

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/
Couverture de couleur

Covers damaged/
Couverture endommagée

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Cover title missing/
Le titre de couverture manque

Coloured maps/
Cartes géographiques en couleur

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Bound with other material/
Relié avec d'autres documents

Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Additional comments:
Commentaires supplémentaires:

Coloured pages/
Pages de couleur

Pages damaged/
Pages endommagées

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Pages detached/
Pages détachées

Showthrough/
Transparence

Quality of print varies/
Qualité inégale de l'impression

Continuous pagination/
Pagination continue

Includes index(es)/
Comprend un (des) index

Title on header taken from:
Le titre de l'en-tête provient:

Title page of issue/
Page de titre de la livraison

Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
										✓	

Farming

A Paper for
Farmers and Stockmen

Ontario Farms for Sale

Township of Grantham, 96 acres, Fruit, Dairy and Grain farm, close to the City of St. Catharines; rich soil, well watered, fronting main road to Niagara; Electric Cars; Frame House and Barns.

Township of Manvers—120 acres, nearly all cultivated; spring water and wells; rich soil; Frame Dwellings and Barns; good orchard. Five miles to railway station.

Township of Whitchurch—100 acres, nearly all cultivated; spring creek; rich soil; Frame House and Barns; orchard, four miles to Aurora station, G.T. Railway. Apply to

MILNER HART, 103 Bay St., Toronto

WEST'S FLUID

is a positive preventive of

CONTAGIOUS ABORTION AND HOG CHOLERA

and a most effective DISINFECTANT, simply because it is a strong ANTI-SEPTIC, and destroys the germs upon which such conditions depend, and does not contain corrosive nor irritating properties.

Circulars (specially prepared by a veterinary surgeon) on application.

THE WEST CHEMICAL CO.,
TORONTO, ONT.

DEPT. F Agents wanted in all counties.
Headquarters for LINCOLN SHEEP DIP

Patchall

WILL REPAIR

Rubber Goods	Cloth Goods
Rubber Coats	Blind Canvas
Rubber Boots	Grain Bags
Rubber Overshoes	Mail Bags
Half Sole Rubbers	Your Pants

PATCHALL will not do impossible things. It will not make a worn out garment new, nor mend one run over by a railway train, but it will mend all as stated above, and nothing less. Eight patches, 2 inches square, for a cent. If you cannot obtain it from your hardware dealer, send 25 cents and we will mail a can to your address, prepaid. Manufactured by

DOMESTIC SPECIALTY CO.
Hamilton, Ont., Canada.

Quick Cure For Lump Jaw

Not one case in a hundred that cannot be cured by one to three applications of

Fleming's LUMP JAW CURE



Trade Mark Reg'd.

Lump Jaw has heretofore baffled treatment. It has infected herds and pastures, and caused loss of hundreds of thousands of dollars. This new remedy cures quickly, thoroughly, and permanently. Leaves jaw smooth and sound. Easy to apply; costs but a trifle compared with results.

GUARANTEE.—Every package sold under positive guarantee; money back if it should ever fail to cure.

Sent everywhere by mail, Price, \$2.00.

FREE A valuable illustrated treatise on cure of Lump Jaw sent free to readers of this paper.

Address: FLEMING BROS.

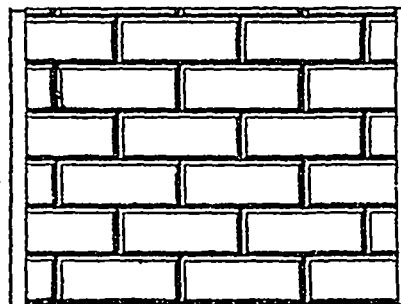
Chemists, ST. GEORGE, ONTARIO

The Price



Of Our.....
Sheet Steel
Pressed Brick

Is so low that the cost need not prevent your using it.



It makes an economical and reliable covering for all kinds of buildings—is fire proof and wonderfully durable—and can be easily and quickly applied by any handy man.

Let us send you full particulars—it offers unequalled protection for farm buildings.

METALLIC ROOFING CO., Limited,
1192 KING STREET WEST, TORONTO.



DON'T make a mistake
BUT ask your Dealer for
ROBERTSON'S
the Best
PAINTS in the Market

THE JAMES ROBERTSON CO. Limited
The Paint Makers..... TORONTO

HOLSTEINS.

For Immediate Sale

Six choice Holstein Bulls, 9 to 14 months old, just imported. Bred by Chapman and Horr Bros., Ohio. Sired by the richly bred bull Pauline Paul's Grandson. Clothilde dams of these bulls are greater producers in this fine herd. We have personally selected these bulls to suit our dairy customers.

Write for particulars At Once.

A. & G. RICE,

Currie's Crossing, Ont.

**HOLSTEINS, TAMWORTHS and
... BARRED ROCKS ...**

COME grand January Pigs to offer, sired by Whit acre Crystal (Royal Prize Winner). Also, a few Boars, ready for spring service. Two Sows, 10 months old; one Imported Boar, 7 months old. Herd numbers 100—most select in America. All ages for sale. Am booking orders for Barred Rock Settings.

A. O. HALLMAN,
New Dundee, Waterloo Co., Ont.

MAPLE-HILL

**Holstein-Friesians
BULL CALVES FROM**

QUEEN DeKOL 2nd. Winner of Prince of Wales' prize, over heifers of all breeds in public test.

LADY AKKRUM 2nd. 67½ lbs. milk in 1 day and 24 lbs. butter in a week.

KAATJE DE BOER. 63 lbs. milk and 3 lbs. butter per day at 14 years old.

MERCENA. 57 lbs. milk per day at 14 years old.

DAISY TEAKE. Dam of Daisy Teake's Queen, whose 4-yr.-old public test has never been equaled.

G. W. CLEMENS, St. George, Ont

**ROSE HALL STOCK FARM.
HOLSTEIN-FRIESIAN**

FOR SALE—Two choice young bulls, sired by Lord Everett and, a great grandson of Barrington; one of the best bulls ever imported. Dams are Cecilia Milk Mercedes, 1st and 2nd, both of good milking strains. Also heifers and heifer calves. Prices reasonable. **T. W. CHARLTON, St. George, Ont.**

E. PANNAECKER Fairview Farm, Hespeler, Ont., Breeder of reg Holsteins. Stock for sale.

GREGOR MACINTYRE, Renfrew, Ont., Breeder of Registered Holstein Friesian Cattle Stock for Sale.

J. A. RICHARDSON, South March, Ont., Breeder of Holsteins, Dorset Horned Sheep, Tamworth Swine.

GALLOWAYS.

A. M. & R. SHAW, Brantford, Ont., Breeders of Galloway Cattle. Choice young animals for sale.

DAVID McCRAE, Janefield, Guelph, Canada, Importer and Breeder of Galloway Cattle, Clydesdale Horses, and Cotswold Sheep. Choice animals for sale.

DEVONS.

W. J. RUDD, Ten Mills, Ont., Breeder of Devon Cattle, Cotswold and Suffolk Sheep, Berkshire Pigs, Plymouth Rock Fowls. Young stock for sale.

ABERDEEN ANGUS.

J. BUCHANAN, Napier, Ont., Breeder reg. Aberdeen-Angus Cattle. Stock by Lord Forrest for sale.

Des Moines THE BEST AND THE CHEAPEST
Incubator
SURE TO GIVE SATISFACTION.

Rock Roy Farm Sole Agent for the Dominion. Send 2 cent stamps for Illustrated Catalogue of Poultry and Poultry Supplies. Poultry's Guide, New Edition, 15 cts. per mail. P.O. Address,
24 St. Sulpice St., Montreal.

A. ELLIOTT, Pond Mills, Ont.

Emden Geese, Pekin Ducks, Bronze, White Hol and Narraganset Turkeys. Collie Dogs and Oxford Sheep. All of the best strains.

Dentonia Park Farm

**EAST TORONTO
(Coleman P. O.)**

W. E. H. Massey, Proprietor

Address **DENTONIA PARK FARM, Coleman, Ont., Canada**

Dentonia Jersey Herd

Two handsome young bulls for sale, fit for service; one out of imported stock and one a splendid type of the St. Lambert family. Prices and particulars on application.

Dentonia Poultry Yards

Poultry department in charge of Frank R. Webber, formerly of Guelph. Handsome Pens of White and Brown S.C. Leghorns, Barred P. Rocks, Black Javas, White Langshans, Pekin Ducks. Eggs in season, 15 for \$2; or 30 for \$3.50. Stock for sale. Also Emden Geese or Turkey.

Dentonia Trout Ponds

This year's fry in fine healthy condition ready for delivery, also yearlings. Market Trout supplied to the trade.

FOR SALE

CHOICE AYRSHIRE BULLS; also EGGS FOR HATCHING, from the choicest matings in Barred Rocks, Black Spanish and Black Minorcas, at \$2.00 per 13. Rouen and Cayuga Ducks at \$1.50 per 11. A few B. Rock Cockerels left.

**JAS. McCORMACK & SONS
ROCKYTON, ONT.**

**THE OLDEST ESTABLISHED FLOCK OF
OXFORD-DOWN SHEEP IN CANADA.**

Animals of all ages and both sexes for sale at all times. Reasonable.

HENRY ARKELL, 311 P.O., Ont.

Alva Farm GUERNSEYS



Awarded first prize at Montreal for BREEDERS YOUNG HERD. Young animals of merit for sale. Pedigrees and particulars to parties wishing to purchase. Address,
SYDNEY FISHER, Knowlton, Que.

W. D. FLATT

HAMILTON P.O. and TELEGRAPH OFFICE



OFFERS FOR SALE

Twenty-two Choice Shorthorn Bulls from three to fifteen months old. Persons requiring Show Bulls can be supplied from this bunch.

Twenty Cows and Heifers, served by imported bull Golden Fame-20056. Prices consistent with quality. Inspection invited.

Binder Twine

Agents Wanted. Ontario Binder Twine Co., Union Station Arcade Toronto, Ont.

AUCTION SALE

—OF—

PUREBRED JERSEY CATTLE

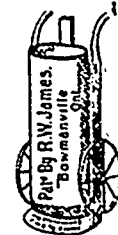
16 HEAD OF A.J.C.C. CATTLE (12 Females and 4 Bulls); also GRADE CATTLE and 3 HORSES, will be sold by Public Auction,

On **FRIDAY, JUNE 30, 1899,** at 2 P.M.

the property of

GEORGE LATSON, FREEPORT, ONT.

Catalogue ready June 15. | 2½ miles east of Berlin.



Cattle, Hog & Sheep Labels

Spring Ear Punches to suit.

Patent Grain Truck and Baggor

Send for Circular and Prices to
R. W. JAMES,

Farm Implement Forwarding Agency
Bowmanville, Ont.

EGGS EGGS EGGS

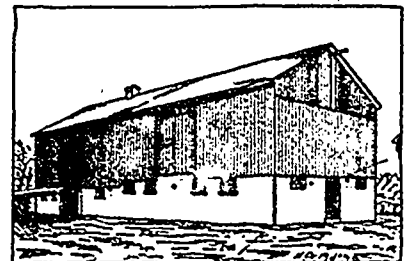
Black and White Langshans, Barred and White Rocks, Silver-Laced and White Wyandottes, Black Minorcas, Houdans, Cornish Indian Game, Single Comb White and Brown Leghorns.

EGGS—\$2.00 per 15, \$3.00 per 30, or, \$8.00 per 100, straight or assorted.

Shetland Ponies; Dorset Sheep; Jersey Cattle.

STRATFORD BROS., Brantford, Ontario

The following is what
Mr. W. J. Weir, of Crumlin, Ont.,
says about Thorold Cement:



CRUMLIN, ONT., Mar. 6, 1899.

ESTATE JOHN BATTLE,
Manufacturers Thorold Cement,
Thorold, Ont.

DEAR SIRS,—It is with pleasure that I testify to the excellent qualities of your Thorold Cement for building purposes. Last summer I built a concrete wall under my barn (size 34 x 102 x 9 feet high). It makes a splendid wall, and I consider that I have a first-class job. I also put in concrete floors for horses and cattle with your cement; they give good satisfaction, being perfectly dry and warm, and are easily kept clean. I can strongly recommend it to all farmers who intend using Cement.

Wm. J. WEIR

ESTATE OF JOHN BATTLE

Mention this paper. of. **THOROLD, ONT**

Swine

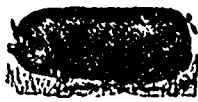
Large English Berkshires.
FOR SALE

2 GOOD STOCK BOARS, over 1 year; a number of choice SOWS, to farrow soon, YOUNG STOCK, 8 weeks to 3 months old, both sexes. Mention FARMING.



O. R. DEOKER, Chesterfold, Ont.

Golden Link Herd of Berkshires



I have the 1st-prize boar under 12 months at Toronto for sale, and 1st at Western Fair; also 2nd prize boar under 6 mos. at Toronto. Have 4 first-class boars fit for service, 5 and 6 mos. old. Have 2 of the sows for sale that tried for 1st of the three pigs bred from one sow, and the 2nd and 3rd prize sows under 6 mos. These winning sows are bred from Perfection, the unbent yearling. Have a few good sows bred for sale. Have 25 head of young pigs from 10 to 8 weeks. Am booking orders for March and April pigs.

T. A. COX, Brantford, Ont.

Swine

•• FOR SALE ••
Berkshire Boar, Prince Lee ^{Bred by Baron Lee, imported;} dam Premier Bell, imported. This is a grand stock hog with good length and depth. Also

YORKSHIRES and TAMWORTHS
of both sexes, all bred from prize-winning stock. Write for prices or, better still, come and see stock.
T. J. COLE
Maple Grove, Bowmanville, Ont.

**HERMANVILLE
..TAMWORTHS..**

I HAVE several litters now sing, and also a number of June litters of the highest quality and bluest blood in North America. The "Parah! Mab" strain of Tamworths can only be obtained from me. I make a specialty of choice Breeding and Exhibition stock. I like to ship when ready to wean. I respectfully solicit your valued orders, and will be glad to quote you prices, delivered free in any part of Canada or the U.S. Address—

Hermanville Farm, P.E.I., Can.

Farming.

A PAPER FOR FARMERS AND STOCKMEN

Farming is a paper for farmers and stockmen, published weekly, with illustrations. The subscription price is one dollar a year, payable in advance. Postage is prepaid by the publishers for all subscriptions in Canada and the United States. For all other countries in the Postal Union add fifty cents for postage.

Change of Address.—When a change of address is ordered, both the new and the old address must be given. The notice should be sent one week before the change is to take effect.

Receipts are only sent upon request. The date opposite the name on the address label indicates the time up to which the subscription is paid, and the change of date is sufficient acknowledgment of payment. When this change is not made promptly notify us.

Discontinuances.—Following the general desire of our readers, no subscriber's copy of FARMING is discontinued until notice to that effect is given. All arrears must be paid.

How to Remit.—Remittances should be sent by cheque, draft, express order, postal note, or money order, payable to order of FARMING. Cash should be sent in registered letter.

Advertising Rates on application. Letters should be addressed:
FARMING,
CONFEDERATION LIFE BUILDING,
TORONTO.

Stock Notes

MR. GEORGE LATSCH, of Freeport, Ont., is advertising purebred A.J.C.C. Jerseys, grade cattle and horses, for sale by auction on June 30th. See advertisement.

MR. GEO. B. ARMSTRONG, of Teeswater, Ont., writes, "I have sold the bull advertised in your columns to Mr. Wm. Matheson, of Lochalsh, Ont. My Leicester are doing well and I will have a fine lot of rams for this fall's trade. My lambs from Baron Solway, which was bred by Mr. A. W. Smith, of Maple Lodge are also an exceptionally fine lot."

Books and Bulletins Received.

Report of the Second Annual Convention of the National Live Stock Association, held at Denver, Colorado, January, 1890.

Flock Book of Suffolk Sheep, Volume XIII., published by the Suffolk Sheep Society, Mr. Ernest Prentice, 64 Oxford street, Ipswich, England, secretary.

Twenty-Sixth Report of the New Jersey State Board of Agriculture.

The Third Annual Report of the Provincial Instructor in Road Making for 1898, containing a fund of information of value to every one who travels over Ontario roads.

Cholly—"Why do they say a little learning is a dangerous thing?"

Dolly—"If you ever get any you will find out."

"My little man, aren't you pleased to have a new baby brother, or did you want a little sister?" "If it was all the same to the Lord, I preferred a goat."

Mrs. Homespun, indignantly—Here's an article says that in Formosa a wife costs five dollars. Mr. Homespun, thoughtfully—Well, a good wife is wuth it.

Erastus—I wants it eighteen onions fine. Jeweller—I presume you mean eighteen karats. Erastus—Das it, das it, sah. Eighteen karats. I knowed 'twas a vegetable.

Customer, severely—Do you sell diseased meat here? Butcher, blandly—Worse than that. Customer, excitedly—Mercy on us! How can that be possible? Butcher, confidentially—The meat I sell is dead—absolutely dead, sir.

Wm. Butler & Son

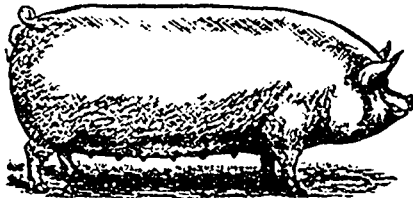
Dereham Centre, Ont.

Importers and exporters of Pure-bred Live Stock. Breeders of Guernsey cattle, Chester White and Duroc Jersey Swine. Stock delivered free in carload lots to any part of Canada. Write for circulars, calendars, etc.



.. HIGHEST TYPE OF BACON HOGS. .

Oak Lodge Herd of Large Yorkshires

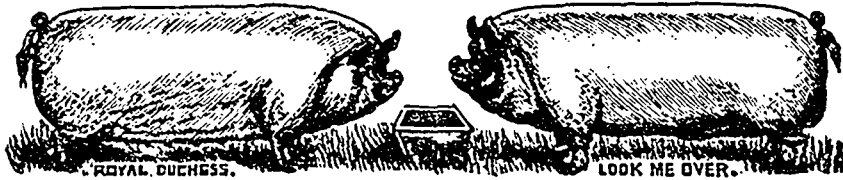


The Largest Herd of Pure-Bred Yorkshires in America.

This herd has won the best prizes offered for the breed during the last ten years. Only one breed kept, but the choicest of its kind. Three imported stock boars and several sows that have all been winners at the largest shows in England, also winners at prominent Canadian and United States shows. Pigs of all ages for sale.

J. E. BRETHOUR, Burtford, Ont.

SUMMERHILL HERD OF YORKSHIRE HOGS



The Lengthy English Type

Largest herd of imported Yorkshires in America. Purchased from the most noted breeders in England. Also 200 Canadian-bred pigs of all ages for sale. Stock guaranteed as described. All trains met at Hamilton by appointment.

D. C. FLATT, Millgrove, Ont.

W. C. EDWARDS & CO. Breeders and

PINE GROVE STOCK FARM,
Rockland, Ont.

On the C.P.R. and G.T.R. Railways. Special bargains on young bulls superior merit and select Scotch breeding. Also thick young hollers at the right prices.

Ayrshires, Jerseys, Shropshire Sheep, and Clydesdale Horses.

Post Office, Telegraph Office, and Steamboat Landing, Rockland, Ont., or the C.P.R.

J. W. BARNET,
Manager



LAURENTIAN STOCK and DAIRY FARM,
North Nation Mills, Que.

Ayrshires, imported and homebred herd headed by imported Tam Glen 2nd, No. 1310 D. A. H. B. Jerseys all of the celebrated St. Lambert family; herd headed by Liggar Fogia of St. Anno's 25704 A.J.C.C. Berkshire Pigs. Young stock of all the above breeds for sale.

Post Office, Telegraph Office, and Railway Station, North Nation Mills P.Q., on the C.P.R.

A. E. SOBRYER,
Manager

SCHOOLS.

TORONTO

LOOK AHEAD

Young Man! Young Woman!

to a happy and successful future, and remember that Education is a most important factor in winning success just now. Give your education a practical turn and you'll never regret it.

Central Business College

of Toronto at an early date. Some of you can enter NOW. Others can't start until the fall. Get a Catalogue at any rate, and study our advantages. Write if

W. H. SHAW, Principal

Business Sense...

On top of teaching in practical business manner subjects like book-keeping, stenography and typewriting, will instil into the minds of students a degree of business sense that enables them to catch on quickly to office work when they take a business position.

British American Business College

Y.M.C.A. Building, Cor. Yonge and McGill Streets
DAVID HOSKINS, TORONTO
Chartered Accountant, Principal.

STRATFORD

It Pays to Possess Business Brightness

Central Business College

STRATFORD, ONT.

Properly prepares young men and women for business life. 44 of our recent students have accepted good situations. Write to-day for a beautiful catalogue.

W. J. ELLIOTT, Principal.

PUREST AND BEST

Windsor Salt...

FIRST PRIZES

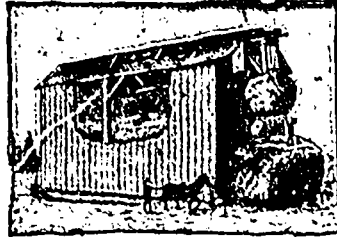
Were awarded to 8 exhibitors at the Industrial Fair, Toronto, and Western Fair, London, 1897, who used Windsor Special Cheese Salt in curing cheese exhibited, and to 9 exhibitors at the same exhibitions who used Windsor Special Butter Salt in salting butter exhibited.

GOLD MEDALS

Awarded for the best exhibits of Creamery and Dairy Butter at both exhibitions were won by exhibitors using Windsor Butter Salt.

No stipulation was made as to the use of Windsor Salt.

The Windsor Salt Co., Limited
Windsor, Ont.



TO THE FARMER

Are you in need of an apparatus to handle your hay, loose grain and sheaves? If so, we can supply you. We have turned out over 20,000 of these machines and they are giving good satisfaction.

M. T. BUCHANAN & CO.,

d-6-13 Ingersoll, Ont.

THE CO-OPERATIVE FARMER

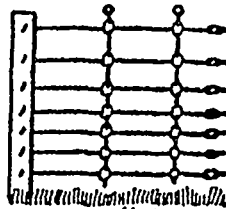
SUSSEX N. B.,

reaches the farmers of the Maritime Provinces. Get a sample copy—you'll be sure to like it. Ad. rates on application. Address:

CO-OPERATIVE FARMER,
Sussex, N. B.

Fence Machine Free

With 100 Rods. Gold Stem-Wind Watch Free.



To introduce Diamond Grip Fence in new localities. Don't have to wind wires around each other (like old woven fences) as cross wires are gripped and protected from weather. Can never slip or break, 5 times as strong and lasts 10 times as long, as any woven wire fence made; can use coiled spring, plain, twisted or barb wire. Cheapest Fence in end that was ever invented. Agents wanted; write quick to



CANADA FENCE CO., London, Ont.

ATTRACTIVE

MINING STOCKS

I have several good active stocks on hand and I invite stock men and farmers to enter into correspondence with me with a view to business.

BRITISH COLUMBIA
ONTARIO and
REPUBLIC

Mining issues dealt in on commission.

I AM expecting a visit from my REPUBLIC representative, COMMISSIONER H. L. PERCY. Mr. Percy has been at Republic during the last sixteen months and is an exceptionally well informed mining man. Mr. Percy, Manager J. P. Harvey (of the Republic, Jim Blaine, and Lone Pine Mines) and myself will take pleasure in placing a ground floor Republic proposition before Canadian investors, something which will appeal to the most careful investor. It is may be the opportunity of your lifetime and I counsel the purchase of shares when the project is ready for your attention. I will take care that you are advised in time.

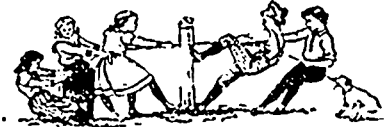
Write for: 1st, my Republic Pamphlet; 2nd, the Prospectus of the Derby Mining Co; 3rd, a copy of the Canadian Mining Gazette. In the last named publication some up-to-date mining notes of mine are given.

E. GARTLY PARKER

Member of the Standard Mining Exchange,
12 Adelaide Street East, TORONTO.

Phone 1812

BINDER TWINE



Testing the Farmers' Company's make of Pure Manilla Twine

The Farmers' Binder Twine Co., LIMITED

OF BRANTFORD, sold you last year their entire mill's output at about half what others were charging. See their agents before buying for the harvest of 1899.

BINDER TWINE

FARMERS

PURE MANILLA, 650 FT. TO LB.
SPECIAL MANILLA,
TIGER, STANDARD.

Farmers! Don't be taken in. There is none "just as good." These twines will not bunch at the knotter, and a Binder will run all day without stoppage, thus saving time, annoyance and a "lot o' cussin'."

We pack our twine in bags of the size of ordinary grain bags, and we are not ashamed to put our name upon it. Don't take any other

CONSUMERS' CORDAGE CO.

LIMITED,

MONTREAL.

FARMING

VOL. XVI.

JUNE 13th, 1899.

No. 41

Get Ready the Harvesting Machinery

Just now, when there is a little slack time on the farm, is a good opportunity to get the harvesting machinery ready. Very often a lot of valuable time is wasted and the crop injured because the mower or binder is not ready to go to work with when haying and harvesting arrive. This can be avoided by having all the machinery and harvesting implements put in thorough repair a few weeks before the crop is ready to be cut. By doing this necessary piece of work a few weeks ahead of time, if any parts are wanting or bolts missing they can easily be replaced before the implements are ready for use.

If this work is left till the last moment, and it becomes necessary to send away for a part of a mower or binder, there may be a delay in its arrival that may mean a serious loss of both time and money. So we repeat, go over carefully the mower, binder, and every implement that will be required to take off the hay and grain crop. Each nut and bolt, the cutting knives and every part of the machine should be examined and gone over carefully so as to make sure that everything will be ready and that no unnecessary breakdowns occur during the harvest.

Repairing the farm machinery and keeping it in order is just as important and as necessary as any other part of the farm duties, and can often be done on a wet day when outside work is impossible. Not only will this save time and money in getting the haying or harvesting done, but it will make the machinery for doing the work last longer. If every farm machine were taken proper care of the farmer would be money in pocket in not having to buy new machines so often.

Maintaining Soil Fertility

Dairy, Live Stock and Grain Farming Compared

With the development of the new milk trade in Great Britain has come an increased interest as to the effect selling the whole milk off the farm has upon the fertility of the land. Professor McConnell, in a recent issue of *The Dairy*, strongly advises British dairy farmers where possible to take up the new milk trade in preference to cheese or butter-making, for the reason that the work of the dairy is reduced to a minimum, while the cash returns are immediate. Butter and cheese-making require a certain amount of skilled labor which is more expensive than that required to handle the milk. He might have added, however, that in the new milk trade the British dairy farmer will not have as much foreign competition as in the cheese and butter trade.

Professor McConnell goes on to show that, compared with other systems of farming, dairying generally, or milk selling in particular, is not anything like so exhausting. In this connection we quote as follows:

"It is the phosphates only that are carried away; for on pasture land nitrogenous material renovates itself, or at any rate is collected by the leguminous plants that grow in it, and the other materials removed by crop or stock may be left out of account because the soil is never likely to become exhausted of these. Taking the phosphates only, I have

prepared the following table, based on the Rothamsted figures, to show the comparative exhaustion of phosphates caused by the different systems of farming:

PHOSPHORIC ACID REMOVED OFF THE FARM IN VARIOUS PRODUCTS.

Per acre per annum.	lbs.
Wheat 30 bushels	14.2
Barley 40 "	16.0
Oats 45 "	13.0
Beans 30 "	22.8
Hay 1½ tons	12.3
Clover 2 "	24.9
Turnips 17 "	22.4
Swedes 14 "	16.9
Mangels 22 "	34.0
Potatoes 6 "	21.5
Store ox, 1,300 lbs.	4.0
Milk cow (500 gallons of milk) and calf.	4.2
Sheep, 150 lbs.	4.7

"In the above table the straw, tops, etc., are left out of account. A store ox is taken at two years old, 1,300 lbs. live weight, and is allowed to eat the produce of five acres in two years. A cow is allowed the produce of three acres per annum, and the calf at birth to contain three pounds of phosphoric acid, and sheep to weigh 150 lbs. live weight, and to graze three to the acre. In the ordinary run of farming the three kinds of stock will about equal one another in the phosphoric acid they require. It will therefore be seen that arable farming, where the crops are more or less sold off, really reduces the land in phosphoric acid infinitely more than does the sale of milk, and I would like particularly to call the attention of readers to this state of matters. Dairy farming does, of course, reduce the store of phosphates in the soil, but it is done at such a slow rate that a very small allowance of bone meal or Thomas-phosphate, applied at long intervals, will make up for the same. I have elsewhere called attention to the fact that the reduction of the Cheshire pastures took seven centuries to accomplish, and that of the Ayrshire pastures two centuries, and that a comparatively small dressing of bones in both cases made them as good as ever."

Another point brought out in the above comparison is that selling fat cattle and sheep are not nearly so exhaustive on the soil as removing the raw products, such as grain, hay, roots, etc. This is something Canadian farmers should make a note of. Not only does wheat continue low in price, but its cultivation and the subsequent removal of the grain from the farm is very exhaustive to the soil. To grow grain successfully, more particularly in the older parts of Canada, the farmer must give a great deal more attention to supplying plant food in the soil than in raising live stock or in dairy farming. It may be that the growing of grain continually for many years and reducing the supply of soil fertility is responsible for so much killing out of winter wheat this spring. At any rate it seems reasonable to suppose that a fall wheat plant grown from strong and vigorous seed and on soil where it has a sufficient supply of plant food in right proportion, that is, a balanced ration, would be able to withstand unfavorable conditions of climate, etc., better than a plant grown on poor soil lacking in plant food. But be this as it may, the Rothamsted experiments show that it is very much easier to maintain and increase the fertility of the land by stock-raising and dairying than any other system of farming. By supplying small quantities of phosphates to take the place of those removed in the milk or in selling live stock, an equilibrium in soil fertility can be easily maintained.

Butter-Making Competition

A few weeks ago we drew special attention to the fact that a *butter-making* contest will take place at the Toronto Industrial Fair this fall. This is the first contest of this nature that has ever taken place on this continent and we trust our dairymen and farmers will patronize it liberally, not only by their presence but by competing for the prizes, which are valuable. This is an entirely new venture in this country and upon its success this year will largely depend whether it will be made a prominent feature at the leading dairy exhibitions in this country. Such a contest will certainly prove to be a great educational feature of our shows and if successful could be enlarged to take in cheese-making as well.

Mr. H. J. Hill, Secretary of the Industrial Fair, has issued a special circular to dairymen containing the part of the prize list referring to this competition, from which we take the following :

(Entrance Free.)

Src.	CLASS 66.	1st.	2nd.	3rd.	4th.
17.	Open to students or ex-students, male or female, of any Dairy School or Agricultural College, or makers in any established Creamery or Butter Factory, in the Dominion of Canada or the United States.....	\$40	\$30	\$20	\$10
18.	Open to butter makers, farmers' wives or daughters or help, male or female, in any Farm Dairy in Canada or the United States.....	40	30	20	10

RULES.—1. Ripened cream will be supplied free of charge, and the butter will be the property of the Association. The amount of cream to be supplied competitors will be decided by the judges.

2. The competitors will be supplied with churns, butter-workers, pails, salt, etc., and will be required each day to leave everything clean and in working order before leaving the Dairy. If any competitors wish to provide utensils for their own use they may do so.

3. Each competitor will be required to make four batches of butter. Competitors in Section 17 will operate in the forenoon; competitors in Section 18 in the afternoon.

5. Competitors will not be allowed to work the butter with their hands.

6. Butter must be made into pound prints and wrapped in parchment paper.

7. In awarding the prizes the following will be considered: Quality and quantity of butter; method of making; cleanliness and care of utensils in finishing each day's work.

8. Satisfactory evidence will be required from competitors that they are eligible to compete in the section in which they are entered.

9. Entries must be made with the secretary of the Industrial Exhibition Association, Toronto, on or before August 5th.

N.B.—A lecturer will be in attendance during the entire time of the competition who will explain details to the public.

Entries positively close August 5th.

Sheep versus Cows

A very interesting discussion has been going on in one or two of our exchanges from the Eastern States as to whether keeping sheep or keeping cows is the more profitable for the farmer. Of course, as is usual in such cases, the discussion has ended without any definite conclusion being reached. Our belief is that it will pay every farmer to keep both sheep and cows. Sheep need comparatively little care, and fit in very well with the work necessary to manage properly a herd of cows. Sheep farming and beef raising also go well together, and whatever line of stock farming the Canadian farmer may engage in we think it will pay him to keep a few sheep.

But, coming back to the discussion in question, some interesting figures were given as to the relative profits in keeping sheep and cows. In the comparisons made ten cows are set off against 100 sheep. We quote one which is that of an enthusiastic sheep raiser, and we would be glad to hear from some of our Canadian farmers as to whether these figures can be borne out on this side the line.

"In my opinion, on many farms which now keep only cows, sheep would be more profitable. They would surely bring an equal return at one-half the labor, and where labor

costs money at much less cost. The average farmer who keeps only cows and sends the product to a creamery finds at the end of the year that he has had to put much costly feed into them, and that a large part of his monthly creamery checks have gone to the grain dealer. Sheep require very little grain if fed the same good hay which one would feed his cows, and they will get much goodness from fodder which a cow would not look at. They require comparatively little care, except during the lambing season, one half-pound of grain per day per sheep for three months is all most sheep need. As near as I can ascertain, a cash account with ten cows and one hundred sheep would be something like this: Value, equal; pasturing, equal; hay consumed, equal; value of manure, nearly equal, as sheep manure is so much richer.

10 Cows.	
2,500 lbs. butter at 20c.....	\$500
10 calves at \$7.....	70
Skim-milk.....	50
	<hr/>
	\$620
Less grain fed.....	\$200
	<hr/>
	\$420
100 SHEEP.	
90 lambs at \$4.....	\$360
500 lbs. wool at 15c.....	120
	<hr/>
	\$480
Less grain fed.....	\$40
	<hr/>
	\$440

"This shows sheep ahead, and I think the cows are given the advantage, for few herds of ten cows will bring in \$500 for butter, while \$360 worth of lambs from one hundred sheep is not so difficult a job. Some will say 'I get more than that out of my cows.' I don't doubt it. But with the same management you could get more out of one hundred sheep. Many do. It is not uncommon for a fifty-pound lamb to sell in March for \$7 at ten months. One surely cannot get two hundred and fifty pounds of butter per cow without putting into her \$20 worth of grain. If anyone can show that the ten cows are more profitable for the average New England farmer with plenty of pasture who has to hire much help, I should like to see how he does it.

The San Jose Scale Problem

By Wm. Lochhead, Professor of Entomology,
Ontario Agricultural College

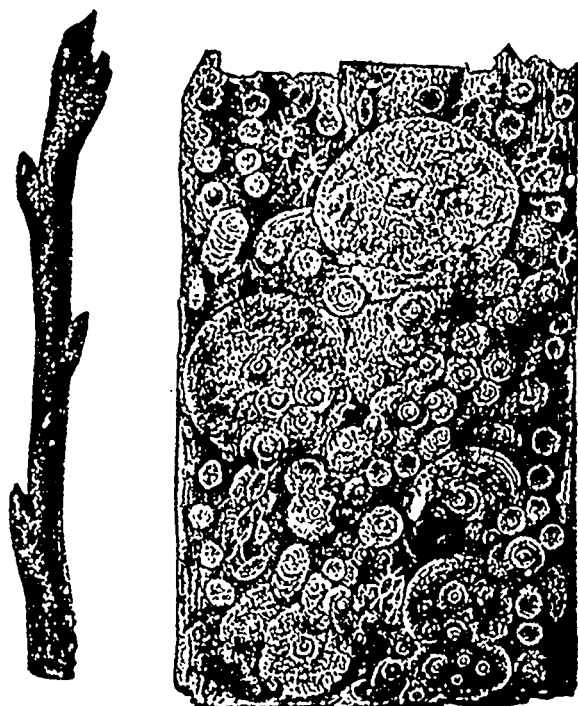
During the month of April I had unusual facilities for the study of the San José scale problem. At the request of the Minister of Agriculture for Ontario I made a trip to Maryland and Washington for the purpose of learning the best methods of fighting the pest by fumigation. In Maryland the orchards were in a very pitiable state, but under the careful inspection of Prof. Johnson a halt has been made to the spread of the scale. No half-hearted measures have been adopted, for whole orchards have been uprooted and burned, while no compensation has been allowed the owners of the trees. Prof. Johnson is quite hopeful of the result of his work, but he does not hesitate to assert that were he to relax his efforts for a single season the scale would have control of the orchards of the State.

The fruit-growers of Ontario, who are viewing with indifference or mistrust the efforts that are being made by the Government, should read attentively the following words of Prof. Johnson: "I do not wish to present this terrible pest any worse than it is, but if a person, even the most skeptical, can look at figures 3 and 4 (Bulletin 57, Maryland, photographs of two orchards killed by the scale, one orchard contains 300 acres and the other 28,000 trees), and read the account of this outbreak, and then reaffirm that there is nothing to fear, I am willing to make the assertion that such a person is not a capable judge to pass an opinion."

Dr. L. O. Howard, U.S. Entomologist, upon whom I also called, stated that no more serious menace to the fruit interests of this country has ever been known. These are strong words coming from strong men, who have fought the scale for many years in its worst strongholds.

Both Dr Howard and Prof. Johnson were pleased that the Government of Ontario was adopting stern measures, and hoped that the inevitable outcry of a few persons would not deter the officers in charge of the work from doing their work thoroughly. A few thousand dollars spent at the present time would be the means of saving millions of dollars a few years later.

My own observations and experience led me to the conviction that it would be most unjust to the orchard interests of Ontario to allow fruit-growers to apply their own remedies and to uproot trees which have become a decided menace to the other trees of the orchard. The tendency of all recent legislation in the Northern States, where climatic conditions are very similar to our own, is towards the autocratic method; that is, the power of life or death over infested trees is vested in a responsible person, who is generally State entomologist.



Appearance of scale on bark; A. Infested Twig—natural size; B. Bark as it appears under hand lens, showing scales in various stages of development and young larvae.

Nor should we trust to predaceous insects and parasites to keep the scale in subjection. Many persons have pointed to California as an instance where the San José scale is not feared so much now as it was formerly on account of the efficacy of winter-washes, predaceous and parasitic insects. But California is an exceptional region. The resin and the sulphur washes, so effective there, are valueless in the eastern portion of the continent, owing to differences in climate. In the East the rain, snow, and other agencies do not allow the washes to operate sufficiently long before they are washed off; while in California the long dry season, at the beginning of which the washes are applied, allows the operation to be prolonged, and hence quite fatal to the scale. The predaceous insects are also more effective in California than in the East for the reason that many of them can breed the year round in the mild winters of the Pacific coast. Dr. Howard says: "The possible usefulness of parasitic and predaceous insects should, at least in the East, not be allowed for a moment to interfere with active operations with remedies, nor blind one to the importance of the San José scale, and the extraordinary precautions which should always be taken to prevent its wider dissemination."

The San José scale is an armored insect, protected by a scale, and is so small that even the most careful observer sometimes fails to detect its presence. Most of the complaints that have been made have arisen through ignorance of the true structure and habits of this scale insect. Alkaline washes do not suffice for its destruction, and kerosene emulsion has not by any means proved a success. The power of reproduction possessed by the scale is simply marvellous, and there are instances in Ontario where good, healthy trees have been killed in a single season. In Maryland, I was told that many orchards have been killed outright in two seasons. Do facts then confirm the statement that the San José scale is a comparatively harmless insect? So far as I am aware this pest has not been in Ontario more than three or four years, and I am not prepared to admit that trees infested for seven or eight years have remained healthy and vigorous.

That the scale spreads by means of birds, wind and other agencies during the young larval stage is another reason why the strong measures, now being adopted to check its distribution, be continued. It is the opinion of most of the experienced entomologists of the United States and Canada that the San José scale can be controlled if taken in time, but if allowed to spread it is questionable if it can be controlled, much less exterminated.

The spread of the scale through young nursery stock, I am convinced, has been effectively stopped by the enactment of the Fumigation Act passed at the last Session of the Legislature, which compels all nurserymen to fumigate the stock which is being sent out with hydrocyanic acid gas.

I was much pleased during my recent trip among the nurseries of Ontario to witness the willingness of the nurserymen to comply with the demand of the Act. As intelligent citizens they were watching with great interest the efforts of the Government to stamp out the pest, and they were willing to do their part in the work. The fruit-growers in the Eastern part of the province are looking anxiously for the outcome of the struggle in the Niagara and South-West districts of the province, for they feel that the whole fruit-industry of Ontario is at stake. Mr. Fisher, who is doing his work well, reports that he is very hopeful of success in exterminating the scale from the orchards in a short time. Common sense tells us that if we can keep our orchards clear, and present "a clean bill of health," the demand for our fruit in European markets will continue to grow, more especially since it is well-known that American orchards are badly infested.

On the other hand, to allow the scale to infest our orchards means the loss of thousands of dollars annually by the exclusion of our fruit from European markets, and, eventually, the loss of the orchards themselves.

Who will deny that the San José problem is not a most difficult and serious one? I am aware that there are persons who doubt the wisdom of all the precautionary measures taken by the Dominion and Provincial Governments, but let me say here, with as much persuasiveness as possible, that if we do not combat this San José Scale it will soon overcome us. Let not the people of the cities and towns be indifferent in this matter, for in New Jersey the scale has already spread to suburban garden hedges and ornamental trees. The scale in that State was not attended to on its first appearance, and when public attention was finally called to its ravages it was simply impossible to control the pest.

Assistance to Cheese and Butter Makers

The Bacteriological Department of the Ontario Agricultural College has issued an announcement to the cheese and butter makers of the province, offering assistance in cases of difficulty caused by undesirable bacterial infections. The following are some of the more frequent causes of trouble mentioned:

Defects in the Factory itself. In new or modern factories there are not likely to be any grave defects in the building; but in some of those constructed years ago there may be defects in construction, or needed repairs may be neglected. Probably the commonest defects are:

(1) Leaky floors, which allow whey or other liquids to drop through and decompose, giving rise to bad odors and very undesirable kinds of germ life, that get into the vats and cause serious trouble.

(2) Flies, which are a great nuisance in factories, as they feed or walk upon all kinds of decomposing materials, and then visit the cheese factory, crawling over or dropping into the milk, and depositing various kinds of germ life, which are thus placed in situations favorable for further growth and development.

To avoid the trouble from leaky floors, many of the best factories in the United States are putting in cement floors.

Faulty Equipment. Great care should be taken in buying good utensils and seeing that they are kept in repair. The joints of tinware are often badly soldered, and in some places not soldered at all. All joints should be made by lap-jointing, and soldered flush with the tin. If this is not done, small spaces are left which it is impossible to keep clean and sweet; and these become so many crevices for the development of germ life.

Bad Drainage. Several examples of bad-flavored cheese, caused by germs in drainage filth, have occurred during the last two years. In these instances the drains have usually been blocked, or have not had sufficient fall to take away the drainage quickly. Consequently, masses of putrid material, whey, or buttermilk have collected in certain parts of the drain and have given rise to trouble in the factory.

In connection with the making of cheese the chief difficulties in this line are gassey formations, bad flavors and color or pigment in cheese. These defects are almost if not all due to bacterial infection of the milk. As a preventive it is recommended that, before milking, the cow's udder, thighs, flanks and side next the milker should be brushed and that the udder and teats should be rubbed clean with a damp cloth. The growth of undesirable germs in cheese which produce bad flavors is hastened by the high temperature of curing rooms during the summer months.

In the manufacturing of butter the defects due to bacterial infection are lack of flavor, putrid butter, lardy butter, bitter butter, etc., the last three of these being due largely to undesirable bacteria in the cream. Samples of impure water are asked for examination, and specific instruction given as to the method of sending samples.

This work is under the direction of F. C. Harrison, Bacteriologist, at the College, who has made a number of investigations into matters of this kind during the last couple of years. Mr. Harrison is anxious to come in touch with the makers, and it is hoped makers will co-operate in this work by availing themselves of this opportunity of overcoming many of the difficulties they have to contend with in the way of bad flavors in milk, butter and cheese.

American Horses in Europe

Prof. C. F. Curtiss, director of the Iowa Experimental Station, favorably known to Canadian breeders, is at present in Europe at the request of Secretary Wilson, of the United States Department of Agriculture, investigating the market for American horses, live stock and dressed meats. In a recent cable from Germany he has this to say in regard to horses, and though it may apply directly to American horses, it will be of advantage to Canadians in showing the kind of horses the European markets demand:

"I am much encouraged. My special mission concerns horses. There is a good outlook for draft and carriage horses and hunters.

"I shall make especial inquiry in Ireland as to the

breeding of hunters. Ireland has a practical monopoly now.

"American breeders have good blood for breeding hunters in their racers and trotters, and there is no limit to the price for a good hunter.

"Already in the Dublin horse show an American has captured the first hunter prize, and Brussels last week gave an American the first prize in the carriage class.

"The market is constantly improving in Berlin, and a dealer says American horses are in high favor.

"I shall endeavor to secure information to guide the breeders and shippers to meet the wants of the different markets, and to get their horses into the right hands."

Butter-Making in Sweden

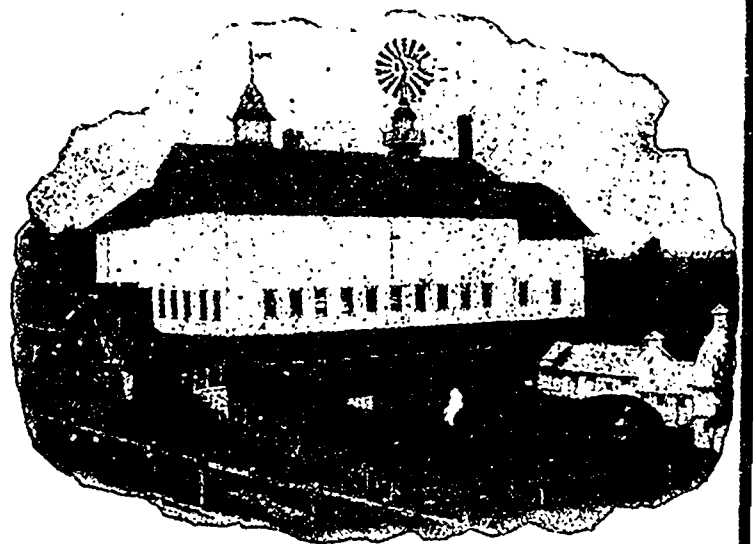
One of Canada's strong competitors in the English butter market is Sweden. Special attention is given to improving the quality of the product, and every effort is being made to develop the export trade. The following, translated from one of Sweden's leading dairy papers, and describing some of the faults found in the butter made in that country will prove of value as well as of interest to butter-makers here:

RAW BUTTER.

Raw butter, we herein mean that butter which is made from raw or non-pasteurised cream. The demand for raw butter has considerably decreased within these latter years. In 1895 only 30 per cent. of the Swedish butter factories made butter from pasteurised cream, while in 1896, 60 per cent. pasteurise their cream, 25 per cent. occasionally pasteurise, thus leaving only 15 per cent. wholly engaged in the manufacture of raw butter. When the pasteurised and raw butters are compared the difference is most marked, the pasteurised being much finer and milder, hence the term "raw" for the coarser butter made from non-pasteurised cream.

COOKED FLAVOR BUTTER.

As the raw and coarse flavor in butter is objectionable, so on the other hand is a cooked or burnt flavor. All properly pasteurized butter must of necessity have a slightly boiled or scalded flavor, which is quite pleasant to the taste, this flavor being the test of its pasteurization, showing that it has been heated to the proper temperature. Butter made from properly pasteurized cream is a guarantee that you secure a well-keeping, fine-flavored article, absolutely free from bacteria. There is a difference of opinion as to what degree of heat the cream can stand before reaching that objectionable flavor point. As during an exposure of the cream to, say, a temperature of 165° Fahr.



Barn of the Dentonia Park Farm Rear view. East and south extension.

in an improper heater the butter can receive an objectionable or burnt flavor, which in a proper heater the cream can be heated to a temperature of 185° to 188° Fahr., and result in a rich, finely-flavored butter. The benefit of a proper pasteurization of cream is thus seen, as all harmful bacteria which induce disease are killed at a temperature of 185° Fahr.

DOUGHY BUTTER.

This butter is not clear and does not melt readily and lusciously on the tongue, but lays heavily in the mouth like a piece of dough. Good, high-quality butter is more or less clear and readily salivated. The causes of the doughy nature of the butter are improper fodder to the cows, or too much buttermilk remaining in the butter. To prevent the doughy nature of the butter from the latter cause, never leave the butter longer than possible in the buttermilk. If the buttermilk is not immediately drawn and the butter properly washed, the evil results inevitably follow.

TALLOWY BUTTER.

This butter has a greasy and shiny appearance, and if touched by the thumb or finger will receive the imprint of the lines on it. The taste of over-worked butter is tallowy, and the pores in the butter are filled with air instead of a clean, clear moisture. You can always find the faults of this in (1) over-churning or over-working, (2) churning at too high a temperature or making butter from milk of stripped or nearly dry cows, (3) improperly ripened cream.

SOUR AND OVER-RIPE BUTTER.

The causes of sour and over-ripe butter are to be found in an improper "starter," too high a ripening temperature, or neglect to churn at the proper acidity stage. This butter usually contains too much water and casein, consequently the butter has not the keeping qualities of properly made butter.

MILDEW IN BUTTER.

Mildewed butter is partly caused by manufacturing or storing in badly ventilated or damp rooms. Mildew also arises through badly seasoned and improperly prepared boxes and parchment paper. The paper ought to be immersed in a strong solution of salt water for a period of not less than ten hours before using.

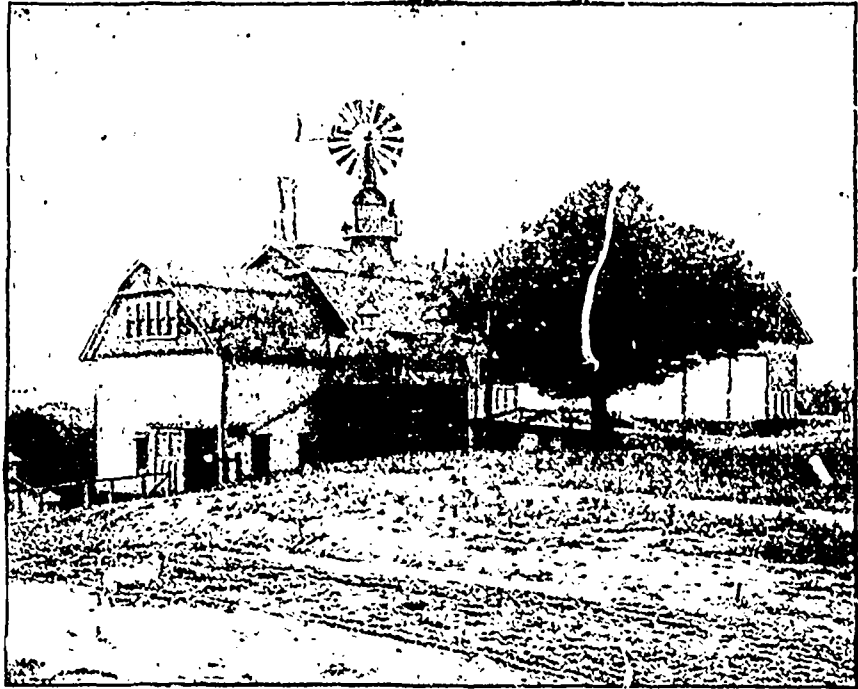
GENERAL FAULTS.

These are innumerable, and start at the very commencement, from the milking of cows to the packing of the butter, but which should be avoided, in the interests of the industry and the community.

Barn at Dentonia Park Farm

In this issue we give several illustrations and diagrams outlining the barn at Dentonia Park Farm. This barn was completed a year ago, and is really one of the finest buildings of its kind in the Dominion. The proprietor, Mr. W. E. H. Massey, of this city, has spared neither time nor money in having every department as complete as possible, as the detailed plans published herewith show.

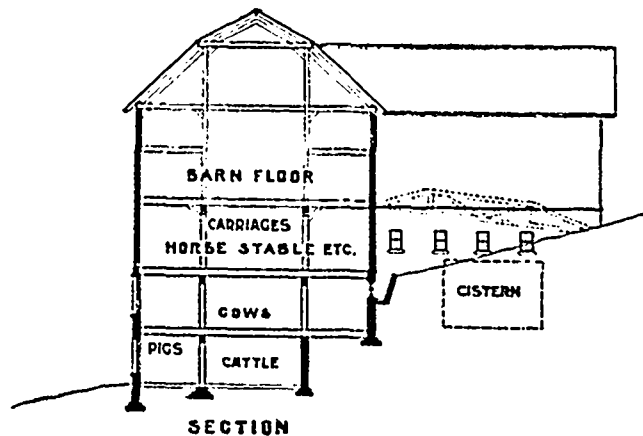
The sectional view (plan No. 1) shows the four-storied building built into the side of a hill. Amongst other advantages of such a location are moderation in temperature, and the fact that each storey possesses an entrance on the level.



(Barn of the Dentonia Park Farm, Front View (West and North Elevation).)

Plan No. 2 shows the arrangement of the basement, containing pig pens and cattle stalls, together with a single-storey extension towards the east devoted to sheep. The main entrance to the basement is from the east side, and the driveway is of ample width to admit backing in a horse and cart. The liquid from the various stables drains to the cesspit at the south of the barnyard, whence it is pumped to a sprinkler cart used for distributing it to the lands, thus ensuring cleanliness with a minimum of waste. The revolving funnels, which may be seen on the roof in rear view of barn shown in one of the illustrations, provide the necessary current, and a well arranged system of pipes conducts a constant supply of fresh air to all animals on each floor. The points of diffusion, which are near the mangers, are shown at O, on plan No. 2. The foul air is carried off by means of the chutes, which are also used for conveying feed from the fourth storey to the different floors below.

The mixing or cooking room for the animals on the basement is situated to the north of the stables, and is provided with a capacious boiler or cooker "P." The well in the room adjoining provides an ample supply of splendid water pumped by windmill to a 5,000 gallon tank in the



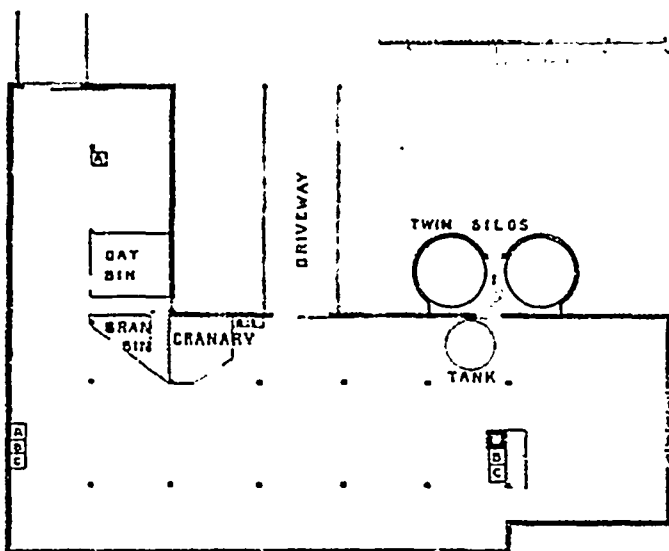
Plan No. 1.—Cross Section of Barn from East to West, showing position on hill side

top of the building, from which all the stalls in the building are supplied. The feeding racks and troughs "F" in the sheep pens are ingeniously devised. The rack and manger extends along one side of the pen, and the clover heads and other delicate morsels which the mutton-makers would otherwise scatter to waste are caught in the trough beneath, which extends several inches beyond the angle of the rack.

Plan No. 3 gives a very clear idea of the arrangement of the various departments on this floor. The loose boxes are shown at "L," the calf boxes at "K." At "M" is the mouth of the chute from which ground feed is received from floor above, while "I" is the chute through which ensilage and chop make their descent.

Plan No. 4 shows the horse stable and coach house floor. At "H" are the feed chutes supplying this floor from

by city men to horses in hard, continuous work they would be amazed at the quantities of hay they have wasted in the past. Ten to twelve pounds of hay is a good daily allowance for a 1,200 lb. horse. The cavalry allowance is 12 lbs per day, and that is found to be ample with 10 lbs. of oats on ordinary work, and 15 lbs. on hard service. Race horses get from 6 to 8 lbs. of hay per day, and nearly three times the weight in oats—16 to 20 lbs. Hunters, during the season, in England get 10 to 12 lbs. of hay and 14 to 18 lbs. of oats. Heavier horses need more, and horses' appetites are not all alike, but the point to be noted is the limited amount of hay needed to keep the horse in the best of health.



Plan No. 5.—Barn Floor.

above. Through "R" cleaned oats are supplied from a 1,200 bushel bin above; the water trough is situated at "G." "D" and "E" represent the air ducts from the revolving funnels already referred to, "D" supplying the dairy floor and "E" the basement. There is a similar one not shown for the horse stable. The feed bin marked "S" is supplied direct from the power grinder on the barn floor.

Plan No. 5 shows the barn proper, which is fitted with special hay carriers admitting of storage of hay and straw in every corner of the roof. "A" "A" are the large chutes for conveying hay and straw to the horse stable. They are connected with the cupola on the peak of the roof, where they emit the foul air from below. "B" "B" and "C" "C" are similar chutes doing similar service for the basement and dairy stable floors respectively.

Hay for Horses

By Stockman

The best hay for horses is early-cut, well-cured timothy. Good timothy has a large quantity of nourishment in small bulk. If cut early it has a greater nutritive value and more digestibility, but is not so heavy as the fully-ripened article. A mixture of clover, if it be well cured, does not injure the hay for feed. However, a great many farmers feed too much hay to their horses. The overplus does no good and is a decided drag to the horse's system. There is no reason why hay should always be in the manger before the horse. It is far better to give a regular meal and just enough to be eaten up clean. If any be left it should be removed. Hay over night in a horse's manger becomes foul and should not be left.

If farmers would give attention to the amount of hay fed

June in the Poultry Yard

By Miller Purvis, in American Poultry Journal

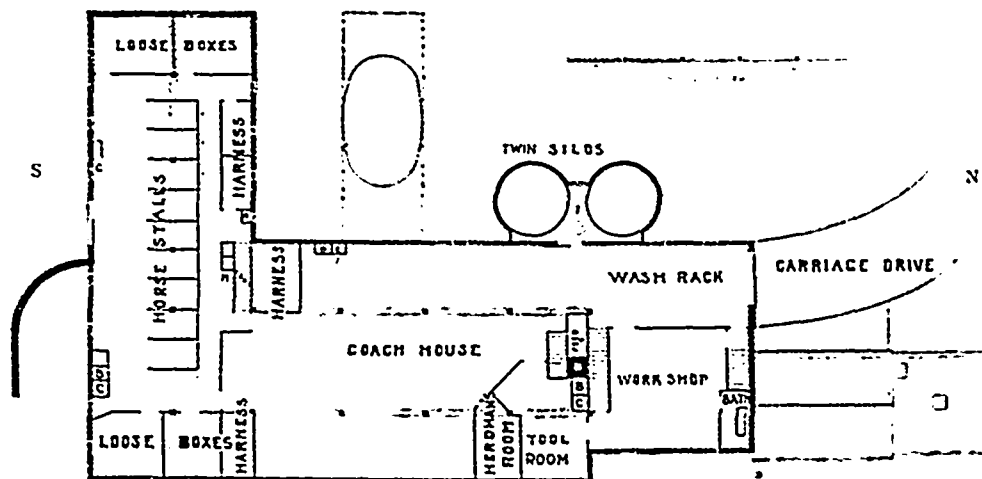
Look sharper than ever for lice. The cold weather this spring has kept lice and mites somewhat shady, but they are not dead by any means, and every effort should be made to prevent them from becoming too numerous to mention.

Take more pains in keeping everything about the place clean and in a perfect sanitary condition. Warm weather is approaching and the time for various summer complaints is at hand. Most of these come from dirt or lice, or both. Cleanliness is necessary to success, and it doesn't cost much after one gets started.

Don't let the young stuff stop growing for a minute. June is the most favorable month in the year for giving the birds a good start and making them so vigorous that they will endure the hot weather of late July and August without withering up and blowing away as they are sometimes inclined to do.

I have but little trouble with lice and mites. I discovered long ago that the best time to kill these little pests is just before they make their appearance. It is not necessary to take elaborate precautions to keep them in subjection. Kerosene applied to the perches once a week will usually hold them in check. If there are many English sparrows around it is a hopeless task to try to keep the premises entirely clear of mites, but the kerosene treatment will keep them from becoming very harmful. If dry road dust, air-slacked lime or coal ashes are kept under the perches lice and mites will not flourish as they will if no dust is about the place. Arrange your poultry house so the perches do not touch the walls at any place and it will save much trouble, as this confines the mites to the perches, where they can easily be got at. For the big lice I have found nothing superior to fresh Persian insect powder. Go into the house after the fowls are asleep and dust them well with the powder, or if they are very bad take the birds separately and, holding them up by the legs, dust down into the feathers with a common powder gun.

There is no better disinfectant than bright sunshine.



Plan No. 4.—Horse Stable and Coach House Floor.
(Length of Main Floor, 115 ft.; total length of south wing, 50 ft.)

Open the poultry house during the day as much as possible and get all the direct sunshine into it that you possibly can. Whitewash is a great destroyer of odors, and a coat of this will sweeten the air for days. Road dust absorbs noxious gases and kills off odors, and is a pretty good thing to have around the poultry house. If you cannot get dust use dry garden soil, sprinkling it over the floor every day, and when it is an inch or so deep haul it out to the garden with the droppings that are in it, and it will be worth all the work you have done to get it into and out of the poultry house. Hens do not care whether their house is clean or not, but the owner will consult his own interests by keeping the premises as clean as possible, especially during the hot months of the year.

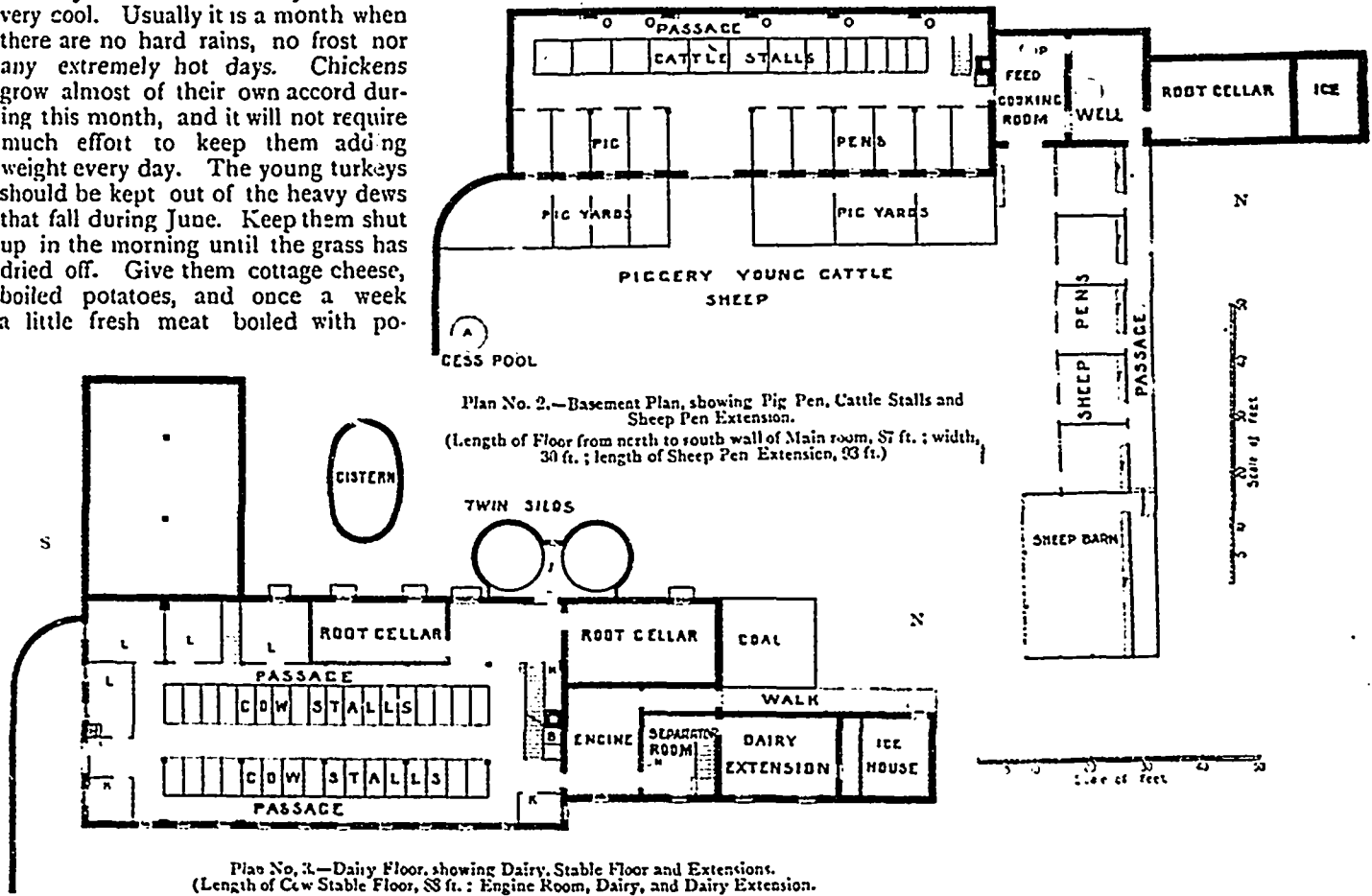
To keep the young stuff growing all the time during the month of June should be the aim of the poultryman. As a rule June is neither very hot nor very cool. Usually it is a month when there are no hard rains, no frost nor any extremely hot days. Chickens grow almost of their own accord during this month, and it will not require much effort to keep them adding weight every day. The young turkeys should be kept out of the heavy dews that fall during June. Keep them shut up in the morning until the grass has dried off. Give them cottage cheese, boiled potatoes, and once a week a little fresh meat boiled with po-

It is not advisable to set any hens during the month of June, as the chicks will come at the beginning of hot weather and require extra care, and then they hardly ever do as well as those hatched earlier or later.

“Will Rape Kill Thistles?”

This question has suggested itself to us by reading the following item which appeared in one of our exchanges recently:

“Fancy two plants being so unfriendly that the mere neighborhood of one is death to the other. Yet this is the case with two well-known British plants. These are the thistle and the rape. If a field is infested with thistles



tatoes, and these mixed with wheat middlings into a rather dry dough, and all seasoned with a stiff dose of cayenne pepper. If they are kept going until July they will be ready to take to the woods and fields, and from that time they are safe.

Keep ducklings and goslings out of the wet until they begin to have some feathers on their backs. Feed them somewhat coarser feed than you would give to chickens, and feed them often, for they are mostly appetite just at this time of the year. If you have a big bed of lettuce cut this and give to the waterfowl, and they will make good use of it.

Goslings begin to eat grass pretty young, and if they can have a nice plot of clover to run on when the weather is dry they will thrive in an amazing manner.

Don't forget that your laying hens need extra good feed at this time. They have been laying for a long time, and must be fed in a liberal manner or they will drop out of the race and take a rest. Hens that become broody should be shut up in a box with a slatted bottom. This will break a hen of the notion of sitting about as quickly as anything we ever tried. Feed less corn and more wheat and all the milk you have to spare. It is not good economy to feed milk to hogs when there are fowls on the place to consume it. It pays better as eggs and poultry than it does as pork.

which come up year after year and ruin the crop, all you have to do is to sow it with rape. The thistle will be absolutely annihilated. If this is true it is another strong reason for sowing rape.”

If this contention is anyway near correct, rape is a plant that a great many of our farmers should grow, and that in large quantities. But there are doubts as to whether this question can be answered in the affirmative or not. We would be glad to hear from any of our readers who have grown rape as to whether it will annihilate Canada thistles.

Dairying in the Territories

Mr. J. W. Mitchell, who has been appointed superintendent of creameries in Northwest Territories under the Dominion Government to succeed J. A. Kinsella, who lately left for New Zealand as assistant to Dairy Commissioner Ruddick, writes us that this season has opened up somewhat cold and backward. But there is abundance of moisture, which naturally means good grazing at an early date. Though this has thrown the opening of the creameries back a little, yet the prospects for a good season's make are bright.

Raising Turkeys on the Farm

A great many farmers' wives raise a few turkeys every year, and for the amount of work, time and cost of raising, taking everything into consideration, I believe it pays well. I will tell from my own experience how I raised turkeys on the farm "back east" at the old home.

We kept four hen turkeys, keeping the hens if they were good layers and mothers, until they were three or four years old. Usually getting a fine young gobbler from some other flock, as turkeys will soon be inferior in size and strength if they are inbred. Our turkeys were fed with the laying chickens through the winter, also roosted in the same house, but this is not a good idea to have them roost together, as they will fight the chickens, but they need a good shelter to roost under. They usually begin laying in April and average seventeen or eighteen eggs each. As soon as they would go setting we gave them generally seventeen eggs each. Never try to raise young turkeys with chickens for mothers. We made them a good nest and if they had to be moved from their nest in which they laid, they were set in a box so they could be shut up a few days. They were let off every day for feed and water. Always give whole grain while sitting. Sometimes a few days before hatching, the eggs were dampened with warm water. When they are all hatched and about twenty-four hours old they were taken off the nest and taken to a small yard which we usually made of three boards a foot wide, and ten to twelve feet long, on some clean, dry place or on short green grass, partly in the shade. We fed curd made of sour milk, of which there is plenty on the farm.

They were fed about five times a day for the first week and after that three times. When about two weeks old oat meal and barley meal or corn meal were added with the milk curd. We had to furnish them grit and used broken crockery, pounding fine and fed twice a week. At night they were put in a clean coop with a board floor with the mother turkey. Our turkeys were never wild and so they were easily handled. After a few days old they were allowed to run out after the dew is off the grass. But it is better to watch them the first day as some turkeys will wander away and hide when night comes. As they were all hatched about the same time they were all put together in a large coop when the young poults were about three or four weeks old, so that they will run in one flock the rest of the summer. The old gobbler is put with the others and excepting rare instances will hover the young and fight enemies as hawks, etc., the same as the mother hen. They were given the whole range of the farm for insects and the stubble fields. We gave them regularly a morning and night feed of the ground grains mixed with skim-milk after about half grown. We would have to drive them up at night until about two months old, after that they would go up themselves and often before that age.

Whenever we saw a thunder shower threatening, our first thought was to gather the turkeys under shelter. If left out in a hard shower they easily drown, even after feathered, and during long rains they were kept in some unused part of the barn or other building. Often in July and August the old hens would go to laying again and still run with the flock, thus furnishing us with eggs for cooking purposes the rest of the summer. About the middle of September we began feeding them for the market. Usually fed corn exclusively, but sometimes would feed small potatoes cooked and mashed with corn meal, fed warm. They were always fed all they would eat but had their liberty, never shutting up until the day before killing. They were dressed in the best possible manner and sent to a city market a few days before Thanksgiving Day, and I never remember getting a low price. We kept no pure breed. I think a medium-sized turkey sells better and will be full grown and plump, while the extra large take longer to mature and if dressed before fully grown often show pin feathers. Since coming to Texas I have had to make some changes in the raising of turkeys. They do not require so much to be fed them, as they pick up most of their living after half-grown.

And when young the lice and mites will bother if not careful. We also sell them alive.—*Mrs. A. W. Trumble, in Practical Farmer.*

Importance of Good Sires

By Prof. Davenport, at National Horse Breeders' Meeting

I would emphasize the importance of good sires. These mares will not be purely bred animals; they would be too expensive. They will be simply good, vigorous specimens, capable of giving plenty of milk. The quality must come from the sire, where quality means most, because one animal can impart it to so many. Such associations as these can render the horse interests a valuable service by using every influence to hasten the day of stallion inspection and license here in America. This farmer we are considering is not a horseman, that is, is not able to detect the slighter faults of animals. The hock may be slightly too narrow, or the leg a little crooked, or the bone not quite flat enough, or the loin a little light, and he will not be able to detect it. I know a farmer who considers himself something of a horseman who yet did not notice a hind leg of a colt so poor at the hock that it was certain to go to pieces. I know a part-bred Percheron stallion that is considered a great horse with the farmers because he takes fat like a hog and has a heavy, arching neck, but his sickle hock gives him a leg so bent as to entirely disqualify him in the eye of even a fair judge. So do other parts escape the notice of a class of good men who are not at all ignorant, but whose information and expert knowledge lie along other lines.

The inspector and the law should help them out. As it is now, the owner of a strictly first-class, well-bred and registered stallion has no chance out over the country as compared with the owner of a part-bred horse that will fatten readily, and that, costing but a fraction of the other, can be stood for perhaps only two or three dollars less and get all the custom. This compels the owner of the good stallion to cut prices to a point where, in order to secure decent returns, so much service is taken as to render next to worthless a large share of the colts gotten. We shall produce plenty of scalawag horses until the part-bred stallion is driven out of business, and that will be done only by a system of inspection. It costs as much to raise a poor horse as it does a good one. The deficient hock or line is not a thing that takes less feed. It is no element of cheapness until it comes before the old horseman in the great markets, and the general horse-raiser must be insured against his own foolishness in this matter by a thorough system of inspection. Until that time comes the great breeders and improvers of horses will be subject to a ruinous competition from part-bred stallions.

The system that has been in vogue has produced some good horses, but it has produced a good many more poor ones. The horse is a highly developed animal, and all his parts are developed far beyond their natural state. If, in a given individual, one part is not fully developed it cannot stand the strain put upon it by the other and better developed parts, and it is with a horse as a chain, or a tile drain, the whole is no better than the poorest spot. What a mixed and heterogeneous mass of horseflesh we have been guilty of producing! And yet the stallioner and the law are more in blame than the farmer.

The horse-raiser should fix his mind definitely upon the class of horses that he proposes to produce, choose his stallion accordingly and depend upon him for that quality that always distinguishes the excellent from the ordinary. He should never, sleeping or waking, forget his own limitations, but remember that while the professional horseman must produce the breeder, the racer, and the phenomenal individuals out of the best material of the world, yet that the production of the great mass of commercial horses out of common mares and by approved sires is his own peculiar field, in which good profits can always be realized, if the farmer keeps his head and does not produce worthless stuff. Cheap horses are recruited with sufficient rapidity from the ranks above, both by age and accident, and we cannot afford to grow them as a business.

Milking Twice and Four Times Daily

Some important experiments along this line were conducted in Germany about a year ago, of which the *Dairy*, London, England, gives the following summary:

"Eight cows were experimented with, and the results are thus briefly summarized:

Solids not Fat.	Total yield of 8 cows.			Average Composition of Milk.	
	Milk.	Fat.	Solids not Fat.	Fat.	Solids not Fat.
Cows milked twice daily. . . .	524.60	17.04	45.47	3.25	8.67
Cows milked four times daily. . .	576.70	17.95	49.57	3.11	8.60
Percentage increase from milking four times daily. .	9.93	5.34	9.01

"It will be seen from the above table that milking four times a day gave a larger yield of both milk and fat than milking twice a day. Contrary to the general rule, milking four times daily gave the poorer milk. To test this further, the experiment with milking four times a day was continued, the cows receiving a richer ration. On an average, the eight cows showed an increase of 5.36 per cent. in the yield of fat, but only 0.44 per cent. increase in the yield of milk and 0.65 per cent. in the yield of solids not fat over milking twice a day. It was found, further, that when the time between milkings was divided equally the milk did not have the same composition, the milk being poorer in fat after the cows had been at rest, as at night, while after they had been in active motion, feeding, etc., the fat was higher."

CORRESPONDENCE

Commercial Fertilizers Manurial Experiments

To the Editor of *FARMING*:

In pursuance of this important question of increasing the productiveness of the land, it may be interesting, and certainly will be instructive, if we take a brief review of a few of the results yielded in the British experiments. However, as Thomas-phosphate-powder has been several times referred to in your columns, it may, in the outset, be as well to get a more definite view of its nature, position and purpose.

Mr. Wright remarks that this Thomas-phosphate is not a "special" manure; that, however, depends upon the interpretation put upon the word "special." Certainly Thomas-phosphate is not a *general* manure, calculated to remedy all the evils the soil is susceptible to, as is claimed for a good many charlatanic nostrums now being palmed off on the farmer as "*special manures*." And yet for the particular purpose of supplying phosphate and lime to the soil in such form as to be specially acceptable to many phases of plant life, this Thomas-phosphate is undoubtedly a *special* manure.

It is pretty generally known that bone phosphate, and mineral or rock phosphate, is a combination of one part of phosphoric acid and three parts of lime: tribasic phosphate; and that superphosphate, dissolved bone, or acidulated phosphate, is the breaking up of this tribasic compound with sulphuric acid: oil of vitriol. This three-lime-phosphate is a very stable and insoluble compound, which breaks up but very slowly—naturally—in the soil, and becomes available for the nourishment of plants too slowly to meet the requirements of the agriculturist. Bone phosphate breaks up under the influence of the soil a great deal more freely than rock phosphate, yet raw bone is very

slow. When vitriol is applied to this crude phosphate it breaks up the three lime combination, tearing away two parts of the lime, with which it unites and forms sulphate of lime: gypsum, or plaster of Paris. [Better understood by our farmers as land plaster.—ED.] The phosphoric acid is thus left in combination with only one part of lime: monobasic, or one-lime-phosphate. This monobasic form of phosphate is readily soluble in water, and is capable of at once being absorbed into the plant. When rock phosphate is thus treated it is known as superphosphate, but vitriolized bones are generally spoken of as dissolved bones.

While the original phosphate is decidedly too slow in action, there has grown up a strong opinion among practical farmers that the vitriolized phosphate is, for many purposes, too quick and stimulating in its effect, and not sufficiently continuous and lasting. Various attempts have been made to overcome these defects; but not with altogether satisfactory results. The mixing of the two forms—vitriolized and raw—together has been a good deal resorted to, with the idea of thus producing a medium form of phosphate known as reverted, or two-lime-phosphate; but the practical working of this has not always been successful.

This more recently introduced Thomas-phosphate has been found to naturally occupy an intermediary position between the soluble and insoluble conditions, which, for many purposes in practical working agriculture, has been found highly advantageous. As it is not so generally known what this basic phosphate really is, I will give a short outline of it, and, as these remarks appear to be lengthening out, the epitome of results can stand over for another week.

Common iron contains more or less phosphoric acid, and in the conversion of iron into steel this phosphorus is driven out. In the Thomas-Gilchrist process of steel manufacture, introduced a few years ago, the iron is, to put the matter graphically, boiled with an admixture of lime. The phosphoric acid combines with the lime and floats as a sort of scum to the top; this is the basic slag; a waste product in the conversion of iron into steel. Of course it was known from the first that this slag contained a large percentage of that valuable phosphoric acid so necessary to the agriculturist, but it was some considerable time before it was found how to convert it to any useful account; and immense heaps accumulated in the meantime. I may here casually remark that there is a wide difference between this basic slag and the ordinary slag of the smelting furnaces, the latter containing no phosphate at all, and being of no manurial value; yet thousands of tons are now being ground up and charlatanically sold for fertilizing purposes. To proceed, this basic phosphate was not found to be amenable to the action of sulphuric acid in the manner of the ordinary phosphate, and for a long time appeared to resist all attempts to bring it into action. The analytical chemist found this phosphate to be of an unusual and different combination from the ordinary phosphates; the phosphoric acid being in combination with four parts of lime; tetrabasic, or four lime phosphate. It was eventually found that if this new form of phosphate was ground immensely fine; that is, to an impalpable powder capable of passing through a sieve containing ten thousand holes to the square inch, it would break up naturally in the land under the combined influences of the soil and plant root action.

All plants require an available, sufficient and continuous supply of phosphate, and practical experience leads to the conclusion that this Thomas-phosphate meets these natural and necessary requirements; holding the store in abeyance, without waste, when not needed, and yielding up a sufficiency according to the plants' requirements without that satiety which a too soluble phosphate might induce.

The liberal supply of combined and free lime contained in the Thomas phosphate is no doubt also a powerful factor in the bringing about those important results I shall refer to in my next.

Lincoln, England.

FRANK WALLIS.

The Farm Home

The Country Home.

A Paper Read by Mrs. F. M. Carpenter
Before the Saltfleet Woman's
Institute

(Continued from last issue.)

Mothers, homemakers, the coming women, what will be your life's influence? It is felt long after you have gone to rest. The poet says: "As the shadow of a tree that to and fro did sway upon a wall our shadow selves, our influence may fall where we can never be."

Give your children the best education your means will allow. Do not check the natural intelligence of the child who always asks an explanation of terms or phrases it cannot understand and who is never willing to repeat parrot-like that which is incomprehensible; he will far outstrip in education the ordinary routine scholar. Education goes on with children at home, in the street, at church, at play, everywhere. By teaching them close observation, developing an eye for Nature's beauties, you will perceive how much more enjoyment they have in life and how far it strengthens the home ties.

Nature will be reported. All things are engaged in writing her history. The planet goes attended by its shadow; the pebble leaves its impress in the sand; the rolling rock leaves its scratches on the mountain, the river its channel in the soil, the animal its bones in the stratum, the fern and leaf their modest epitaph in the coal; the falling drop leaves its sculpture in the sand or stone; not a footstep in the snow nor along the ground but prints, in characters more or less lasting, a map of its march, and so it is with the child. In youth is the impression made for weal or woe, therefore let us watch the inclinations, the associates, and be as careful as lies in our power that good impressions alone are brought to bear on the child mind.

A president of a college said he received his education in his mother's dye-tub. The covered dye-tub stood near the fire in New England kitchens, and was a comfortable seat for the children while the mother carried on her work. Horace Greeley throughout his life declared that the strong bent of his character and his noblest aims had been given to him before the age of five, as he stood by his mother's spinning wheel learning to spell. Cromwell's puritanism was taught to him, not by his parents or tutors, but by a maiden aunt whose belief was rigid and strong. Tourgenieff gained his passionate love of that freedom which dominated his character before he was ten years old from a serf belonging to the family. The serf ended his life in Siberia, but he had fitted the boy to

become the emancipator of his race. Mendelssohn was destined to be a pedlar, and the pack was actually bought and filled for his back. But the influence of an usher in his school had wakened new longings and hopes in his soul. He struggled against his fate, and at last was fitted to utter the high message given him to deliver in music. All the influences of Lord Beaconsfield's youth were intended to make him a scholar, but because he was the only Jew in a large English school he was treated with contempt. It was this injustice that roused in him a fury of ambition to lift himself above his tormentors, which made him resolve, before he was ten years old, to become Prime Minister of England and work steadily towards that end every hour of his life.

In the life of almost every leader of men some influence in youth has opened and directed the currents of thought and action. The best service a woman can do is to devote the major part of her executive ability, intelligence and interest to her own home. Every neglected home is a disgrace to society whatever the cause. Any life is wrecked that is torn from its true relation. No matter what philanthropic movement, what interest or how important it may be in the eyes of the public, if it causes a woman to minimize relations to her home, it is a wrong done to her family and to society.

Materials Required for Human Food.

The human body requires a certain amount of food. Not only does it require a definite quantity but it requires a food of different kinds. To maintain perfect health a person must have a knowledge of the nature and quantity of the different foods requisite to maintain the human structure in order that he may be able to adjust his diet to meet the needs of the case. The following list of ingredients of human foods taken from a recent issue of the New York *Ledger* will be found of value to those interested in this subject:

THE INGREDIENTS OF FOOD.—These are divided into three classes: First, those purely inorganic in their nature, found in organized and unorganized bodies. They crystallize, and have a definite chemical composition. To this class belong water, the chlorides of sodium and potassa, phosphate of lime, and the carbonates of soda, magnesia, and potassa. These are necessary ingredients of food and drink, and are found universally in the human body. Water is everywhere, even in the teeth, and constitutes nearly four-fifths of the entire weight of the body.

Obtained from without, it helps as a solvent for other ingredients in the fluids and solids of the body, and leaves it nearly the same as it entered, having passed from mouth to intestine, thence to the blood, then into bone and tissues and secretions, and is finally eliminated by the skin in perspiration, exhaled from the lungs in the breath, and excreted by the kidneys. So, mothers, be generous of pure water.

COMMON SALT.—Chloride of sodium, or common salt, is found in all parts of the body—except in the enamel of the teeth. Salt is needful in many ways. It helps dissolve albumen and earthy phosphates, while exactly in a different form of action it preserves the integrity of the blood globules. Found in every tissue, fluid or solid the craving for it by the appetite is instinctive; a man can die from lack of salt as readily as from lack of bread.

LIME.—Next to salt, both the phosphate and the carbonate of lime are important, because these help to build up the bones, and are of vital importance in the formation of the teeth; and right here let me remind mothers and nurses that both the enamel and the dentine of the teeth are largely made up of lime, and it only reaches the body through food and drink. We find a very small proportion of lime in the pure white flour, and the two common uses of white bread may be one reason why so many children have soft bones which readily deform and poor teeth which readily decay.

WHEAT FLOUR.—An authority on the subject has said that in five hundred pounds of whole-grained wheat there are seventy-eight pounds of muscle material and eighty-five pounds of bone and teeth material, while in five hundred pounds of fine flour there are only sixty-five pounds of muscle material and thirty pounds of teeth material. Hence flour made from the whole grain of wheat is far superior to the old-fashioned graham flour. It is called gluten flour, is very rich in gluten and phosphorus, and is as free from starch as any flour could be.

Many people like oatmeal as an article of diet for children, and claim it is a source of bone food. It may do for some children, but boiled and strained, as the fashion is for small babies, my experience has been that it causes constipation; and without that straining the presence of the fine husks in the food irritates the mucous membrane lining the intestines, and so gives rise to inflammation of various sorts. I am, therefore, not at all prepared to recommend it as a general thing.

(To be continued.)

Shin of Beef Soup.

Take four pounds of shin of beef, strip the meat down to the bone, but do not remove the latter, which should be plugged up at each end with a paste made of flour and water in order to preserve the marrow; put it into a saucepan containing three quarts of cold water; remove the scum as it rises and add a little salt; let the meat stew gently for four hours, then bring it to the boil and throw in vegetables to taste, such as carrots, turnips, onions (previously browned), and parsley. When the vegetables are tender, serve the soup with toasted bread cut into squares. After the soup is served, take up the meat and remove it from the bone, place in centre of dish, and arrange the vegetables round it, then pour over all a sauce made as follows: Chop onions small and fry brown; stir in a tablespoonful of flour, mix with sufficient soup to make a thin paste, add two tablespoonfuls of mushroom ketchup, pepper and salt to taste. Toast a large round of bread, spread on it the marrow from the bone, and divide into as many pieces as there are persons to be served. Two dishes will thus be made in an extremely economical manner.

To Remove Stain From a Sheet.

Mix soft soap with powdered starch, adding half as much salt as soap and starch. Make into a paste with lemon-juice. Lay this on with a brush, and let the linen lie on the grass for a few cold nights, and the stains will have disappeared. Another way recommended is to tie up in the stained part some pearl-ash, then scrape some soap into cold water to make a lather, and boil the linen till the stain disappears.

More Valuable Household Hints.

- Kerosene will soften boots that have been hardened by water.
- For nose-bleeding bathe the face and neck with cold water.
- Cold rainwater and soap will remove machine grease from washable fabrics.
- Boiling starch is much improved by the addition of sperm or salt, or both, or a little gum arabic dissolved.
- Never use boiling water on soda in recipes for baking.
- A few drops of ether dropped into a bottle of oil will prevent it from becoming rancid.

Scientific Bread-Making.

"Bread!" exclaimed the young lady who is attending the science school. "Well, I should say I can make bread. We studied that in our first year. You see, the yeast ferments, and the gas thus formed permeates everywhere, and transforms the plastic material into a clearly obvious atomic structure, and then—"

"But what is the plastic material you speak of?"

"Oh, that is commonly called the sponge."
 "But how do you make the sponge?"
 "Why, you don't make it; the cook always attends to that. Then we test the sponge with the thermometer and hydrometer and a lot of other instruments, the names of which I don't remember, and then hand it back to the cook, and I don't know what she does with it then, but when it comes on the table it is just splendid."—*St. James Gazette.*

They said that blood will tell,
 It may, but as things go
 It isn't blood, but gall, that serves
 A man best here below.

CANADIAN PACIFIC RY.

Will Run	AT RETURN FARES
Home	Winnipeg....
Seekers'	Deloraine....
60-Day	Roston.....
Excursions	Estevan....
To the	Blinscarth..
Canadian	Moosomin..
North-West	Cowan.....
	Regina.....
	Moosejaw... \$28
	Yorkton....
	Prince
	Albert ... \$30
	Calgary
	Red Deer ... \$35
	Edmonton .. \$40

Going June 27. Returning until August 26. (All Rail or S.S. Alberta).
 Going July 13. Returning until Sept'r 12. (All Rail or S.S. Athabasca).
 Going July 18. Returning until Sept'r 17. (All Rail or S.S. Alberta).
 For tickets apply to any Canadian Pacific Agent, or to C. E. McPHERSON, Asst. Gen. Passr. Agent, 1 King Street East, Toronto.

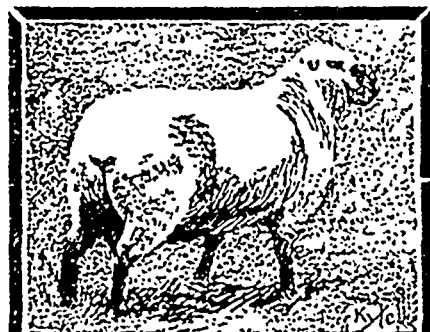
Bargains in SPRAMOTORS FOR FARMING SUBSCRIBERS

WE can furnish bona fide subscribers to FARMING with any description of Spramotor outfit at reduced prices. A limited number of machines suitable for orchards (large or small), gardens, small fruits, painting and whitewashing are at our disposal for the benefit of subscribers only, either for cash or as premiums for new subscriptions.

For full particulars and prices address
FARMING,
 Confederation Life Building,
TORONTO, ONT.

Patent Roller and Ball-Bearing Galvanized Steel
 Wind Mills Towers and Flag Staffs
 "Maple Leaf" Grain Grinders.
 Iron and Spray Pumps.
 Send for New Illustrated Catalogue.

SHAPLEY & MUIR CO. LIMITED
 BRANTFORD CAN.



Persicatic Sheep and Animal Wash

A powerful non-irritant and healing preparation that is proving a boon to farmers all over Canada for sheep and cattle ailments, such as:

- TICKS
- MAGGOTS
- GANGRENE
- SHEAR CUTS
- RED LICE ON SHEEP
- WOUNDS
- RINGWORM
- BRUISES, ETC., ETC.
- AND SCAB.

Full directions on every can. Cures the worst cases. The most effective and economical dip on the market. If your dealer can't supply you, write us direct for it, and if there's anything out of the ordinary in the ailments of your flocks and herds we'll be pleased to give free any additional advice in the matter.

The Pickhardt Renfrew Co.
 (LIMITED)
 STOUFFVILLE, ONT. Trade Mark

BUTTER WRAPPERS.

THE SENTINEL-REVIEW WOODSTOCK, ONT., imports Genuine VEGETABLE PARCHMENT for butter wrappers. It is the largest house in Canada selling and printing butter wrappers. This paper is not an imitation. It is the GENUINE VEGETABLE PARCHMENT, made to our order in Germany, especially for the Canadian market, and its purity and sanitary qualities are guaranteed. It is very strong, has a nice, silky finish, fine fibre, and will not taint the butter like cheap imitations. Highest testimonials from dairymen all over Canada. We sell these butter wrappers, 7 1/2 x 11 inches, cheaper than any house in Canada, and large dealers who have wrappers printed should get our samples and quotations. Free samples sent anywhere. Address,
SENTINEL-REVIEW,
 WOODSTOCK, ONT.

Quaker Oats Muffins.

One cup cold Quaker Oats Porridge, one cup sweet milk, one tablespoonful sugar, one well-beaten egg, one-half teaspoonful of salt, one tablespoonful melted butter, two teaspoonfuls baking powder, add enough flour to stiffen batter nicely. Bake twenty minutes in muffin pans or rings.

To Make an Omelet.

A good omelet can be made as follows: One cup sweet milk, one cup cracker crumbs; soak the crumbs in the milk, beat three eggs to a froth, stir eggs and cracker together, adding a little salt. Turn all into a hot frying pan that contains a little melted butter. When the omelet is brown on one side, turn and brown the other side. This is sufficient for four or five persons.

How to Serve Rice with Fig Sauce.

Steam the rice, look over, wash and chop or cut fine enough good figs to make a cupful. Stew in a pint of water, to which has been added a table-spoonful of sugar, until they are one mass. If the figs are not of the best quality, and do not readily soften, it is well, after stewing for a time, to rub them through a colander to break up the tough portions and make a smooth

sauce. Put a spoonful of the hot fig sauce on each dish of rice, and serve with plenty of cream. Rice served in this way requires no sugar for dressing, and is a most wholesome breakfast dish.

To Preserve Polish on Plate.

Among the minor annoyances of housekeeping is the one that, however carefully plate may be cleaned before putting it away, in the course of a week or so it becomes dull and tarnished. This may be avoided by the following simple means: After thoroughly cleansing the plate and polishing it with whiting, wrap up each piece in tin-foil, such as is used for wrapping up chocolate, tea, etc., then put it in a dry cupboard or drawer.

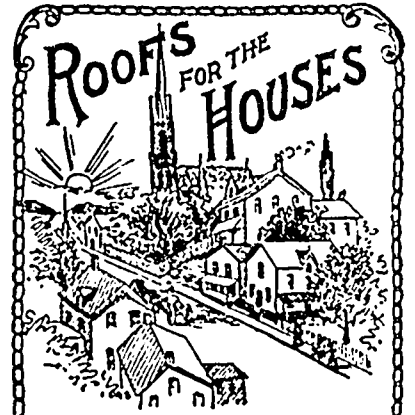
Manners.

It is right to do as you please so long as you please to do right.

An idle word, nay, deem not true
The Tempter's weak excuse for you.
No idle word was ever spoken
It is by such that hearts are broken,
And friendships rudely rent in twain
That life can never bind again.

An idle word, it cannot be
Words are too potent once set free;
We turn the rivers from their courses,
We curb and harness Nature's forces,
But words, the offspring of the soul,
Once uttered are beyond control.

LALIA MITCHELL.



32 Years Ago

We started the manufacture of sheet metal building materials, and this long experience enables us to offer intending builders all that is desirable in Steel Roofing, Steel Siding, Steel Ceilings, etc.

We Prefer

That you purchase through the trade, still if your dealer cannot give the information you desire, or offers a substitute "just as good," write us.

"The Pedlar Patent Shingles" are the best, and the best cost no more than the poorest.

Pedlar Metal Roofing Co.
OSHAWA, CANADA.



We manufacture the largest and best assortment of

THRESHING MACHINERY

on the market.

Five different styles of Engines—LOCOMOTIVE and RE-TURN TUBE BOILERS, PORTABLE and TRACTION.

Two styles of Threshing Machines—CHALLENGE and ADVANCE.

WRITE FOR ILLUSTRATED CIRCULAR.

THE GEORGE WHITE & SONS CO., Limited

LONDON, ONT.

Questions and Answers.

EYE-SPOTTED BUD-MOTH.

On June 1st Mr. L. F. Johnston, Ashburn, Ont., sent us a specimen of a moth which he stated was destroying his young apple trees and asked for information regarding it. We forwarded the specimen to Dr. Fletcher, Entomologist, Central Experimental Farm, Ottawa, who writes us in regard to it as follows: "The insect which is troubling his apple trees is the Eye-Spotted Bud-Moth, the most effective remedy for which is spraying the trees as early as possible in the season after the leaf-buds expand with the ordinary Paris green and lime mixture, namely, one pound of Paris green, one pound of quicklime, and 160 gallons of water. It is rather late now to do much good against this insect, but, of course, there are a great number of foliage-eating insects now upon apple trees which would be destroyed by this treatment, and it will certainly be well worth your correspondent's while to spray his trees even at this late date."

Fruit Prospects in New Mexico.

Professor Hadley, of the College of Agriculture, Las Cruces, New Mexico, writes us of date May 25th, as follows:

In this immediate valley we shall have a fair crop of peaches, especially the early ones. Most of the late peaches were cut short, or destroyed, by the cold. It is not an unusual thing to notice the Northern and Eastern papers speaking of the "early peaches, etc.," being killed by frosts. In this country the reverse is true. Our Alexanders and others of that grade, which we sometimes market as early as June 25th, are the ones that escape the late frosts. Trees of this variety in this valley are uniformly well filled this season.

American Southdown Breeders.

At the annual meeting of the American Southdown Breeders' Association, held May 31st., at Springfield, Illinois, the following officers were elected:

President—J. H. Pickrell, Springfield, Ill.
Secretary—Jno. G. Springer, Springfield, Ill.

Treasurer—D. W. Smith, Springfield, Ill.
Board of Directors:

For two years:
C. M. Clay, White Hall, Ky.
John Jackson, Abingdon, Ont., Can.
Jerome A. Leland, Springfield, Ill.

For three years:
George McKerrow, Sussex, Wis.
L. M. Crothers, Crothers, Pa.
John Hobart Warren, Hoosick Falls, N. Y.

For one year:
S. E. Prather, Springfield, Ill.

The financial report shows an increase in receipts over the previous year, and every indication leads to the expectation that the coming year will be a prosperous one.

It was ordered that Volumes of the Record, necessary to complete the full set now published, be sent to each member of the association who applies



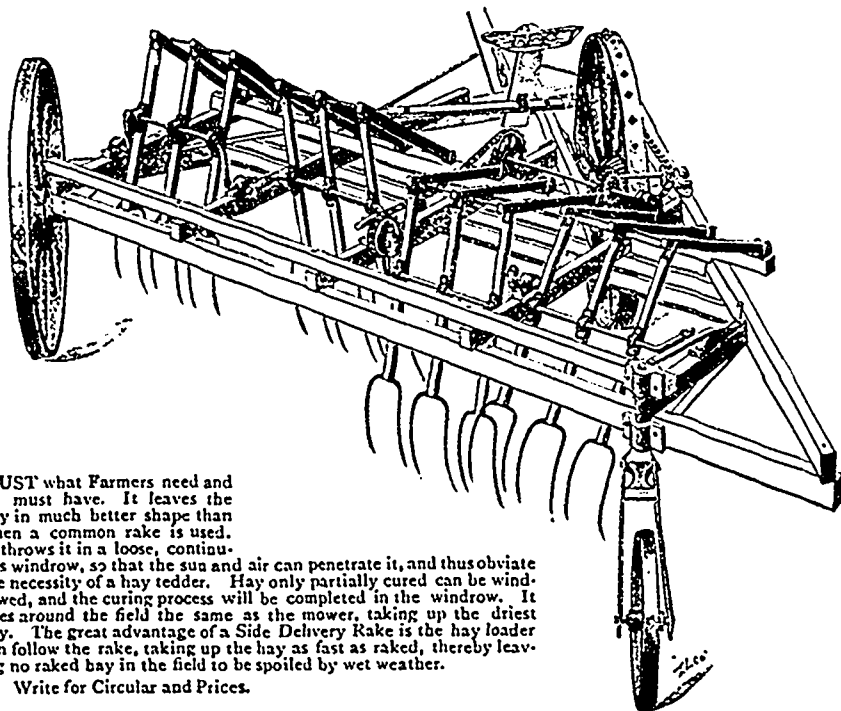
ROCK SALT for horses and cattle. 100 lbs., 70c.; 500 lbs., \$3.00, Toronto. Cash with the order. Also in car lots. **Toronto Salt Works, TORONTO**

CANADIAN OFFICE & SCHOOL FURNITURE CO. LIMITED
PRESTON ONT.
FINE BANK OFFICE, COURT HOUSE & OFFICE, SCHOOL, CHURCH & LODGE FURNITURE. SEND FOR CATALOGUE

SOMETHING NEW FOR FARMERS

Make hay when the sun shines and use a

"WATERLOO" SIDE DELIVERY HAY RAKE



JUST what Farmers need and must have. It leaves the hay in much better shape than when a common rake is used. It throws it in a loose, continuous windrow, so that the sun and air can penetrate it, and thus obviate the necessity of a hay tedder. Hay only partially cured can be windrowed, and the curing process will be completed in the windrow. It goes around the field the same as the mower, taking up the driest hay. The great advantage of a Side Delivery Rake is the hay loader can follow the rake, taking up the hay as fast as raked, thereby leaving no raked hay in the field to be spoiled by wet weather.

Write for Circular and Prices.

Waterloo Mfg. Co., Limited, Waterloo, Ont. and Elmira, Ont.

The Wonder of the Age.

ALL EYES ARE ON THIS INVENTION

Patented 1893, '95, and '96.

HARVESTING PEAS



The Genuine Tolton Pea Harvester with New Patent Buncher at work

Harvesting in the most complete manner from eight to ten acres per day. Harvesters to suit all kinds of mowers.

Every Machine Warranted. Our Motto: "Not How Cheap but How Good."

No drilling holes in Mower Bar or Inside Shoe. A wrench is all that is required to attach it to any mower. Give your orders to any of our local agents, or send them direct to

TOLTON BROS.

GUELPH, ONT.

therefor and whose application is accompanied by the amount required for prepayment of expressage thereon, and that future publications of the Record be sent under like conditions.

The meeting adjourned to again assemble in Springfield on November 14th next, the date fixed for the meetings of the Illinois Live Stock Breeders' Associations. It is probable that the eighth Volume of the Record will be ready by that time, as most breeders will record their 1898 produce before July 1st next, so that registries may be made at lamb rate fees.

—••••• J. G. S.

Dysentery in Calves.

The veterinary department of the Kansas Experiment Stations, in a recent bulletin, gives the following treatment for dysentery in calves:

"Our greatest, and I might say, our only, hope lies in prevention. Prevention consists in the isolation of the healthy and the diseased animals, and in the thorough disinfection (see Bulletin 79, Bovine Tuberculosis, pp. 99-101, Kansas State Agricultural College), of the infected stables, yards and pens, as well as disinfection of the female genital organs (before and after parturition)."

The isolation of pregnant cows, and their removal to new, or thoroughly disinfected old, quarters, a week or ten days before parturition, is an excellent plan. This is more rational treatment, and promises better success than any amount of drugs and medicines administered internally. Animals already attacked may be treated as follows: Give calves two or three tablespoonfuls of castor oil, lambs as many teaspoonfuls. Colts may be given one to three grains of calomel three times a day. The calomel, after being triturated with a little sugar, may be added to a little milk and fed to the colt. On the following day, or after the oil (or calomel) has had its effect (laxative), the following, recommended by Friedberger and Froehner, may be given:

Powdered rhubarb root, 1 drachm.
Powdered magnesium carbonate, 15 grains.

Powdered opium, 30 grains.

Good brandy or whisky, 2 ounces.

Mix, dilute with equal parts of water, shake well, and give to calf as one dose, repeating a similar dose every three to six hours until the diarrhoea is relieved.

In the same manner colts may be given 1 to 2½ drachms of tincture of opium, lambs 30 to 60 drops, repeating the dose, as above, every three to six hours until relieved."

Smithers—Why don't you run for school director, Abraham? Brown—Well, you see, sir, there is the farm to look after, and the work on the ditches, the wood to cut, the strong party feeling, my views on the educational question, my tax theory, my ideas of the money problem; and then, besides, my wife wants to run.

HOGS WILL ROOT

but the hog hasn't been bred that will tear up or break through the

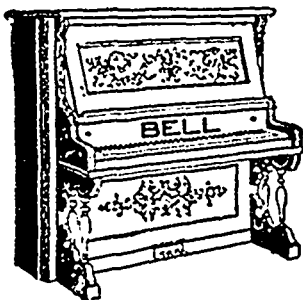
ELLWOOD WOVEN FENCE.

Made of hard Bessemer Steel Wires, rust proof, and proof against all attacks of animals, heat or cold, dry or wet, wind or weather. Although the best,

The Ellwood Costs but Little
and is practically everlasting.

Your dealer ought to have it. If he hasn't, write for catalogue, etc., to

AMERICAN STEEL & WIRE CO.
CHICAGO AND NEW YORK.



BELL PIANOS AND ORGANS

BUILT TO LAST A LIFETIME

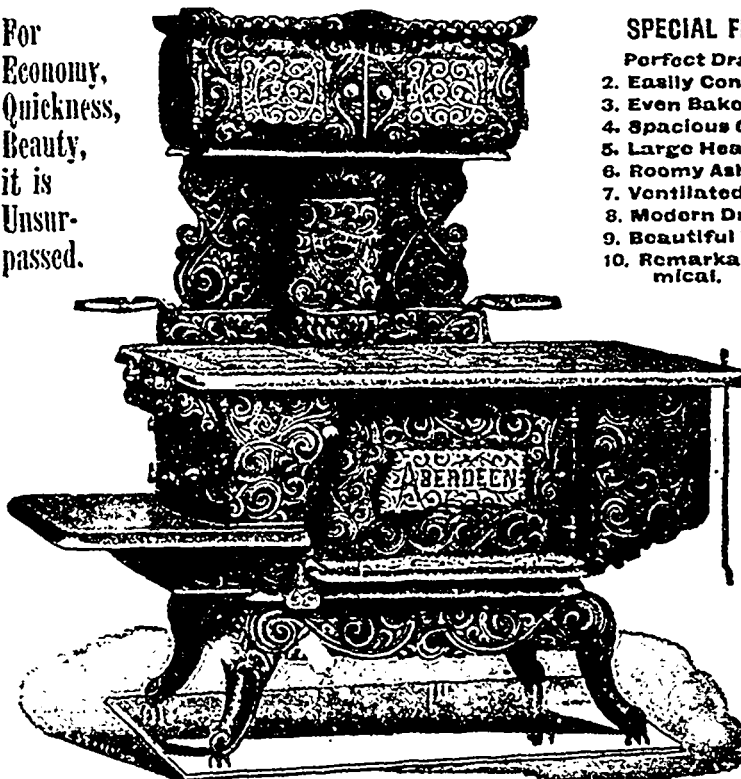
SEND FOR DESCRIPTIVE CATALOGUE (NO. 4) TO

The BELL ORGAN AND PIANO Co., Limited, Guelph, Ontario.

LARGEST MAKERS IN CANADA.

ABERDEEN RANGE.

For
Economy,
Quickness,
Beauty,
it is
Unsur-
passed.



SPECIAL FEATURES.

1. Perfect Draft.
2. Easily Controlled.
3. Even Baker.
4. Spacious Oven.
5. Large Hearth.
6. Roomy Ashpan.
7. Ventilated Oven.
8. Modern Dress.
9. Beautiful Finish.
10. Remarkably Economical.

Our Range has been an unqualified success. It has never failed, a remarkable record in itself. Buy it in preference to any other.

The COPP BROS. COMPANY, Limited, Hamilton

The Ontario Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep, and Swine Breeders' Associations, and of the Farmers' Institute System of the Province of Ontario.

VOL. II.

No. 35

THE DOMINION CATTLE, SHEEP, AND SWINE BREEDERS' ASSOCIATIONS.

Annual Membership Fees:—Cattle Breeders' \$1; Sheep Breeders', \$1; Swine Breeders', 2.

BENEFITS OF MEMBERSHIP.

Each member receives a free copy of each publication issued by the Association to which he belongs, during the year in which he is a member. In the case of the Swine Breeders' Association this includes a copy of the Swine Record.

A member of the Swine Breeders' Association is allowed to register pigs at 50c. per head; non-members are charged \$1.00 per head.

A member of the Sheep Breeders' Association is allowed to register sheep at 50c. per head, while non-members are charged \$1.00.

The name and address of each member, and the stock he has for sale, are published once a month. Over 12,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

A member of an Association will only be allowed to advertise stock corresponding to the Association to which he belongs; that is, to advertise cattle he must be a member of the Dominion Cattle Breeders' Association, to advertise sheep he must be a member of the Dominion Sheep Breeders' Association, and to advertise swine he must be a member of the Dominion Swine Breeders' Association.

The list of cattle, sheep, and swine for sale will be published in the third issue of each month. Members having stock for sale, in order that they may be included in the Gazette, are required to notify the undersigned by letter on or before the 9th of each month, of the number, breed, age, and sex of the animals. Should a member fail to do this his name will not appear in that issue. The data will be published in the most condensed form.

F. W. HOBSON, Secretary.
Parliament Buildings, Toronto, Ont.

the crop. At this time, the farmer should go through the field and mark the plants that seem to fit his ideal. When the crop is harvested, only the choicest heads from the marked plants should be saved, and only the finest grains sown. If this process is kept up for several years, the farmer may originate an improved variety.

GEO. L. CLOTHIER.

Kansas State Agricultural College.

Green Feed or Hay for Hogs.

An experiment carried on at the Kansas Agricultural College some time ago, with pigs on alfalfa pasture and a light ration of corn, shows that after deducting the probable gain due to the corn, there was 776 pounds of pork produced per acre of alfalfa pasture. With hogs at \$3.30 per hundred pounds, this gives \$25.60 per acre for alfalfa, and the stand was not injured by the pasturing.

During the past six months two experiments have been carried on to test feeding alfalfa hay to fattening hogs. The first experiment showed a gain of 868 pounds of pork per ton of alfalfa, after deducting the gain due to the grain fed. In the second, the hay was much inferior in quality to the first, but showed a gain due to the hay of \$338 pounds. These experiments, with hogs at \$3.30 per hundred, make the alfalfa hay worth \$28.64 and \$11.15 per ton respectively.

The college bought 14 head of stock hogs that arrived at the college barn Saturday, May 20. They were in fair shape for stock hogs, but had evidently not seen any green food for some time. The lot in which they were turned had not been used for about a month and had quite a growth of weeds in it, which the hogs began eating very greedily. They were given a feed of kafir, but they preferred the weeds and ate very little grain. The bunch weighed 1700 pounds when put in the lot, and about 40 hours later they weighed 1808, a gain of 108 pounds; and they had eaten only 80 pounds of grain. Of course this was mostly fill, but it was just the thing to dilate the digestive apparatus and get them in condition to feed. Alfalfa is the best crop for such feed. Clover is nearly equal, and many other grain feeds stand well up in the list.

Our state is famous for large crops of weeds, and where farmers do not have either alfalfa or clover, a good profit may be obtained by free feeding of weeds. The health of the hogs will be better and more pounds of pork will be made from each bushel of grain fed

J. G. HANEY.

List of Members.

The following is a list of the members received since our last list published:

Halton.....	1
Huro. East.....	1
Norfol. South.....	5
Ontario North.....	21
Parry Sound East.....	1
Peel.....	2
Perth North.....	7
Peterboro' East.....	3
Simcoe Centre.....	6
York East.....	2
York West.....	10

Farmers' Institutes' Annual Reports.

There has been a great improvement during the past five years in the local management of the Farmers' Institutes throughout the province. Five, six and seven years ago in the majority of cases it was necessary for Dr. Mills, who was then acting superintendent, to write to the president or secretary of an institute four or five times before he could get an answer; in fact, no one was quite sure who the president or secretary was at that time. Since then the leading farmers in many of the districts have wakened up to the fact that organization is a good thing, and that an organized farmers' club, which an institute really is, is just what the farmers need and that such can be made of great service to the country if properly managed. There are now in the province ninety-five well organized institutes, most of which are doing exceedingly good work. Even in some of the newer districts the work they are doing cannot easily be excelled, but in some of the districts where good work might reasonably be expected the work is not as well sustained as it should be. This is largely due to the secretary, who by the Act and rules governing farmers' institutes is made secretary-treasurer and managing director of the institute, and is in fact its chief officer. When an institute

has a first-class secretary everything goes on in a flourishing condition, but when the secretary is careless and not up to date in his methods a different condition of things exists. The activity of the secretary is illustrated by the way in which the annual reports are sent in. According to the Act each institute must forward to the superintendent a copy of the annual report not later than the 1st of July, that is, the 1st of July is the last date on which the annual reports can be accepted by the superintendent. Already we have received reports from West Kent, West Elgin, North Middlesex, West York, South Wellington, North Muskoka, West Victoria, North Ontario, Halton and Peel. Each week hereafter we will acknowledge the receipt of the annual reports. These annual reports contain a list of the officers and directors, the names of the points at which meetings have been held during the year and the attendance at each meeting. The points are named at which winter meetings will be held, both regular and supplementary, and the financial statement is also given. Those which have already come to hand are in excellent condition, and the secretaries of these institutes are to be congratulated on the promptness and efficiency with which they have commenced their work for the new institute year.

Selection of Seed Wheat.

Any farmer who has ever closely observed a wheat field just before ripening has noticed that there is a great difference in the heads. Some are early, large and well shaped; while others have just the opposite qualities. The observing farmer may make those qualities a basis for selection.

Every farmer should plan to select the choicest heads from his wheat fields for a start in choice seed wheat. There is no time better for this work than the week prior to the ripening of

Bone Dust for Young Stock.

Some recent trials of feeding young stock with bone dust, according to a report which has just been made to the Societ  Nationale d'Agriculture of France, appear to leave no doubt as to the value of this material. The bone dust employed as an addition to the feeding ration is known commercially as *poudre d'os verts*, that is, the powder is produced from what may be described as raw bones simply dried in the open air and not treated in any way with chemicals. One of the animals experimented upon was a calf 164 days old, weighing about 478 lbs. It received per day about 1 1/2 lbs. of skim milk, 3 1/2 lbs. of oats, 3 1/4 lbs. of hay, and 3 lbs. of mangolds. On this ration it increased nearly 50 lbs. in twenty-four days. To the ration was then added about 4 oz. daily of bone powder, and in the next twenty-four days the calf increased in weight 80 lbs. Thus there was a gain of 30 lbs. in twenty-four days obtained without change of ration beyond the addition of a total of 5 1/2 lbs. of bone powder, which cost 3 1/2 d. The bone dust is said to promote digestion and assimilation of the food, and to favor the formation of flesh and fat. Though it is intended to continue the record of this method of feeding, the experimentalists have no doubt of the utility of bone powder as an addition to the rations for young beasts, and indeed of other animals.—*Mark Lane Express.*

The Sewage Farms of Paris.

The sewage farm at Acheres, which is fertilized by the sewage of Paris, has been successful both for the purification of the sewage and the production of various crops. The sewage, which amounts to 17,660,000 cubic feet per diem, flows as far as Clichy by gravity, and is there raised 118 feet and distributed over the farm. At present the pumping station is of 1,200 horse-power capacity, but it is to be increased to 6,000, and to deal with the output of Paris sewers would require a farm of 11,120 acres instead of the 2,471 acres now under cultivation. The land is worth five times as much as previously, and many of the land owners are eager to have the sewage supplied to their properties. When the sewage leaves the farm so great is the degree of purification attained that a bacterial examination reveals fewer bacteria to the cubic centimetre than is the case with most streams supposed to be uncontaminated.

Sore feet are frequently caused by travelling on gravelly or sandy land. The reason the sores spread upward to the knee is the habit of sheep so troubled to go about on their knees. To prevent it avoid the causes, and as soon as the feet are found to be sore bring up the sheep, and keep them in a suitable enclosure until the feet are healed.

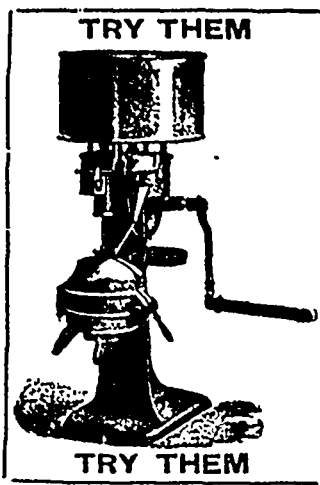
ALEXANDRA AND M LOTTE CREAM SEPARATORS

For Particulars apply to

R. A. LISTER & CO., Limited

Eastern Branch Works, 579-581 St. Paul Street,
MONTREAL

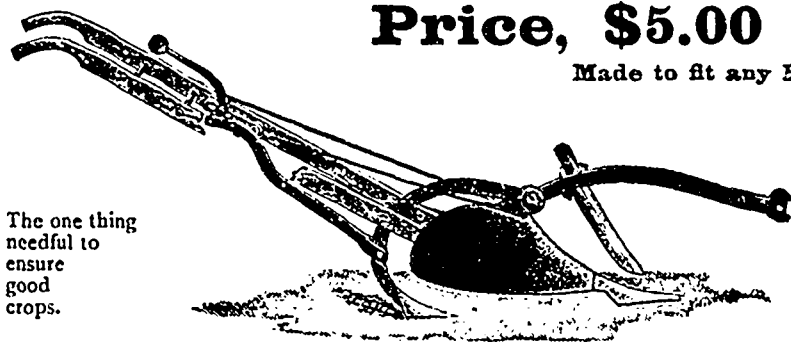
Western Branch, 232 King St., WINNIPEG.
Head Office and Works, DURSLEY, ENGLAND.



The Vessot Sub-Soiler Price, \$5.00

Made to fit any Plough

The one thing
needful to
ensure
good
crops.



NOW
IS
THE
TIME
TO
BUY

Mr. J. H. Peters, Mossomin, Assa.,
says: "We like it fine. You can tell
the row where it was used."

Circulars on
application

S. Vessot & Co.,
Joliette, Que.

To Dairymen of Manitoba and N. W. T. Districts:

We beg to call your attention to our having opened a Branch of our business at Winnipeg, where we will carry a complete line of all articles required in the manufacturing of Butter and Cheese, for either Creamery or Dairy, and at such prices as will enable you to save money.

Heading lists of goods stands the full line of "De Laval," "Alpha" Power and Hand Separators, which are to-day conceded by our leading Experiment Stations and Dairy Schools, as well as advanced Creamery and Dairymen, to be the best cream separators on the market to-day, and other goods of the same standard of merit, which will appeal to all dairymen as worthy of their consideration before purchasing elsewhere.

Our object in opening this branch is to be near the dairymen of Manitoba and the N.W.T., so as to better serve those who have favored us with their patronage in the past, either direct or through local agents, and to acquaint ourselves with new customers. All of which will result to our mutual interest.

The users of any style of "De Laval" separators, who are not fully posted on operating same to best advantage, or those desiring any more information on the Separator question, we shall be pleased to hear from, assuring them that such enquiries will have prompt and satisfactory attention. Any who contemplate the purchase of a cream separator this spring, we should be pleased to hear from, so as to send them reading matter that will prove of much interest and benefit, giving experience of dairy authorities on cream separators, showing first cost is not the only consideration in a separator purchase. If what facts we produce are not convincing enough to any intending buyer that the "De Laval" "Alpha" Separators are the best, we will be pleased to place one of such separators in any dairy on a 15 or 30 days' trial, against any cheap infringing separator, to prove by practical results that the "DE LAVAL" is not only the Best but also the Cheapest. Let us hear from those in any way interested.

For further information or particulars, address

THE CANADIAN DAIRY SUPPLY CO.,
236 King St., Winnipeg, Man.

We want local agents in every Dairy District.

tf

Market Review and Forecast

Office of FARMING,
Confederation Life Building, Toronto,
June 12th, 1899.

A little quieter feeling is noticeable in some wholesale lines, a condition that usually arises at this season of the year, but taking the situation as a whole the volume of trade is expanding. Money is easier both on this side as well as in the United States. Discounts on commercial paper are steady at 6 to 7 per cent.

Wheat.

Generally an easier feeling prevails in wheat circles. Of late the English markets have been unsettled, with the tendency of prices in favor of buyers. Considerable business has been done in Manitoba wheat on export account. Russian shipments keep small, and English holders are not anxious sellers owing to light stocks. Everything now depends upon the new wheat crop. If a big yield results low autumn prices may be looked for, and if the yield is much less than present indications allow prices may run up to the dollar limit. The *Price Current* of June 8th says:

"The past week has been seasonable in weather conditions in the central and western regions, and crop conditions have been maintained or improved by ample moisture and warmth. No essential change in the average promise of the winter wheat crop is to be noted."

At the beginning of the week July wheat advanced to 78½¢, at Chicago owing to report of damage to the Russian crop, but since then these reports were changed, and prices have dropped from 3½ to 4¢, which has had the effect of easing prices elsewhere. Some large sales of Manitoba wheat were made at 74 to 75¢, afloat at Fort William. Some Ontario dealers are reported to have cleared out a lot of their red winter wheat at 75¢, but during the latter part of the week the local markets were easier.

The market here is dull and easier. Red and white are quoted at 70 to 71¢. North and West, but only millers will pay these prices; exporters will not risk more than 68¢. Goose is quoted at 64 to 65¢. North and West, and No. 1 Manitoba hard at 82½¢, at Toronto, and No. 1 Northern at 82½¢. On the Toronto farmers' market red and white fetches 75 to 77½¢, spring five 67 to 69¢, and goose 67½ to 68¢ per bushel.

Oats and Barley.

Oats are easier. There have been large receipts at English markets, and a much easier feeling prevails. The United States crop outlook is reported good. At Montreal prices are lower, and quotations are 33½ to 34¢ afloat. Oats are dull here at about 29¢. West, but at the Toronto farmers' market they fetch 36 to 37¢ per bushel.

There is nothing doing in barley. On the farmers' market here it brings 42¢ per bushel.

Peas and Corn.

The English markets for peas keep dull, but as stocks are light holders are not anxious to realize. The Montreal market is quiet but firm, with sales reported at 75¢ afloat. The market here is quiet at 65¢. West. On Toronto farmers' market peas bring 62¢, to 63¢ per bushel.

The prospects appear good for a large American corn crop. The acreage has been enlarged under the losses of the winter wheat herding. American is quoted here at 41 to 42¢ for cars on track.

Bran and Shorts.

These have taken another drop at Montreal, where Ontario bran is quoted at \$14.25

to \$15 and shorts at \$15.50 to \$16 per ton in car lots. City mills here sell bran at \$14 and shorts at \$15 in car lots f.o.b. Toronto.

Eggs and Poultry.

The *Trade Bulletin's* London cable of June 8th reads thus: "The market is firm, both here and in Liverpool, at an advance of 3d. per long hundred of 10 dozen, and at the rise there is a good demand. Receipts from Continent have fallen off. I hear of forward business in Canadian pickles by Liverpool firms, but terms were private. No Canadian fresh on market." The Montreal market keeps steady, with prices firm at 11½ to 12¢ for fresh eggs. Some large transactions have taken place on export account, at prices much better than was expected a month ago. The market here keeps steady with a good demand at 12 to 12½¢ wholesale. On the Toronto farmers' market new laid eggs bring 12½ to 15¢ per dozen.

Dressed poultry on the farmers' market here are quoted as follows: Chickens, per pair, 60 to 75¢; and turkeys, per lb., 10 to 12¢.

Potatoes.

The Montreal market is easy at 59 to 61¢ per bag. The market here is dull at 70 to 75¢ for cars on track, and 80 to 85¢ out of store. On the Toronto farmers' market potatoes bring 70 to 80¢ per bag.

Fruit.

The interesting feature in this line is the opening up of the strawberry season. At Montreal during the week strawberries were not in large supply; but it has been equal to the demand at 8 to 14¢ per box wholesale. On this market there has been a good supply, and prices were a little firmer. But the Canadian crop has not been marketed in large quantities yet.

Hay and Straw.

The Montreal market for baled hay keeps firm at \$7.50 to \$8 for No. 1, and \$5.50 to \$6 for No. 2, and \$4.50 to \$5 per ton for clover. The market here is steady at \$7.50 to \$8.50 for cars on track, and \$4.50 to \$5 for baled straw. On the Toronto farmers' market timothy hay brings \$10 to \$12, clover \$7 to \$9, sheaf straw \$6 to \$7, and loose straw \$4 to \$5 per ton.

Wool.

A quieter feeling has pervaded the English wool markets lately, and dealers have adopted a kind of waiting policy. The New York and Boston markets continue firm but less active, some dealers are looking for better prices later on. There is not much improvement on this side. Quotations at Toronto are: Fleeced, 13 to 14¢; unwashed fleeced, 8¢, and pulled superior, 15 to 16½¢ per lb.

Cheese.

The weak and easy feeling in the cheese market still continues, though a slightly steadier feeling was reported at Montreal on Thursday, English buyers being more inclined to take hold at the decline. The British market is lower by 1s. than a week ago. The *Trade Bulletin's* London cable of June 8th reads thus: "The market is easy and lower under liberal and increasing receipts from Canada, sales of May cheese on spot having been made at 43s. 6d. to 45s., but I hear of much lower cable offers from Montreal and New York. Short sales reported last week denied but believed. Retail buyers as a rule adhering rigidly to immediate requirements, believing in lower prices." The make is large and the total shipments from Montreal this season up to June 7th show an increase of over 72,000 boxes as compared with the same period last year. There is also a big make in the Eastern States and export goods can be bought at New York at ½¢ lower than at Montreal, where prices are 8½ to 8¾¢ for finest western white and colored and 8 to 8½¢ for finest eastern. Though there were quite a few sales on the local markets during the week many factorymen were inclined to hold. The ruling prices in Western Ontario were 7¾ to 7½¢, and in Eastern Ontario 7½ to 8¢, with one or two going as high as 8½¢ for very small lots.

Butter.

Owing to increased home supplies and fair receipts from elsewhere, the English market is 3s. to 4s. lower. Notwithstanding this, prices on this side keep firm. Large sales have been made at Montreal at 17 to 17½¢ for choice fresh grass creamery, and 16½ to 16¾¢ for good to fine. The market just now is somewhat of a speculative one, owing to considerable butter being bought for cold storage, for which purpose higher than export prices are being paid. The New York market continues firm at 18½ to 19¢ for western extra creameries. On some of the local Ontario markets 16½ was bid for creamery, but no sales were made. Receipts do not show any falling off. The exports from Montreal this season show an increase of over 10,000 packages as compared with the same period in 1898.

Creamery butter continues steady here at 17½¢ for prints and 16½ to 17¢ for boxes and tubs. There have been fair offerings of choice dairy butter, and the demand for the best is good at 12 to 12½¢ for large roll and tubs and 8¢ to 10¢ for common to medium. On the Toronto farmers' market, lb. rolls fetch 12 to 17¢, and large rolls 12 to 13¢ per lb.

Cattle.

While the American cattle market as a rule have been dull with lower prices for beef cattle, the situation on this side has been

WITH WHAT WE CANNOT KNOW

we cannot be concerned, but we do know that The

American Cream Separator

stands without rival on the market to-day.

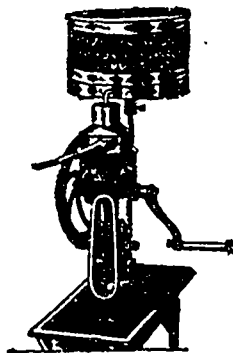
THE AMERICAN will be sent on trial, and we guarantee perfect satisfaction.

Get prices and illustrated catalogue from

Richardson & Webster,

ST. MARYS, ONTARIO

Also Manufacturers of Cheese Factory and Creamery Apparatus.



fairly strong. Some local dealers think we will have better prices than now prevail, though they have been strong for exporters and butchers' cattle. The run of live stock on Friday was not large. Trade was fair for the better qualities of cattle. Prices were higher for export and butchers' cattle. The quality of the fat cattle was generally good, the bulk being exporters.

Export Cattle.—The bulk of heavy exporters sold at \$4.90 to \$5.10, and light ones at \$4.60 to \$4.75 per cwt. Export bulls of good quality brought \$3.87½ to \$4.25, and light ones \$3.40 to \$3.65 per cwt.

Butchers' Cattle.—Choice, picked lots of these equal in quality to the best exporters, weighing 1,000 to 1,150 lbs. each, sold at \$4.65 to \$4.75 per cwt. Good butchers' cattle brought \$4.45 to \$4.60, and medium \$4.30 to \$4.45 per cwt.

Stockers and Feeders.—The stocker trade was slow and prices easy at \$3 to \$3.25 for inferior, \$3.50 for medium, \$3.75 for good, \$3.85 to \$4 per cwt. for choice, picked lots. Stock heifers are steady at \$3 to \$3.25, and inferior stock bulls at \$2.75 per cwt. Heavy feeders are in good demand and prices firm at \$4.40 to \$4.60 for well-bred steers, half at, weighing not less than 1,000 to 1,150 lbs. each. Feeding bulls, suitable for the byres, bring from \$3 to \$3.50 per cwt.

Calves.—These have been in fast supply at Buffalo. Good veal calves are wanted on this market. Prices range from \$2 to \$10 each.

Milk Cows and Springers.—These bring \$25 to \$45 each, with some choice ones fetching \$50.

Sheep and Lambs.

The American markets as a rule have been weak and dull for both sheep and lambs. At Buffalo on Friday choice dry fed lambs were a little stronger. On Toronto market ewes brought \$3.75 to \$3.85 per cwt., and bucks \$2.75 to \$3.25 on Friday. Yearling lambs were easier at \$4 to \$4.75 per cwt with extra choice lots bringing \$5. Prices for spring lambs range from \$3 to \$4.50 each.

Hogs.

The market for these has not changed any during the week, though some consider the outlook more promising with even higher prices looked for for choice bacon hogs. However, time will show this. The deliveries on this market on Friday were fair and prices were \$5 per cwt. for select bacon hogs; \$4.37½ for light ones, and \$4.25 for thick fat hogs. The Montreal market continues about the same at \$4.50 to \$5 per cwt. as to



Every Mark

made by The Sherwin-Williams Paints is enduring. Every drop of The Sherwin-Williams Paints is the best that can be made. We could not make one drop of such paint unless we had gradually progressed along the road we have traveled for thirty years, learning something about paint-making every day. We have steadily perfected our machinery and educated our workmen, and every drop of paint must pass an examination before it can get out of the works. Every drop sold is guaranteed for quality, covering capacity and durability. The high reputation of

THE SHERWIN-WILLIAMS PAINTS

is due to the care and special knowledge that enter into their making. There are a score of kinds for different uses. Each and every drop contains the best lead, best zinc, best color, best oil, best drier—all in the right proportions. Not "about right"—but exactly right. Our practical booklet on painting will be sent free.

THE SHERWIN-WILLIAMS CO.,
PAINT AND COLOR MAKERS,
Canadian Dept.,
21 St. Antoine Street,
Montreal.

quality and weight. The *Trade Bulletin's* cable re Canadian bacon reads thus:

London, June 8, 1899.—Notwithstanding more liberal receipts from Denmark, the market has remained steady for Canadian all week.

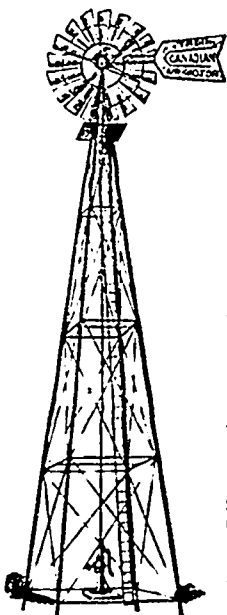
Good Advertising Story

The *National Advertiser* tells a story of an old bachelor who bought a pair of socks, and found attached to one of them a slip of paper with these words: "I am a young lady of 20 and would like to correspond with a bachelor with a view to matrimony." Name and address were given. The bachelor wrote and in a few days got this letter: "Mamma was married 26 years ago. The merchant you bought those socks

from evidently did not advertise or he would have sold them long ago. Mamma handed me your letter, and said possibly I might suit you. I am 18 years old."

A lamb, a goose, a hog, and a skunk wanted to go to a circus, the admission to which was \$1. The lamb could get in all right for he had four quarters, also the goose for he had a bill, and the frog for he had a green back; but the poor skunk had only a (s)cent, and it was a bad one. They were all going away because the skunk could not get in when they met a sardine, and he said, "Come with me, boys, I've got a box."

WIND MILLS



If You Need a
RELIABLE
WINDMILL

Before Buying See
the

**Canadian Steel
Air Motor**

Will { Save Labor
Save Time
Save Money

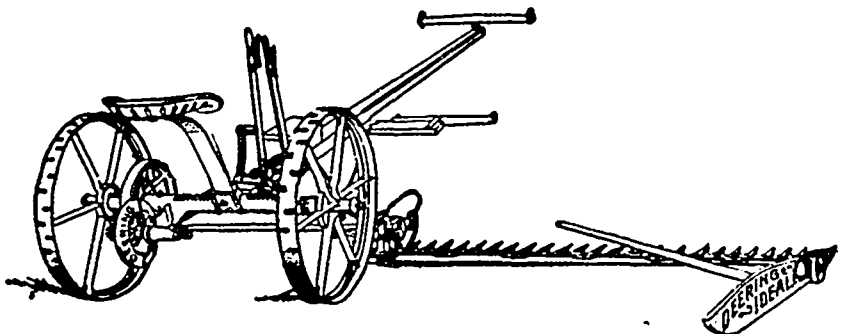
Points: { Power
Strength
Simplicity

Supplied H.M. Govern-
ment and C P Railway

Pumps, Tanks, Grind-
ers, Hay Tools, Water
Bases.

Ont. Wind Engine and Pump Co., Limited
TORONTO.

The Machines That Made America Famous



Deering Ideal Mower

This is the Mower that has revolutionized the Mower business in the Province. Remember it starts in any grass without backing up.

Deering Harvester Co.

Main Office and Factory: CHICAGO, U.S.A.

Permanent Branch Houses: LONDON, Ont., WINNIPEG, Man.

Canada's most progressive
Farmers

USE

Massey-Harris Farm Implements

BECAUSE:

They give excellent satisfaction.
They are made of the best materials that can be bought, and by the most skilled Canadian Artizans.
The money you pay for Canadian-made Implements benefits your fellow-countrymen.

REMEMBER:

The Wages earned by Canadian Mechanics are spent in Canada, and indirectly, but most surely, benefit the Canadian Agriculturist.

Therefore: Why buy Foreign-made
Machines?

THE MASSEY-HARRIS CO., LIMITED, TORONTO, CAN.

THOUSANDS OF FARMERS

IT PAYS TO BUY
THE BEST

Want GOOD Binder Twine, and are willing to pay a fair price for it. Sensible farmers know GOOD twine is the cheapest; and poor twine is dear at any price. It is not what you pay, but what you get, that constitutes a bargain. "Plymouth" make and sell GOOD twine as low as GOOD twine can be sold. "Plymouth" does not make or sell POOR twine at any price.



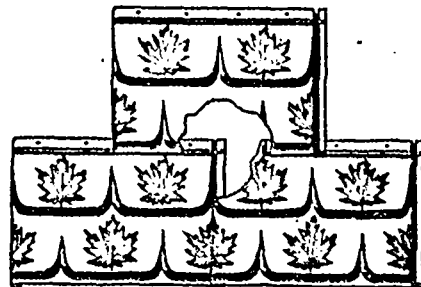
This Trade Mark is on every Tag. See that you get it.

Prudent People Prefer Plymouth

District Plymouth Binder Twine Agency, 54 Bay St., Toronto.

IF PEOPLE ONLY KNEW

the advantages of using metal roofing, constructed on our patent "SAFE-LOCK" principles, they would not accept a substitute.



OUR "SAFE-LOCK" SHINGLES

interlock each other on all four sides—leaving no openings for snow or rain to get in. They are easily put on by anyone—are practically fire and lightning proof and give a building a neat, finished appearance. We can tell you more. Ask for free catalogue and samples.

The Metal Shingle and Siding Co.
(Limited)

PRESTON. - ONT.

SALT

"A WORD TO THE WISE"

SALT may be described as a powerful chemical agent for providing and preparing soluble foods for plants from the materials present in the soil. This is a most important consideration when we remember that in all soils there are about two-thirds lying dormant and only one-third in active condition.

We sell all kinds of Salt in all kinds of packages. Barrels, bags or bulk. Unequalled shipping facilities. Higher grades of Salt for dairy uses a specialty.

Established
1868

R. & J. Ransford
CLINTON, ONT.

Lump Jaw

If it once gains a foothold in your herd will in all probability carry off from ten to twelve per cent.

MITCHELL'S
ANTI-LUMP JAW

has proved by its effective work that a bottle of it should be in every cattle raiser's hands.

WE ABSOLUTELY GUARANTEE
TO CURE ALL CASES.

If it fails we return your money. Endorsed by Canada's leading cattle exporters, Gordon, Ironside & Fares, Montreal and Winnipeg.

Price \$2.00,
Postpaid to any address.

FREE—Treatise on Lump Jaw and booklet of Testimonials sent on request.

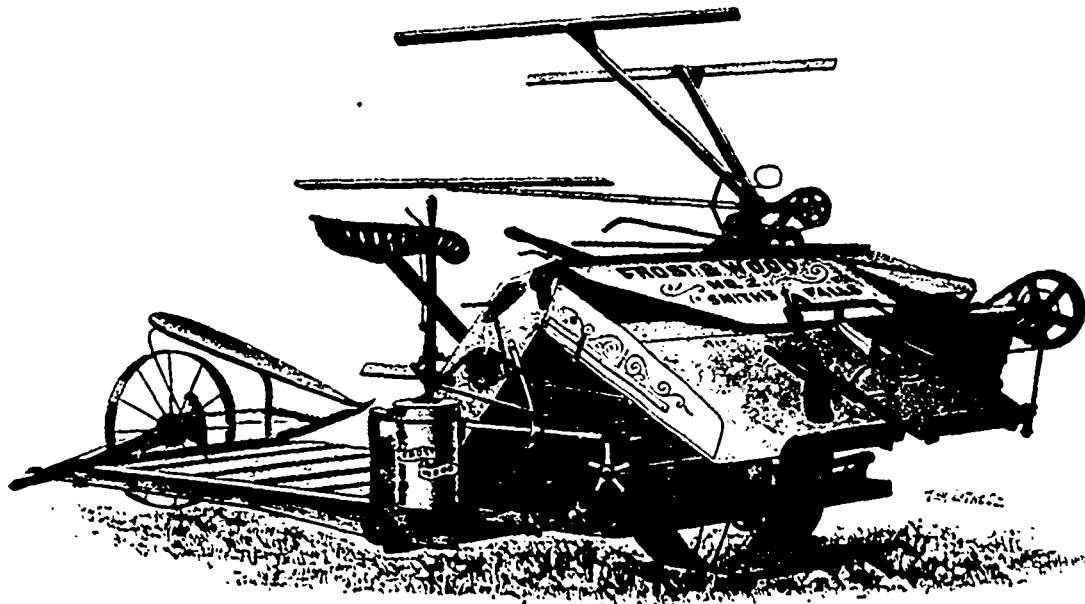
W. J. Mitchell & Co.,
CHEMISTS,
Prince Albert, N.W.T.
Winnipeg, Man.

Established 1839

THE OLDEST IMPLEMENT MAKERS IN CANADA

THE FROST & WOOD COMPANY, Limited

HEAD OFFICE AND WORKS:
SMITH'S FALLS, Ont.



Roller Bearings make light draft and easy work for horse.

The Frost & Wood No. 2

SAVES TWINE

as well as grain.

Twine is Money

If you want to SAVE MONEY buy a No. 2.

The Little Machine that cuts the Big Stuff.

No Binder ever was made that will do better work or more of it.

See our Samples and get our Prices before purchasing elsewhere.

FROST & WOOD No. 2 LIGHT STEEL BINDER

MADE IN TWO WIDTHS—5 feet and 6 feet.

"The Machine that has done more than any other to lighten the labor of the farmer in harvesting his crop."

TORONTO BRANCH, 77 Jarvis St.

LONDON.

Local Agencies throughout the Dominion.

WINNIPEG BRANCH, Market Square.

MONTREAL.

Send for 1899 Illustrated Catalogue.

QUEBEC.

NOVA SCOTIA BRANCH, Truro, N.S.

ST. JOHN, N.B.

When writing mention FARMING.

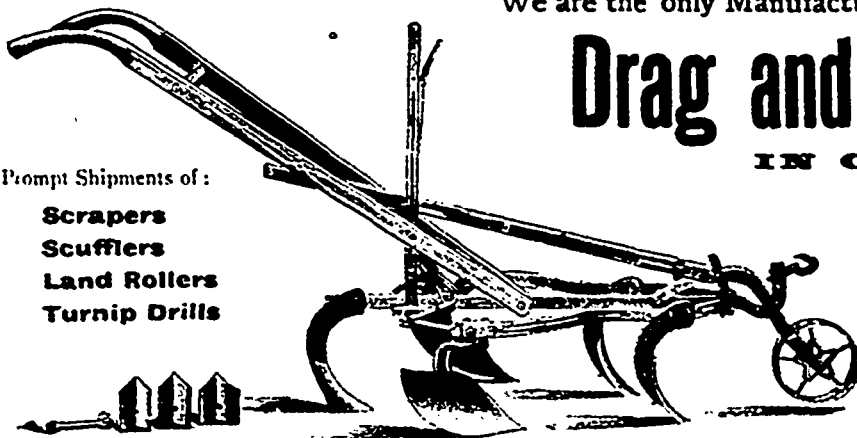
We are the only Manufacturers of

Drag and Wheel Scrapers

IN CANADA

Prompt Shipments of:

- Scrapers
- Scufflers
- Land Rollers
- Turnip Drills

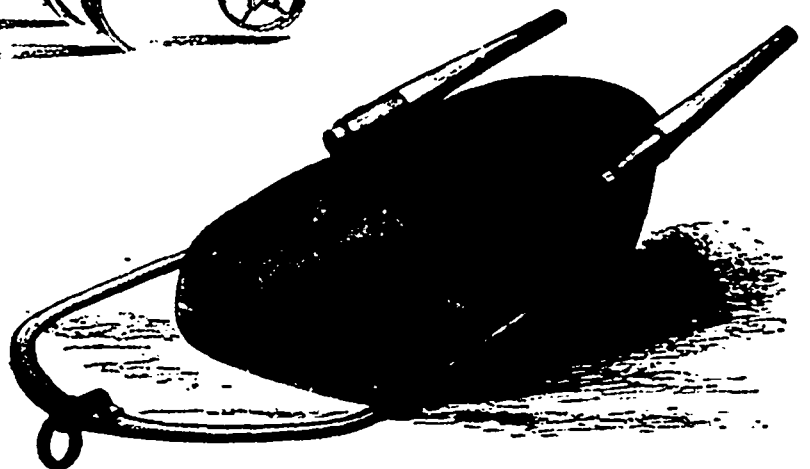


They are Heavier Steel, Better Steel, hold more, last longer and dump easier than the cheap variety imported into this country.

PLOUGHS

...OF ALL KINDS

Get your orders placed now for Pneumatic Ensilage Cutters. Ours is the only practical Pneumatic Cutter in the Market. Three seasons of wonderful success prove this.



The

Wilkinson Plough Co.,

LIMITED

TORONTO.