following memo. re Travelling Dairy Committee:—

Port Melbourne, 7th May, 1888.

My attention having been drawn to a letter re Travelling Dairy Committee in this day's *Age*, signed "Mild Inquirer," I desire to say that a number of the statements therein are utterly and entirely at variance with facts. The statement that the committee applied for a modest sum of £5000, to be placed in their hands to be expended as they thought best, is utterly devoid of truth. On the contrary, at my suggestion, the committee at their first meeting unanimously resolved to ask the Minister to add Mr. Martin, the secretary for agriculture, to their number in order that the Government should, if they so desired it, have an officer of their own to supervise the expenditure. "Mild Inquirer" then states that the committee ignored Mr. Dow's letter of the 19th, and held a meeting on the 26th April, at which certain resolutions were carried. "Ignored" is here calculated to mislead, and to convey that which is not true. In consequence of the letter of the 19th, I, as chairman of the committee, had an interview with Mr. Dow on the 25th, to inform him that, after a conference with several members of the Council of the National Agricultural Society, I thought I could release him from any responsibility as to the payment of the cost of the building on their grounds for the working dairy. After this was determined I consulted generally with the Minister for some time on the action to be taken and the plans to be ordered, and received advice from him on the subject with a view of bringing his opinion before the meeting of committee, which I told him would be held next day. At this meeting, so held, I informed the committee of my interview with the Minister and of its tenor. It was the assurance of the Minister which I conveyed to the meeting that led them to proceed so confidently in the matter. At noon the day after the meeting (the earliest possible opportunity) the secretary and I called at the Minister's office to submit the minutes of the meeting for his approval. We found he was not there and were informed that he would not be there on Saturday. As time was of the utmost consequence I then instructed the secretary to advertise in Saturday's papers (pursuant to resolution of committee) for a plan and for an expert—"liberal salary to first-class man," not "salary no object."

On Monday, the 30th., I received Mr. Dow's letter of the 28th April, in consequence of which I called the committee together.

ANDREW PLUMMER,

Chairman Travelling Dairy Committee.

P.S.—I may add that I have requested the secretary to call a meeting of the committee to prepare a report of its proceedings, as the reports published in the press are totally incorrect and misleading.

Mr. Clarke moved that the letter be received, and that the Council express sympathy with Dr. Plummer in his illness. Seconded by Mr. Bunce, and carried.

From N. Billing and Son, architects, stating they proposed to close the tenders for forthcoming works on Thursday week, and asking instructions regarding them; also the latest time that the Council could give for the contractor to complete the works.

A discussion arose as to whether the Society should expend a sum of £800 on a building for a working dairy in view of the action of the Minister of Agriculture re the Travelling Dairy Committee, and a motion was proposed that tenders be not called for it, but was withdrawn on the Chairman making a statement to the effect that the Council has always worked for the good of the country and its members had gratuitously given more valuable time for the furtherance of the interest of the Colony than any body of a like kind. He thought they might look

A meeting of the members of the Travelling Dairy Committee was held on Friday, 4th May, 1881, pursuant to notice.

The minutes of the previous meeting were read and confirmed.

#### CORRESPONDENCE

Letter read from the Secretary for Agriculture, stating that the Minister conveyed his thanks to the gentlemen on the committee for the trouble they had taken in outlining their ideas of a scheme, by which the Government might aid towards an improvement in the butter and cheese-making industry of the colony, so as to procure the production of an article of more uniform and better quality, with the view of opening up a valuable export trade. Also that the Minister was pleased to find that the ideas of the Committee coincided with his as to the desirability of making the travelling dairy system a leading feature in an educational scheme, and he had decided to at once procure a plant for this purpose of the best type, together with the skilled labour necessary to effect the required education. He was also willing to exhibit the plant in full working order under the supervision of the Government dairy expert, at the forthcoming National Agricultural Society's Show. The Department of Agriculture, with the special facilities it possessed, had arranged its plan of operations, and would, therefore, not be required to take further trouble in that direction; but the Minister would always be glad to receive any suggestions that it may be pleased to favor him with.

After an animated discussion, Mr. Whitley moved that the Minister's letter be received, and the Committee express surprise at its contents, as they fail to understand it after the promises already made. Seconded by Mr. Hurst, and carried.

Mr. Brunton moved that the correspondence be handed to the press. Seconded by Mr. Job Smith, and carried.

Several letters in relation to the working dairy were submitted, when Mr. Whitley moved that they be received, and that the writers be informed that the matter is in obedience. Seconded by Mr. Wilson, and carried.

It was resolved that an account of all expenses be forwarded to the Minister.

Mr. Brunton moved a vote of thanks to Dr. Plummer for acting as chairman. Seconded by Mr. Wilson, and carried.

Mr. Whitley moved that the Committee adjourn *sine die*. Seconded by Mr. Wilson, and carried.

The meeting then closed.

## Correspondence.

### Show Judging

To the Editor of the Journal of the National Agricultural Society of Victoria.

SIR.—I have read with interest the letters on the above subject by "Farmer" and "Breeder," and I am glad to see that a move is being made to have a better system of judging at our Shows. I have for some time felt that the old and usual system of judging was not sufficient in an educational point of view. It did not sufficiently show to the public, and more especially the owner and breeder, the merit or demerit of their exhibit, so as to encourage a higher standard of breeding. With the view of making our next Show at Geelong more attractive to breeders, and to encourage the show of good animals,

I have urged upon the Society to adopt a system of judging by points, the Society fixing the parts and points to be judged; and to that end a sub-committee was appointed, of which I am one. We have decided to recommend that the system of judging by points be carried out in the classes of sheep, swine, draught and blood horses, also ponies. We may extend it to cattle if other conditions are equal. We have drafted schedules on the various classes named, submitted them to experts or judges as to their practicability, and replies have been satisfactory. The system we intend to adopt will enable the exhibitor to see at a glance where and why he is a prize-taker, and on the other hand where and why he has failed. The exhibitor can take a copy of the judge's awards for his own educational advantage, for this is what we aim at, and what we believe our system will achieve. We intend to ask three competent gentlemen to act as judges in the various classes, each one to judge independently of the other; each one enters on the schedule the number of points on each part of the animal under observation, their combined totals being the total number of points gained by that animal. By our system the gentlemen chosen to act as judges must know the parts and what they should be in the animal he has to judge, or else it will expose his ignorance. He has to judge the animal before him, and not the owner, which is too often the case at our Shows. I have heard it said—"Oh, that is Mr. So-and-so's horse or cow, and so on, though he comes very close up to that one, we will give him first and the other second." Then follow grumbling and complaints. But our system, we hope, will abolish that, and make judging thoroughly honest and above board. The press, public, and the exhibitor will know the why and wherefore of the award. Yours, &c.,

WILLIAM HAM.

Warrn Ponds, May 5, 1888.

## A.B.C. of Agriculture.

### VIII.

#### SOIL CONSTITUENTS FIRST EXHAUSTED.

In the ordinary course of tillage, the production and removal of crops, only a part of which, if any, is returned to the soil, as we would naturally suppose these constituents, which occur in greatest quantity in the ashes of plants, and in small quantities, in the soil, are the first to give out in the soil. The chief of these are potash and phosphoric acid, the former occurring most abundantly in the stems, leaves, and roots, of ordinary crops; the latter in the grain and ripened seeds. Nevertheless the stems, leaves, etc., and particularly edible roots, contain much phosphoric acid, and the seeds much potash. Thus there is a steady draft upon these two soil constituents.

Besides, the nitrogen in the soil, either at present or remotely available as plant food, existing as it does either in some form of organic matter, or as ammonia, or nitric acid, is constantly and severely being drawn upon by agricultural crops. We have, therefore, three substances of vital importance which, if supplied to the soil in an available form, will increase or prolong its fertility almost indefinitely, other things being favourable. These are *Potash, Phosphoric Acid, and Nitrogen*, in the form to yield either ammonia or nitric acid.

#### ARTIFICIAL FERTILIZERS.

We have already considered briefly the value of barn-yard manure—the universal fertilizer—of which few farmers who know its value, or are not located upon what they regard as soils of inexhaustible fertility, ever have enough. To supply the lack of stable or barn-yard manure, and to supply in small bulk and little weight fertilizing material for out-lying fields, or fields so high or so distant that the mere hauling of stable manure would cost all or more than it is worth, the demand arises for fertilizers in a con-

centrated form. This demand is supplied in a more and more satisfactory manner every year, and inasmuch as it is quite impossible for the ordinary consumer—farmer or gardener—to judge of the value of those forms of manures by inspection, odour, texture, or any outward marks, the governments of many of the States, following the example of German principalities, have passed laws requiring the percentage of potash, soluble and insoluble phosphoric acid, and of available nitrogen, as ammonia or nitric acid, to be printed or branded upon the barrels or bags in which they are sold. At the same time agricultural experimental stations have been established, where, if properly selected samples of fertilizers, sold in the State, are sent, they will be analyzed, and their true value published. Where this system prevails, there is little fraud in fertilizers, and their use is extending year by year. Certain kinds are adapted to general use; others to specific crops, *e. g.*, wheat, tobacco, potatoes, strawberries, etc.

We have, therefore, in these fertilizers, ordinarily reliable, useful, and, if applied with good judgment, economical substitutes for stable manure. The advantages they offer are not to be overlooked. They distribute no weed seed, they are neither bulky nor heavy, being thus easily transported, even where waggon cannot go; and evenly and perfectly distributed by hand. The fact that they add little or no organic matter to the soil, as does stable manure, must be counter-balanced by a system of culture involving the occasional turning under of a sward, or of a green crop of some kind.

Besides these there is a class of fertilizers which do not act directly as plant food, supplying to the soil the constituents taken, or to be taken by the crop, but which by their action upon the soil itself, or upon the plant, or both, either render plant food already in the soil available to the crop, or so affect the plant, as to enable it the more readily to take the supply of plant food it needs for a big crop. Among these substances, lime, gypsum, (land plaster), and common salt are conspicuous, and in fact, most fertilizers, stable manure included, act somewhat in this way. Thus long before concentrated fertilizers were in use, the fact was known and largely made use of, that gypsum, sown upon mowing land, had a remarkable favourable action on the growth of clover, bringing it in where it had apparently disappeared. The effect was produced not by gypsum, which is sulphate of lime, being plant food, which indeed it is, but on account of a specific action upon the plant itself.

The study of the specific action of artificial and concentrated fertilizers is hardly adapted to these articles, important though it is. Every farmer should know about them, and besides it is important to know also that in our manufacturing country there are multitudes of waste products, many of which may be made very useful, either applied directly to the land, or as constituents of compost heaps.

#### VALUE OF COMMERCIAL FERTILIZERS.

We have alluded to the laws requiring the constituents of artificial fertilizers to be marked upon the packages. To understand these statements the buyer must understand that the important constituents, already noted, exist in different forms of essentially different commercial and agricultural value. The commercial value of anything is what it can be bought for, the agricultural value to what it is worth to the farm and the farmer.

The great source of phosphoric acid is the bones of animals, which consist largely of phosphate of lime. In artificial fertilizers, this acid almost always occurs as phosphate of lime, but in three recognized forms: First in the soluble form, as it is in the bones; second, in a form soluble in water to which it is brought by the action of sulphuric acid upon the ground bones, and third, in what is called reverted phosphate—that is phosphate which has been rendered soluble, but has changed back to the insoluble form, but is in a condition very different from the pieces of bone in which it at first existed, being almost infinitely fine. This indeed is the condition which the soluble phosphate quickly assumes, after it becomes diffused by rains in the soil. The soluble phosphate, or soluble phosphoric acid, is by far the most valuable of the three forms, because when placed in or upon the soil, the rains dissolve it, and wash it down into the soil, where it becomes widely diffused, and very soon by the action of the lime or other constituents of the soil, it is changed to this reverted form, and so remains until taken up by the roots of plants. The re-

verted phosphate in the fertilizer not being soluble in the rains, remains where it is thrown, and to be available to the plant must be thoroughly mixed with the soil. This can, of course, never be so thoroughly done, as the rains distribute the soluble phosphate, hence its lower value. The insoluble phosphate consists of those pieces of bone, which have not been acted upon by the acid to make them soluble. It is of great use in the soil, for the roots of the plants will find the particles and gradually make use of them, but it may not be for a year or two.

There are other sources of phosphoric acid besides bones. Pure phosphate of lime is found as a mineral in the rocks, and is ground up, acted upon by acid, and made available as a fertilizer. It is, however, less easily acted upon, and the undissolved particles are of very little use in the soil, on account of their solidity and insolubility. Another and very valuable source of phosphates is the phosphate rock and river deposits of South Carolina. This stone is much softer, more easily reduced to fine powder by grinding, and when of a quality to make the use of acid to render it soluble profitable, is of high value. Some phosphate rock contains much lime, which makes it necessary to use large quantities of sulphuric acid, before the phosphate is properly acted upon. Thus it will be seen that not only the analysis should be considered, but also the source of the phosphoric acid, which is not always easy to ascertain.

Potash in fertilizers is always in a soluble condition. Nitrogen, however, exists in many forms. In hair, wool or leather, it is in a very slowly available form, while in dried blood or flesh, which decompose quickly, it is very soon available to the plant. In analysis, ammonia is usually reported as actual; potential, which is nearly or quite as good, available, and remotely available, as in the case of phosphoric acid, each form has a different value.

The other constituents of commercial fertilizers are usually not regarded as having sufficient value to make it worth while to report them.

#### WATER.

The exceedingly great value of water as means of conveying fertility to the soil and of diffusing it in the soil, must be always borne in mind, not alone in connection with the use of commercial fertilizers, but in every way. There is no way by which stable manure, partly decomposed, can be made to go so far or produce as great effects, as when its virtues are extracted by water, and the water then applied, either very dilute by irrigation, or by the watering-cart or hand-sprinkler, to growing plants.

### Leicester Sheep.

The original sheep of Leicestershire was a large animal, with coarsely-grained flesh, which had almost no flavor. The natural habit of the race was to feed very slowly, and it therefore arrived at maturity late. In shape the sheep was long of carcass, flat-sided, large-boned, clumsy and ungainly. But it showed good weight, and the length of the staple of its wool made it prominent among the long-wool varieties, whose other types were the Teeswater, the Cotswold, the Heath, the Dartmoor (or Bamston), the Lincoln, the Romney Marsh, the Berkshire and the Exmoor. The Leicester also possessing great individuality, and impressed itself firmly upon all strains of blood with which it was crossed. Whence it came, or whither it was brought to find its home in the pastures, and on the sward of Leicestershire, and the adjoining counties of luxuriant midland England, are facts lost in the silence of remote antiquity.

Notwithstanding the advantages which size and length of wool gave it, the ancient Leicester was an unprofitable animal. Nor did it advance to a first place in the wool and mutton world, until Bakewell of Dishley, seeking to put all its inherent value to the utmost use, began his improvement of the race, with results which many breeders since his day have attempted to emulate, and whose efforts never will cease to have effect upon the production and development of all

classes and grades of live stock. Bakewell's theory was utterly different from that of former breeders in Leicestershire; they had been guided by a wish to obtain and maintain great size of carcass, regardless of shape, and to secure a heavy wool-clip, whatever the fate of the mutton. Bakewell concluded that shape and habit of ready fattening were qualities of the utmost importance, which sheep of large structure and heavy bones did not possess. They were extravagant feeders, but they did not have the faculty of rendering the feed to the best advantage. Thus he was led to the opinion that money in sheep-breeding was to be had out of a sheep smaller in size, for it could make weight more rapidly upon a less quantity of food.

What was actually accomplished by Mr. Bakewell, the reader will note clearly from an account of it by a Northumberland farmer, who describes the improved Leicester as peculiarly distinguished from the other long-wooled breeds by their fine, lively eyes, straight, broad, flat backs, round, barrel-like bodies, small bones, thin pelts, and inclination to make fat at an early age. The Dishley (improved Leicester) breed is not only peculiar for its fat, but, also, for the fineness of the grain of its mutton, and the superior flavor of it, above that of all other long-wooled sheep, so as to fetch nearly as good a price in many markets, as that of the small Highland, and other short-wooled breeds. The general weight of the carcass is eighteen to twenty pounds the quarter for ewes of three to four years, and twenty to twenty-five pound for wethers of two years old, while the wool averages eight pounds to the fleece, with a length of staple ranging from six to fourteen inches. Mr. Bakewell himself was enabled to let one of his improved rams, the famous "Two-pounder," for so large a sum as 800 guineas, in a single season, at the same time reserving to himself one-third of the ewes produced, which exemplifies the results of his improved system of breeding yet more forcibly.

What Bakewell's method had been the world never has learned. He retained the secret of it with utmost caution, so much so as to have wrought one of America's most distinguished authorities and publicists—the late Hon. Henry S. Randall—to that high pitch of indignation which led him to observe: "The whole management of the famous 'Dishley Society' betray selfishness the most intense, and in plain English, meanness the most unalloyed. Should a man, claiming to be a gentleman, in this country make valuable discoveries in breeding, or in any other department in husbandry, and closely conceal them from the public, his conduct would meet with universal reprehension and contempt." He believed that he owed his success to the virtues of wise selection of breeding animals, and having started out in a certain direction, to a faithful, persistent adherence to the principles which he determined upon in the outset.

The new Leicester has found its way into every portion of the world, wherever the British Colonial system has gained a foothold, and into the countries of Continental Europe, as also within the United States, from sea to sea, in every State and Territory.

### The Kidney Vetch.

I OBSERVE in your column of queries a question regarding kidney vetch. I can give some information on the subject, as I have been for the last three years, and will be in years to come, a large grower and a strong advocate for the introduction of this valuable plant.

Kidney vetch, or, as it is sometimes called, sand clover, is a native of sandy tracts, such

as Newmarket Heath. It is a tap-rooted plant, and, therefore, a drought register. It is said to remain in the land for seven years, but I should call it a perennial, judging from what I have seen of it on Newmarket Heath. It weighs 70 lbs. to the bushel, and costs from 40s. to 45s. per 70 lbs. in this neighbourhood. It is a late spring or early summer plant, and when all other vegetation is scorched by excessive drought, the vetch remains green and succulent. It must not be grazed until it has got a regular and active start; if stock be turned on it too soon it suffers, but when once away the grazer will find it no easy matter to keep it under. If possible, it ought never be permitted to flower.

It is first-rate food for ewes rearing lambs; but store sheep, such as shearing ewes, should be run thickly on it just before flowering time. After a close cropping it should be rested for a time, when a clean, fresh bite will be found for milking ewes.

Cattle thrive upon it, but the class of land suited for its growth is not adapted for cattle stock; therefore it had better be used wholly as sheep food. It makes the best class of silage. My first sown kidney vetch pastures are now in their third year, and nothing would induce me to plough them up. On this farm 250 acres of blowing sand resting on a chalk subsoil are in kidney vetch pastures. Under arable rotation this land is worthless; under this description of pasture it is valuable. All through the intense drought of last summer the vetch stood out and fattened wethers without cake. I would not advise kidney vetch for any land not very dry by nature. It is only upon scorching sands that its true value is found. My mixture for such soils is—10 lb. kidney vetch, 10 lb. cocksfoot, 2 lb. hard fescue, 1/2 lb. Lotus corniculatus, 4 lb. Italian ryegrass, 2 lb. white clover, 1 lb. ribgrass, 5 lb. rough sainfoin. A plant of seeds is somewhat difficult to obtain on our lands in dry springs, therefore a full seeding is allowed.

Last year the above mixture lived through the drought, whereas ordinary clovers and ryegrass completely died, and had to be re-sown after harvest. The various sorts of seeds are mixed up and sown in the usual way with barley. Avoid burying small seeds too deeply. I brush them in with the chain harrow and roll heavily after harvest.—*Farmers' Gazette.*

### Polish Rabbits.

This variety of rabbit is one of the prettiest, and it is one of the most delicate, of the various breeds of the domestic rabbit. It is supposed to have had its origin in Central Europe, but whether this is so, or whether, as has been alleged, it is simply a sport from the common rabbit, bred for pure white colour, we cannot say—certain it is that rabbits bearing something of the same character have been found in almost all the internal districts of the European continent. The Polish is small in body, not often attaining six pounds, and usually between four and five. It is rather chubby, with legs not quite so long as the common rabbit, and has upright ears. Its chief quality is in the beautiful soft, white fur, which is short and lies well to the body, and in the best specimens is of the purest white. The eye is pink, and the general appearance very pleasing. The Polish is, however, very delicate, and, like many closely bred animals, is most prolific as a breeder. It requires to be very carefully tended, and the youngsters require special looking after. The does make almost too good mothers, and will sacrifice themselves if not prevented, so that their offspring may be comfortable. Mr. McKay

recommends that they be well fed on oats, or bean meal and fine middlings, mixed with scalding water to a crumbly consistency, and that they be bedded well with clean, sweet hay, and be kept dry and clean.

**DANDELIONS IN PASTURES.**—A correspondent of the *North British Agriculturist* states that dandelions in pasture form valuable food for cattle, and especially for dairy cows. Some two years ago he had two fields—one with few and the other with a great many dandelions. It was found that when the cows were put on the field with many of these plants their yield of milk was improved both in quality and quantity. Since then he has planted dandelions in fields laid down in grass, in order to improve the pasture, and the effect has been beneficial.

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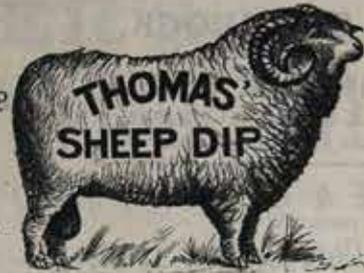
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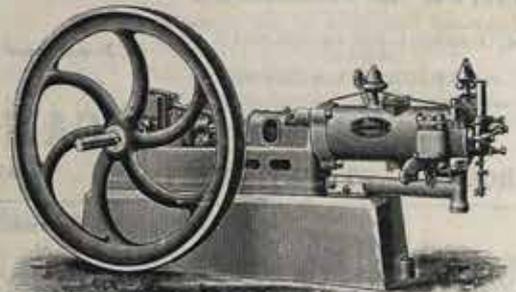
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When the bale is pressed and the sides sewn, the Ram is lifted by a small rope from the Fusee, turned by a handle.

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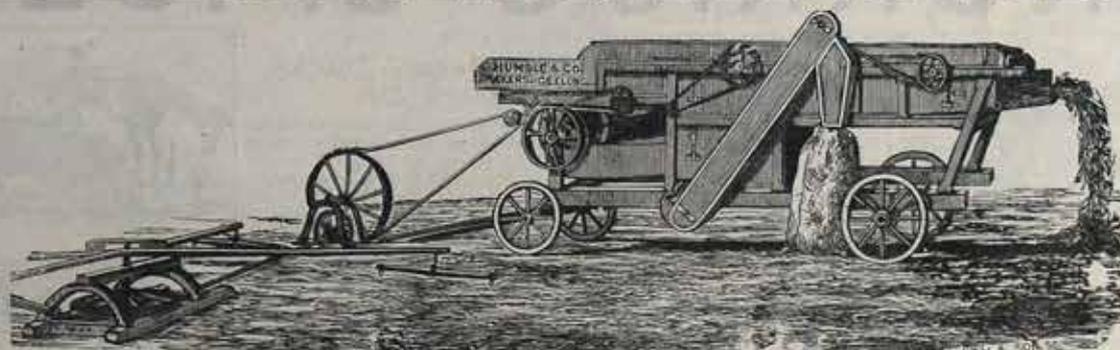
Special attention is directed to the fastening of the Packs before the Wool is put in, which is done in an exceedingly quick and simple manner: four pieces of wood are fitted into the recesses of doors, which hold the Pack securely in position and to the side catches for fastening the doors, which are held in position by a vertical bar, and relieves them simultaneously.

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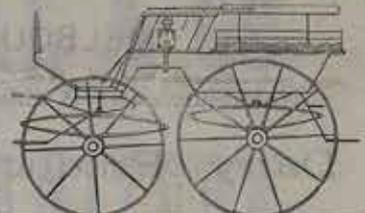
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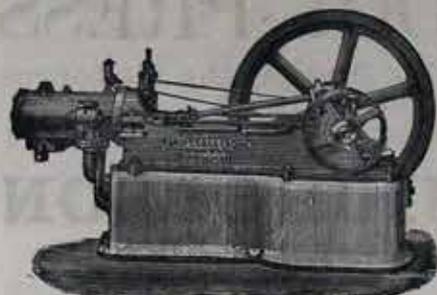
For Grass Land.—1½ cwt. per acre; to be put on the land from August to October, before or after a shower of rain.  
For Wheat, Oats and Barley.—1 cwt. per acre for wheat, in April; 1 cwt. per acre, for oats, in April; 1½ cwt. per acre, for barley, in August.  
For Vines.—1 bushel on the vine border, and lightly fork it in, in the months of July to September. This quantity (1 bushel) to be for the nourishment of four vines.  
For Onion Beds.—Give a good sprinkling over the beds two or three times during the growth of the onions.  
For Potatoes.—1½ cwt. per acre as a top dressing, before the haulms appear above ground.  
For Greenhouse Plants.—A large teaspoonful in a bucket of water, to water the greenhouse plants with twice a week. Not to be used, however, for heaths, rhododendrons, or orchids.  
For Peach, Apricot, Plum, Currant, and Gooseberry Trees.—A similar solution to that given for greenhouse plants, in the months of July and September. Rose trees and garden plants are benefitted by the use of the solution. Celery, cabbages and cauliflowers also grow well when watered with the solution.  
For Raising of Healthy Plants from Seeds.—Sprinkle a good quantity of the sulphate on the seed beds, and then water them a week before sowing the seeds. Melons and cucumber plants also are much benefitted by the sulphate of ammonia.  
Note.—All vegetation, excepting heaths, rhododendrons, and orchids are rendered more luxuriant, healthier, and consequently freer from the destructive attacks of the scavengers of Nature by the use of sulphate of ammonia, especially in the spring of the year, when vegetation requires a condensed antiseptic food and nourisher, to enable it to withstand the blighting effects of the north-easterly winds, which, being the least electrical of all the winds, lower its vitality, and thus conduce to disease in the animal and vegetable kingdom.

To be had from the Works of the  
**METROPOLITAN GAS COMPANY,**  
In 2 cwt. Bags, at 18s. per cwt.

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ENGINEERS AND IMPORTERS OF STEAM ENGINES,

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| Gas Engines           | Hydraulic Machinery          | Crab Winches      |
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CORNWALL HOUSE, COLLINS STREET WEST, MELBOURNE.

## JOHN DANKS AND SON,

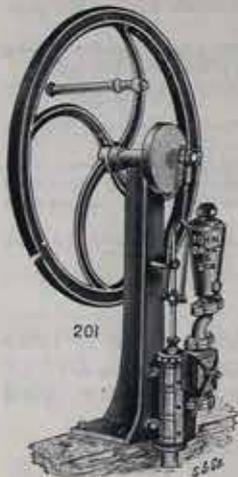
Engineers & Brass Founders,

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# NORRIS'S SPICE

Is Unequaled for Giving LIFE, HEALTH, and Flesh to

Horses, Cattle, Pigs, Geese, Ducks,  
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Tried, Proved and Certified to be the Best Medicine for Horses ever discovered. Will coax the appetite when all other things have failed. Gives a bright eye to the Horse, makes his skin like velvet, his looks and temper good. Increases the quantity of milk in Cows, and enriches the quality. Fattens Pigs in half the usual time. Makes Geese, Turkeys, Ducks and Fowls as fat as butter, and double their value. Converts the commonest of Hay and Straw into a superior provender.



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FRAHRAN, VICTORIA.

N.B.—Ask for and insist on having NORRIS'S SPICE. Spurious Imitations are sometimes offered, BEWARE OF THEM.

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Have much pleasure in calling the attention of Agriculturists to their

"EUREKA" DOUBLE-FURROW PLOUGHS,

With Short or Medium Steel Mouldboards, Patent Wheels, and Cast or Wrought Iron Shares.

Combined Two and Three Furrow Plough, the Best and Cheapest Ploughs in the Market. Patent Wheels supplied to fit any make of Double-Furrow Plough, Horse Works, for One or Two Horses. Improved Three-Knife Chaffcutter, Fitted with Sieve Gear, Patent Adjustable Steel Mouthpiece, Stop and Reversing Motion. Cut two lengths.

Bentall's Chaffcutters and Corncrushers, All Sizes, Tank Sinking Ploughs and Scoops, Harrows, Scarifiers, Corl-screens, Winnowing Machines.



The "Buckeye" Folding Binder is the most complete Binder in the market. It cuts as low as a Mower; is strong, simple and durable.

The Lightest running Reaper and Binder in the World.

Agricultural Machine Works, Elizabeth Street North, Melbourne.

Awarded Gold Medal at Grand National Field Trial, Shepparton, 1886, with highest number of points.



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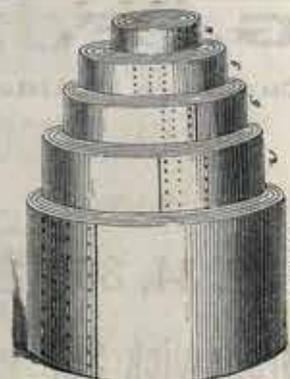
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**T. R. & Co.'s New Improved Traveling Chaffcutter, with Patent Automatic Bag-filler.**

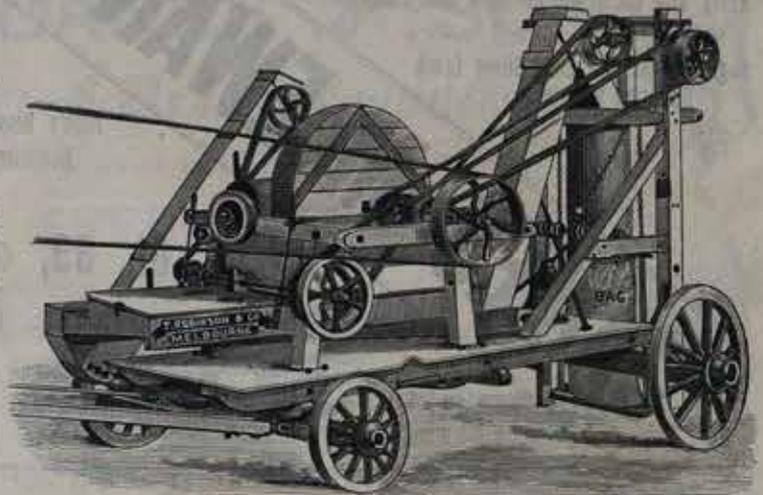
Easily Fed, very Speedy Cutter, and Simple and Effective Bag-filler.

Greatly Improved for 1888.

Every Description of Implement or Machine Made and Kept in Stock.

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# NATIONAL AGRICULTURAL SOCIETY.



Vol. III.—No. 37. [Read as a Newspaper.]

MELBOURNE, JUNE 15th. 1888

GRATIS.

"If it were done, when 'tis done,  
Then 'twere well it were done quickly."

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**CHARLES D. STRAKER,**  
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Orders for *Souquets, Fees, Defenews, Weddings, Suppers, on the Shore, Notice in Town or Country.*  
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Proprietors and Manufacturers of The  
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Head Office in Australia and New Zealand.  
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Branches and Agencies in every Town and District.  
We call Special Attention to our New Styles of Machines.  
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**Little's Sheep Dip**  
(NON-POISONOUS.)  
BY ROYAL LETTERS PATENT.



**Best, Cheapest & Safest Dip**  
IN THE MARKET.

A CHEMICAL FOOD FOR THE WOOL.  
DEATH TO ALL INSECT LIFE.  
NUMEROUS TESTIMONIALS.

PRICES—

5/6 per gallon in casks, 40 gallons each.  
6/- drums 5  
Orders under 5 gallons, 1/- per gallon extra.

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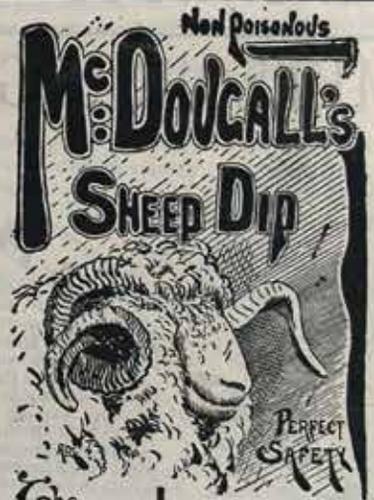
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Beverages of the Very Best Brands in the Market, and Cuisine Second to None.  
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Instructions for Self-measurement on application.  
SPECIAL SHIPMENT OF WHITE SHIRTS.



The ORIGINAL & MOST EFFECTUAL SHEEP DIP IN THE MARKET  
IT IS ALSO THE CHEAPEST.  
5/6 per gallon in 5 gall drums  
**Gow Bros.**  
8 Market Buildings Melbourne

Important to Cheese Manufacturers.

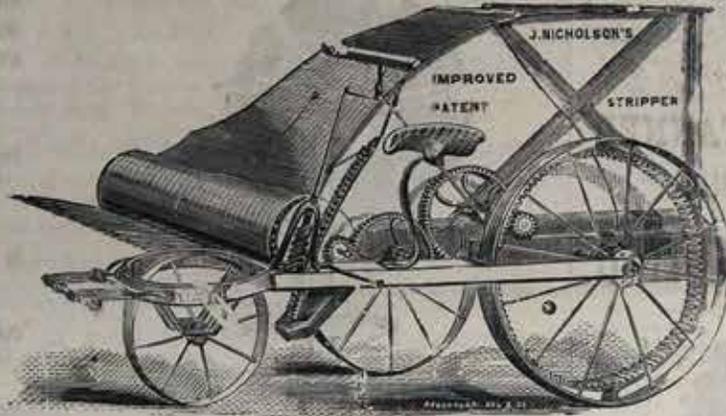
Dr. Moritz Blumenthal's celebrated  
**RENNETINE**  
16 Prize Medals. Highest Award gained wherever exhibited.  
Won the only Medal awarded at the Dairy Show, London, 1886; Gold Medal, Edam, 1886.

The latest discovered and best preparation for Cheese Making, producing a finer quality, better-keeping and mellow cheese, with considerable increase in the yield.  
In use it is clean, convenient, uniform, and being in powder, keeps perfectly.  
RENNETINE (Blumenthal's) is now being used exclusively in many of the leading Cheese Factories of Australia and New Zealand.

Sole Agent for Australian Colonies and New Zealand—  
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Quotations, Circulars, Testimonials, &c. to be had on application. Correspondence invited.

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J. N. & Co.'s Patent Gearing Strippers have been Awarded 24 First Prizes at the Agricultural Shows in 1867, proving their excellence, and the universal esteem in which they are held.



Prices—4ft. 6in. drums, **£55.**

Prices—5ft. drums, **£60.**

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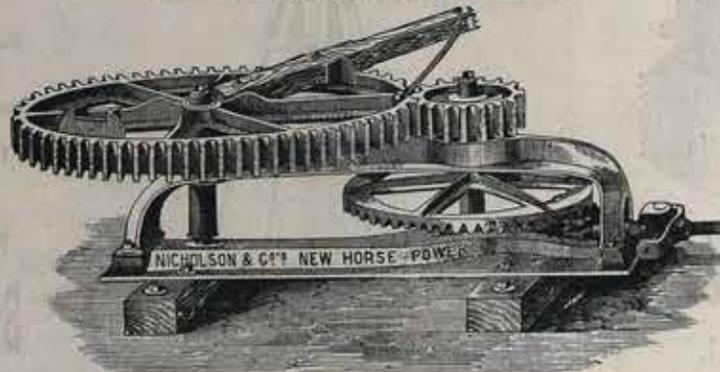
Price, including two Poles,

**£18.**

Address—

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Makers of Winnowers, the largest and best Reapers and Mowers, the strongest and best new patent Damp-weather Stripper. Improved Double & Treble Ploughs. Send for Catalogues. Post Free.



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Have much pleasure, while recommending their Design and Manufacture of the parent machines (now copied by all the Colonial Manufacturers) have also to state, as a proof of the still maintained Superiority of their Machines, that at the late

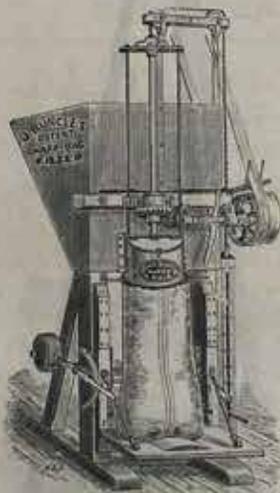
### Centennial Agricultural Show

(Held in January last in Sydney)

They were placed in competition with the Best and Latest Improved Machines from **South Australia and New Zealand**, also others in the Colonies, as well as from **English Manufacturers**, yet, on Examination and Trial,

**BUNCLE & SON'S**

Were Awarded the **First Prize** for the



### BEST TRAVELLING CHAFFCUTTER

Also **FIRST** and **SECOND** for the **BEST CHAFFCUTTERS** suitable for Wholesale and Retail Stores; also **BAG-FILLERS** of the Latest Improvements.

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**BUNCLE & SON, Parkside Iron Works,  
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# MCCALMAN, GARDE & CO.

MANUFACTURERS OF ALL KINDS OF

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Beg to inform the Farming Community that they are the SOLE MAKERS of the

### MCKAY'S PATENT COMBINED HARVESTER.

## Single, Double, and Treble Ploughs.

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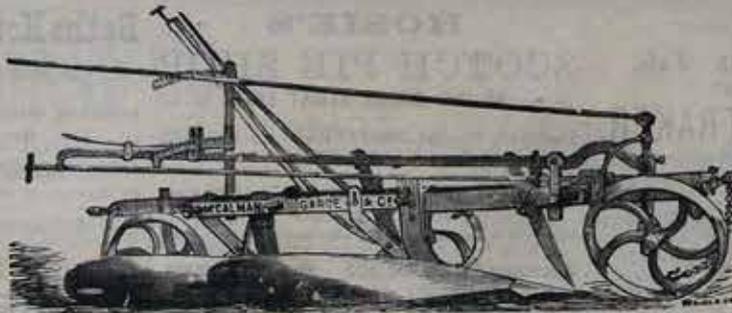
Horse Hoes,

Scarifiers,

Harrows,

Horse Rakes,

Field Rollers.



Squatters' Ploughs

For dam sinking.

CONTRACTORS' PLOUGHS

For road making.

Special Ploughs

Made to any design.

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All Kinds of Implements kept in Stock to select from at their Manufactory,

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Farmer's Barometers, with Thermometers,  
Guaranteed Instrument, 25/-

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Standard Instruments of all Kinds.

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Furniture Showrooms—

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MANUFACTURER OF THE WELL-KNOWN

## Williams' Rack & Pinion Wool Press

Rack and Gear Steel Press for the use of large stations.  
Lever & Chain Press, with Folding Top Box, for the use of smaller stations.  
Lever and Chain Farmer's & Selector's Press. Price, £22 10s.

As the season for this latter kind is now approaching, those requiring them should lose no time in sending their orders. Owing to the general satisfaction given by those supplied for last season, orders are now freely coming in, and a large demand is looked for. The following is a fair sample of a large number of Testimonials to hand for those supplied last season:—

MS. PRICE WILLIAMS—

Dear Sir.—I have much pleasure in informing you that the Farmer's Wool Press I purchased from you last October, gave me every satisfaction. We turned out very compact small bales, about 24 cwt., but could have them heavier if we wished with once down. By what the Wool Brokers tell me, they would clear themselves in two seasons to anyone having twelve bales since done with the Wool, I have had it in constant use as a Cheese Press, and I reckon it worth half its cost for that. We have weights on the levers. Any number of Cheeses can be put in at once. It would make a good Press for Hay or Straw, and for Grapes or Apples it is just the thing. I can highly recommend it as a most useful, substantial, cheap article.—Yours truly,

HALLTROPAN, JAN. 22ND, 1888.

HUGH GORDON.

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Have met with such unprecedented success giving such **Comfort and Wear**, that they are well-known throughout the colonies as a Great Saving in the Family Expenditure.

To be had at **Coutie's**

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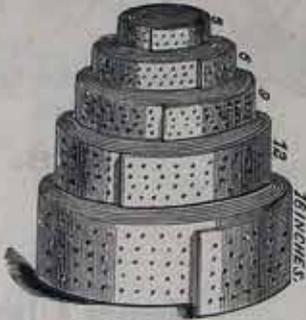
57 BOURKE STREET EAST,

Near corner of Swanston Street.

N.B.—Inspection and a Trial respectfully solicited.



**DOUBLE OAK-TANNED  
WELL-STRETCHED  
MACHINE BELTING.**



**FRANK VIAL,**  
"UNIVERSAL"  
**LEATHER BELT FACTORY,**  
MACAULAY ROAD,  
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And at 59 MAIR STREET, BALLARAT.  
TELEPHONE 659.

MANUFACTURERS OF  
**MACHINE BELTING**  
On the Most Approved  
CONTINENTAL AND AMERICAN PRINCIPLES.

The "UNIVERSAL" BELTS are acknowledged by all who have used them to be the Best in the Market.

Special Lists for BELTS for IRRIGATION PURPOSES.

A Large Stock of the "PREMIER" BELT LUBRICANT, and Well-Seasoned BELT LACES, kept in Stock.

TESTIMONIAL.—[copy.]

UNION FLOUR MILLS,  
Brunswick-street, Fitzroy,  
March 17th, 1886.

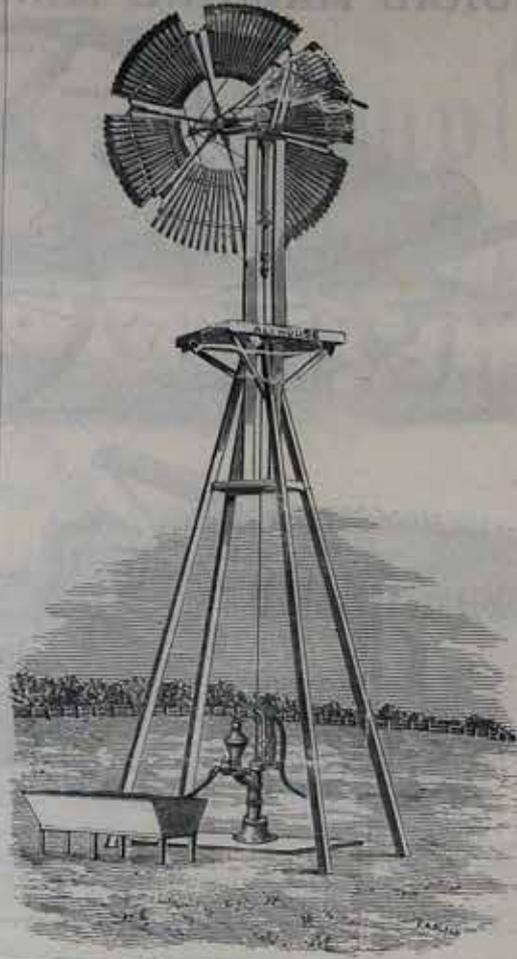
Messrs. Frank Vial & Co.,  
Macaulay Road, Hotham.

Gentlemen,—In reply to your enquiry respecting the (23") twenty-three inch double belt supplied by you to ourselves, we beg to state we have been working it for a period of seven months, and we find it to be all we could desire, as also is the other belting which we had from you.

We therefore feel great pleasure in recommending your belting to anyone requiring the same.  
We are, Gentlemen, yours truly,  
(Signed) W. S. KIMPTON & SONS.

Other Testimonials received too numerous to print, which with Price Lists, can be had on application.

# THE ALTHOUSE WINDMILL.



The STRONGEST, SIMPLEST MOST DURABLE, and BEST SELF-REGULATING WIND-MILL in the Market.

Proved by Actual Experience to be Unequaled for Water Supply Purposes.

is Absolutely the Strongest Mill in the Market.

Its Extreme Sensitiveness is one of its Greatest Merits.

Its self-regulating capacity is perfect

Guaranteed the Cheapest Mill in the Market.

FOUR SIZES—10ft., 12ft., 14ft., and 16ft. Kept in Stock.  
Larger Sizes Made as Required.

Patentees & Sole Manufacturers:

**SCOTT & YOUNG,**

Atlas Co. of Engineers,  
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## WRIGHT & EDWARDS

Engineers, Millwrights, &c.  
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MELBOURNE.

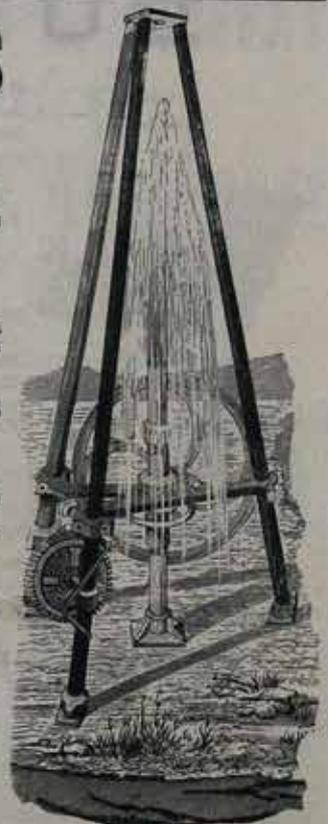
Manufacturers of Steam Engines, Boilers, Sheep Washes  
Scott's Patent Wool Scourers, Centrifugal Pumps  
of any Size or Capacity.

Ford's Patent Air Compressors

And of the now justly celebrated

**AUSTRALIAN WATER AUGER**

Which has attained the greatest depth bored by any machine yet introduced to the public, the Diamond Drill excepted.



## EARTH SCOOP

(CHESNEY'S PATENT.)

The Latest brought before the public.

This machine will take out 200 cubic yards of earth in  $\frac{1}{2}$  cubic yard loads in a day of eight hours: is simple, strong, yet light of draught, easily kept in repair, and has been pronounced by experienced judges to be the best Earth Scoop yet invented.

N.B.—This Scoop can be seen at Messrs. WRIGHT & EDWARDS' Stand

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**DALGETY & COMPANY Limited**  
 WOOL AND PRODUCE BROKERS,  
 STOCK AND STATION AGENTS,

Capital Fully Subscribed - - £4,000,000 Capital Paid up - - - £1,000,000  
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Branches—Melbourne, Geelong, Sydney, Newcastle, Dunedin, Christchurch and London.

**REGULAR AUCTION SALES OF WOOL, GRAIN, AND PRODUCE OF ALL DESCRIPTIONS.**

LIBERAL CASH ADVANCES on most favourable terms on the ensuing clip of Wool, Grain and Station Produce, for Sale in Melbourne or shipment to London.

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**THOMAS PATTERSON, Secretary.**

Kirk's Bazaar, Melbourne.

**THE NATIONAL  
 Agricultural Society of Victoria.**

**Shorthorn Derby Sweepstakes, 1891.**

- Hereford do do 1891.
- Hereford do do 1891.
- Ayrshire do do 1891.
- Jersey do do 1891.

A Sweepstakes of £1 each (10s. at time of nomination, and 10s. at date of general entry for Show) with £5 added in each case for Heifers calved between 1st July, 1888, and 1st July, 1889, to be divided and awarded as 1st, 2nd, and 3rd Prizes, for three-year olds, at the Society's Show, 1891.

Nomination of Calves of each breed respectively will be received on payment of a nomination fee of 10s. each. Calves to be nominated within one month of date of birth. Nominators to fully describe the color of each calf entered, and to state the name of the sire, dam, and sire of dam, together with the date of calving. Entry forms on application.

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**Notices.**

All communications for the Editor to be addressed to the Society's Office, Kirk's Bazaar, Bourke Street West, Melbourne.

Business communications to the Publishers, Melbourne Place, off Russell Street, Melbourne.

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**Dates of Forthcoming Shows.**

SECRETARIES of agricultural societies are requested to forward to the editor the dates on which their respective exhibitions will be held, also copies of their prize schedules as soon as they are published.

<b>JULY.</b>	
19—Deniliquin.	
<b>AUGUST.</b>	
8, 9—Corowa.	
28, to 1st September—National, Melbourne.	
<b>SEPTEMBER.</b>	
3, 4—Australian Sheep-breeders, at Goldsbrough's	19—Ararat
4, 5—Stawell	19—Nairnuk
5—Kerang	20, 21—Hamilton
5, 6—Donald	20, 21—Wangaratta
5, 6—Wagga	20, 21—Echuca
6, 7—Yarrowonga	21—Wedderburn
6, 7—Ballarat (sheep)	26—Boort
7—Murtoa	26—Elmore
11, 12—Rochester	26, 27—St. Arnaud National Show of Department of Agriculture
12, 13—Albury	27—Cashel
12, 13—Horsham	
19—Dimboola	
<b>OCTOBER.</b>	
2—Numurkah	10, 11—Warrnambool
3—Euroa	17—Murchison
3—Inglewood	18, 19—Ballarat, general
4—Bacchus Marsh	23, 24—Tatura
4, 5—Denalla	25, 26—Geelong
10—Shepparton	31—Seymour
10, 11—Sandhurst	
<b>NOVEMBER.</b>	
9—Clunes	15—Traralgon
13—Colac	15, 16—Simons
14—Heathcote	21, 22—Kyneton
14, 15—Campesdown	

## The Journal

OF THE

## National Agricultural Society

OF VICTORIA.

MELBOURNE, JUNE 15th, 1888.

## Improved Farming and High-priced Land.

In view of the so-called high prices now being paid for agricultural and grazing land near town it is apparent that a different system of farming from that which has hitherto prevailed will have to be introduced if the land is to be made pay. Those who have been connected with the soil all along shake their heads and predict failures because they cannot see their way to profit at present values. But this pessimistic view is a mistake. Systematic farming is yet almost unknown in this colony—indeed the general mode of procedure “is not farming at all.” It is known and admitted that one acre of land property utilised can be made to produce as much as ten acres treated according to the slovenly and exhaustive system which has been generally applied to the cheap lands of the colony. The very fact of a high price being paid for land will necessitate the introduction of a better system of farming and grazing. People hitherto have held too much land, consequently have not valued it, nor developed it to anything like the extent of its capabilities. A new era, however, is now dawning and the old order of things is passing away. With the rapid expansion of the metropolis of Australia, farming and grazing land within a reasonable distance from town must become very valuable. We have heard it stated that land is dearer about Melbourne than in any other part of the world, when as a matter of fact a fair average rent for lands in Egypt is £4 per acre, and near cities as much as £12 to £15 per acre is paid for vegetable growing. For the milk supply alone much of the land which is now called high priced could if properly farmed be profitably worked at still higher rates, which higher rates will doubtless yet prevail, for though a temporary check may come if the pace be too hot the general tendency must ever be onward and forward, for Australia is only just now being discovered.

## The Proper Care of Poultry.

*Colman's Rural World*, one of our American exchanges contains a long article illustrating the difference in the results of keeping poultry systematically and properly, and keeping them negligently. On account of the style in which it is written the article might be considered by some to be rather irreverent but it nevertheless contains an excellent lesson practically put. “The lord of the manor” being fond of eggs wanted some for breakfast but was disappointed in not finding any when he went in search of them. His annoyance is expressed thus—“And he waxed exceeding

wroth, and said unto his spouse many bitter words concerning those hens, yea, he uttered some words not found in the dictionary. And he desired his first-born to bring him his little hatchet, so that he might separate the heads of those hens from their bodies.” However his wife interposes and strikes a bargain that for six months he will supply the necessary food while she will undertake the management and receive the profits which she maintains she can make. The poultry house is renovated, regular and systematic feeding with grain (buckwheat being highly recommended) and vegetables, with crushed bones is carried out. Eggs in numbers are soon obtained and young stock reared successfully. A strict account of receipts and expenditure is kept, showing a splendid profit, to the triumph of the wife and the discomfiture of the husband. Our colonial farmers may here find food for reflection for we fear that in many cases in which poultry are kept they are a source of little profit and much annoyance, whereas with good management they might be made an important auxiliary to the farm.

## Notes.

The attention of breeders is directed to the Shorthorn, Hereford, Ayrshire and Jersey Derbies for 1891, particulars of which appear on page 5.

Intending exhibitors at the National Society's Show, who require space on the grounds for stands are reminded that they must apply for same before Monday, the 2nd of July.

At the discussion on stringhalt at the West Bonrke Agricultural Society's meeting the other day it was apparent that the cause of the disease was becoming generally admitted to be that which we have held all along in spite of learned opinions to the contrary, viz., deficiency in the necessary elements in the animals' food. It was admitted that there was some connection between the cause of this disease, and the nasal disease. Cripples in cattle might also have been added, for we believe the three diseases will yet be traced to a common cause.

At the last Show of the Bath and West of England Society at Dorchester, trials of the various dairy systems took place. Seven different systems of cream-extracting and butter-making were in this competition, viz., the Jersey creamer, the Devonshire system of scalded cream, the Cooley system, the hand-power separator, the steam-power separator, the shallow pan setting, and the Swartz method. Sixteen gallons of milk were allowed to each competitor; and the Devonshire plan was found to give the greatest weight of butter—5lbs. 8½oz.,—while the quality of the butter was very good. The hand cream separator was next as to yield of butter, 5lbs. 5½oz., and the quality was good; but the Jersey creamers, though yielding only 4lbs. 6½oz. of butter, gave the highest quality of produce. This, however (says the *North British Agriculturist*), was only one trial, although no doubt a very fair one, and it would be a mistake to dogmatise respecting its results.

The work of destroying tussocks being a costly operation says the *Town and Country Journal*, owners are mostly content to burn them; and many have been the inventions designed for that purpose. We learn that at Killingworth Station, near Yea, an attempt has been made to destroy tussocks mechanically. Mr. Chrystal has designed, as an eradicator, a machine somewhat resembling a horse rake. It works on two wheels, and is drawn by twelve bullocks; so that the principal is one of main force. Behind the axle are six curved prongs furnished at points with short steel blades, which almost meet, and are attached to the prongs by movable bolts; so that a break can be easily remedied. When set for working the blades skim along the ground, and lift all tussocks without difficulty. The tussocks so lifted are thrown into the curves of the forks; and here an improvement in the machine is necessary. After going a short distance the teeth are filled with tussocks; and the machine has to be stopped in order to clear away the incumbrance. This is done through lifting the prongs or forks with the aid of an attached lever or handle, which requires a good lifting power. When a self-acting lever is substituted the machine will be completely effective. Even now from ten to twelve acres can be cleared in a day—an amount of work which would cost from £20 to £30 if done by hand.

The *Millers' Review* says that much interest and activity are being manifested in the North-western States of America, by the farmers of that virgin region forming stock companies among themselves, for the purpose of building grain warehouses, and elevators. By this means they can store their grain in these buildings, and borrow money on it if need be instead of selling at low prices, as has been the case heretofore. The majority of the farmers are poor, and generally have to sell their crops as soon as harvested, the result being that two or three months after harvest, the large receiving points, and railroads leading to them have often been blockaded with grain, which fact was only too gladly taken advantage of by the “bears” in forcing down values, which of course redounded to the injury of the farmers. Under the new plan the trouble will be avoided to a great extent, and cannot but be beneficial to the grangers.

## Meetings.

## Council.

An adjourned meeting of the Council of the National Agricultural Society of Victoria was held on Thursday, May 17th, 1888, pursuant to notice.

Present—Dr. Plummer, President, (in the chair) with Messrs. D. Mitchell, W. Wragge, W. Glover, J. Hurst, W. J. Clark, F. Henty, D. R. McGregor, W. Learmonth, G. Young, J. Blyth, J. Currie, J. Bunclie, J. Garton, D. White, and J. Hearn. The Hon. J. H. Angus (S.A.) was also present, and was accommodated with a chair beside the president.

## CORRESPONDENCE.

From Borough of Essendon, acknowledging receipt of cheque for £56 5s., in payment of rates, and asking if the Council wished any change in names on the ratepayers' rolls, shortly to be made up.

Mr. Mitchell moved that Mr. McGregor's name be substituted for that of Mr. Peppin, who was at present in England. Seconded by Mr. Learmonth, and carried.

From Grand United Order of Odd-fellows, asking the use of the Society's grounds for a fete, consisting of sports, &c., on the 1st January, 1889.

Mr. McGregor moved that the grounds be granted at a charge of 20 guineas, with 20 guineas deposit as guarantee. Seconded by Mr. Wragge, and carried.

From Hon. Secretary Master Carriage Builders' Association, stating that, in reply to a letter sent to a number of members, they wished to say that they were in favour of prizes being offered for carriages and buggies, and making suggestions in connection with the show of buggies &c.

Mr. Blyth moved that the letter be referred to the Executive Committee. Seconded by Mr. Hurst, and carried.

From Goulburn Valley Vine, Fruit, and Special Products Association, asking the Society's co-operation in inducing the Government to grant State aid to new rural industries, and requesting that delegates be appointed to a conference.

Mr. Blyth moved that the President, Mr. Hurst, and the mover be appointed to represent the Society, and that information be obtained as to what had been done in the matter in California. Seconded by Mr. McGregor, and carried.

From R. Harper, Secretary Kyneton Agricultural Society, asking the Society to appoint delegates to a deputation to the Railway Commissioners, to urge them to erect a suitable building for the storage of dairy produce at Spencer-street.

Mr. McGregor moved that the President, Mr. Hurst, and the Hon. J. Buchanan be appointed. Seconded by Mr. Learmonth, and carried.

From Secretary for Agriculture, stating that a deputation of tanners and curriers has represented to the Chief Secretary that a considerable loss through depreciation in the value of hides was caused by the present system of branding and flaying cattle, and asking the Society's opinion as to how an improved method should be effected.

Mr. Mitchell moved that the Government be informed that the Society considers it necessary to have a Branding Act passed into law before the present system of branding cattle could be controlled. Seconded by Mr. Clarke and carried.

From G. T. A. Lavater, Secretary Centennial International Exhibition, stating that the Internal Arrangements Committee had decided that the Society should be acquainted with the desire of the Commissioners to co-operate in maintaining a complete working dairy during the currency of the Exhibition, being of opinion that any arrangement of that kind would be aiding the Society in carrying out its objects.

The President stated that he had that morning attended a meeting of the Animal Products Committee. The Committee had expressed a desire to in no way interfere with the Society's arrangements, but thought that they might forego their idea of having a working dairy for this year, and co-operate with the Commissioners in having one at the Exhibition.

Mr. Currie moved that the Society co-operate with the Exhibition Commissioners, and offer any assistance in their power. Seconded by Mr. Bunce, and carried.

From J. M. Peck, apologising for his absence from the meeting, and stating that he was opposed to any expenditure on a building on the show grounds for dairy purposes, in view of their being about to be a plant worked at the Exhibition and a Government one in the country.

From T. Brunton, stating that he was going to Sydney and that he was in favour of a building being put up for dairy purposes, as he thought it might be utilised for other purposes afterwards and a revenue derived from it by letting stalls to exhibitors.

The President said that, seeing the offer made by the Commissioners, he thought the idea of a working dairy this year should be abandoned.

REPORT.

The Executive Committee reported that they held a meeting to consider the action to be taken with reference to dealing with sites for machinery, implements, and kindred exhibits on the show grounds, when they resolved to recommend that a circular be sent to all exhibitors at last show asking them if they wished space to apply for it before the 2nd of July, and that an advertisement be inserted in the papers notifying that space must be applied for before that date. The Committee would then—when they had the applications before them—be in a position to deal with the question of re-allotment, &c., as requested by the Council. Mr. McGregor moved the adoption of the report. Seconded by Mr. Bunce, and carried.

TENDERS.

Tenders were then opened, and that of Mr. Price Williams of £3135 10s., for a poultry house, dog house, additions to carriage shed, painting buildings and other specified works, was accepted on the motion of Mr. McGregor's. Seconded by Mr. White.

Mr. Garton moved that Mr. Mitchell the chairman of the Works Committee, be authorised to employ a Clerk of Works. Seconded by Mr. White, and carried.

The meeting then closed.

The ordinary monthly meeting of the Council of the National Agricultural Society of Victoria was held on Tuesday, 12th June, 1888.

Present—Dr. Plummer (President), in the chair, with Messrs. James Gibb, S. G. Staughton, D. R. McGregor, Job Smith, J. Hearn, R. Clark, J. Hurst, W. Wragge, R. Grice, C. Lynott, J. Blyth, D. White, W. Glover, Walter J. Clark, T. Brunton, W. Thomson, J. M. Peck, J. Bunce, J. Garton, W. J. Lobb, D. Mitchell, and the Hon. C. Young, M.L.A.

The minutes of the previous meeting were read and confirmed.

FINANCE.

The Finance Committee's report, submitting the monthly statement of accounts, recommending payments amounting to £85 9s. 8d., and authorising the Secretary to call for tenders for catalogues, was read.

Mr. McGregor moved the adoption of the report. Seconded by Mr. Job Smith, and carried.

The report of the Travelling Dairy Committee was submitted, and was taken as read.

CORRESPONDENCE.

From David Munro apologising for absence from meeting. Received.

From J. H. Angas (S.A.), enclosing cheque for £10 10s., donation to prize fund, and from McCracken's City Brewery, offering a similar amount as a special prize. Received, and to be acknowledged with thanks.

From F. Peppin, London, acknowledging receipt of letter from Council introducing him to kindred Associations, and stating that he would avail himself of its benefits, and endeavour to note anything he thought useful to the Society and the Colony. Received with applause.

From Secretary Centennial International Exhibition, acknowledging receipt of letter intimating the Council's desire to co-operate with the Commissioners in maintaining a working dairy during the Exhibition. Received.

From J. J. Shillinglaw, asking the Society to appoint a representative to supply periodically to the Government representative the information required for publication in the *Board of Trade Journal*.

Dr. Plummer proposed that Mr. Blyth be appointed as the Society's representative. Seconded by Mr. Lobb, and carried.

From Secretary Saddlers Society, asking if they might have the privilege of appointing one judge from their ranks.

The Hon. C. Young moved that the letter be received, and the writer informed that the Society was in the habit of appointing its own judges. Seconded by Mr. Staughton, and carried.

The applications from exhibitors of machinery for space were submitted, and were referred to the Executive Committee on the motion of Mr. Peck, seconded by Mr. Lynott.

A report from A. N. Pearson, Agricultural Chemist, was submitted, when it was referred to the Editor for publication in the *Journal*.

TENDERS.

Tenders for the privilege of printing and publishing Catalogues for the Show were then opened, and that of Messrs. Sands and McDougall, for £201, was accepted, on the motion of Mr. W. J. Lobb, seconded by Mr. McGregor.

Mr. Thomson then submitted the motion of which he had given notice, but afterwards withdrew it, and moved instead—"That the President direct the Secretary to call a special meeting of the Society to rescind the rule fixing the limit at which ballot papers should be posted to members at 20 miles from Melbourne, and to make other regulations." Seconded by Mr. Lobb, and carried.

DEPUTATION.

A deputation from the Borough of Flemington and Kensington then waited on the Council by appointment, and explained their reasons for asking the Society to contribute towards the cost of widening the railway bridge over the Racecourse-road, Newmarket.

The opinion was generally expressed that it was beyond the power of the Council to vote money for such an object, but the President promised that the matter would be fully considered, and the Borough informed of the result.

From Town Clerk, Borough of Essendon, stating that action would be taken to improve the road to the Society's ground. Received.

Mr. Clark moved that the election of judges take place on the old lines. Seconded by Mr. Lobb, and carried.

Mr. Gibb brought forward the question of judging by points, and urged that the system should be initiated this year in the Draught Horse section, but the matter was not pressed.

Mr. Peck moved that three judges be appointed, to act together, and that the Secretary request the judges, where there is a difference of opinion, to record it in the judges' book, and that it be given to the public. Seconded by Mr. Garton, and carried.

Judges were then appointed for the various sections, as far as Devon Cattle sections.

#### NOTICES OF MOTION.

Mr. Thomson gave notice for next meeting, as follows:—"That with a view to improving the stamp of horses, the Society ask the Government to place a tax of £10 each on stallions upwards of two years of age, and appropriate the net proceeds for distribution as prizes for the best horses exhibited at Shows."

The Hon. C. Young moved that the Council adjourn to Friday for the appointment of judges in the remaining sections.

The meeting then closed.

## The Travelling Dairy Committee

A MEETING of the members of the Travelling Dairy Committee was held on Friday, 15th May, 1888, pursuant to notice.

Present—Dr. Plummer (in the chair), with Messrs. D. Whitley, Job Smith, J. Hurst, and D. Wilson.

The Chairman stated that he, with other members of the Committee, had resolved to call a meeting to prepare and adopt a report of their proceedings in order to place their action in its true light before the public.

A report which had been drafted by the Secretary was then read over. It was as follows:—

#### REPORT.

"For some years letters have appeared in the papers charging the National Agricultural Society of Victoria with neglect in not giving more attention to the education of the farmers of the Colony in the latest and most approved modes of dairy practice with a view to raising the status of the industry; and, on the 5th April, while the last Farmers' Conference was sitting in Melbourne, Dr. Plummer, the President of the Society, was interviewed by Mr. Whitley and other gentlemen who suggested that that would be a most opportune time to hold a meeting to discuss the best mode of initiating a travelling dairy scheme and other means of educating the farmer, with a view to promoting an extensive export trade in butter. Accordingly a meeting of members of the Council of the Society and other gentlemen desirous of improving the status of the dairy industry was held at the Society's office on the 6th April, when, after a lengthy discussion, it was resolved that the Minister of Agriculture be asked for a grant of £5000, to be used for the development of

the dairy industry of the Colony by the establishment of a travelling dairy and other practical means considered necessary for furthering the dairy interest. The Secretary was instructed to write to the Minister, asking him when he would receive the deputation; and also to obtain the support of a large number of members of Parliament who had been good enough to promise assistance. A Committee, consisting of Messrs. D. Whitley, Melbourne; D. Wilson, Mount Egerton; and R. W. Wightman, Alexandra, was appointed to act with a Committee of the National Society to carry out the project in the event of the deputation to the Minister being successful, the members of the Committee representing the National Society were:—Dr. Plummer (President), Messrs. T. Brunton, John Hurst, and Job Smith. On the 11th April, the Minister received the deputation, which was a numerous and influential one, and was accompanied by a large number of members of Parliament. After the object of the deputation had been clearly stated and influentially supported, the Minister expressed his sympathy with the movement, and promised that if the Committee would draft a scheme of which he could approve he would grant the sum of £5000 asked for. On the 17th April, the Committee met, and, after a general discussion resolved that one plant capable of working the milk of 80 cows and another capable of working the milk of 20 cows be obtained, to be worked first at the Melbourne Show by experts and then to be travelled round to the country shows and worked at them; that a building 80 ft. x 60 be put up on the grounds of the National Society for the working dairy, and that the Committee provide for the payment of half cost of same; that the country be divided into 3 districts and that one plant be obtained to be travelled and worked in each district by experts—in addition to those working at shows. It was also resolved that a grand Intercolonial Show of dairy produce should be held at some place in Melbourne, and that if a suitable gentleman could be secured in London to write a report as an expert on the whole subject of marketing, packing, &c., a report should be obtained from him, and that a sum should be set aside for providing means of cooling dairies in this warm climate by refrigerating or otherwise. A rough statement of proposed expenditure was set down as follows:—

Five travelling dairies at £200 each	£1,000
Expenses in connection with working same (two seasons)...	2,000
Building for establishing dairy (half cost) ...	400
National Intercolonial Show-prizes ...	500
Report from expert ...	200
Refrigerating and incidental	900
<b>Total</b>	<b>£5,000</b>

The same day the Committee waited on the Minister and submitted their scheme, and suggested that the Hon. J. Buchanan, M.L.C., and Mr. Martin, the Secretary for Agriculture, or any other gentleman the Minister would suggest, be added to their number to represent the Government. After the scheme had been thoroughly discussed and the details fully explained, the Minister informed the Committee that they might go on with it and the Government would let them have money

as required. The Committee thanked the Minister and withdrew. On the 20th, a letter, dated 19th April, was received from the Minister, thanking the Committee for their co-operation, and stating that he had carefully considered the proposals submitted on the 17th inst., and that it would be undesirable to increase their number beyond, perhaps, the addition of Mr. Yeo, who would represent the northern localities, and that it would be inadvisable to appoint Mr. Martin for the reason that his time could not be spared from his departmental duties and that his position would be anomalous, as he would have to receive from the Committee all proposals of expenditure and attend to the payment of accounts. The letter further stated that the Minister wished to be relieved from the proposal to pay half the cost of a building on the National Society's Show Grounds, as it would form a precedent on which other important societies would base claims for similar concessions. The Minister concluded by saying he would be glad to receive from the Committee particulars as to the pattern plant they would recommend, and he would have it sent for at once. In consequence of this letter, of the 19th April, Dr. Plummer, the Chairman of the Committee, had an interview with Mr. Dow on the 25th, to inform him that, after conferring with several members of the Council of the National Agricultural Society, he thought he could release him from any responsibility as to the payment of half the cost of a building on their grounds for the working dairy. After this was determined, Dr. Plummer consulted generally with the Minister for some time on the action to be taken and the plants to be ordered, and received advice and suggestions from him with a view to placing them before the meeting of Committee, which he informed him would be held next day. At this meeting so held after the letter of the 19th had been read, Dr. Plummer informed the Committee of his interview with Mr. Dow, assured them of the sympathy and co-operation of the Minister, and stated that they might go on with their work with every confidence. It was then resolved that the clause of the letter relating to the payment of half cost of a building on the National Society's grounds be referred to the Council of the Society. That the Agent-General in London be requested to supply the most modern and economical working dairy plant for cheese and butter complete (excepting driving power) capable of working the milk of 80 cows, to arrive before 1st August (It was intended to request the Minister to cable to the Agent-General in order to have the plant by date mentioned). That Mr. Bartram, the agent, be requested to order 3 A.L. (about 90 gallons per hour) Laval Separators, and four Baby (about 12 gallons per hour) Laval Separators. This was resolved, after full discussion, in which it was concluded that this was the best Separator to order, and as the agents had none on hand it was considered that the order should be given at once. That an advertisement be put in the papers inviting makers of dairy plants to communicate with the Secretary and to submit plans, specifications, particulars and prices of working dairy plants before Wednesday, May, 9th, at noon. That the Committee advertise for a practical dairy expert to travel with working dairy, and give instructions to farmers—liberal salary to first-class man. At noon, the

day after the meeting (the earliest possible opportunity), the Chairman and the Secretary called at the Minister's office to submit the minutes of the meeting for his approval. They found he was not there, and were informed that he would not be there on Saturday. As time was of the utmost consequence Dr. Plummer then instructed the Secretary to advertise in Saturday's papers for a plant and for an expert—pursuant to resolution of Committee. On the 30th a letter was received from the Minister, dated 28th April, in which he conveyed his thanks to the gentlemen of the Committee for the trouble they had taken in outlining their ideas of a scheme by which the Government might aid towards an improvement in the butter and cheese making industry of the Colony, and that he was pleased to find the ideas of the Committee coincided with his as to the desirability of making the travelling dairy system a leading feature in the scheme, and that he had decided to at once procure a plant for this purpose, of the best type, together with the skilled labour necessary, and that he would be quite willing to exhibit the plant, in full, working order under the supervision of the Government dairy expert, at the National Society's Show. He then said that the Department of Agriculture, with the special facilities it possesses, had arranged its plan of operation and would now attend to all details of management. The Committee would, therefore, not be required to take further trouble in that direction, but the Minister would always be glad to receive any suggestion. In consequence of this letter Dr. Plummer, the chairman, called the Committee together on the 4th May. The letter was read, and, after a discussion, a resolution was passed to the effect that it be received, and that the Committee express surprise at its contents, as they failed to understand it after the promises already made. It was resolved that an account for expenses incurred be forwarded to the Minister, and the Committee adjourned *sine die*.

No further action would have been taken, but in consequence of the statements in the papers being so totally at variance with facts and misleading to the public, Dr. Plummer and other members of the Committee resolved to again call the Committee together to draw up a correct report of the proceedings in order to place the truth before the public. They also wish to refer particularly to an account of an interview with the Minister by a representative of the *Daily Telegraph*, published in that paper which is totally misleading throughout, in which the Minister is asked the question—"But did you not in the first instance intend to place the management of the dairy in the hands of the Committee," to which Mr. Dow replied: "No, certainly not." As a matter of fact when the Committee waited on Mr. Dow with their scheme on the 17th April, eight days after the large deputation had waited on him and obtained the promise of a grant, after it had been fully explained the Minister told the Committee to go on with their scheme and he would supply the money as required, his words being—"If you go on we will let you have the money as you require it." Mr. Dow is also reported to have said "from what he had seen of the Committee he thought the scheme for making the dairy was not practicable for instance, (said he) "one of their ideas was to send a dairy through the country,

show the farmers how it was worked and try to persuade them to buy similar ones." As a matter of fact Mr. Dow was not only aware all along that the Committee's idea was to send travelling dairies through the country, but he personally advised Dr. Plummer, at his interview with him on the 25th, as to the style of plant that should be procured for the purpose, and suggested "that makers of plants would be only too willing to follow up by offering plants as required by the farmers at such terms as would enable them to get to work under the new system at once." In an explanation in the *Leader*, purporting to be correct, it is stated that the Committee "passed resolutions appointing an agent to visit England" &c. which is not true. The statement that the Committee's sole object was to get £5000 unreservedly in their hands was deliberately untrue, as evidenced by the fact that they suggested on their first interview with the Minister that the Secretary for Agriculture be added to their number for the express purpose of supervising and dealing with the payment of accounts. It is impossible, however, to deal in detail with the whole of the incorrect statements published, but the Committee trust that they have said enough to prove the discourteous manner in which they have been treated by the Minister of Agriculture, and only now wish to add that had he at any one of the interviews with the Committee intimated to them that he had a scheme of his own, and that the Department of Agriculture was prepared to carry it out, they would have been only too pleased to be relieved of the onerous duties they had undertaken."

Mr. Whitley moved that the report be adopted. Seconded by Mr. Hurst, and carried unanimously.

A vote of thanks was passed to the chairman and the meeting closed.

## An Open Letter to the Secretary of a Fair Association.

PREPARATIONS for the various Agricultural Shows being now in order, the following letter to the secretary of a Fair Association (American Show)—published in the *Dakota Bell*—is at once entertaining and suggestive:—

"I am a farmer, and I hear you are going to have another agricultural fair next fall, and I thought I would write and tell you that I am getting ready for it

You probably don't remember me, but I attended your fair last year. I brought the dog-gonest biggest punkin on the grounds, though I reckon mebbe you didn't see it, most of your time being took up keeping a record of the different racing-horses entered. I also had a fine blooded cow, while my wife brought a big loaf of bread so light it wouldn't hardly lay still, and two bottles of ho'made wine; though you might not have saw these either, as I noticed that besides the hoas business you had enough work for one man issuing permits to those sturdy farmers which had three-card monte outfits and such other agricultural products.

And after all, it cost me ten dollars to see the other side of the cards one of these gentlemen exhibited.

I reckon I may say I had hard luck at your fair last fall. When I first drove in the folks were making such a bollerling 'bout a hossrace that had just come off, and my team got scart and run away and sprained my wife's ankle.

While I was looking round for a good place to put the big punkin, a man came along and said he was judge on wines and drank up b th bottles of ours.

I afterward saw him standing in front of a tent and yelling, 'Ere's yer chance! Ere's yer chance! Ere's yer chance! See the livin' half-woman an' the man what was tittattooed all over on the Island of Chattaanooga! Only one dime.'

I then went to tie up the cow, and when I came back a tramp had his face in the loaf of bread. I didn't care so much about that, as that I missed him when I kicked at him.

I staid three days, and each night some gyp sies, which were camping right on the grounds, milked my cow and pounded her with a lumber wagon whiffle, because she switched her tail.

I watched the races most of the time, there not being much else to look at. One day I had to pay a man fifteen dollars because the hoss that came in way ahead of the first two heats was the very last one on the other three. I think that hoss must have been too sick. I know I was.

The next day a pickpocket got my silver watch.

About every hour Bill (that's my boy) would come to me and get another half-dollar. He said he had a system that he was certain must finally beat the wheel-of-fortune, and the nut-shells, roulet, and the man down back of the barn who was throwing the loaded dice. I couldn't say nothing, because I took Bill with me to show him how I was going to clean out the three-card monte man that time it cost me ten dollars.

My wife bought a bottle of liquid glue, which proved to be mostly water, and a receipt for soap which she afterwards discovered was printed in Norwegian. She would have bought some other things, probably, but she lost her pocketbook.

In the meantime I might mention that somebody stole the whip, and spring seat, and end board, and neck yoke off'n my wagon, and cut all the ivory rings off'n my harness.

When the fair was through I demanded my diplomas on my cow and punkin, as they were the only ones there. I got after some talk two little pieces of paper with some printing on them, and when I turned round to go out a big fat man stepped on one of my corns. He was the owner of one of the race-horses, and was looking down rolling up the 6,500 dollars the treasurer had just paid him as his share of the purses to put it in his pocket, so didn't notice me.

That, Mr. Secretary, is a brief and condensed history of my experience at your fair last fall. I shall come again this year, but as Bill says, I shall come healed.

I shall make no exhibits, but I have got a two wheeled sulky, and every day I hitch old Doll to it and run her 'round the five-acre field. I shall enter her in the senior-class—as I believe it is called—I judge she is old enough.

Bill has got himself a thimble-rig outfit, and has whittled some dice out of the bone of a mule's leg, and has inserted lead on the opposite side of the big numbers.

My wife is preparing liquid glue by the wholesale, the same kind she bought, and will peddle it on the ground.

For myself, besides entering old Doll and betting all my money agin her, I shall work the three-card monte business for all it is worth. I can already throw the cards so as to nearly always mix up my wife, and occasionally fool Bill.

I am also painting the end of the ox-yoke to look like a face, and shall stick a clay pipe in its mouth and let people throw rolling-pins at it, three whacks for a quarter. Come over and try it. If you break a pipe you get six nickel cigars.

We shall all of us bum our feed on the grounds and sleep under the grand stand. If I can get a two-headed calf to exhibit in a tent (not to enter for a diploma) I shall do so. In fact, to sum the whole matter up, we shall come prepared for an agricultural fair, as we understand it. Yours truly,

ZACKARIAN WAYBACK.

P.S.—I shall wear a poker-dot shirt and smoke a cigar pinte high. Bill will stick out his chin and crook his elbow considerable."—*Pacific Rural Press*.

## The Veterinarian.

### Blood-Letting.

**BLOOD-LETTING** promptly and directly affects tissue changes. It rapidly removes from the body nutrient materials, and especially blood globules. A full bleeding diminishes the activity of all vital functions, excepting the production of blood globules. The heart-beat is quickened, but its force is lessened; arterial tension is lowered; absorption is increased; sensibility to pain is diminished, owing to reduced activity of the peripheral centres. When blood is lost rapidly or freely, nausea, fainting, and epileptiform convulsions ensue, and artificial anaemia is produced. In healthy subjects, however, these effects quickly disappear, and the blood is rapidly restored to its normal state.

Until within the last thirty years, blood-letting was freely used in veterinary practice, and very generally abused. It has hence fallen into disrepute, and is not now employed even in cases of acute congestion and inflammation, which it is especially fitted to control. It may be used either generally or locally. In robust subjects, in acute congestion or hæmorrhage from the lungs, especially when accompanied by venous stasis, blood-letting affords prompt, and frequently permanent relief. In the first onset of puerperal apoplexy in cattle, it checks the restlessness, delirium, or stupor, and affords time for the operation of purgatives and other drugs. Alike in horses and cattle, it is serviceable where fever is acute, with a firm, incompressible, or full, slow, indistinct pulse, as in inflammation of the pleura, peritoneum, or brain, as well as in acute rheumatism. In lymphangitis, and in many cases of laminitis in horses, it is also useful. Dogs are so readily brought under the influence of emetics and nauseants that bleeding is less needed in them than in horse and ruminants.

In adult horses or cattle, blood may generally be taken to the extent of three or four quarts. The amount drawn must be accurately measured by being received into a graduated vessel. The circumstances of the case materially affect the amount of blood to be drawn. It should flow freely until its abstraction has made a decided impression on the volume and strength of the pulse, or until the earliest symptoms of nausea are apparent. Blood should be drawn rapidly from a tolerably large opening, as its important influence in relieving arterial tension is thus produced more rapidly and decidedly, and with less expenditure of the vital fluids. The jugular vein on either side is generally selected as the vessel on which to operate most convenient and safe. Bleeding from considerable arteries is not more effectual than from veins, and the flow is more troublesome to arrest. Excepting in expert professional hands, fleams are safer than the lancet, which occasionally in restive horses makes an ugly gash. When practicable, the horse should be bled with his head erect, for in this position the nauseating effects, which testify that no more blood can be spared, are most noticeable. When blood sufficient has been taken, the edges of the wound are brought accurately together, and secured by a pin, round which is wound some thread, tow, or hair.

Blood-letting, although valuable in the earlier stages of acute inflammation in vigorous animals, is injurious in young or weakly subjects, in the later stages of disease, in epizootic and eruptive fevers, and indeed, wherever the pulse is small, quick, or weak. A pulse of this character indicates debility, and bleeding in such cases increases exudation and effusion instead of preventing them, while it not necessarily weakens the patient and retards recovery. While blood is being drawn, the finger in all animals should be placed upon a prominent artery, and if the pulse is observed to become quicker or weaker, or begins to flutter, it is evident that the treatment is unsuitable. Such mischance should, however, never happen, for when there is any question as to the propriety of blood-letting, the animal should have the benefit of the doubt, and such a reducing remedy should be avoided.

Local blood-letting is not much practised among the lower animals. Lancing the tumid gums of teething horses is seldom necessary, especially if soft food be supplied, as it should be in such cases. In laminitis the crust of the toe is sometimes pared down, the minute vessels of the lamina laid open, and flow of blood encouraged by immersing the foot in hot water or in a warm poultice. Cupping and leeches are not used in veterinary practice.

## Superphosphate v. Pulverised Phosphate (Apatite.)

A LITTLE more than a century ago—about the year 1740—it was accidentally discovered at Sheffield, England, that bone shavings and scrapings were eminent fertilizers, and subsequently crushed bones were used as manure. Crushing bones was unsatisfactory and expensive; but about 50 years ago Liebig found that, by the application of sulphuric acid, the bones were reduced into a pulp or porridge. The discovery of Liebig was rapidly followed by the substitution in the place of bones of the mineral phosphates, such as coprolites, phosphorites, and apatite.

The reduction of apatite to superphosphate required about a ton of sulphuric acid of 50 degs. strength for every ton of phosphate rock containing 60 per cent. of phosphate lime; and this conversion is in a measure unnecessary. Phosphates treated with sulphuric acid are rendered soluble before, but not after, they are applied to the soil, as when applied to the soil they revert or go back to their original condition; but these again are soluble in acids of the soil.

Bones could not be ground up fine, but apatite and the other mineral phosphates can; and these pulverised phosphates, if applied in the raw state to the soil, are acted on by the acids of the soil, as is the superphosphate. But these acids act much quicker on the superphosphate than on the pulverised apatite, in the ratio of about 3 to 1. If, however, you put three times the amount of the latter in the soil, you get similar returns, while the residue remains to be utilised by the crops of subsequent years. Summarised it is as follows:—Use equal quantities of the superphosphate and the apatite, and the first gives the quickest results, and the latter the more permanent result. Use, however, three times the quantity of the apatite, and you have both quick and permanent results.

Furthermore, you not only permanently benefit your land, but you save as a cost of the superphosphate is about four times that of raw phosphate.

The pulverising of the apatite has rapidly grown into a trade in Buckingham and the adjoining township of Ontario; while experiments with the raw material have been made by the Canadian and United States agriculturists with the above results; it has also been learned that the finer the apatite is ground the quicker it acts on the plants; also, that if before using it is mixed with a fermenting manure or peat the phosphoric acid is rendered at once available.

This certainly is a better as well as a cheaper way for the farmer to procure soluble phosphoric acid, than to get it in phosphate of lime treated with sulphuric acid at four times its first cost and the expense for transportation doubled.

The above is an epitome of the information to be learned in successive numbers of the *Canadian Mining Review*, especially that for January last.

## On the Cultivation of the Cucumber.

THE cucumber requires for its successful cultivation a very rich soil, a bottom heat of from 75 deg. to 80 deg., and a top heat averaging 75 deg., the range being between 70 deg. and 80 deg. Moisture ought not at any time to be deficient, and it is of the utmost importance that the foliage should be exposed to as much light as possible, a thin shading, however, from the direct rays of the sun, when these are too powerful, is advantageous, and it may be added that air should be given when it can be admitted without danger of lowering the temperature below, or, at least, much below the limit above mentioned.

As a general statement of the conditions most favourable to the growth of the cucumber, the above, we presume, will be found correct. We are aware that good cucumbers have been produced although these conditions have not been fulfilled; but this is no reason why still better might not be obtained had they been adopted. They cannot, indeed, be always commanded, and frequently have to be modified in practice according to circumstances; but amidst the diversity of opinion they constitute desiderata which we cannot err in endeavouring to maintain.

The cucumber may be propagated either by seeds, cuttings or layers. The first is the most

usual mode. Cuttings, however, are frequently employed for obtaining plants for winter forcing. They should be taken from the tops of the leading branches of vigorous plants in a bearing state, and planted in nine-inch pots half filled with rich, light compost or leaf mould. Plunge the pots in brisk heat, and place a frame of glass over their mouth. Layering is easily effected: a shoot may be introduced through a hole in the bottom of a pot, having its side partially sunk in the bed, and its mouth towards the south for light. Soil being put in, the shoot will soon take root, and still more readily will it do so if the pot be kept surrounded with dung that is warmer than the soil in which the roots of the parent plant are situated.

Those who require cucumbers in the middle of winter ought to be aware that they cannot be produced at that period without considerable expense. If this can be afforded, the best plan is to erect structures heated by hot water apparatus for the purpose; but where the necessary outlay for houses or pits cannot be made, it is better not to attempt very early forcing by means of dung-beds—indeed, no earlier than is consistent with the chance of being successful with a moderate amount of labour applied on good principles. Keeping this in view, the seeds may be sown the first or second week in February, selecting for the purpose soil of a rich, light description. It will be found most convenient, in many cases, to sow singly in three-inch pots. Let the seed be pressed into the soil, and covered not more than half an inch.

The preparation of materials for the seed bed ought to commence about the end of January. A quantity of good stable dung should be thrown into a conical heap, mixing at the same time the long and short, dry and moist, thoroughly together. There should, if possible, be as much short, moist dung, as will prevent the littery portion from becoming dry in the course of fermentation. If the litter is dry and in too large a proportion, it may be separated from the short dung and soaked in the drainage from the stables, or it may be thrown in a heap and well soaked with water alone. When rendered thoroughly moist, it ought to be formed into a heap, mixing it at the same time with the short dung from which it was separated. When the heap is in a full state of fermentation it should be turned, carefully mixing long and short as before, and that which was at the top must now be at the bottom. If the whole is found to be not moist enough, water should be applied from the nose of a watering-pot as the work proceeds. In a few days the materials will be again in a full state of fermentation; when this is the case the heap should be turned, and when fermentation has for the third time become general the formation of the bed may be commenced.

The situation of the bed should be sheltered from north, north-west and easterly winds, but open to the south. The less obstruction to the full light from this quarter the better. The dimensions of the frame being known, an area six inches larger should be made out, that when the bed is built up and the frame placed it will be, at both sides and ends, six inches from the outside of the bed. Proceed next to form the bed, layer after layer, the materials of each being well shaken and mixed, and then beaten with the back of the fork, so as to be uniformly compact. The upper layer should consist of some of the shortest materials. The bed should be six inches lower at the front than at the back, and at the latter the height may be from 3½ to 4 feet. When the bed is completed the frame should be put on and the lights kept close till the heat exceeds 80 degrees, when the sashes ought to be raised at the back to permit the escape of steam. When the bed has settled a few days some light soil should be spread regularly over the surface to the depth of five or six inches. In a few days more this covering will acquire the temperature of the materials on which it is laid. It would be well to try the heat of the bed by a thermometer. The indications of this should be frequently noted at regular intervals, in order to ascertain the rate at which the heat increases. If at the first trial it is, for instance, about 70 deg., and if it progress but slowly towards 75 deg. or 80 deg., the seed pots may be safely plunged. If higher than 80 deg., and from the rate of increase likely to be much higher, precautions must be taken lest the young plants should be injured by too much bottom heat.

If it has been ascertained that the bed is of the proper temperature, between 75 deg. and 80 deg., the seed pots may be plunged about half way in the soil; but should the heat be above 80 deg., or likely to increase beyond that point, it will be advisable to place them on the surface of the bed only. When, however, the pots can be plunged in soil, tan, or other materials pos-

# The Point System of Judging.

Below will be found a Scale of Points that is intended to assist in reaching correct results in making awards on horses, especially trotting horses.

This scale must stand or fall on its merits, for it has no organization at its back, outside of this office. It has grown out of the experiences and observations of more than thirty years in the management of competitive exhibitions.

It has been successfully applied in a good number of prominent occasions and has given complete satisfaction to both winners and losers. In the administration of this or any other scale there must be intelligence and industry.

The lane of the old system is in the fact that the judges go into the ring, look wise, tie on the ribbons, and announce the awards without giving any reasons for these awards. Hence nothing is added to the public intelligence and no lesson is learned in the school of comparison.

When any method is adopted that requires the judges to give their reasons for the awards they make, a most important step will be secured. These reasons then become public property, subject to public criticism, and if they are intelligent and just they will have a valuable educational influence.

Any good, practical horseman can safely go through with the twelve "structural points," but when we come to the "historical points" something more than a "practical" man is needed. To administer these points intelligently and safely a man should be thoroughly well informed in history, records and pedigrees.

Men qualified to administer the "historical points" are not plenty, and we would advise all associations to send off some distance, if necessary and secure the services of an expert in this department of knowledge. At least one of the judges should be specially specified.

To the expert, with a set of the Register and the Year Book at hand, the duties will not be very difficult, but they will be somewhat laborious. When it is understood that the analysis of every animal, as shown by the score-card, will become a matter of record and publication there will be both work and care in having things right.

No rule can be laid down for determining the exact value or number of points that should be given to a pedigree. Two pedigrees may be exactly alike in the blood elements, but one of them may be far better than the other on account of speed or the production of speed. Any attempt to define the precise value of different pedigrees would involve the whole matter in complications difficult to understand and apply.

All that can be accomplished, therefore, is an intelligent approximation to the absolute value of the different lines of inheritance that may come into competition in any given class. The tendency will be to approximate perfection too closely.

With fifty points as perfection in breeding, it is safe to say that our very best bred animals fall far short of that, and perhaps should not be placed above twenty-five points. An error, here, however, is not vital, provided the same range of estimated value is preserved throughout.

The making of the points 14 and 15 alternative grows out of the necessities of the case, and is intended to give young horses a chance in competition with old ones. Each competitor may choose one or the other of these points, but not both.

As the position of the judge under this scale is not a sinecure, we will suggest how the work may best be done. We would prefer that each judge, supposing there are three, should take his score card and work by himself. In this way there will be no crowd pressing up to hear what is said, as there will be if they work in a group. After they have completed the class, let them retire and harmonize their difference, agreeing upon one card as their report.

The work can best be done in the stables, or in the show-ring the day before the awards are to be made. This should be fully understood by the judges, for there is no time for the work when the ribbons are to be distributed. Let no columns be footed up until the horses are brought out for final examination, for then the judges may see something that will cause a change on some points.

Where there is no scale of points we will suggest a simple rule for the guidance of judges that is generally correct and safe in fact, and will meet the public approbation. In all breed-

ing classes give the animal the first premium that will sell for the most money for breeding purposes. Enlightened public judgment is not

apt to be wrong. In any event, and whatever the method adopted, a veterinary surgeon should be at the call of the judges.

## SCALE OF POINTS IN JUDGING HORSES.

### CLASS

The range of judgment will extend from a cipher (0) up to the figures indicating perfection, on each point.

PERFECTION.	ENTRY NUMBERS.			
<b>STRUCTURAL POINTS.</b>				
<i>(For any Class or Breed.)</i>				
	1. HEAD.—The size should be in proportion to the size of the animal. The form should be wide between the jaws, broad between the eyes, with prominent brain development, clean and bony, with lips neat and compressed, and nostrils active and delicate.	4		
	2. EYE AND EAR.—Character is shown in these organs. Not only the size and fullness of the eye, but its expression must be considered. The ear should be active and thin, and generous in length.	4		
	3. NECK.—This point will include the setting on of the head, the length and shape of the neck, and the free development of the windpipe, especially at the throat.	6		
	4. SHOULDERS AND FOREARMS.—The point will include the slope and strength of the shoulders, the height of the withers and the form and muscles of the forearms, both inside and out.	8		
	5. BARREL, COUPLING AND CROUP.—This embraces the length, depth, and roundness of the body, with the strength and spread of the loin, and the proper elevation of the croup.	10		
	6. HIPS, QUARTERS, STIFLES AND GASKINS.—The symmetry of the hip, the breadth and strength of the quarters, the spread of the stifles, and the muscular development of the gaskins, inside and out, are to be considered in this point.	12		
	7. HOCKS, KNEES, LEGS AND PASTERNS.—This point includes the strength and clean-cut articulation of all the members of the hock and knee joints, the angle of the hocks, the character and strength of the cannon bones, and the angle and character of the pasterns.	14		
	8. FEET.—The general shape of the feet, their position when at rest, the width of the heels, the strength and healthy growth of the walls, as well as evidences of internal trouble, will be embraced in this point.	10		
	9. COLOR.—According to public taste the leading colors may be classed as follows: Bay, dark chestnut, brown, black, roan, gray. All white markings beyond a star and one or two white feet are objectionable.	6		
	10. SIZE.—This will be determined by the class to which this scale is applied. The model park-horse is the model farm horse, and should be sixteen hands, weighing 12,000 pounds. The road and trotting horse not less than fifteen and a half hands, and other breeds according to their uses.	10		
	11. SYMMETRY AND STYLE.—This embraces the natural and unrestrained carriage of the head and tail, and the outline of form and figure, as presented in a state of animation.	8		
	12. ACTION WITHOUT SPEED.—This will embrace the action and use of the limbs at the walk and at the slow trot, in which the difference between a dragging motion and the quick, trappy lifting of the feet will be considered. The right use of the knee and hock is a necessity.	8		
	<b>HISTORICAL POINTS.</b>			
	<i>(For Registered Animals Only.)</i>			
	13. PEDIGREE.—This is the most important single point in the whole scale, and yet it is the one that has received the least attention. Consider well what the sire and dam have each inherited, what each has done as a performer, and what each has produced in the stud. Then consider the qualifications of the two grandsires and the grandams in the same way. If the animal under judgment is running-bred, consider the running qualifications of his ancestors, but if trotting-bred, look only to the trotting qualifications. The value of a pedigree is in the merit of the immediate crosses, viewed in the light of inheritance, performance, and production.	50		
	[Points 14 and 15 are alternative. Exhibitors shall select one or the others, but not both. Perfection in each is 50.]			
	14. PERFORMANCE.—Ability to perform well compensates for shortcomings in the inheritance. Nothing but technical records can be considered on this point. Any record is better than no record. Every animal intended to produce trotters should have his or her speed developed to some extent. The character and precision of the gait, with freedom from all artificial appliances, must enter into the value of this point.	50		
	15. CHARACTER OF OFFSPRING.—This point applies only to aged and tried sires and dams. The credits will be awarded according to the number and class of fast performers from a given animal—the age and opportunities being considered.			
		200		

First Premium,

Second "

Third "

JUDGES.

essing the requisite degree of bottom heat, it is better to do so, for the temperature thus imparted to the pot and its contents will be more steady than if the heat were derived from the air. When the plants begin to appear above the soil of the pots, care should be taken that they are within six inches of the glass—indeed, the nearer the plants are to it the better, as regards the beneficial influence of light; on the other hand, when too near it they are apt to be affected by the coldness of the glass, especially when this is rendered very cold by rain and sleet.

(To be continued.)

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SADDLERS,**

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Have always on hand a Superior Stock of Saddlery, consisting of Double and Single Boggy Harness; also, Carriage, Gig, and other Harness; English and Colonial made Ladies' and Gents' Saddles and Bridles, Carriage, Boggy, Hunting, Jockey, and other Whips, from the best English Makers.

HORSE CLOTHING, RUGS, BITS,  
SPURS, &c. &c.

ESTABLISHED 1867.

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Tent and Carpaulin Manufactory,

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Every description of Tents, Carpaulins, Horse Rugs, &c. made to order on the shortest notice. A stock always on hand Country orders punctually attended to. The trade supplied on the most favorable terms.

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AND GENERAL BLACKSMITHS,

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PATENT LABELS for SHEEP, &c., stamped with any name not exceeding nine letters, and numbered from 1 to 10,000. Price, 10s. per hundred, 50s. per thousand; 100 sent by post for 11s. to any address in Australia, Tasmania, and New Zealand, excepting New South Wales and Queensland.

Send for sample and descriptive circular.

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None so suitable for an Out-Door Work.

WILL RUN IN WATER

Its tensile strength is enormous, as certified to by the eminent Engineers, Messrs. David Kirkaldy & Sons, London, 7th Decr., 1887—6in. wide Lancashire broke at 9778 lbs. 6in. wide Best Double Leather broke at 3572 lbs. Cost of "LANCASHIRE" less than Single Leather.

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100, 200, 300, and 400 GALLONS.

Taps fitted to any size required.

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BEST QUALITY.

Horse Feed of all Kinds, Wholesale and Retail.

Purchaser and Seller of Country Chief.

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Old-established Agricultural Implement and Farm Waggon Manufactory

Celebrated for the excellence and durability of its work sent out.

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**FURNITURE.  
BEDSTEADS.  
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AN ENORMOUS STOCK OF

**Beautiful Cottage Furnishings**

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**VERY LOW PRICES.**

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**THE AUSTRALASIAN MORTGAGE AND AGENCY**

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With which is incorporated

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**THE AUSTRALASIAN WOOL STORES, MELBOURNE.**

Auction Sales of **WOOL** every Friday during the Season, and of **SHEEPSKINS, HIDES, TALLOW, KANGAROO SKINS, &c.**, every Tuesday, Thursday & Saturday throughout the year.

Auction Sales of **WHEAT, FLOUR, BARLEY, OATS, &c.**, every Wednesday during the Season.

Consignments fully Displayed and Carefully Valued by Experts prior to Sale.

PROCEEDS REMITTED PROMPTLY ON DUE DATE.

The Australasian Wool Stores,  
Collins Street West, Melbourne.

**WILLIAM ADAMSON & CO.**

Produce Brokers,

**MACKILLOP STREET,**

**MELBOURNE,**

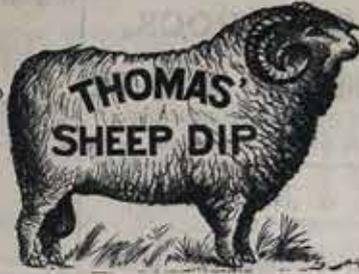
Hold Sales every Wednesday and Friday of

**DAIRY PRODUCE, POULTRY**

Carcass Pork, &c.

Account Sales rendered within Four Days from Date of Sale.

A Perfect  
**SHEEP DIP**  
Destroys  
all  
Parasites,  
Ticks, Lice,  
or Scab.



The  
**CHEAPEST,**  
Most  
**RELIABLE,**  
and  
Most  
**LASTING**

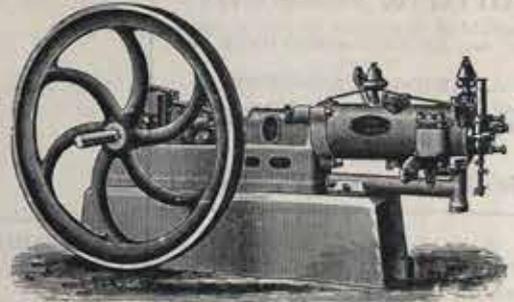
The Wool consigned to Messrs. Helmich, Schwartz & Co., London, by the Pastoral Society of New Zealand, was reported upon as "of Free, Staple, and Sound, of Good Lustre and Soft Feel, and with little or no smell."

The Total Prizes taken at the places referred to number 157, including nearly £800 in Sterling Money.

TESTIMONIAL.

"I have very much pleasure in sending you a testimonial of my high appreciation of Thomas' Sheep Dipping Specific, with which you have supplied me. I have found it to answer well. The complete failure of an English Poisonous Dip to kill the Ticks, induced me to try the above, I am glad to state, with the greatest success. The eradication of the Ticks and Ova was so complete that on several occasions I have challenged inspection of my Stud Sheep and General Flock to find a living Tick amongst them. As for the condition of the Wool, and the health of the Sheep—the fact of my taking so many First Prizes at each of the Agricultural Shows, viz., Melbourne, Ballarat, Echuca, Sandhurst, Rochester, Kyneton, and several other Shows—sufficiently testifies, and my Sheep were entirely free of Ticks at Shearing. I have now much pleasure in giving my opinion of your Specific, which I never hesitate to express publicly whenever the subject of Dip is referred to. Scale Park, Clunes, Victoria, Jan. 29, 1887. (Signed) LEONARD R. CARTER."

**THE "OTTO" SILENT GAS ENGINE.**



Full power at a moment's notice. No Boiler required. The best and most economical engine in the market. Cost of gas, 14d. per hour, with gas at 6s. per 1000 cubic feet. Over 1000 in use in the Australian Colonies. Made in all sizes, from 5-horse power, indicating 1 h.p., to 20 h.p., indicating 50 h.p. The new Vertical "Otto" Gas Engine takes up little floor space, is silent, and is equal in power to the horizontal pattern. May be had on Deferred Payment System. For price lists and further information, apply to

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SOLE AGENTS,

**76 Flinders Lane West, Melbourne.**

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WORLD RENOWNED  
**REAPER & BINDER**  
WINNER OF 34 OUT OF 39  
FIRST PRIZES AT  
FIELD TRIALS  
IN VICTORIA.  
SEASONS  
1883 to 1887.  
THE WORLD'S  
HIGHEST PRIZES.  
HEMP & MANILLA  
TWINE OF  
SPECIAL QUALITY.  
I.G. FOSTER  
AGENT,  
A'BECKETT ST.  
MELBOURNE.

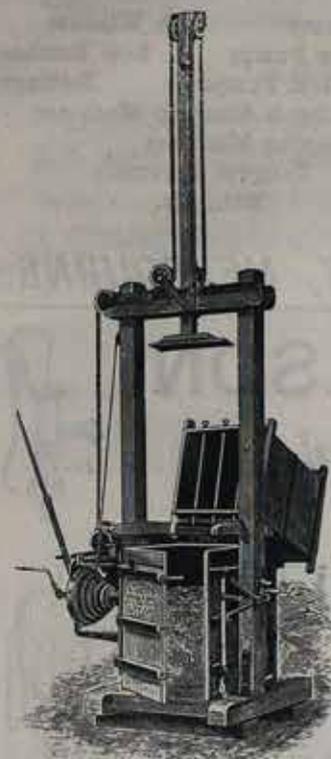
LATEST VICTORY JULY, 1887. GOLD MEDAL & TROPHY VALUE £100, FRANCE.

# D. FERRIER'S PATENT LEVER WOOL-PRESS

First Order of Merit awarded this Press at the Melbourne International Exhibition, 1880.

## HUMBLE & NICHOLSON

Makers, Geelong.



The usual screw is dispensed with, and the pressure brought to bear by means of a strong rope or chain, working in sheave pulleys overhead, attached to a Ram, and winding on a fusee, which is made in the shape of a suddenly tapered screw.

The rope works on the large part of the Fusee, when the pressure is light, and passes down to the taper end as the pressure increases, being worked by a lever fixed on the centre spindle.

The top Box is hinged to side Brackets, and turns down to the floor, which greatly facilitates the putting in of the wool, and renders any second floor unnecessary, and when filled is easily placed back in position.

When the bale is pressed and the sides sewn, the Ram is lifted by a small rope from the Fusee, turned by a handle.

It will be understood how very much quicker the power is brought into application by this means than by the ordinary screw press, and double the work is got through by the same number of men.

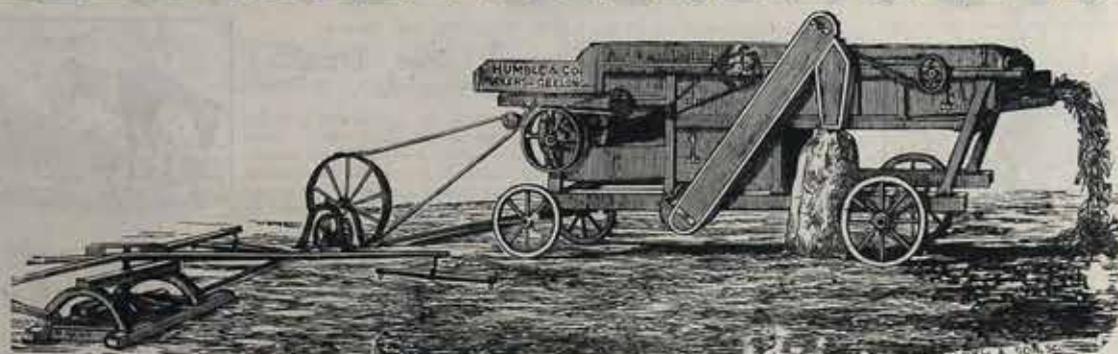
Special attention is directed to the fastening of the Packs before the Wool is put in, which is done in an exceedingly quick and simple manner: four pieces of wood are fitted into the recesses of doors, which hold the Pack securely in position and to the side catches for fastening the doors, which are held in position by a vertical bar, and relieves them simultaneously.

The side door is also held in its place by a catch, which at any time can be relieved instantly, the door falling back and allowing the bale to be removed.

At the Melbourne Exhibition competition this Press turned out 3 Bales of Scoured Wool in 28½ minutes, being considerably less than any other Press, although one had the advantage of being driven by steam.

HUMBLE & NICHOLSON, ENGINEERS.

## THRESHING MACHINE



FOUR-HORSE POWER THRESHING MACHINES.—These Machines are found to be very convenient to farmers who wish to thrash their own grain; or in some cases where three or four neighbours combine. They will thrash from three to four hundred bushels per day with horse power; or if worked with steam power, about six hundred bushels daily.

We have been making these Machines for the last seventeen years, and have been awarded a large number of prizes at the different Shows, including the National Show at Melbourne and other places. The above is strongly made with Wrought Iron Drum, Steel Spindle; all bearings of the best material, no time or expense being spared to turn them out in a substantial manner.

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### Manufacturers of TAYLOR'S PATENT REFRIGERATORS

And Cold Dry-Air Apparatus,

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The most effective when used with the chemical dust, which is supplied by Vulcan Foundry.

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**WHITE & ALLAMBY**  
Have replenished their Stock in view of ensuing  
season. Best ENGLISH GOODS ONLY kept  
in stock.  
**AMERICAN HARNESS,**  
Single and Double, Carriage, Brougham, Gig, and  
Tugay, in ALL of which none but the best  
English and American Leather is  
used in making up.  
**50 BOURKE STREET WEST.**

EMERY WHEELS, LEATHER & RUBBER  
GRIND STONES, BELTING,  
BAND SAWS, MACHINERY OILS.  
  
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Circular and Vertical Saws.

Importer of English and American Saws, Joiners'  
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Circular and Mill Saws Re-toothed and Hammered.

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Tools, Machine Moulding and Paper Knives (any  
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(Below Langdon's Foundry.)

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Have Removed to Larger Premises.  
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5 Doors from Queen Street.

All Vegetable and Agricultural Seeds tested to see  
they grow.

Lists of Seeds or Plants Free on Application.

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**STEAM CARRIAGE WORKS,**  
244 AND 245 SWANSTON STREET,  
And 6, 8, 10, 12, 15, 17, 19 & 21 STEWART STREET, MELBOURNE.

Three Gold Medals for best Carriages at Melbourne Shows of 1883, 1884, and 1887, and Forty-four First Prizes at Exhibitions and Shows of 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, and 1887. Also Three First Awards of Merit (First Prizes) at International Exhibition of 1880 and 1881.

NOTICE.—Referring to above, D. WHITE desires to inform his numerous Customers and the Public generally that he has secured and completed EXTENSIVE ADDITIONS TO HIS COACH FACTORY, and with the increased accommodation and Steam Plant, and the Largest Stock of Seasoned Timber in Melbourne, is now prepared to meet the increasing demand for his well-known Carriages and Vehicles.

The new premises are in Stewart Street, immediately opposite the present Factory.  
Patentee of the Improved Carriage and Boggy Hood Apparatus, for raising or lowering the Hood from the inside, to which I have added a most useful invention in the shape of a powerful spiral spring, whereby a lady can raise a hood with the greatest ease.

N.B.—D. W. was awarded, by the judges of the late National Agricultural Society, 14 First Prizes (including only Gold Medal and Challenge Shield given) for 18 vehicles exhibited, a feat hitherto unknown.

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AUCTIONEER.

Land, Estate and Financial Agent,

FERNTREE GULLY

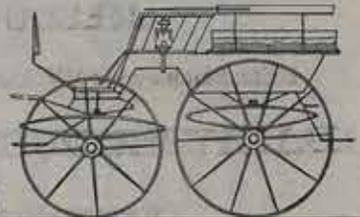
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A Large Stock of English and Colonial Pattern Carriages, Dog Carts and Buggies always on hand.  
Catalogue, with Testimonials, Post Free, on Application.

**THE USE OF**  
**SULPHATE OF AMMONIA IN AGRICULTURE.**

For Grass Land.—1½ cwt. per acre; to be put on the land from August to October, before or after a shower of rain.

For Wheat, Oats and Barley.—1 cwt. per acre for wheat, in April; 1 cwt. per acre, for oats, in April; 1½ cwt. per acre, for barley, in August.

For Vines.—1 bushel on the vine border, and lightly fork it in, in the months of July to September. This quantity (1 bushel) to be for the nourishment of four vines.

For Onion Beds.—Give a good sprinkling over the beds two or three times during the growth of the onions.

For Potatoes.—1½ cwt. per acre as a top dressing, before the haulms appear above ground.

For Greenhouse Plants.—A large teaspoonful in a bucket of water, to water the greenhouse plants with twice a week. Not to be used, however, for heaths, rhododendrons, or orchids.

For Peach, Apricot, Plum, Currant, and Gooseberry Trees.—A similar solution to that given for greenhouse plants, in the months of July and September. Rose trees and garden plants are benefited by the use of the solution. Celery, cabbages and cauliflowers also grow well when watered with the solution.

For Raising of Healthy Plants from Seeds.—Sprinkle a good quantity of the sulphate on the seed beds, and then water them a week before sowing the seeds. Melons and cucumber plants also are much benefited by the sulphate of ammonia.

Note.—All vegetation, excepting heaths, rhododendrons, and orchids are rendered more luxuriant, healthier, and consequently free from the destructive attacks of the scavengers of Nature by the use of sulphate of ammonia, especially in the spring of the year, when vegetation requires a condensed antiseptic food and nourisher, to enable it to withstand the blighting effects of the north-easterly winds, which, being the least electrical of all the winds, lower its vitality, and thus conduce to diseases in the animal and vegetable kingdom.

To be had from the Works of the

**METROPOLITAN GAS COMPANY,**

In 2 cwt. Bags, at 18s. per cwt.



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Robey and Co.'s Portable and Vertical Engines and Saw Benches.  
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 Merryweather and Co.'s Fire Engines (Steam and Manual Power.)  
 T. C. Fawcett's Brickmaking Machinery.  
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 Avery and Co.'s Weighbridges and Platform Scales.  
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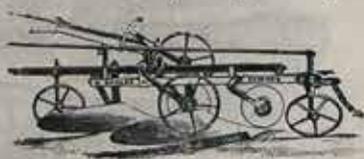
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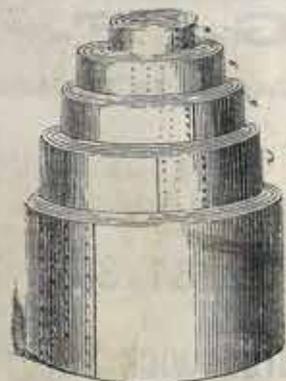
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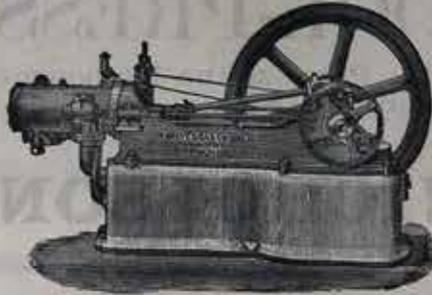
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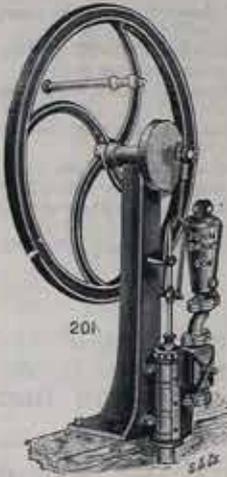
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Is Unequalled for Giving LIFE, HEALTH, and Flesh to

Horses, Cattle, Pigs, Geese, Ducks,  
Fowls, Pigeons, Dogs, &c.

Tried, Proved and Certified to be the Best Medicine for Horses ever discovered. Will coax the appetite when all other things have failed. Gives a bright eye to the Horse, makes his skin like velvet, his looks and temper good. Increases the quantity of milk in Cows, and enriches the quality. Fattens Pigs in half the usual time. Makes Geese, Turkeys, Ducks and Fowls as fat as butter, and double their value. Converts the commonest of Hay and Straw into a superior provender.



Sold by all Druggists, Grocers, and Storekeepers, in Tins, 1s., 2s., 5s., 10s., and 20s.

T. W. NORRIS & CO. (S. M. DALTON). Chemists, Sole Proprietors & Manufacturers.

PRAHRAN, VICTORIA.

N.B.—Ask for and insist on having NORRIS'S SPICE. \*purious Imitations are sometimes offered, BEWARE OF THEM.

## THOS. HENDERSON & CO.

Have much pleasure in calling the attention of Agriculturists to their

"EUREKA" DOUBLE-FURROW PLOUGHS,

With Short or Medium Steel Mouldboards, Patent Wheels, and Cast or Wrought Iron Shares.

Combined Two and Three Furrow Plough, the Best and Cheapest Ploughs in the Market. Patent Wheels supplied to fit any make of Double-Furrow Plough, Horse Works, for One or Two Horses. Improved Three-Knife Chaffcutter, Fitted with Sive Gear, Patent Adjustable Steel Mouthpiece, Stop and Reversing Motion. Cut two lengths.

Bentall's Chaffcutters and Corncrushers, All Sizes, Tank Sinking Ploughs and Scoops, Harrows, Scarifiers, Corl-screens, Winnowing Machines.

PRICE LISTS ON APPLICATION.  
BUCKEYE LIGHT DRAFT FOLDING BINDER.

Awarded Gold Medal at Grand National Field Trial, Shepparton, 1886, with highest number of points.



The "Buckeye" Folding Binder is the most complete Binder in the market. It cuts as low as a Mower; is strong, simple and durable.

The Lightest running Reaper and Binder in the World.

Agricultural Machine Works Elizabeth Street North, Melbourne.

# NATIONAL AGRICULTURAL SOCIETY.



## VICTORIA.

VOL. III.—No. 36. [Regd. as a Newspaper.]

MELBOURNE, JULY 13TH. 1888.

GRATIS.

"If it were done, when 'tis done,  
Then 'twere well it were done quickly."

**Clements' Hotel and Cafe.**  
SWANSTON STREET.  
**CHARLES D. STRAKER,**  
(Late of Three Crowns Hotel, West Melbourne)  
PROPRIETOR.

Caterer for The National Agricultural Society of Victoria, and various clubs.

Orders for *Benigns, Pies, Dejeuner, Weddings, Suppers, and the Shortest Notice in Town or Country.*  
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**Singer Manufacturing Co**  
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Proprietors and Manufacturers of The  
**Singer Sewing Machine.**  
Head Office in Australia and New Zealand  
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Branches and Agencies in every Town and District.  
We call Special Attention to our New Styles of Machines.  
The OSCILLATOR contains the latest Scientific and best Mechanical Principles.  
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**JAMES FRY & COMPANY**  
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GRAIN STORES at JUNG JUNG, WAIL, LUBECK, NUMURKAH, DIMBOOLA, DONALD, and Agencies at all the principal Railway Stations.

**Jas. Fry & Company's Celebrated 5 Stars Flour.**

Consignors of Wool and other Produce and Advances made thereon.

Every description of Agricultural Machinery and Implements, by all the best Melbourne Manufacturers and Importers on sale on favorable terms.  
Town Agents for transaction of every description of Farmers business requiring Confidential Care and attention.

Advances on Grain at Current Rates of Interest.  
STORAGE ON VERY FAVORABLE TERMS.

F. & CO. Limited are prepared to ship Wheat if desired on Farmers' account for sale in London on advantageous terms.

£80,000 to Lend on Freehold or Leasehold Security

**HOSIE'S**  
**SCOTCH PIE SHOP**  
NO. 36 BOURKE STREET EAST.

The Most Popular RESTAURANT in the CITY of MELBOURNE.

Meals at all hours from 6.30 a.m. to 11.30 p.m. SUNDAYS INCLUDED.

Bride Cakes and all kinds of Pastry made to Order. Balls, Routs, Dinners, etc., Catered for in the Best Style.

Accommodation for 500. Special Dinners.  
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**Bull & Mouth Hotel,**  
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FIRST-CLASS ACCOMMODATION FOR COUNTRY AND INTERCOLONIAL VISITORS.

Wines and Spirits of the Finest Quality. Smoking, Reading, and Billiard Rooms.

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**Little's Sheep Dip**  
(NON-POISONOUS.)  
BY ROYAL LETTERS PATENT.



**Best, Cheapest & Safest Dip**  
IN THE MARKET.

A CHEMICAL FOOD FOR THE WOOL.  
DEATH TO ALL INSECT LIFE.  
NUMEROUS TESTIMONIALS.

PRICES—  
5/6 per gallon in casks, 40 gallons each.  
6/- " " drums 5 " "  
Orders under 5 gallons, 1/- per gallon extra.

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Doncaster, England;  
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Also RYAN, HAMMOND, and CO., MELBOURNE.  
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TURKISH, HOT OR COLD BATHS.  
Best Beverages of the Very Best Brands in the Market, and Cuisine Second to None.  
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Tailor, Practical Shirt Maker,  
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SPECIAL SHIPMENT OF WHITE SHIRTS.

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**McDougall's SHEEP DIP**  
PERFECT SAFETY

The ORIGINAL & MOST EFFECTUAL SHEEP DIP IN THE MARKET  
IT IS ALSO THE CHEAPEST

McDUGALL'S AGENTS  
**Gow Bros.**  
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Important to Cheese Manufacturers.

Dr. Moritz Blumenthal's celebrated  
**RENNETINE**  
16 Prize Medals. Highest Award gained wherever exhibited.  
Won the only Medal awarded at the Dairy Show, London, 1887; Gold Medal, Edam, 1886.

The latest discovered and best preparation for Cheese Making, producing a finer quality, better-keeping and mellow cheese, with considerable increase in the yield.  
It is use it is clean, convenient, uniform, and being in powder, keeps perfectly.  
KENNETINE (Blumenthal's) is now being used exclusively in many of the leading Cheese Factories of Australia and New Zealand.

Sole Agent for Australian Colonies and New Zealand—  
**H. W. POTTS, Wholesale & Retail Chemist & Druggist**  
19 Bourke St. W. Corner of Queen St. Melbourne.

Quotations, Circulars, Testimonials, &c. to be had on application. Correspondence invited.

**The M'CORMICK  
REAPER & BINDER**

Has been Awarded  
**105 FIRST PRIZES**  
In Australasia.  
THE 1886 MACHINE IS UNRIVALLED.



**RANSOMES' VERTICAL ENGINES**  
2, 3 & 4 H.P.

Extra Large Firebox and  
Boiler.



**RANSOMES' PORTABLE ENGINES**  
5, 8, 10, 12 & 14 H.P.

The Most Suitable Engine for  
Irrigation Purposes.

**ALLEN'S Centrifugal Pumps**

5, 9, 10, 12 and 15 inch.  
Larger Sizes Imported Specially  
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Have in stock or to arrive shortly, all kinds of

**Agricultural Machinery & Implements.**

PLEASE SEND FOR ILLUSTRATED CATALOGUE.

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Manufacturers and Importers of Pastoral and Agricultural Implements and Machinery.

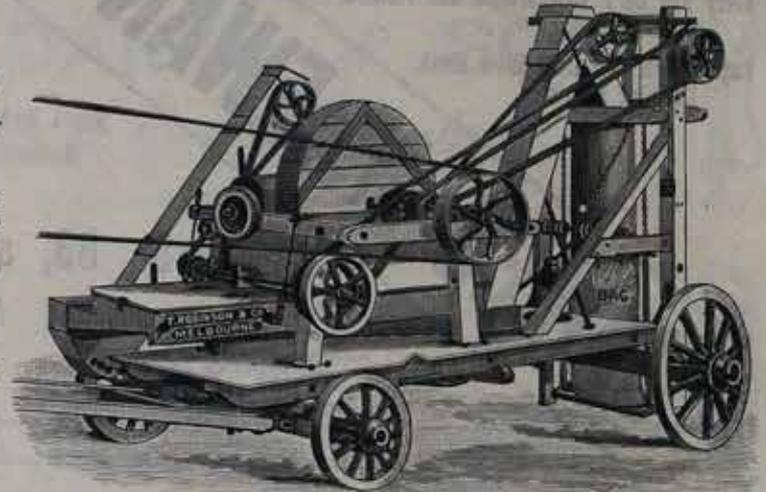
**T. R. & Co.'s New Improved Traveling Chaffcutter, with Patent Automatic Bag-filler.**

Easily Fed, very Speedy Cutter, and Simple and Effective Bag-filler.  
Greatly improved for 1888.

Every Description of Implement or Machine Made and Kept in Stock.

Send for Price Lists.

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Carriage Builders to His Excellency the Governor, Sir H. B. Loch.

Metropolitan Manufactory:

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FITZROY.



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WE CORDIALLY INVITE INSPECTION AND COMPARISON.

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**Lithographers,**

**Printers, Manufacturing Stationers, &c.**

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MANUFACTURERS OF ALL KINDS OF

## Agricultural Implements,

Beg to inform the Farming Community that they are the SOLE MAKERS of the

### MCKAY'S PATENT COMBINED HARVESTER.

## Single, Double, and Treble Ploughs.

Drill Ploughs,

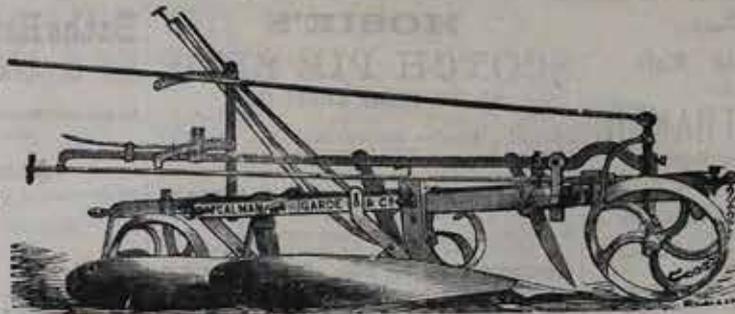
Horse Hoes,

Scarifiers,

Harrows,

Horse Rakes,

Field Rollers.



Squatters' Ploughs

For dam sinking.

CONTRACTORS' PLOUGHS

For road making.

Special Ploughs

Made to any design.

Catalogues free on application.

All Kinds of Implements kept in Stock to select from at their Manufactory,

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Farmer's Barometers, with Thermometers,  
Guaranteed Instrument, 25/-

RAIN GAUGES, from 15s.  
Standard Instruments of all Kinds.

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Watchmaker, Jeweller and  
Optician,

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**THOS. GAUNT**

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The favorable opinion formed of Gaunt's watches by the Australian public has been endorsed by the jurors of the several Exhibitions in which he has competed, and his last crowning success, the obtaining HIGHEST AWARD FOR HOROLOGY at the Melbourne International Exhibition, should convince the most dubious that his watches cannot be excelled. Seven Gold and other Medals. Price from £6 6s. to £10 10s. Get the opinion of any of your friends who has one of my watches.

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Have met with such unprecedented success giving such **Comfort and Wear**, that they are well-known throughout the colonies as a Great Saving in the Family Expenditure.

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IN AUSTRALIA.

Furniture Showrooms—

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MANUFACTURER OF THE WELL-KNOWN

## Williams' Rack & Pinion Wool Press

Rack and Gear Steel Press for the use of large stations.  
Lever & Chain Press, with Folding Top Box, for the use of smaller stations.  
Lever and Chain Farmer's & Selector's Press. Price, £22 10s.

As the season for this latter kind is now approaching, those requiring them should lose no time in sending their orders. Owing to the general satisfaction given by those supplied for last season, orders are now freely coming in, and a large demand is looked for. The following is a fair sample of a large number of Testimonials to hand for those supplied last season—

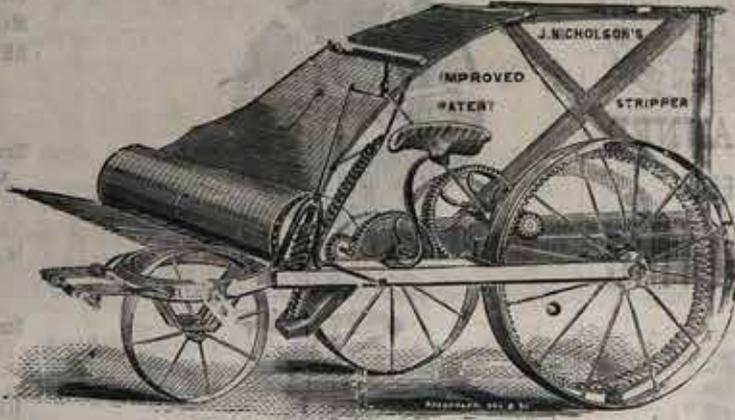
MR. PRICE WILLIAMS—

Dear Sir,—I have much pleasure in informing you that the Farmer's Wool Press I purchased from you last October, gave me every satisfaction. We turned out very compact small bales, about 3½ cwt., but could have them heavier if we wished with once down. By what the Wool Brokers tell me, they would clear themselves in two seasons to anyone having twelve bales. Since done with the Wool, I have had it in constant use as a Cheese Press, and I reckon it worth half its cost for that. We have weights on the levers. Any number of Cheeses can be put in at once. It would make a good Press for Hay or Straw, and for Grape or Apples it is just the thing. I can highly recommend it as a most useful, substantial, cheap article.—Yours truly,  
HUGH GORDON.

BALLYMOON, JAN. 13th, 1888.

# JOSEPH NICHOLSON & CO., AGRICULTURAL MACHINE MANUFACTURERS.

J. N. & Co.'s Patent Gearing Strippers have been Awarded 24 First Prizes at the Agricultural Shows in 1887, proving their excellence, and the universal esteem in which they are held.



Prices—4ft. 6in. drums, **£55.**

Prices—5ft. drums, **£60.**

Prize Grass Seed Strippers, specially adapted for the Colonies.

Price, including two Poles,

**£18.**

Address—

**Bouverie & Leicester  
STREETS.  
Melbourne.**

Makers of Winnowers, the largest and best Reapers and Mowers, the strongest and best new patent Damp-weather Stripper, Improved Double & Treble Floughs. Send for Catalogues. Post Free.



This most useful Horse Gear is made entirely of Iron, simple in construction, very strong, and easily managed. It is also fitted with a spring clutch, which prevents the poles from striking the horses' legs when the Machine is stopped. The pole or poles (as it can be used either as a Single or Double Horse-power) are fixed in such a manner that the pull is direct; the strain thus being reduced to a minimum, the speed is sufficient without the expense of an intermediate motion. Priced Catalogues free by post.

## BUNCLE & SON

Have much pleasure, while recommending their Design and Manufacture of the parent machines (now copied by all the Colonial Manufacturers) have also to state, as a proof of the still maintained Superiority of their Machines, that at the late

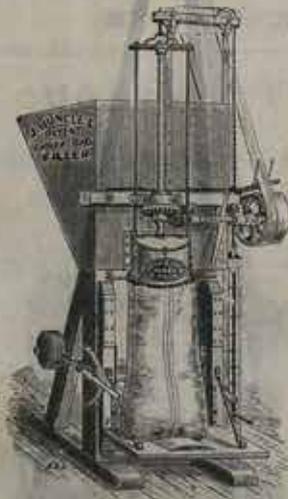
### Centennial Agricultural Show

(Held in January last in Sydney)

They were placed in competition with the Best and Latest Improved Machines from **South Australia** and **New Zealand**, also others in the Colonies, as well as from **English Manufacturers**, yet, on Examination and Trial,

**BUNCLE & SON'S**

Were Awarded the **First Prize** for the



### BEST TRAVELLING CHAFFCUTTER

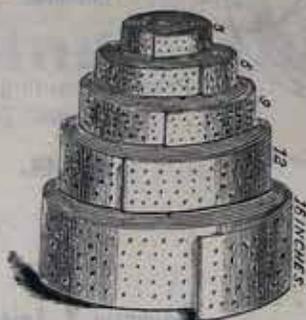
Also **FIRST** and **SECOND** for the **BEST CHAFFCUTTERS** suitable for Wholesale and Retail Stores; also **BAG-FILLERS** of the Latest Improvements.

Catalogues and Price Lists Post Free on Application.

**BUNCLE & SON, Parkside Iron Works,  
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DOUBLE OAK-TANNED  
WELL-STRETCHED  
**MACHINE BELTING.**



**FRANK VIAL,**  
"UNIVERSAL"  
**LEATHER BELT FACTORY,**  
MACAULAY ROAD,  
Kensington,

And at 59 MAIR STREET, BALLARAT.  
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MANUFACTURERS OF  
**MACHINE BELTING**  
On the Most Approved  
CONTINENTAL AND AMERICAN PRINCIPLES.

The "UNIVERSAL" BELTS are acknowledged by all who have used them to be the Best in the Market.

Special Lists for BELTS for IRRIGATION PURPOSES.

A Large Stock of the "PREMIER" BELT LUBRICANT, and Well-Seasoned BELT LACES, kept in Stock.

TESTIMONIAL.—(copy.)

UNION FLOUR MILLS,  
Brunswick-street, Fitzroy,  
March 17th, 1886.

Messrs. Frank Vial & Co.,  
Macauley Road, Hotham.

Gentlemen,—In reply to your enquiry respecting the (23") twenty-three inch double belt supplied by you to ourselves, we beg to state we have been working it for a period of seven months, and we find it to be all we could desire, as also is the other belting which we had from you.

We therefore feel great pleasure in recommending your belting to anyone requiring the same.

We are, Gentlemen, yours truly,

(Signed) W. S. KIMPTON & SONS.

Other testimonials received too numerous to print, which with Price Lists, can be had on application.

# THE ALTHOUSE WINDMILL.



The STRONGEST, SIMPLEST MOST DURABLE, and BEST SELF-REGULATING WIND-MILL in the Market.

Proved by Actual Experience to be Unequalled for Water Supply Purposes.

Is Absolutely the Strongest Mill in the Market.

Its Extreme Sensitiveness is one of its Greatest Merits.

Its self-regulating capacity is perfect

Guaranteed the Cheapest Mill in the Market.

FOUR SIZES—10ft., 12ft., 14ft., and 16ft. Kept in Stock. Larger Sizes Made as Required.

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108, 110, 112 & 114

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Engineers, Millwrights, &c.

99 & 101 Little Bourke St. W.  
MELBOURNE.

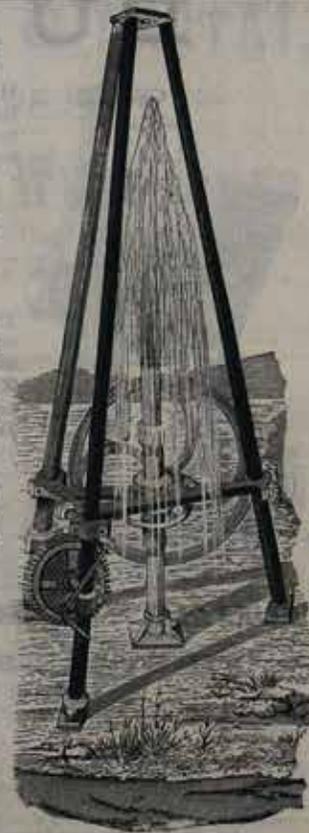
Manufacturers of Steam Engines, Boilers, Sheep Washes, Scott's Patent Wool Scourers, Centrifugal Pumps of any Size or Capacity.

Ford's Patent Air Compressors

And of the now justly celebrated

**AUSTRALIAN WATER AUGER**

Which has attained the greatest depth bored by any machine yet introduced to the public, the Diamond Drill excepted.



## EARTH SCOOP

(CHESNEY'S PATENT)

The Latest brought before the public.

This machine will take out 200 cubic yards of earth in 7 cubic yard loads in a day of eight hours; is simple, strong, yet light of draught, easily kept in repair, and has been pronounced by experienced judges to be the best Earth Scoop yet invented.

N. B.—This Scoop can be seen at Messrs. WRIGHT & EDWARDS' Stand

MELBOURNE WOOL, GRAIN, AND PRODUCE MARKETS.  
**DALGETY & COMPANY Limited**  
 WOOL AND PRODUCE BROKERS,  
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Capital Fully Subscribed £4,000,000 | Capital Paid up £1,000,000  
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**REGULAR AUCTION SALES OF WOOL, GRAIN, AND PRODUCE OF ALL DESCRIPTIONS.**

LIBERAL CASH ADVANCES on most favourable terms on the ensuing clip of Wool, Grain and Station Produce, for Sale in Melbourne or shipment to London.

NO CARTAGE on any Produce sent by Rail, and ONLY ONE HANDLING owing to our having a Private Railway Siding.

THREE MONTHS' FREE STORAGE ALLOWED ON GRAIN.

N.B.—DALGETY & CO. LIMITED were the first Brokers to abolish the charge for cartage of Produce, and to revert to the system of three months' free storage of Grain.

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**Patent Chemical Manure Works.**

Awarded First Prize, Geelong Agricultural Society, March 23, 1887.

The Manufacturers of the Geelong Patent Chemical Manure have confidence in recommending this article to Agriculturists as being a

PURE, UNADULTERATED, AND VERY VALUABLE

**Manure.**

A trial will certainly establish it in lasting favour, as being superior to anything yet offered to the Farmers of this district.

It will be found suitable alike for cereals, root crops, orchards, and vineyards, and in every instance will give most excellent results: it is also an excellent top-dressing for grass lands. The quantity necessary to produce good results is from 2 to 3 cwt. per acre.

Circulars with Testimonials, together with full particulars of price, &c., can be had on application to—

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Manufacturers of every description of Saddles and Brilles; Gigs, Carriage, Buggy, Spring Cart, Jay, American Express Waggon, Scotch, Danfern, Leader and Ostrigger Harness.

D. T. wishes to call particular attention to his Colonial-made Rough and Smooth Bullockhairs, Hogskins, Bush and Town, Saddles, which for Shape, Price, and Quality, cannot be equalled.

TRADE SUPPLIED.

Have stood the test of 35 Years.

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**INCOMPARABLE SEEDS**

FOR  
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Beautiful Illustrated Catalogue for 1887-8 Gratis and Post Free.

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**American Carriage Co.,**

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We sell the cheapest, lightest, strongest, most durable, and convenient Buggy in the market.

A large and select stock always on hand. Customers would save time and money by calling on us before purchasing elsewhere, as we sell at

LOWEST POSSIBLE PRICES

for the class of work we manufacture.

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Proprietor.

**W. M. CAMERON,**

Land Agent.

LOANS NEGOTIATED.

Nicholson's Corner, Swanston Street, Melbourne.

**THE NATIONAL**  
**Agricultural Society of Victoria.**

The Great ANNUAL EXHIBITION of this Society will be held on the

Show Grounds, Flemington

ON

TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY  
 AUGUST 28, 29, 30, & 31, & SEPTEMBER 1, 1888.

When Prizes amounting to over £3000, including Centennial International Prizes and Grand Champion Prizes of Australia, will be offered for competition.

Intending exhibitors requiring space on grounds for stands must apply for same before Monday, 2nd July.

General entries close Wednesday, 1st August, at noon. Post entries will be received till Saturday, 4th August, at noon, on payment of a double entry-fee. For full particulars see prize-list (issued as a supplement to the May number of the Society's journal), copies of which may be obtained free on application to the Secretary, or to the Secretary of any Agricultural Society in Victoria.

Member's subscription to the Society, £1 per annum.

THOMAS PATTERSON, Secretary.  
 Kirk's Bazaar, Melbourne.

**THE NATIONAL**  
**Agricultural Society of Victoria.**

Shorthorn Derby Sweepstakes, 1891.	
Hereford do do 1891.	
Hereford do do 1891.	
Jersey do do 1891.	

A Sweepstakes of £1 each (10s. at time of nomination, and 10s. at date of general entry for Show) with £5 added in each case for Heifers calved between 1st July, 1888, and 1st July, 1889, to be divided and awarded as 1st, 2nd, and 3rd Prizes, for three-year olds, at the Society's Show, 1891.

Nomination of Calves of such breed respectively will be received on payment of a nomination fee of 10s. each. Calves to be nominated within one month of date of birth. Nominators to fully describe the color of each calf entered, and to state the name of the sire, dam, and sire of dam, together with the date of calving. Entry forms on application.

THOMAS PATTERSON,

Kirk's Bazaar, Melbourne. SECRETARY

ADVANCES ON WOOL, GRAIN, ETC.

**R. GOLDSBROUGH & CO. LIMITED**

(In which are amalgamated the Australasian Agency and Banking Corporation Limited and R. Goldsbrough & Co.)

WOOLBROKERS,

Capital, £3,000,000.

HEAD OFFICE—MELBOURNE.

MAKE LIBERAL CASH ADVANCES on the ensuing CLIP of WOOL and on STATION SECURITIES.

They hold AUCTION SALES of WOOL twice each week during the season, and at frequent intervals during the winter months.

AUCTION SALES of TALLOW, HIDES, SHEEPSKINS, etc., are held three days each week throughout the year.

Farmers' clips receive special attention, a separate warehouse being set apart for their disposal and display. Free cartage from Railways or Wharf on all direct consignments of Wool, if sold.

AUCTION SALES of WHEAT, OATS and FLOUR are held each Wednesday during the grain season.

Three Month's Free Storage allowed on Grain.

Liberal Advances made at bank rates on receipt of produce into warehouse.

Full rates of interest allowed on fixed deposits, current accounts, and financial business of all kinds conducted.

Branch in Sydney: No. 23 Pitt street.

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GOLDSBROUGH'S WOOL WAREHOUSE,

BOURKE & WILLIAM STREETS, MELBOURNE.

**JOHN HEDRICK & CO.,**

FARMERS' AGENTS,

Grain, Produce Insurance & General Commission Agents

10 QUEEN STREET, MELBOURNE.

Loans and other Financial Arrangements Negotiated.

Bulk Stocks of Grain held by Farmers can be sold by Auction or privately from samples sent by Post, avoiding storage charges.

References—Greig & Murray, 10 Queen St.

**Notices.**

All communications for the Editor to be addressed to the Society's Office, Kirk's Bazaar, Bourke Street West, Melbourne.

Business communications to the Publishers, Melbourne Place, off Russell Street, Melbourne.

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**Dates of Forthcoming Shows.**

SECRETARIES of agricultural societies are requested to forward to the editor the dates on which their respective exhibitions will be held, also copies of their prize schedules as soon as they are published.

**JULY.**

19—Deniliquin.

**AUGUST.**

8, 9—Corowa.

24—Murtoa.

28, to 1st September—National, Melbourne.

**SEPTEMBER.**

3, 4—Australian Sheep breeders, at Goldsbrough's	19—Ararat
4, 5—Stawell	19—Natinuk
5—Kerang	20, 21—Hamilton
5, 6—Donald	20, 21—Wangaratta
5, 6—Wagga	20, 21—Echuca
6, 7—Yarrawonga	21—Wederburn
6, 7—Ballarat (sheep)	26—Boort
7—Murtoa	26—Elmore
11, 12—Rochester	26, 27—St. Arnaud National Show of Department of Agriculture
12, 13—Albury	27—Cashel
12, 13—Horsham	
19—Dimboola	

**OCTOBER.**

2—Numurkah	10, 11—Warrnambool
3—Euroa	17—Murchison
3—Inglewood	18, 19—Ballarat, general
4—Bacchus Marsh	23, 24—Tatura
4, 5—Benalla	25, 26—Geelong
10—Shepparton	31—Seymour
10, 11—Sandhurst	

**NOVEMBER.**

9—Clunes	14, 15—Camperdown
13—Colac	15—Traralgon
13—Castlemaine	15, 16—Smeaton
13—Whittlesea	21, 22—Kyneton
14—Heathcote	29—Kilmore

beaters would destroy the character of the butter. The butter-milk is then thrown off, and the iced brine, before mentioned, is added to it. This hardens the granules of the butter, and assists in the removal of any remaining butter-milk, so that when the butter is removed, by means of a hair sieve, to a cloth-covering draining tray, it has the beautiful appearance of hoar frost with a golden sheen over it. The icing process appears to be a necessary but expensive portion of the work, a day's make of butter after the manner described consuming no less a quantity than from eight to ten hundredweight of ice. This, in addition to the cost of working the already mentioned refrigerator, making a current expense of formidable proportions. From the draining tray the butter is removed to the rotary worker, where any remaining moisture is expressed, and a proper proportion of fine white table salt is added. After again standing in the trays until the salt particles are dissolved, the butter is again subjected to a slight kneading, which thoroughly amalgamates it and the making is completed, the result being, in our opinion, perfection in butter.

From the dairy the butter, descending by means of the lift, is taken to what is known as the "butter room." This is a light, spacious apartment, decked with sloping floor for draining purposes and surrounded by wide tables or trays, upon which the butter is placed. This room is occupied by a dozen young women who convert the butter from its lump form to the well-known and destined to be still better known "Shell" brand-pat of the Company. The patted butter is arranged in two dozens upon light trays, and is covered with butter cloth to prevent any possible dust from affecting it. It is next carried to the chilling room, mentioned at the beginning of this article, and is placed in racks for exposure to the sweet cold air of the chamber, when it soon sets firm. At present the daily output of butter is about 2000lb., which is in all probability the largest quantity made by any one dairy south of the equator. One ton per day is by no means the limit of the company's ability to manufacture. Indeed, a remunerative market is alone needed to enable them to handle treble or quadruple that amount.

On leaving the chilling-room, we were shown the butter-canning plant, which has just been imported by the Company, and which is now in full operation. The butter made in the dairy above is brought into the room and placed in tins of one, two, and four pounds nett capacity. These tins, which have been previously scalded and dried, are filled with butter by girls, and are then passed into the hands of an operator of a machine. Here the air is expressed from the tin, and the top is securely fixed in its place by pressure only and without the injurious application of heat. This is done at the rate of about three hundred and fifty an hour, so that the butter is not in the tins many seconds before it is hermetically sealed up. The advantage of this rapid work is that no deterioration can take place, as in the case where soldering or other imperfect methods of sealing up the tin are used. This machine is an exceedingly ingenious one; its operations appear to be almost automatic, and the perfection of its work is something to be admired. The most vigorous tests have been applied to tins made by it, with the result that they have been pronounced absolutely air-tight. The tin is then lacquered and decorated with a beautiful label, which exhibits the department trade mark of a "Shell," the Company's name, and a guarantee of the pureness and character of the butter. This package appears to be just the thing for our bush districts, as well as for the large export trade which is sure to be done in it.

During the last three months no less a quantity than fifty-three tons of butter has

been sent to the English market by this Company, and returns are now being looked for.

It is much to be hoped that they will prove as satisfactory as the merits of the case deserve. It is not thought advisable to continue to make shipments, as butter shipped at this time would not reach England until the English Spring time, which would be too late for the market. Arrangements will, however, be made to have everything in readiness for next year, which will probably involve the further expense of sending someone home to take charge of consignments. This further illustrates the necessity which there is for this work to be undertaken by companies such as this one. Indeed we are of opinion that the system described in this article, and this system alone, will enable New Zealand butter to make its way in the export market.

The impetus which this industry will give to dairying wherever its operations are felt will be enormous. The Company's systematic dealing, its special plant and appliances, and its situation at the wharf as a distributing centre for export, all point out its present and prospective importance. Already representations have been made for the extension of the creamery system to other places.

Too much credit cannot well be given for the enterprise shown, especially when the very large sums of money embarked in the business and the proportionately large regular outlay in current expenses is considered.

### The Late Graham Mitchell.

It is with sincere regret that we chronicle the sudden and unexpected death of Mr. Graham Mitchell, F.R.C.V.S., Honorary Veterinary Surgeon of the National Agricultural Society of Victoria, which occurred on the night of the 4th June, from heart disease. Mr. Mitchell was the son of a Presbyterian clergyman, and was educated in Edinburgh; being a pupil of the celebrated Professor Dick, at whose college (the Royal) he obtained his diploma. He came to the colony in 1855 and settled down at Kalkallo whence he removed to Kirk's bazaar, Melbourne. He experimented successfully with inoculation for pleuro-pneumonia in cattle; and subsequently went to India for three years, under a professional engagement. Here he became acquainted with Mr. Rutherford the veterinary surgeon who came down with Mr. Mitchell from India and investigated his system of inoculation, which he (Mr. Rutherford) afterwards practiced with great success in the dairy herds in Glasgow. This is alluded to in detail, in Professor Walley's work *The Four Bovine Scourges*. In connection with the Cumberland disease, foot and mouth disease, &c., Mr. Mitchell was very widely known. He also successfully cultivated vaccine lymph and vaccinated children directly from the calf. His system was pronounced a great success by the Hon. Graham Berry, then Chief Secretary, and a number of leading medical gentlemen who visited his depot at the Royal Park by invitation and saw the vesicles on the calves, as well as on the arms of the children who had been previously vaccinated direct from the calves. In 1882 Mr. Mitchell established the Australian Veterinary Journal of which he was editor. He also contributed largely to the general literature of Veterinary Science, and occasionally wrote for the Veterinary column of this journal—while two days before his death he read a paper on Stringhalt in horses before the West Bourke Agricultural Society. Mr. Mitchell was a man of splendid courage and daring originality, and was also remarkably well informed, for he possessed an excellent library to which he constantly added the newest works, and he subscribed to the leading Veterinary

Journals of Great Britain and America and spared no expense in obtaining the latest veterinary instruments and appliances, so that he was a perfect mine of valuable information, and ~~unlike many dabblers who prate~~ ~~traveller~~ could always give an intelligent and intelligible reason for the opinions he expressed. By his death the colony and indeed the world loses an undoubtedly able man; one whose ability like that of many other fearless and original men—his contemporaries really fail to fully recognise and justly appreciate.

### Notes.

We wish to remind intending exhibitors at the National Society's Show that entries close at noon on Wednesday, 1st August, and that post entries will be received till noon on the 4th August on payment of a double entry fee. The Society's large poster prize list will be issued shortly.

Mr. Frederick Peppin, who is at present in England, and who visited the Aylesbury Dairy Company's farm, writes regarding the Kerry cattle and the Tamworth pigs he saw there that "I do not think either would be liked in Australia. The former smaller than the Jerseys, and the latter not good-looking enough—as long-nosed and ugly as the greatest scrubbers on the road, i.e., when they are poor; but in condition they look useful, and, I believe, are. The Kerries are splendid hardy little things; but would not pay to import." Mr. Peppin has attended two Jersey sales, but saw nothing better than we have here; and adds that "at late prices in Australia importing would be a very losing game." Mr. Peppin forwards an account of the Aylesbury dairy farm, which is published elsewhere.

We have received an advance copy of the fifth progress report of the Royal Commission on Vegetable Products, containing valuable suggestions by the Commission as the result of their consideration of the evidence taken by them, together with the minutes of such evidence. This report, like those which have preceded it, is remarkably interesting and very instructive. When the bulk of the reports is received by the Society they will be distributed amongst members, who will then have an opportunity of making themselves acquainted with the contents; so that further allusion here is unnecessary.

The contractor is proceeding satisfactorily with the additional buildings and improvements at the National Society's show grounds. In addition to the new buildings for dogs and poultry and for carriages, as well as other minor works, the whole of the buildings and the picket fences round the trotting-track are fresh painted, so that the grounds have a most attractive appearance, fitting the occasion of the great Centennial Show.

It is said that the red Tamworth pig, alluded to elsewhere, is the oldest native breed of pigs in England, and probably the only one which has remained pure. It has been brought into notice lately through the cry against most of the other improved breeds of pigs having a tendency to develop an excess of fat over lean meat, as the Tamworth has "a lean and hungry look." However, when taken in hand, it is capable of being developed into a very useful animal, which will doubtless be used effectively in the production of a class of pigs with a tendency to produce a more equal distribution of lean and fat meat than is characteristic of other breeds.

# The Journal

OF THE

## National Agricultural Society

OF VICTORIA.

MELBOURNE, JULY 13th, 1888.

### Farmers and Science.

It is too often the custom with farmers to express contempt for science in its application to agriculture. They have farmed all their lives, as, perhaps, also, have their fathers before them; so that they claim to be practical men, which they contend is worth more than all the book-learning of the scientist. But in many instances these "practical" men are so intensely practical that they require to shut one eye and squint at the nose on their face before they can believe they have one, instead of bringing a little common sense to bear and making allowance for contingencies. The objectors to scientific agriculture forget that science is the most practical thing in the world. It has been said of chemistry—the science most intimately connected with agriculture, and of the greatest importance to it—"Instead of its being simply an emanation from the brain of man, it is the outgrowth of innumerable tests, experiments, and observations. Matter of all sorts, combinations, and conditions, have been taken and subjected to all possible manipulations, and these repeated so often that the experimenters were finally able to say that a certain weight of one substance added to a certain weight of another will produce certain results. This fact is now established, and, having been verified by others, can be as surely counted on as that spring will follow winter, and that vegetation will start as soon as the weather is warm enough. Having established a series of facts along one line a chemical law is demonstrated, which can be relied upon just as surely as we can depend upon the round or law of the seasons, the operation of which will bring certain definite results." It is true that all that has been advanced as agricultural science is not such. The most skilled in all departments of knowledge make mistakes. Doctors differ; even ministers make mistakes and teach falsely; and the best generals make wrong calculations and lose battles; but we do not lose faith in these and refuse their aid. It is the law of the world that nothing shall be perfect; even Nature fails, for has it not been sung:—

"That I, considering everywhere  
Her secret meaning in her deeds,  
And finding that of fifty seeds,  
She often brings but one to bear."

In this colony at the present time a complete revolution is taking place in the value of land. People are only beginning to realize its value; so that the old farmers need to leave the beaten track and accept the teachings of science and the advanced ideas of progressive men; and if by doing so they can make one acre of land produce as much as six under the old system, for practical

purposes land must be relatively six times more valuable than previously; so that it is not to be wondered that prices are increasing.

### A New Zealand Company.

(BUTTER DEPARTMENT.)

(In view of the present stir in the Dairy Industry, the following article from an Auckland paper should prove instructive.)

Few things afford more interest to the ordinary citizen than does a visit to a dairy. The knowledge that pastoral life with its beauty and healthfulness is somehow centred here—the suggestion which it gives of fields of fragrant herbs, roamed over by cattle in well-fed and lazy contentment, carries with it a holiday feeling, which makes most city-bred folk instinctively desire a life amid such scenes. And then comes the mystery of the affair—the wonder that such apparently inadequate means should result in the production of an article so different from that from which it is produced. It was with this feeling of interest that our reporter accepted an invitation to visit the new dairy which has been established at the Freezing Company's Works, Railway Wharf. It is true that the herds from which the milk is taken are a hundred miles away, but one soon becomes aware that under the system adopted they are as available as if they were depastured on the reclamation just outside the building.

Being dissatisfied with the old system of dairying, the Freezing Company decided to themselves undertake the careful and cleanly extraction of cream from milk, and to become responsible for the manufacture of the butter in which they will in future deal. Five creameries now working in connection with the central dairy in Auckland have been established. To these the newly obtained milk is taken, in many cases within an hour of the time when it is milked. By means of a number of Laval separators, the cream is at once extracted and falls into cans supplied for the purpose of collecting it, and the sweet skim milk is conveyed by a system of pipes to the outside of the building, where it is again caught in the milk supplier's can, and is carried back to the farm to feed calves and pigs. When in full work this re-delivery takes place as speedily as the milk is received. At one of the creameries, for instance, the centrifugal separators are equal to dealing with over five hundred gallons per hour. The other creameries are fitted up with proportionate appliances so as to enable the work of separating to be done expeditiously. It will be seen at a glance the immense advantage which this system of extracting cream has over the old method of setting the milk in shallow pans where it is exposed to all the surrounding impurities, and where often during the hot weather it reaches a semi-putrid condition before the cream is skimmed off.

To those people whose ideas of milk are restricted to the small quantity which is mysteriously left in their jugs some time during the early morning, the immense vats full of the fluid to be seen every day at the

creameries is a revelation and the wonder to them is where it all comes from. The one creamery already indicated alone receives over two thousand gallons daily, or say in weight ten tons. An estimate of the size and importance of this industry may be formed when it is known that no less a number than two thousand five hundred cows are in constant milk for the purpose of supplying them. All these cows are the property of the settlers in the various neighbourhoods. The Company only find an outlet for the produce of these settlers, and in no way enter into competition with them. The cream alone is retained, the sweet skim milk being returned free. The importance of the return of milk for stock-raising purposes may be seen in the large number of healthy calves which surround settlers' holdings and which will in time come on to increase the dairy or to supply beef for the market. The cream alone is sent to Auckland. This is done daily in strong cans of special construction, which are capable of containing 160lb. each. In this manner the dairy in Auckland receive from the Company's outlying creameries six hundred gallons of cream, or about three tons weight daily. When received at the works the cream is at once placed in the department's chilling room. The enormous expense involved in producing butter on the lines adopted by the Company may be guessed at when it is known that it was found necessary to erect a separate refrigerator for the sole use of this one department so that the air supplied to it might be of the utmost purity. The cream held in this manner being reduced to a temperature of about 53 degrees Fahrenheit, so as to allow for the influence of the atmospheric temperature while it is being churned, is then removed by the lift to the dairy on the first floor. This place was selected on account of its being removed from the influence of dust and dirt, and also because of its sheltered position. It is a large space, floored and channeled like the deck of a vessel, and with its walls and ceiling of snowy whiteness and its moist sweet floor is the perfection of cleanliness. Here are erected receptacles for cream, an immense wooden vat for the preparation of iced brine, and the steam vats for the production of boiling water. This place is also fitted throughout with steam and water-pipes, so that steam coils for scalding out vessels and jets of cold water are available everywhere. Down the centre of the room four large Danish churns are placed, each capable of turning out 180lb. of butter at a churning, the line being extended by a large rotating table. The churns and butter worker are set in motion by steam power, the speed having been adjusted with great nicety. It appears to be needful to have the capacity of the vessel, the temperature of its contents, and velocity of its revolutions all exactly balanced to produce the best results. The cream, until converted into butter, is entrusted to the care of an experienced Danish dairymen and three assistants, and the operations of the establishment move as by clockwork.

As soon as the cream has been churned until the butter granules have been formed, the churns are immediately thrown out of gear, as an unnecessary revolution of the

improving the stamp of horses the Society ask the Government to place a tax of £10 each on stallions upwards of two years of age, and appropriate the net proceeds for distribution as prizes for the best horses exhibited at shows."

He said that anyone who visited the shows of the colony must have noticed the number of inferior stallions. He had frequently seen young stock exhibited with spavins, curbs, splints, and other defects traceable to the use of unsound stallions. His object was to bring about an improvement in the horse stock of the colony, as there was no denying they had deteriorated during the last 20 or 25 years. For instance, in the old days everyone had a good hackney—the good old sorts, capable of carrying a man 100 miles in a day—but now it was almost impossible to get a good hack. Then again value was an important consideration. If superior horses were produced almost any price could be obtained for them. The tax might even be raised to £20 in the interest of horse-breeders.

Mr. McGregor seconded the motion.

Mr. R. Clarke said the age at which horses should be taxed should be three years, as it was not known how horses would turn out till they had reached that age, and two-year-olds were not much used as stallions.

Mr. Wragge contended that all horses used for stud purposes should be subjected to veterinary inspection and certified to be sound before they could be used.

Mr. Peck supported the idea of a tax on stallions, but thought that the clause of the resolution devoting the money obtained therefrom to prizes would, if passed, give rise to much jealousy and contention.

Mr. Thomson then withdrew his motion with a view to amending it, and gave notice for next meeting as follows:—"That with a view to improve the stamp of horses the Society ask the Government to place an annual tax of £10 or upwards on stallions three years of age or over."

The meeting then closed.

## Commercial Husbandry.

THE agricultural problem—how to make husbandry remunerative—is being worked out in an important undertaking by the Aylesbury Dairy Company at their farm near Horsham, England.

The Itchingfield Estate, consisting of about 1,300 acres, was purchased in the early part of 1884, up to which time it had been occupied as seven small farms. The company entered into possession of these by a series of successive stages, the last holding being vacated by the old tenants as late as September last year; and the admirable example of permanent land improvements which were at once begun may be briefly described.

The first work was to throw all the land into one well-arranged farm, and place the whole in a position to yield pecuniary results proper to an adequate investment of capital in management conducted on commercial principles. Numerous small enclosures were grouped so as to form large fields, this re-modelling bringing with it the usual acquisition of additional surface and the abolition of scrub timber and straggling weed sowing fences. The reclamation alone repaid its

cost, without taking into consideration the subsequent perpetual gain from the greater economy of tillage operations thereby obtained. On a considerable portion of the property, at a moderate depth under a loamy soil, lies a stratum of stone, providing a complete natural drainage, as soon as the "pan" formed by ages of shallow ploughing is broken through. But on a portion of the area systematic drainage was requisite, and this has been efficiently and economically carried out by the use of the steam mole-plough, the main or master drains being laid in pipes. The water so obtained has been in all cases utilized; indeed, the securing of an adequate water supply was the first care, and the natural resources of the estate rendered this comparatively easy. A large portion of the estate is admirably watered from a small lake, the site of which had probably been many years ago a stone quarry. This has been formed into a reservoir holding many million gallons, supplied by three small streams, which at the driest period of last year never yielded less than 10,000 gallons a day. By means of a water wheel the water is pumped from the lake to the height of 100 feet, the supply being poured at a height of 50 feet into a smaller reservoir, holding some 500,000 gallons. As this is situated on high ground the surrounding farm buildings are all watered from it by inexpensive gravitation. As building operations have been carried on to a great extent, the discovery of a bed of excellent sand, several acres in area, proved most valuable, and as soon as the company's requirements have been supplied, this sand will form a considerable source of income. Also present, under the surface of several hundred acres, is a deposit of the hard and valuable historic "Stammerham" stone, which has been utilized not only for the new roads, which have been constructed to the extent of some three miles, but also in the erection of the buildings.

Each of the various farm homesteads has been appropriated to a special purpose—one for calves, another for the young stock, the main premises for the cows in milk, and a hill farm of a 100 acres or more devoted to a herd of Kerrys. The herd of these grand little milkers numbers about 100, and the policy of having adopted the breed as one branch of the company's live stock business is ratified by the frequency of inquiries already coming in from purchasers. At another farm are kept half the cart-horses, and the company's herd of Tamworth pigs. The sandy-coloured Tamworth is, perhaps, the oldest breed of pig in England, but had become almost extinct beyond the limits of his native district. However, the extraordinary property it possesses of yielding a great proportion of lean meat is now being recognized: under the care of Mr. Allender, managing director of the company's farm, the Tamworth breed is coming to the front; the company's specimens won most of the honors against other exhibitors of this breed at the late Royal Show at Norwich, winning in one class the first, second, and third prizes; and the demand from purchasers is now very considerable for home breeding and also for export. The horned stock, numbering between 300 and 400 head, includes pedigree Shorthorns, ordinary dairy Shorthorns, Jerseys (among which are many animals which have won show-yard honors), Norfolk red-polls, some pure bred Swiss, some Montgomeryshire cattle (sometimes called "smoky-faced Herefords"), a few pure Welsh, and the Kerrys before mentioned. To these have lately been added some of the red Sussex breed. The Sussex can hardly be called dairy animals; but they thrive so well in their native county, and the American demand for this fine beef-making breed is so rapidly increasing that the manager deemed it unwise to let the company's farm be without specimens. In sheep, of course, Southdowns are pre-eminent, and from 600 to 700 head are constantly kept at work in folding; and, by the aid of as much good food as they can

possibly consume, they not only improve the land, but also leave a handsome cash balance on the sheep account. Poultry, too, are not neglected; several breeds of fowls and also of ducks are kept pure and distinct, pens of each variety have a wide range of feeding ground, and are sheltered in field houses which are distributed in all directions. By next season the company will be in a position to meet the already large demand for their poultry for breeding purposes.

As at present arranged, the cropping of the farm shows about 400 acres of straw, wheat, oats, and barley; about 400 acres of grass and seeds cut for hay; 130 acres of roots and cabbage; the remainder under grass. Such kinds of cabbage and other green crops are grown as may be of highest value, either for feeding the animals on the farm, or for sending to market in case of a market scarcity.

In working the estate on commercial principles, everything is done to make this undertaking self-contained. In fact, the aim is to unite in it the powers and facilities of an agricultural factory. Such building materials as are not found upon the estate are purchased direct, and in large quantities; hence on the best terms. The manager is his own architect, and all building operations are carried out by the company without the intervention of a professional builder, thus not only economizing expenditure, but securing the best, soundest, and most effective workmanship in every detail of construction. The cow-houses, the calf-houses, the piggeries, the bull boxes, may all be studied by intending estate improvers as really models in their way; and the well-arranged smiths', wheelwrights' and other workshops are important adjuncts, in view of the company's intention to form a dairy school and establishment for general farm instruction. The necessary buildings in connection with the dairy are quickly approaching completion, and, when finished, the dairy will probably be admired as the most perfect and admirably appointed establishment of its kind to be found in England. The produce of some 250 to 300 cows belonging to the company will be dealt with here, milk, cream or butter being sent hence to the London depot; but it is also in contemplation to buy milk from farmers in the surrounding neighbourhood for butter-making, and the extension of dairy farming on improved systems will be thus encouraged. It is hoped that within a few months the numerous applications which the company are already receiving to take pupils may be complied with. That this is a promising opening for the company is guaranteed by the fact that they have already given agricultural and dairy instruction on a small scale; with what satisfactory results may be gathered from the circumstances that among their pupils are already numbered the Lecturer on Dairying at the Shows of the Royal Agricultural Society, the Bailiff of the Royal Agricultural College Farm at Cirencester, the Delegate Pupil from the Glasnevin Agricultural and Dairy School, and many others. Only so recently as July last the first prize for skill in butter-making at the Norwich Royal Show was won by a pupil and *cupboy* of the company.

It is to be noted that, of four eminent scientific and practical authorities—namely, the late Dr. Voelcker, Mr. Charles Randall, Mr. Jacob Wilson, and a land agent well known in his profession—the three former assured the directors, before the estate was purchased, that it was admirably adapted for its intended purpose, the fourth singularly objected that the property was "injuriously intersected by railways." This very intersection has been found to be a main factor in the capabilities of the place. It has been taken advantage of for importing feeding stuffs, fertilizers, London stable manure, and various other commodities direct on to the land, and for exporting the produce of the farm to market. The dairy company have

# Meetings.

## Council.

AN adjourned meeting of the Council of the National Agricultural Society of Victoria was held on Friday, 15th June, 1888, pursuant to notice.

Present—Dr. Plummer, President (in the chair), with Messrs. Job Smith, F. Henty, D. R. McGregor, J. M. Peck, James Garton, J. Currie, W. Wragge, J. Hearn, W. Glover, D. Munro, and W. J. Clark.

### CORRESPONDENCE.

From D. S. Hughes and Co., offering two guineas worth of grass seeds and clovers for the best sample of Tartarian seed oats, and the same prize for the best sample of seed wheat.

The Secretary stated that the large sheet prize list in which these special prizes could be inserted had yet to be issued, although some annoyance would possibly occur through exhibitors entering from the first list, and not noticing the additional prizes on the second.

Mr. Peck moved that Messrs. Hughes' prizes be accepted, and published in the sheet prize list. Seconded by Mr. Garton, and carried.

From Wain Bros., making some practical suggestions with regard to the exhibition of buggies, &c.

Mr. Peck moved that Messrs. Wain Bros. be informed that their letter was too late to be acted on this year, but that it would be put in the suggestion book for next Show. Seconded by Mr. Garton, and carried.

Judges were then appointed to the end of the Swine Section, and the meeting adjourned.

An adjourned meeting of the Council of the National Agricultural Society of Victoria was held on Friday, 22nd June, 1888.

Present.—Dr. Plummer, President (in the chair), with Messrs. James Gibb, Job Smith, J. M. Peck, W. Wragge, D. White, and G. Ramsden.

### CORRESPONDENCE.

From C. Prince, making some practical suggestions with regard to the care of poultry during the Show, and pointing out the necessity for having a reliable man to take charge of them.

The letter was received, and the Secretary was instructed to reply to it with thanks, and state that care would be taken to have a good man in charge.

From G. T. A. Lavater, forwarding schedules for first grain show, to be held in the Exhibition on the 9th and 10th of October, for distribution.

The judges for the remaining sections of the Show were appointed, and the Secretary was instructed to write to them.

The meeting then closed.

The ordinary monthly meeting of the Council of the National Agricultural Society of Victoria was held on Tuesday, 10th July, 1888.

Present.—Dr. Plummer, President (in the chair), with Messrs. Job Smith, W.

Thomson, W. J. Lobb, George Young, S. G. Staughton, John Hurst, Robert Clarke, D. R. McGregor, W. Glover, J. Currie, W. Wragge, J. Garton, J. Bunce, R. Grice, D. White, C. Lynott, the hon. J. Buchanan, M.L.C., and the Hon. C. Young, M.L.A.

The minutes of the previous ordinary and adjourned meetings were read and confirmed.

Election of member of Council *vice* T. Learmonth, whose seat had become vacant through non-attendance.

Mr. Lobb moved that Mr. Learmonth be re-elected. Seconded by Mr. W. Wragge, and carried.

It was notified on the agenda paper that Mr. J. C. Cochrane had lost his seat through non-attendance.

The President explained the reason of Mr. Cochrane's non-attendance, and stated that he did not wish to seek re-election. His seat will be filled at next Council meeting.

### THE LATE MR. MITCHELL.

Mr. McGregor drew the attention of the meeting to the death of Mr. Graham Mitchell, F.R.C.V.S., the honorary veterinary surgeon of the Society. He moved that the regret of the Council be recorded in the minutes at the loss sustained through the death of their honorary officer. Seconded by Mr. Lobb (who stated that from a long acquaintance with the deceased, he had pleasure in bearing testimony to his being one of the very best hearted of men), and carried.

Mr. Thomson moved that the secretary advertise for applications for the appointment of hon. veterinary surgeon. Seconded by Mr. McGregor, and carried.

The Finance Committee's report, submitting the monthly statement of accounts, and recommending payments amounting to £935 11s. 7d., was read.

Mr. McGregor moved the adoption of the report. Seconded by Mr. Currie, and carried.

### EXECUTIVE COMMITTEE.

The Executive Committee reported that they had resolved as follows:—

1. That the band of the Asylum and School for the Blind be engaged for the Show.

2. They adopted specifications for refreshments and catering, supply of marquee, flags, &c., fruit, forage, and photographing exhibits, and instructed the secretary to call for tenders.

3. That the privileges of donors and members remain the same as last year.

4. That the Railway Commissioners be asked to grant excursion fares on all lines, and run special trains to the grounds on Show days.

5. Also, on suggestion in a letter from Messrs. J. and R. Lecky, that the Commissioners be asked to run a special train on the Gippsland line for the conveyance of exhibits on the Saturday night of the Show.

6. That a deputation wait on the Hon. the Premier, to request him to grant a holiday on the official opening day of the Show.

7. That the usual amount of advertisement be done by large bills, and by posters, and window bills.

8. That the Postmaster-General be requested to place a post office receiving

box on the Show Grounds, and arrange for telephone communication.

9. That the posts round the judging rings be fixed the same as last year, and that changeable boards be erected in the judging rings to inform the public of the class being judged, and of the catalogue number the prize animals, as soon as the awards are made.

10. That special prizes be received up to issue of sheet prize list, and that they be called special champion prizes, and that entry fees be not charged for them—the large bills to be issued at once.

11. That the question of covering for machinery exhibits stand over.

12. That special invitations to luncheon be issued to the same guests as last year, and also to the Executive Commissioners, Foreign and Colonial, in connection with the Exhibition.

13. That His Excellency the Governor be invited to open the Show, and lunch with the President and Council on the grounds, at 1 p.m. on Thursday, 30th August.

14. That the proprietors of the Metropolitan papers be written to, asking them to state the number of admission and luncheon tickets they would require for the Show, in order that satisfactory arrangements may be made for issuing same.

15. That the Secretary make the necessary arrangements, and procure the appliances for carrying out the milking test.

16. That the Secretary employ Mr. Smith, Clerk of Works, as overseer at the grounds, and take steps to have men engaged and arrangements made for Show.

17. That the machinery ground be allotted on the same basis as last year, as far as practicable, giving old exhibitors the sites they before occupied. Mr. Peck moved the adoption of the report. Seconded by Mr. Currie, and carried.

Some additional judges were appointed for the Show.

### CORRESPONDENCE.

From Campbell and Sons, *re* office accommodation. The Hon. C. Young moved that the matter be referred to the Executive Committee. Seconded by Mr. McGregor, and carried.

### FROM RAILWAYS, *re* TRAINS.

The Hon. J. Buchanan moved that the matter be referred to the President and Secretary. Seconded by Mr. Smith, and carried.

### APPOINTMENT OF STEWARDS.

Mr. Thomson moved that the Secretary be authorised to appoint stewards in the several sections for the show. Seconded by Mr. Peck, and carried.

### TENDERS.

Tenders in connection with the Show were then accepted as follows:—

Privilege of supplying refreshments and catering, C. D. Staker, £400; fruit, J. Allison, £25 10s.; forage, J. Whitelaw, £7 10s.; photographing exhibits, Foster and Martin, £2; supplying tents and flags, A. Champion (charge) £7 10s.

### TAX ON STALLIONS.

In accordance with the notice, Mr. Thomson moved—"That with a view of

## Summary of Evidence on Pleuro-Pneumonia.

(By DR. A. P. AITKEN.)

Taken by the Highland and Agricultural Society of Scotland.

It was evident to the committee that very considerable difference of opinion prevails among members of the veterinary profession regarding many points of very great importance to stockowners and to local authorities who are entrusted with the work of suppressing the disease.

The committee were desirous of knowing what were the opinions held by veterinary inspectors throughout the country regarding some of these disputed points, and they accordingly framed a schedule containing the following queries, and sent copies to all the local authorities in the country, with the request that they should ask their veterinary inspectors to fill them up and send them in to the secretary of the Society:—

1. How is this disease propagated?
2. How far in your experience have you known it to be carried, and what do you consider an infected area?
3. Have you known a case wherein this disease has been communicated to a healthy animal from it having occupied such a place as a byre, truck, boat, pen, or field previously occupied by diseased animals?
4. In your experience have you known of this disease being conveyed to healthy stock by the clothes or persons of attendants or others in charge of diseased stock?
5. How long in your experience has an animal suffered from the disease without its being detected; in other words, how long have you known the disease to be latent in the stock?
6. Have you had experience of inoculation, and if so, is it such as to prove to your satisfaction that inoculation has a protective influence against the disease?
7. Have you ever known a case where animals that had been successfully inoculated were brought into contact with diseased stock and took the disease?
8. Have you ever known a case where animals that had been successfully inoculated were brought into contact with diseased stock and remained healthy?
9. Have you ever known of an animal successfully inoculated, and yet taking the disease more than six weeks or two months thereafter?
10. In your experience have you found the fifty-six days' rule sufficiently large for perfect protection?
11. If relieved of your personal liability for the cost of the slaughter of a possibly healthy animal, would you be in better position to prevent the spread of the disease without wholesale slaughter?

About one hundred veterinary inspectors answered the queries, and the following may be accepted as a fair description of the information supplied under each head:—

1. It is the almost unanimous opinion that the disease is propagated by the contact or herding together of diseased and healthy animals; and the great majority believe that it cannot be propagated in any other way. It is not necessary that a diseased animal should come into actual contact with a healthy one in order to communicate the disease. It is sufficient that the animals should be so situated that the air that has been exhaled by the diseased animal may be inhaled by the healthy one. Close, badly-ventilated byres are frequently referred to as favoring the spread of the disease. It is the common opinion that the only certain way of propagating the disease is by housing a

diseased animal with healthy ones under the same roof.

2. There is considerable difference of opinion regarding the distance to which the infection may be carried from the body of the diseased animal in the open air. Forty reply that the animals must be herding together, and capable of coming into actual contact; fifteen consider that the infection may be carried to some distance between ten and fifty yards; twelve do not regard animals as safe from infection unless they are separated from the diseased animals by distances varying from 100 to 500 yards, and they regard these as a radius of an infected area around the seat of an outbreak; twelve are not content with so small a radius, and recommend that the infected area should have a radius varying from half a mile to four miles. No accurate observations are recorded to prove the distance to which the infection may be carried in the open air, but instances are given in which diseased animals have been separated from healthy ones by a distance of from 20 to 30 feet, such as the breadth of a road, and there was no communication of the disease from the one herd to the other. Where it has been asserted that the infection has been carried long distances, it has not been proved that it was not imported into the herd by means of a diseased animal.

The general opinion seems to be that pleuro-pneumonia is not a very infectious disease, except where animals are actually housed together.

3. About one-fourth of the witnesses give it as their opinion that the disease may be contracted by a healthy animal by its being put into a stall or byre, or even a field, which had previously been occupied by a diseased animal. Nearly an equal number either doubt or deny the possibility of conveying the infection in that way; but it is the universal practice to act on the supposition that a place may retain the infection and be capable of communicating it, and therefore some kind of disinfecting process is had recourse to. These precautionary measures are of various kinds, and are usually so very defective that it is evidently a matter of no importance whether they are carried out or not.

4. In only five instances is the opinion expressed that the infection can be carried by the clothes or persons of attendants, or by means of dogs, rats, or other animals passing from the precincts of diseased to those of healthy animals, while the great majority are strongly of opinion that the disease cannot be propagated in that way. Instances are recorded in which the attendants passed constantly between diseased and healthy animals, feeding and milking them, without conveying the infection. It is curious to note that some of those who deny the possibility of infection being carried in the clothes of attendants, yet hold the view that the stall in which a diseased animal has been kept, and its fodder, litter, and dung may retain and convey the infection. It is scarcely necessary to say that such views are entirely at variance with all that is accurately known regarding the propagation of infectious diseases.

5. The length of time during which the disease may remain latent or undiscovered in an animal is a matter regarding which there exists very great difference of opinion, but as the opinions entertained are the product of actual experience, they are deserving of careful consideration. Twenty-two report that they have never known the disease to be latent for more than two months; twenty-six report instances in which it has been latent for about three months; and forty-two report that either in their opinion or in their experience it may be present and yet not manifest itself for four months or more. The usual term of latency, or what is called the incubative period, is regarded as from four to six weeks. When a disease does not break out in a herd until several months have elapsed, it has been found to be due to the importation into the herd of an animal that had in its lung an encysted or

encapsuled pleuro-pneumonia lesion of old standing, and it frequently happens that an animal so affected may be fat and apparently in excellent health.

This encysted form of pleuro-pneumonia is found in animals that have had the disease, and have apparently recovered, and as there is nothing about them to cause suspicion they are regarded as healthy, and passed as such, even by skilled veterinary surgeons.

6. The method of combating the disease by means of inoculation was brought prominently before the committee by some of the witnesses examined. It has its eager advocates and also its opponents, and as it is the only kind of treatment that has been employed with any success as a palliative or preventive, if not a cure of the disease, the committee endeavoured to make a searching enquiry into the method and the results of the operation. This part the enquiry is pretty fully treated in the evidence given above.

Of the hundred veterinary surgeons who were asked to express an opinion about it only thirty-five had either practised it or been witnesses of it, and had thereby the means of forming an opinion regarding its effects. Four of these are unable to say whether it has a protective influence or not; three are of opinion that it has no such influence; and twenty-eight affirm, in language more or less emphatic, that inoculation, when performed upon healthy animals, has the effect of protecting them against attacks from the disease. Six veterinary surgeons, who confess that they have no experience of the operation, hold the opinion that it has no protective influence whatever; and three believe that it has. The others reply that they have no experience of the operation, and do not venture to express any opinion regarding it. Some of those who admit the protective influence of inoculation are particular to explain that it has no curative influence, but that it prevents animals from taking the disease, if at the time of inoculation they were uninfected.

7, 8. No cases are recorded in which an animal, after having been successfully inoculated, contracted the disease; but several cases are recorded in which animals, after having been successfully inoculated, resisted the infection while standing in the midst of diseased animals.

9. Some cases are recorded of animals that had been inoculated, and which had within two months exhibited symptoms of the disease, but upon *post-mortem* examination it was found that the disease had been contracted by them prior to the date of their inoculation. It is frequently asserted that an animal may be successfully inoculated although it is suffering from an old pleuro-pneumonia lesion.

10. As regards the fifty-six days' rule the veterinary inspectors are almost unanimous in the opinion that it is not applicable to pleuro-pneumonia. It would require to be extended considerably in order to ensure that all animals remaining after exposure to an outbreak were free from the disease.

According to some a lengthened quarantine would especially be required where inoculation had been practised; but according to others it would especially be required where inoculation had not been practised. This is one of the points on which inoculators and non-inoculators contradict each other.

11. There is a very general consensus of opinion among veterinary inspectors that if they were allowed, without personal risk, to slaughter an animal suspected, they would frequently be able to nip an outbreak in the bud. Pleuro-pneumonia in its early stage exhibits no pathognomonic symptoms, and therefore veterinary surgeons have to wait until the disease has made some headway before they are sufficiently certain of its nature to justify them in ordering an animal to be slaughtered.

their own siding, or rather their own station, at which, a short time ago, 1,000 tons of London stable manure was in course of delivery. It is found that such dung, so transported, is supplied at less cost than that at which it could be produced by conversion of the farm products themselves; the pecuniary advantage of this facility of carriage for wholesale purchase of manure and for transport of bulky and heavy produce to market is bearing fruit in the magnificent crops of roots, mangolds, swedes, cabbage, &c., which now fill the fields lying nearest to the railway; and it is evident that under this intensive treatment it will not take many years to bring the useful farming land into the condition of a rich market garden.

One of the outward and visible signs of the commercial character of the husbandry appears in the change which has taken place in the order of manual labour of the farm. The managing director, who had organised at Bayswater the labour system by which some 20,000 visits per diem to London residences are carried on with the unflinching regularity of clockwork, was not likely to put up quietly with the old Sussex custom of short hours both for men and horses. Mr. Allender promptly disestablished manual labour that began at 7 o'clock in the morning and ended at 5 in the afternoon, and team work which commenced at 8 o'clock and finished at 4. Now, the appearance of all hands as the bell rings at 6 a.m. and the continuance of work until 6 p.m. dismisses the labour of the day is a matter of course. However, while these longer hours have been demanded, the daily wage has been augmented. And the farm-horses show by their condition that, by aid of good rations, they are quite as well able to perform their present nine hours' daily draught work (of course with a division of "shifts") as to accomplish their former seven. When 6 a.m. to 6 p.m. at the ringing of the bell was made law on the company's farm, there was a slight rebellion, but now most complete harmony prevails. And it is noteworthy that during the recent hay-making and the corn harvest the word "beer" has not been heard. In fact, not a single gallon has been allowed; money is paid in lieu of the drink, and it need not be said how greatly the wives and children of the labourers have benefited in consequence. Humane and considerate treatment has not been omitted when the hands are engaged in severe work. Thus, a number of huge cans, each holding 50 to 60 quarts of good skim milk, were placed in the fields and beside the ricks in hay-time, and the men permitted to help themselves. Every labourer living on the estate gets his daily supply of skim milk, and at 8 o'clock in the morning some dozens of children may be seen flocking in with their cans to carry off this much-appreciated gift. The object in the conduct of the field labour is to commence and carry through an operation in the shortest possible time. For this purpose, considerable force is brought to bear upon a given point. If the job in hand be ploughing, 10 to 12 ploughs, worked with a pair of good horses each, are put into one field; if it be mowing, five mowing machines, each drawn by a pair of horses, soon tell a tale. In harvest, two large sheaf-binding reapers and two smaller reaping machines are set to work. The head foreman in charge takes into the field all the implements, harrows, rollers, drills, &c., that he requires, and he remains with his force in the field until the task is finished. It may be added that the old farm-houses of the estate have been repaired and made into comfortable residences for the several working foremen, herds-men, and other head labourers; while a sufficiency of cottage accommodation has been provided for the general labourers. Every possible encouragement is given to induce the men to take a pride in their gardens; they have a reasonable amount of ground, all the farm-yard manure they require, and premiums are given for best collections of garden produce.

One feature in the management not yet alluded to is the practice of ensilage, the system adopted being the cheap formation of the silage by pressure in open-air ricks. Forage crops

are preserved in a succulent condition by the "Johnson" wire-rope-and-lever press, for which apparatus the company act as sole agents.

It will be seen that the solution of the agricultural problem is being sought in large farming, heavy stocking, high feeding, economically-managed labour, ready transport, purchase in quantity and at the closest market prices of feeding stuffs, manures, and other commodities required as raw material for the agricultural factory; and that it is believed that competent commercial results can be attained from maximum production per acre, saving of waste, and taking advantage of lowness of the markets for imported or other commodities which the company can buy and use. We can only report that, as far as inspection of the Aylesbury Dairy Company's farm indicates, the promise is that this example of genuine commercial husbandry will meet with full success.

One further remark is needed. While the farm enjoys in the Dairy Company at St. Petersburg Place, Bayswater, the finest organization for the marketing of its dairy produce, the combination of the farm with the London dairy provides the surest machinery for securing to the public a supply of specially guarded milk. Late investigations and discoveries prove that, for the health of the public, it is impossible to surround the supply of milk and milk preparations with too many judicious safeguards. The Aylesbury Dairy Company will now be able to retail not only ordinary milk but more delicate milk from specially fed cows, and to supply also the various family preparations which are now becoming important items in the company's business, all produced from first to last by operations entirely in their own hands.

## Garden and Orchard.

### ON THE CULTIVATION OF THE CUCUMBER.

(Continued.)

*Stopping.*—This operation should be first performed when the plant has pushed so as to have two joints; the growing point must then be stopped by pinching it off above the second joint. The second stopping ought to take place when the shoots, which push in consequence of the first, have grown so far that the growing point can be pinched off above the third joint.

Materials for the fruiting bed must be prepared as directed for the seed bed. Where there are plenty of leaves at command, it is a good plan to mix a quantity of them with the dung, as they tend to render the fermentation less violent at first, but more lasting. The heat from the fermentation of stable dung will exceed 150 degrees under circumstances favourable to its development, and that temperature is far too high for vegetation. If fresh horse dung is mixed with cow dung the heat becomes still greater; it is therefore evident that such a high state of fermentation ought to be checked by turning the mass, and otherwise moderating it by the admixture of materials disposed to make a slow, mild fermentation, such as leaves of old half wasted hothed dung. The shortest materials should be used for the upper layer of the bed, and for this some employ half decayed leaves. If made up in the second or third week of February, the height may be four feet in front and four and a half feet at back. The bed is formed layer by layer like the seed bed. When finished, the frame and sashes should be placed on, care being taken to keep the sashes closed until the heat rises in the bed, when air should be admitted. As soon as the heat falls down to 85 or even 90 degrees there is absolutely no danger of its injuring the roots of the plants if due precautions are taken.

Three or four days, at least, before the plants are introduced into the frame prepared for fruiting some barrow-loads of soil adapted for the growth of the plants should be put into the frame, in order to acquire a temperature of 75 or 80 degrees. It should be then gathered up in hillocks, one under the centre of each light, or, rather, nearer the back than the front. They must be raised so that the plants may be

within six inches of the glass. The tissue of the young plants is very delicate, and not adapted to bear vicissitudes of cold or dryness, more especially if these occur suddenly. Therefore, before planting out it will be well to place the plants in the frame for a day or two without turning them out of the pots. The soil in these will acquire the same temperature as that into which they are to be transplanted; and, consequently, when this takes place no check, as regards temperature, need be apprehended. The soil of the hills or mound raised for the reception of the plants should be moist; not what would be termed wet; and the soil in the pots ought to be in a corresponding state of moisture with that of the hillocks. Then, by carefully turning the plant out of the pot it may be planted in the top of the mound with its ball entire.

*Watering.*—Cucumber plants should always have plenty of moisture regularly supplied, for a superabundance at one time cannot compensate for a deficiency at another. The demand for moisture at the root increases as the foliage expands. It depends also on the temperature—the greater or less dryness of the air—and on the amount of ventilation. Care should be taken that the temperature of the water should be about the same as that of the soil in which the plants are growing. It is easy to bring the water to the proper temperature by admixture with a portion of boiling water, and when it is mixed it is not much trouble to dip a thermometer into the water, and so ascertain if it is of the proper heat. If the heat of the soil of the bed is rather low, that of the water may be a degree or two lower, but on no account higher.

In watering the young plants whilst in pots, of course, a fine rose ought to be employed, and likewise when they are planted out on the hills, in order that the soil may not be washed from the roots. In the early spring months the soil should be watered about ten o'clock in the morning, shutting down the lights for a short time, in order to prevent a chill taking place from rapid evaporation; then gradually admitting air, more or less, according to circumstances. In dull, moist weather it is advisable not to wet the foliage, and the stem, as well as the soil immediately surrounding it, should be kept dry. In summer, watering is usually commenced about four o'clock in the afternoon.

*Giving air.*—The chief object of this is to prevent the temperature within the frame from getting too high. Air, however, requires to be admitted with great caution in the early part of the season, when the disparity of the temperature within the frame and that of the external air is very considerable; and when the plants are young and tender from growing in a moist, warm atmosphere, they are readily affected by the contrary. Until the nights become warm, coverings are necessary. It would be desirable to have them of a description that would keep the glass both warm and dry. Double mats will effect this purpose. Shading is necessary when the sun's rays are powerful, but the air at the same time too cold to be admitted to an extent sufficient to counteract their efforts. It is employed at other times when the plants are evidently suffering from a very hot sun, as is most apt to be the case on a sudden outbreak of sun after dull weather.

The cucumber naturally extends its shoots or vines to a much greater distance than the width of an ordinary frame; and if their growth were not regulated by pruning, they would become over crowded and weakened in consequence. Stopping the plants at every stage of their growth, as already directed, will cause shoots to break near the stem. Select four of these, of as nearly equal strength as possible for principal branches. Encourage laterals from these to fill the frame sufficiently and to bear fruit. Stop at one, two, or three joints above the fruit, according as there is room. Remove all weak shoots at an early stage of their growth, and those which are left should be kept moderately thin and regular. In conclusion, we, in compliance with the wishes of a correspondent, give the dimensions of a three light cucumber frame, viz., length of frame, 10 feet 3 inches; width, 6 feet; height at back, 3 feet; height in front, 2 feet 3 inches. Frame to be made of red pine, 2 inches thick, sashes glazed with 21 oz. glass, and strengthened by an iron cross bar, with handles both back and front.

The soil, or compost, for cucumbers should be two parts of good turfy loam, one of well decomposed farm-yard dung, with a portion of leaf mould.—*The Farmers' Gazette.*

These are the main facts and opinions elicited by the queries, and taken in conjunction with the evidence given above they afford a fair means of estimating the extent of our knowledge regarding the infectiousness of the of the disease, and the value of the means at present adopted to prevent its spread.

Now that the Government have taken up the matter, and have consented to appoint a committee of inquiry, it may be well to state shortly what are the points regarding which we are in doubt or in ignorance, but which it is desirable to have investigated and cleared up.

(To be continued.)

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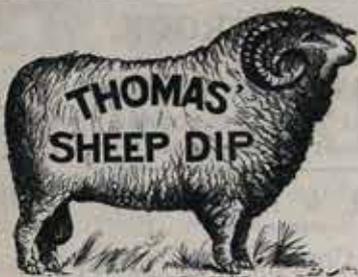
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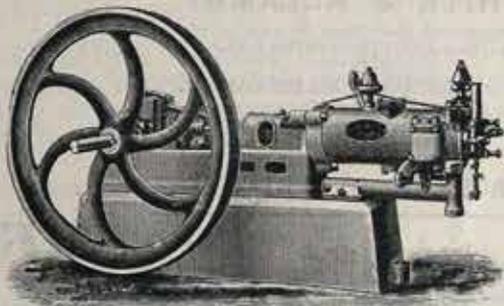
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It will be understood how very much quicker the power is brought into application by this means than by the ordinary SCREW PRESS, and double the work is got through by the same number of men.

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The side door is also held in its place by a catch, which at any time can be relieved instantly, the door falling back and allowing the bale to be removed.

At the Melbourne Exhibition competition this Press turned out 3 Bales of Scoured Wool in 28½ minutes, being considerably less than any other Press, although one had the advantage of being driven by steam.

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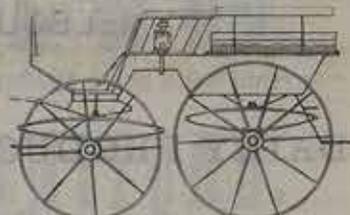
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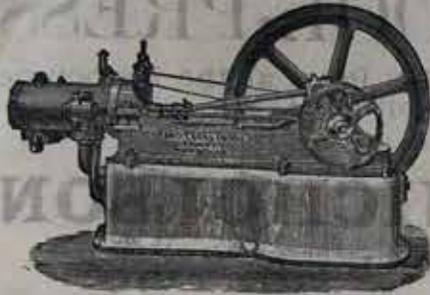
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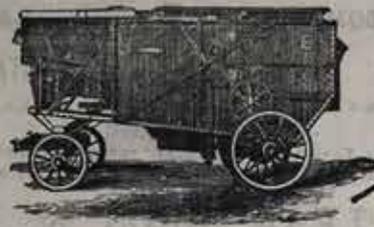


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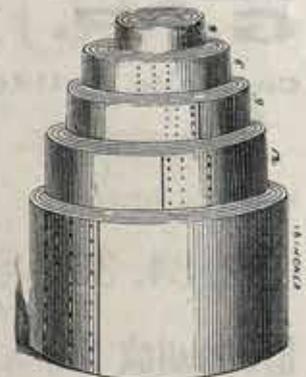
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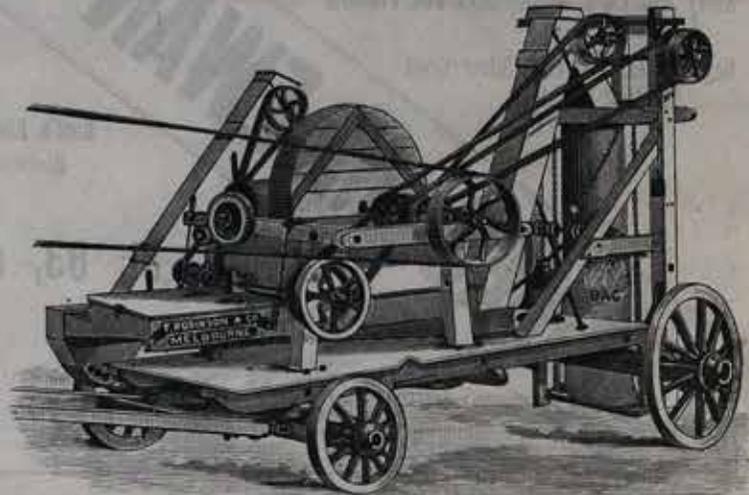
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