

MANITOBA AND WESTERN EDITION

J.H. Grisdale
Exp. Farm, Ottawa
24 Feb 20, 1901

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE AND SUCCEED
FOUNDED 1866

* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.*

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

VOL. XXXV. LONDON, ONTARIO. APRIL 20, 1900. WINNIPEG, MANITOBA. No. 500

Bank of Hamilton

HEAD OFFICE:
HAMILTON, ONTARIO.

Paid-up Capital, \$1,500,000;
Reserve, \$1,000,000;
Total Assets, \$14,076,457.

BRANCHES IN MANITOBA:
WINNIPEG
(CORNER MAIN AND McDERMOT STREETS;
C. BARTLETT, AGENT),
BRANDON, MANITOUL,
CARMAN, MORDEN,
HAMIOTA, WINKLER,
PLUM COULEE.

Deposits Received and Interest Allowed
GENERAL BANKING BUSINESS
TRANSACTIONED.

Collections carefully and promptly effected at all
points in Canada. Savings Banks at all Offices.
Correspondence solicited.

Pumps

A full line for farmers and stockmen. Easy to
work, and cheap. Satisfaction guaranteed.

H. CATER,

Agent (Hayes Pumps. Brandon Pump Works,
Myers Pumps. Brandon, Man.)

THE MANITOBA Fire Assurance COMPANY.

ESTABLISHED 1866.

HEAD OFFICE, WINNIPEG.

Licensed by a full deposit with Manitoba
and Territorial Governments.
Farmers should patronize a home insti-
tution.

The Hon. H. J. MACDONALD, President.
H. H. BECK, Vice-Pres. and Man. Director.

Reliable, Energetic Agents Wanted.

DR. BARNARDO'S HOME.

The managers of these institutions invite applica-
tions from farmers and others for boys and youths
who are being sent out periodically, after careful
training in English homes. The older boys remain
for a period of one year at the Farm Home at Rus-
sel, during which time they receive practical instruc-
tion in general farm work before being placed in situ-
ations. Boys from eleven to thirteen are placed from
the distributing home in Winnipeg. Applications for
younger boys should be addressed to the Resident
Superintendent, 115 Pacific Avenue, Winnipeg; or P.
O. Box 374; and for older boys, possessing experience
in farm work, to Manager, Dr. Barnardo's Farm
Home, Barnardo, Man.

CONTENTS OF THIS NUMBER.

	PAGE.
PROVIDE NOW FOR NEXT WINTER'S FODDER	211
PURE SEED.	211
SAN JOSE SCALE ACT.	211
RESULTS OF FINAL EXAMINATIONS IN DAIRY SCHOOL.	211
THE JUDGES AND THE CATALOGUE	211
ARBOR DAY	211
COLLEGE EDUCATION FOR FARMERS.	212
THE COMBINATION STOCK SALES	213
BARTHORPE PERFORMER (5097) 237 (ILLUSTRATION).	213
THE COWBOY	214
IMPORTED BULL, GOLDEN FAME =26056= (72610) (ILLUSTRATION)	214
THE USE OF THE WHIP	214
JUDGING DAIRY BULLS	214
ENTOMOLOGY IN ALBERTA	215
HOW TO OBTAIN A FLOCK OF THOROUGHBRED FOWL AT A SMALL COST	215
THE PEACE RIVER.	216
SEASONABLE NOTES ON CHEESEMAKING	216
HOME OF E. J. LAWRENCE, PEACE RIVER DISTRICT (ILLUSTRATION) 216	216
PEACE RIVER VIEW (ILLUSTRATION).	216
THE REPORT OF THE ELEVATOR COMMISSION	216
COMMENTS ON THE PICTURE	217
OUR SCOTTISH LETTER	217
CLYDESDALE AND SHIRE AMALGAMATION RECOMMENDED.	217
CLOVER AS A FERTILIZER.	218
BALSAM, 30 FEET HIGH, 16 YEARS OLD (ILLUSTRATION)	218
BUTTER—FROM THE STABLE TO THE TABLE	218
EVERGREENS	219
THE NATURAL METHOD—HATCHING CHICKS WITH HENS	219
HEDGE OF SCOTCH PINES, 11 YEARS OLD (ILLUSTRATION).	219
CHEESEMAKING	220
ARGENTINE CATTLE PROHIBITED.	220
FARM TESTS OF COWS	220
MR. RENNIE'S BOOK	221
ANIMAL PORTRAITURE	221
TO GET MANURE INTO PROPER MECHANICAL CONDITION.	221
QUESTIONS AND ANSWERS:—VETERINARY:—INFLAMMATION OF THE BLADDER IN RAM	221
MISCELLANEOUS: OPEN JOINT IN HORSE; EWE DISOWNS HER LAMB; CROP TO SOW FOR HAY; GEESE TO ONE GANDER; A SUBSTITUTE FOR GLASS IN HOTBED	221
CHATTY STOCK LETTER FROM CHICAGO	221
HOME MAGAZINE.	
FAMILY CIRCLE	222
THE CHILDREN'S CORNER	223
BRINGING HOME THE TURF (ILLUSTRATION)	223
THE QUIET HOUR	224
PUZZLES	224
TRAVELLING NOTES	224
GOSSIP.	225, 226, 227, 229, 230, 231, 233
NOTICES	228, 229
ADVERTISEMENTS	209 and 210, 225 to 236

PUBLISHED TWICE A MONTH, AT LONDON AND WINNIPEG, CAN.

MANITOBA GARDEN SEEDS

WE HAVE AGAIN BROUGHT THE EX-
PERIENCE OF THE BRANDON EX-
PERIMENTAL FARM TO OUR AID IN
SELECTING OUR LARGE STOCK OF GARDEN,
FIELD AND FLOWER SEEDS. OUR STOCK
WILL BE BETTER ASSORTED THAN EVER,
AND WE ASK YOU TO LET US HAVE YOUR
NAME, SO THAT WE MAY SEND YOU A
CATALOGUE.

FLEMING & SONS, BRANDON.

Use Fleming's Sheep Dip for lice on cattle.

We Sell

The genuine Anti-Rheumatic Ring.
The great rheumatism cure. Thou-
sands are wearing them with the
best possible results, and we have
customers who would not part with
their ring for \$500.00, if they could
not get another. The ring should
not be worn on the left hand, and on
the finger it fits best. The ring must
be kept bright on the inside. It
should be cleaned every day with a
penknife or sandpaper. If you are
a sufferer, don't delay a day in pro-
curing one. Send a slip of paper the
size of finger, with \$2.00, and we
will forward you a ring by return
mail, postpaid.

D. A. REESOR, "THE JEWELER,"

Brandon, Man.

Issuer of Marriage
Licenses.

Seeds.

Brandon Seed House.

Choice Field Seeds
and Garden Seeds (in
bulk).

Drop us a post card, giving your name, and we will
mail you our catalogue as soon as issued.

A. E. MCKENZIE & CO., Brandon,
Man.

Under New Management.

D. W. BEAUBIER, PROPRIETOR.
Newly furnished throughout. All modern conven-
iences. Most centrally located hotel to the business
part of the city.

PALACE HOTEL.
Accommodating porter meets all trains. Open day and
night. Good stabling in connection. Rates, \$1 per day.
Eighth St., BRANDON, MAN., near Rosser Ave.

FOR **Seeds 1900**
SEND TO **KEITH & CO.,**

WINNIPEG, MAN.
Catalogues mailed on application. P. O. Box 333.

Seeds that Will Grow.

Importers of northern-grown seeds, acknowledged to be the most suitable for Manitoba and N.-W. T. We have the largest stock of field, garden and flower seeds ever collected together in this country to select from. Our large and handsome catalogue for 1900 sent free on receipt of name and address.

J. M. PERKINS, Seedsman,
221 Market Street, WINNIPEG, MAN.

IT'S A WINNER.

So is our **Ideal Flax note-paper and envelopes**

120 sheets of paper with 100 envelopes, mailed for 60 cts. This is only one of the many snaps we offer. We carry a full stock of office, school, municipal supplies. Write us for catalogue. Our store is "value."



The FORD STATIONERY CO.,
One door north of P. O.
P. O. Box 1273. 407 Main St., Winnipeg.

R. A. BONNAR,
Barrister, Notary Public, Conveyancer, Etc.
Office 494 1/2 Main St., Winnipeg, Man.

Special attention to collections. Solicitor for "Farmer's Advocate," Winnipeg.

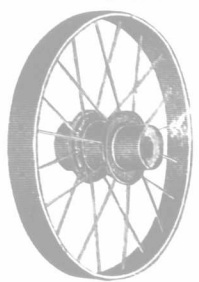
W. A. DUNBAR,
VETERINARY SURGEON,
5 1/2 JEMIMA STREET, - WINNIPEG.

Communications by letter or telegraph promptly attended to. TELEPHONE 56. 25-2-m-y

FARMERS, ATTENTION!
Cement Stables, Walls, Floors, ETC.,

Built on short notice by an expert cement mechanic. Work done anywhere in Ontario or Manitoba.
Address: **ROBERT TAGGART,**
Box 616. on- Woodstock, Ont.

Low, Wide-Tire Wheels FOR WAGONS.



Made to fit your axles. Every farmer should have a set of these low, wide-tire, wrought-iron wheels for drawing hay, grain, corn, manure, stone, etc. They are lighter, stronger, and much cheaper than wooden wheels. Write for prices.

Dominion Wrought Iron Wheel Co.,
on TORONTO.

WOODSTOCK Steel Windmills

FOR POWER AND PUMPING
DANDY
WOODSTOCK WIND MOTOR CO. LIMITED
WOODSTOCK, ONT.

GET A DANDY WITH GRAPHITE BEARINGS. THEY RUN WITHOUT OIL. STEEL TOWER. PUMP TANKS. SAW. GRINDERS. WATERING. Woodstock Wind Motor Co., Limited. WOODSTOCK, ONT. Agents: SYLVENILLE Brandon, M.

The Western Canadian Hail Insurance Company.

INCORPORATED BY SPECIAL ACT OF THE MANITOBA LEGISLATURE. AUTHORIZED CAPITAL **\$500,000.00** THE UNION BANK OF CANADA, BANKERS.

Head Office: Wawanesa, Man.

The only Company in Canada conducting a Hail Insurance business on recognized Insurance Principles, and offering the security of a large subscribed capital.

Stated GRADUATED Rates of Premium, Absolute Security, Prompt Settlement of Losses.

No uncertainty as to what the protection will cost, or what will be paid in the event of loss. Investigate our plan before placing your Hail Insurance. Full information furnished on application to the Secretary, or any Agent.

JOS. CORNELL, Secretary.

Reliable and energetic agents wanted in all districts.

...IF... Your Fence Sags
and looks like a fish-net, you bought the wrong kind. **Page fence stays as placed.** We use special wire. Our No. 11 is as strong as ordinary No. 9. Coiling makes ours still more effective. At our prices you can't afford to use any other.
THE PAGE WIRE FENCE CO. (LTD)
Walkerville, Ont.
Fence in stock.
D. ROSS, BOX 553, WINNIPEG, sole agent for Western Canada.

Strathy's "HINGE" Stay Field Fence and SINGLE POLE Gates

THE 20th CENTURY FENCE.
A fence competitor says: "It has no equal."
A trial will convince you also.

SHEDDING HINGE MOVEMENT OF STAYS UNDER PRESSURE STAYS CANNOT BEND & WILL SPRING BACK TO PLACE WHEN PRESSURE IS REMOVED.
The product of years of practical experience, careful study and experiment under the hardest climatic conditions of heavy snow and severe frost in winter and high temperature in summer, with a variation of 150 degrees. Our Spring Post meets perfectly the requirements and overcomes all the difficulties of contraction and expansion, under a variation of 180 degrees of temperature, and has besides a reserve capacity of as much more to provide for great strain and to automatically take up the stretch in the wires. Our "Hinge" Stays so set, when under pressure of snow or other weight, and that when the weight is removed the fence springs back to place, with Stays unbent and fence uninjured. A system all our own and unlike any other. We use heavy wires—high-carbon spring-steel wire of highest quality—but our system is cheaper and the completed cost less than any other fence. Write for full particulars, and state fully your requirements.

THE STRATHY WIRE FENCE CO., Welland, Ont.
(Successors to Strathy & Co.)
Agents of ability wanted in every part of Canada.

—Paints—

House, Barn, Roof, Bridge, Wagon, Implement, Coach
Paints Ready for Use.

Varnishes

for Carriages, Implements, Wagons, Interior and Exterior Finish.

WHEN BUYING PAINTS OR VARNISHES, SEE THAT THE PACKAGES BEAR THE NAME OF
The Canada Paint Co., Ltd., MONTREAL AND TORONTO.
PUBLISHED IN FARMER'S ADVOCATE.

Prosperous and Progressive GAINS FOR 1899.

A record to be proud of.
Increase income.....\$ 78,815 or 15 per cent.
Increase assets.....27,283 or 19 per cent.
Increase assurance in force. 1,321,751 or 9 per cent.
Decrease expenses.....10,165 or 7 per cent.

POLICIES:
Automatically Nonforfeitable, Liberal, Unconditional.

Manufacturers' Life Insurance Company,
Head Office: TORONTO.
GEO. GOODERHAM, ESQ., President. J. F. JUNKIN, ESQ., Managing Director.

WINDMILLS

Why pay for your POWER or wear your horses out, when a **Canadian... Steel Airmotor** will do the work for nothing? Nature furnishes Wind, we furnish the MACHINE. Are you a stock farmer? If so, it will pay you to get particulars of our **Woodward Water Basins?** Pay for themselves in TWO YEARS!!!
Ontario Wind Engine and Pump Co., Ltd., TORONTO, ONT.
Manitoba Agents: BALFOUR IMPLEMENT COMPANY, Winnipeg, Man.

Brantford Galvanized Steel Windmills Towers and Grinders.

"Ideal" Steel Power Windmills are the only mills having new Governing Device and Patent Roller and Ball Bearings. Thousands in use. SATISFACTION GUARANTEED.
Send for illustrated catalogue of WINDMILLS, MAPLE LEAF GRINDERS, IRON AND WOOD PUMPS, BEE SUPPLIES, ETC.
(Mention this paper.) on **BRANTFORD CAN. COCKSHUTT PLOW CO. (Limited),** Agents for Manitoba and N.W.T., Winnipeg.

A MACHINE to weave fence of coiled hard steel spring wire at half price of factory fence. \$25 buys wire for 100 Rod Fence. Catalogue Free. Address, **Carrier Wire Fence Mach. Co.** Box 12, Ridgeway, Ont.

FENCE MACHINE
The GEM still holds the record—120 rods 10-wire fence in 10 hours. Price, \$25.00. Coiled Spring and other wire for sale in any quantity. Write on **McGregor, Banwell & Co., WINDSOR, ONT.**

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.*

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

VOL. XXXV.

LONDON, ONT., AND WINNIPEG, MAN., APRIL 20, 1900.

No. 500

Provide Now for Next Winter's Fodder.

With the large area of land plowed last fall and lying all ready for seeding, and the exceptionally fine and early opening of spring, there will be a natural tendency to seed with wheat more land than was intended. It is to be hoped, however, that next winter's supply of fodder will not be forgotten. Throughout the country generally there was much less snow than usual, and unless heavy rains come early this spring the hay crop will undoubtedly be light. Now is the time to provide for next winter's feeding, and going on the experience of the past, no cheaper or better stock feed can be grown than green oats. The seed is cheap, the land can be prepared after the rush of the regular seeding is over, and thus to some extent clean the land of weeds by killing a myriad of germinated weed seeds. It is an easy and cheap crop to handle throughout, and as sure a crop as can be grown, and as a fodder, green-cut, well-cured oat sheaves is of highest excellence. The addition of a small percentage of peas adds greatly to the quality of the fodder, but the seed is as yet rather expensive and somewhat difficult to get, and for best results requires seeding separate from the oats. Good results have also been obtained with barley cut green, and it may be sown somewhat later than oats. Where corn can be grown and where proper attention and cultivation can be given it, a much greater quantity of fodder can be obtained per acre, and an additional advantage with this crop is the opportunity it affords for thorough and frequent cultivation to kill weeds and leave the soil in the best condition for a wheat crop. The enhanced values of all classes of live stock should be an additional stimulus to better feeding, better care and more careful breeding, and the wise man will provide now for next winter's supply of fodder.

Pure Seed.

The desirability of sowing only pure, sound seed needs no emphasis. With wheat, and probably the coarser grains, the majority of farmers are tolerably careful to procure the best seed at their command; still, there is room for great improvement along this line, and, as has been repeatedly pointed out in these columns, there is a great need of seed farms in this western country. There could surely be a profitable business worked up in every district by the careful, intelligent growing of seed grains.

Not only is there a strong demand for good pure seed of the standard varieties of wheat, oats and barley in this country, but an immense market could be developed with other countries for our northern-grown seed. One seed firm in Winnipeg had an order some time ago for ten tons of seed oats from a foreign country.

In grass seeds—that is, the two grasses that are now recognized as standards in this country, Brome grass and Native Rye grass—an immense market is developing, not only locally, but across the line. Thousands of pounds of these grass seeds have gone south this year into the States, and the market seems capable of almost unlimited expansion, provided always that pure, clean seed only is supplied. Once let our reputation be injured by the sending of unclean seed, containing foul weed seeds, and the game is all up.

In buying grass seeds, the greatest care is necessary, especially as most people are not yet familiar with the appearance of these seeds in their purity. We were shown a sample of Brome grass seed this spring that had been given by a farmer to a local seedsman to sell for him. It was doubtless a Brome grass, but most certainly not the Brome grass, *Bromus inermis*. This seed was small, dark-colored, and had a long awn, while the Brome grass proper has no awn—in fact, one of its names is Awnless or Beardless Brome grass. The following interesting extract is from a bulletin just issued by the Department of Agriculture, Washington:

Beardless Brome grass (*Bromus inermis*) is

coming into great favor throughout the West, and the seed is in demand. This not only makes the price high, but leads to the sale of chaffy and adulterated seed. The standard weight is 14 pounds per bushel, and most seedsmen quote prices either 'per 100 pounds,' or 'per bushel of 14 pounds.' We have secured pound packages from all seedsmen cataloguing this seed and have not found one lot that weighed more than 13 pounds. Most of the samples weighed 11 or 11½ pounds per bushel, while one sample fell to 8½ pounds. Buyers should insist on good seed of standard weight. At present most of this seed is imported, but some American-grown seed has been sold, and tests show that both in purity and germination home-grown is far superior to the imported seed."

It may be added that at Ontario Experimental Farms it has invariably been found that seed grown in Manitoba and the Territories was far superior and possessed higher germinating power than imported seed.

San Jose Scale Act.

The passing of the San José Scale Act, a year or so ago, has worked a great hardship, if not injustice, upon the people of Western Canada by prohibiting the importation of fruit, forest and ornamental trees and shrubs from Minnesota, where the San José scale does not exist, and yet allowing the free importation of nursery stock from the badly-infected districts of Ontario. The nursery stock from Ontario, even as far north as Ottawa, is practically worthless in this Province and the West, whereas from Minnesota, with a climate in many respects similar to our own, and where great progress has been made in introducing and propagating hardy fruits, trees and shrubs, can be obtained stock in every way most suitable to our conditions. The Western Horticultural Society has, on two occasions, passed strong resolutions urging the repeal of the Scale Act, at least so far as Western Canada is concerned, and many influential individuals have also endeavored to have this hardship removed. The announcement now comes from Ottawa that the Act is being amended by establishing two disinfecting stations, one in Manitoba and one in British Columbia. This will doubtless prove satisfactory so long as no unnecessary delay in transit is occasioned or no expense is added to the importer.

Results of Final Examinations in Dairy School.

The final examinations were held at the end of March. The following were successful, taking at least 70 per cent. on each subject written on: Messrs. Gadd, Gustafson, Stanton, Wheatland, Archibald, Walker, Sisler, Ruddick, Iverach, and Gunn. These passed the examinations on boiler and engine work, churning, working and packing butter, ripening cream, separating, milk testing and the oil test. In cheesemaking the following were successful: D. Iverach, Mrs. Aleock, Miss Lokier, Messrs. Marcox, Gadd, Bach, Rachette, and Walker.

The students attending the school were: *Home Dairy Course*: Harriet G. Bell, Lilly Burge, Seamo; Mrs. F. J. B. Douglas, Wakopa; Charlotte M. Ferguson, A. H. Hawke, Winnipeg; Alex. G. Walker, Brandon.

Butter and Cheese Course: Mrs. W. H. Aleock, Gladstone; H. Back, St. Vital; C. B. Beck, Peterboro; Narcisse Cayer, Pigeon Lake; D. L. Clark, Killarney; Madam J. S. Desgagnés, St. Norbert; E. B. Dobson, Winnipeg; Thos. T. Gadd, Birtle; Walter Gunn, Winnipeg; J. L. Gustafson, Savanne, Ont.; S. Hallman, C. Holst, Chas. Howard, Wm. Hurstfield, Winnipeg; Donald Iverach, Beulah; Herman Krebs, Steinbach; Euphemis Lanore, Winnipeg; Cleophas Marcox, Jr., St. Boniface; Samuel D. McGee, Winnipeg; Albert Perreault, St. Vital; Mrs. Joseph Precourt, St. Francois Xavier; Joseph Racette, Pigeon Lake; C. J. Ruddick, Barnardo; J. W. Stanton, Lilyfield; Cornelius Wheatland, Donore; Roy Whitman, Emerson; Oswald Gibson, Portage la Prairie; L. Archibald, St. James; A. Sisler, Winnipeg; Miss Loker, Glenella.

The Judges and the Catalogue.

We notice that at a recent meeting of the committee charged with the revision of the rules and the appointment of judges for the Toronto Industrial Exhibition it was decided to insert a clause in the rules requesting the judges not to refer to the catalogue while in the discharge of their duties. We are not informed of the reasons assigned for this request, but presume it is based on the old-fashioned idea that the judges should, if possible, be kept in ignorance of the ownership and breeding of the animals shown. If this were possible it might be desirable, both from the standpoint of the judges and the exhibitors, but in these days of breeders' association meetings it is hardly possible to select competent Canadian judges who are not personally acquainted with most of the exhibitors at the leading shows, and who do not know their herdsman and their cattle, so that if there is anything in the contention that they are liable to be influenced by the knowledge found in the catalogue, it seems to us that the exhibitors who are not known to the judges might reasonably insist upon an introduction in order to be placed upon an equal footing with their competitors who are acquainted, and yet, as a rule, these are the men who object to the judge referring to the catalogue. For a number of years, at the request of exhibitors, the judges in the classes for dairy cattle at the Toronto Exhibition were brought from a foreign country, one of the objects being to secure men who were not known to exhibitors, and who were uninformed of the breeding and history of the animals shown; but while some excellent judges were secured, they have not given more general satisfaction than our "home-made" judges, and this year we understand that Canadian judges have been selected for all the classes of cattle on the nomination of breeders' associations. If, unfortunately, a judge is appointed who is weak or dishonest, he will not need the aid of a catalogue to identify the men or the animals he may be disposed to favor. Exhibitors of Jerseys at Toronto last year will probably recollect that the foreigner who went through the form of judging that class made no reference to the catalogue. He went in empty-handed and bare-faced, and yet we fancy few will claim that his work was a blooming success from the standpoint of justice and fairness. Our own opinion is that in this matter justice does not depend upon the use or abuse of the catalogue, but on the selection of competent men of sterling character as judges, and trusting them fully. Knowing that their reputation is at stake, and that they are acting under the critical eyes of a company of discerning breeders who know what is right, and know when wrong is being done, there need be little fear that any will suffer from injustice. As to the catalogue, we cannot but think that if it is to properly fulfil its mission as an advertising medium, a check upon fraud, and an educational factor in giving helpful information, exhibitors should insist on having it made more complete and reliable, and that it should give the same amount of information respecting each and every entry. This should embrace the name and record number of the animal, the date of birth, the name and address of the breeder and owner, and the name and record number of sire and dam. The motto of fair boards and exhibitors alike should be "let there be light." Those who contend for the exclusion of the catalogue from the showing, and for keeping the judges in ignorance, should, to be consistent and to follow their idea to its logical conclusion, go a step or two further and stipulate that the judges be blindfolded and shall do their work by the sense of feeling, or else that the men who lead the animals into the ring shall wear masks to conceal their identity.

Arbor Day.

Arbor Day has this year been fixed by the Manitoba Government for Friday, May 4th. It is earnestly hoped that the spirit of the day will be observed throughout the length and breadth of the Province.

THE FARMER'S ADVOCATE

AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL IN
THE DOMINION.

PUBLISHED BY
THE WILLIAM WELD COMPANY (LIMITED).

EASTERN OFFICE:
CARLING STREET, LONDON, ONT.

WESTERN OFFICE:
MCINTYRE BLOCK, MAIN STREET, WINNIPEG, MAN.

LONDON, ENGLAND, OFFICE:
W. W. CHAPMAN, Agent, Fitzalan House,
Strand, London, W. C., England.

1. THE FARMER'S ADVOCATE is published on the fifth and twentieth of each month. It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical, and reliable information for farmers, dairymen, gardeners, and stockmen, of any publication in Canada.
2. TERMS OF SUBSCRIPTION—\$1.00 per year in advance; \$1.25 if in arrears; sample copy free. European subscriptions, 6s., or \$1.50. New subscriptions can commence with any month.
3. ADVERTISING RATES—Single insertion, 15 cents per line. Contract rates furnished on application.
4. DISCONTINUANCES—Remember that the publisher must be notified by letter or post-card when a subscriber wishes his paper stopped. All arrears must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post Office address is given.
5. THE ADVOCATE is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrears must be made as required by law.
6. THE LAW IS, that all subscribers to newspapers are held responsible until all arrears are paid and their paper ordered to be discontinued.
7. REMITTANCES should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.
8. ALWAYS GIVE THE NAME of the Post Office to which your paper is sent. Your name cannot be found on our books unless this is done.
9. THE DATE ON YOUR LABEL shows to what time your subscription is paid.
10. SUBSCRIBERS failing to receive their paper promptly and regularly will confer a favor by reporting the fact at once.
11. NO ANONYMOUS communications or enquiries will receive attention.
12. LETTERS intended for publication should be written on one side of the paper only.
13. WE INVITE FARMERS to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve the ADVOCATE, Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation, are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
14. ALL COMMUNICATIONS in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address—THE FARMER'S ADVOCATE, or
THE WILLIAM WELD CO.,
WINNIPEG, MANITOBA.

College Education for Farmers.

To the Editor FARMER'S ADVOCATE:

Among the excellent services rendered the country by the different societies connected with the agricultural interest of the country was the arrangement for the excellent address by Professor Henry, on education, delivered at the recent annual meeting of the Live Stock Associations.

That address was not only very able in itself as a presentation of illustrations from actual fact of what may be done to raise farming almost to the rank of a "profession," but it also served to draw attention to a subject of very vital importance to Manitoba and the Northwest. It is one which has been dealt with in meetings by the writer for some years, and has been brought forward by contributors to your journal on several occasions.

The present seems a fitting time to review the whole subject. A statement of what seems to me to be the facts, pointing to the need of early and effective action in the matter of higher education for our present and prospective farmers, and of the prospects and possibilities of success, may be of service in arousing interest in the matter, and may perhaps evoke a discussion of the matter in the press by writers very much more able to discuss the situation than myself.

The first requisite to the success of any movement is that it shall meet a real need. We ask, then, is there need for a college education for farmers? Without now discussing the character or length of the courses to be taken, is there any necessity for our farmers, their sons, or even their daughters, being given higher education specially directed to fit them for the future as successful farmers or farmers' wives?

For myself there is only one answer. Well acquainted as I am with our educational system, with the requirements of a country life and its drawbacks, and having some idea of the possibilities

before this great fertile land as an agricultural country, I can see not only that this higher and special education is desirable for us, but that the permanence of our existence as an agricultural people will depend upon it. And, be it remembered, upon the advance and prosperity of these vast areas of the north and west depends largely the prosperity of the whole Dominion. From the very beginning of things, the true well-being of every land has, in the last issue, depended upon its agriculture. To have a self-contained bread supply is the real strength of every nation. The lack of control of sufficient foodstuffs is doing more to preserve the peace of Europe to-day than all its armed men.

The present grievous famine in India, owing in a large measure on this occasion to natural causes—though partly to defective methods also—may serve to further emphasize this point. So deeply impressed is the British Government with the evidence that only scientific and well-directed methods can prevent the frequent repetition of these sad occurrences that they have spent millions in attempting to solve the agricultural problems of India. Amongst the inestimable blessings which British rule has given that great country and its vast population, have been its gigantic work in the way of irrigation systems and in the education of the people in sound and practical methods of agriculture, etc.

Thus do the very conditions of our existence as an agricultural people depend upon our being in possession of sound and practical views on the various phases of agricultural work. Some considerations may be named that must occur to any thoughtful mind as calling for a special education for those engaged in farm work:

1st. It is demanded by Nature and the peculiar conditions of this country. Nature has been wonderfully patient with us here. She abhors waste and abuse, and sooner or later will exact punishment for the same. We must confess we have been guilty of both waste and abuse of Her powers and gifts in this fertile land. It was all very well for Lord Dufferin to say that here "you tickle the soil and it laughs a harvest." There was, and is, truth in it, but it only happens when Nature is good-natured. She can, on occasion, be stern and exacting of Her dues, and must have a fair share of coaxing, tender care and just recompense for what She yields us. "Waste not, want not," is as true of Nature's gifts and smiles as other things.

Now apply these thoughts to our common methods of farming. What waste there is; what neglect of the elementary laws of Nature; what criminal methods almost, on the part of many who knew better, to get all they could, for instance, out of the land, without any thought of the future; what ignorance on the part of many who are more to be pitied than blamed!

How many farms have been exhausted and become not only valueless, but a menace to the neighborhood; what vast resources have been allowed to go to ruin in our forest and meadows; what neglect there has been of the by-products of farm, dairy, and mill!

The time has surely come for an effort to change all this. Such publications as this journal have done a most excellent and valuable work in this direction, but more is needed, and that can only be done by a regular course of instruction being provided, in our case, by the State. The laws of Nature, the methods of utilizing every product of the earth, and all our many resources, need to become part of the knowledge offered to its farmers, for the taking, by an agricultural State.

The peculiar conditions of this new land also make it a necessity. We are living still in what is largely an unknown country. In such a vast area as there is before us, there must of necessity be found widely differing localities, soils, climatic conditions, etc. For instance, wheat grows to perfection in parts of Manitoba, and as far away as the valley of the Peace River. Yet there are tracts in Manitoba and all through the country up to Peace River where it cannot be grown to advantage. Yet those tracts have their value, and those who have been instructed in such matters can tell always at a glance just how such lands can best be utilized. So in methods of work, they must largely differ from those in every other Province, though the general underlying principles will be the same. The necessity of knowing the best methods for the different soils and localities here—in view, too, of our special climatic conditions—is another argument for a special education for our farmers.

2nd. The need of facilities for further special education is emphasized by the keen commercial competition of the day. Our farmers feel it in many ways, and it is patent to all observers that the only way in which this country can hope to meet the competition of other countries in securing the world's markets lies in learning the most economical methods of production, and the most effective systems of treatment of land, etc. There is no need to enlarge upon it. The possibilities in this direction may be seen in the advanced countries of Europe, where farming has been reduced to a science, and where, but for frequent adverse climatic conditions, the farmers would be well able to hold their own against all competition, as far as available areas will permit.

The case, however, another very important aspect from which we are bound to view this matter. It most profoundly concerns every student of the social problems of this country, destined to be the home of millions, for it must deeply affect the future of our young people. One of the greatest problems of the age is that of the centralization of popula-

tion, the building up of huge cities through the constant stream of people—generally young people—to them. Various remedies have been suggested, but it is becoming increasingly evident that there is no cure for the evil, for such it is. There is no hope of dispersing the people of our cities unless you could sweep them away and make them like Nineveh or Nippur in Asia. We must accept things as we find them. But there may be partial prevention for the future, though none can cure the past.

A consideration of some of the causes which have contributed to the growth of cities at the expense of the rural districts may serve to throw light on the matter with which we are now dealing. Here are some of them:

1. The introduction of machinery as a substitute for human labor. This in older countries has driven the surplus farm laborers into cities, or to emigrate. In the latter case they have largely become the foreign immigrants who are filling our own cities. This movement has already affected our older provinces also.
2. The growth of the manufacturing industry has offered attractions to rural populations.
3. The increase of transportation facilities.

All these causes have been and are working to draw our rural population toward the cities. But the one with which we are particularly concerned now is of a different character. I mean the intellectual and other attractions, the facilities for education and all that appeals to the ambitious mind. To youth the city offers great attractions, with all its movement, variety and life. One result has been that our colleges are largely recruited from the country, and the professions are being stocked with farmers' children. In the general uplift of intelligence during the last half century, and in the universal craving for higher education, we have the premonition of what is coming, and, indeed, the explanation of what is already happening. There is a very evident craving for, and determination to have, a more or less complete college education among the young people of our rural districts. Often before they are at all clear what profession they intend to follow, our young men have severed themselves from farm life. They have tasted partially already the inspiration and pleasure of education; they have seen that it gives, besides these, a standing and power in society, and naturally they have longed for the fuller enjoyment of all the advantages they have seen before them. So our colleges have a large proportion of country youths. Others not so fortunate would be there if they had the means. Judging from what I have noted here and elsewhere, I feel there can be no doubt as to this longing for, and determination to have, if possible, a college course.

Now, I believe most firmly that if these young people are to be kept upon our farms, they must in many cases be given an opportunity to gratify this praiseworthy aspiration for a college course, or at least something that will enable them to rise to the same level of education as their friends. They do not care so much what it shall lead up to, as that without a larger, wider and more accurate store of knowledge they are going to be at a disadvantage, both in appearance and tact, in their future career. So I am convinced that the provision of opportunities of securing special education in agriculture is urgently called for and must be had, for the sake of the farmers' sons and daughters. It is the duty of the State to provide for this; a duty that cannot be neglected without serious injury to the best interests of a Province so purely agricultural as Manitoba. The exact nature of such provision must be decided only after careful consideration and enquiry.

It seems very likely that under prevailing conditions here we could well utilize our long winter months in such a way that young men and women could take a series of courses of study upon agriculture, each extending over twelve or fourteen weeks of the winter. During the months, for instance, of January, February and March, and perhaps a little longer, it would not be difficult for young men to leave their homes for such a course. In that time much ground would be covered, and if a series, covering say three years, could be arranged, a vast amount of useful knowledge could be acquired, which could not fail to benefit both the student and the community.

During these years the open season could be devoted to practical work upon the farm, giving opportunity for observation and the application of some of the store of knowledge acquired. With the experience thus gained, and with interest quickened and the powers of observation sharpened, the succeeding courses of study will be given a new charm and value.

Into such details as the question of maintenance, etc., it is perhaps premature to go at present. There should be little difficulty in making such arrangements as would make the cost not too heavy upon either the Province or the student.

Such an institution as is suggested should be in part, at any rate, self-sustaining, out of fees for tuition, if such were thought desirable. If established in Winnipeg, which seems the natural place for it, advantageous use could be made of the specialists connected with the university and colleges, or of professional men whose services could be enlisted.

I have no less general suggestions to offer in this paper. My chief object has been to call attention to this really very important subject, and to elicit discussion of the same in the press and community.

W. A. B.

The Combination Stock Sales.

To the Editor FARMER'S ADVOCATE:

SIR,—I have read with considerable interest the discussion, pro and con, in the *ADVOCATE*, on the question of the proposed combination sales, and while I think some very good arguments have been brought out on both sides of the subject, I do not think it has been fully exhausted, and with your permission I will take a hand in it, and will endeavor to be brief, lest I exhaust your readers. In the outset I wish to say that I trust you will not caricature me in the heading of my letter as you did Mr. Linton, of York County, in his, for however appropriate the caption may have been to the tenor of the letter, I can hardly think he would choose to be represented in a cartoon as going out with his little tin pail to "milk the Government cow," though I do not know who has a better right to milk that same cow, and what's the matter anyway with his proposition "to get all the money out of the Government you can and ask for more?" Don't they all do it? And what's the money there for but to be spent? And why shouldn't the leaders in this great national movement for the uplifting of the great live-stock industry of this country have a share of the public money to pay their travelling expenses and hotel bills while on their philanthropic mission in the interest of the small breeders? I think those who know the mover of the famous resolution at the Shorthorn breeders' annual meeting, declaring for stock sales under "Government supervision," and who heard his appeal for aid to the small breeders, had little difficulty in believing that they were not crocodile tears that shone in his eyes as he pleaded, but were convinced that he has lost much sleep and some hair from worrying over the disabilities of the small breeders, and they will have little sympathy with the one very small breeder in a back seat who "winked the other eye" and whispered the suggestion that he was "playing to the gallery."

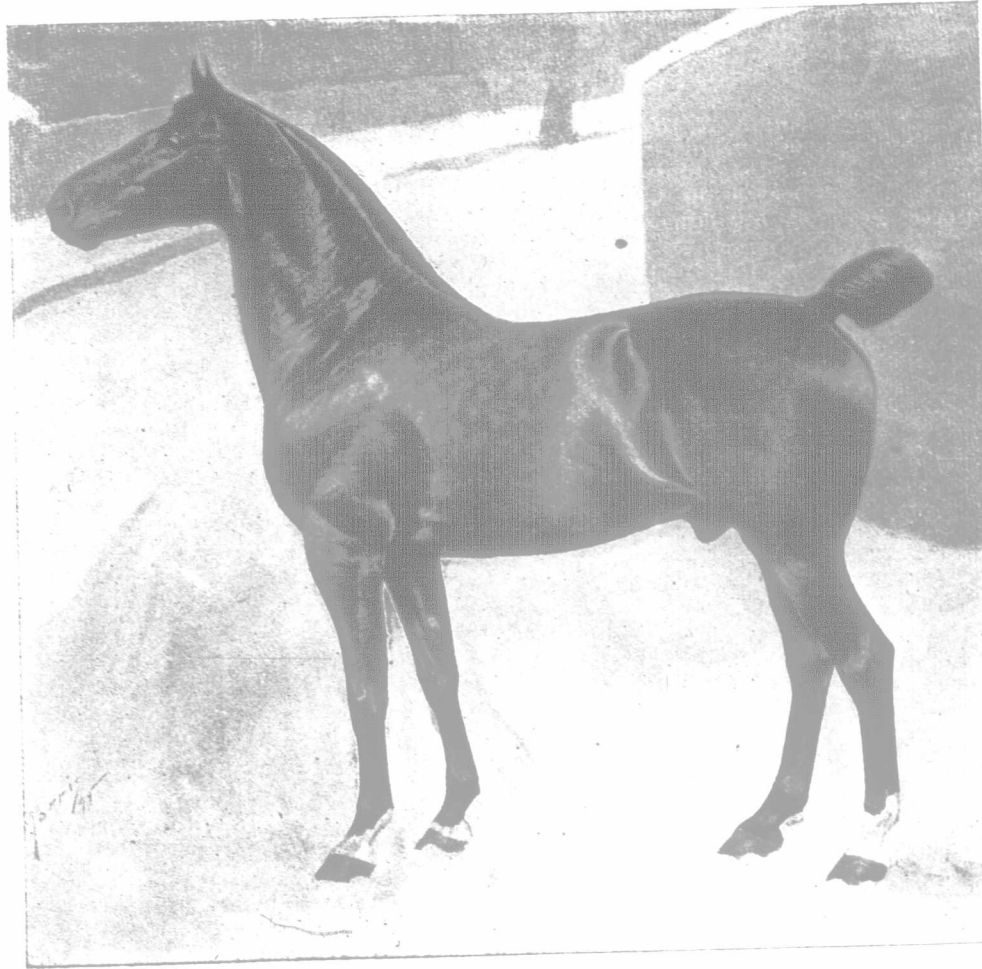
It seems to me that with such influential breeders at the head of this movement as Mr. John I. Hobson, president of live stock associations too numerous to mention; Mr. Arthur Johnston, who has repeatedly shown his ability to move "most any resolution that is placed in his hands"; Mr. Wm. Linton, son of his father; Lieut.-Col. McCrae, and Col. John A. McGillivray, Q.C., ex-M.P., under the command of the Dominion Live Stock Commissioner as field marshal, there should be little difficulty in believing that, in the words of Mr. Linton, "success from the very commencement is assured," as these are known to be men who have demonstrated their willingness to spend and be spent for their country's good, and cannot be said to be affected with an itch for office, or even to care to hear the sound of their own voices in public, as some of them have modestly declared.

Fears have been expressed that the first sales of the proposed series may not be very successful, but that they will improve as the people gain confidence in them. Now, I do not look at it that way. It is not the first sale I am concerned for, but the last one. I am informed that precautions were taken before the proposition was made public to get a number of breeders pledged to send at least one good animal to the first sale to give it a respectable appearance, and as people generally keep their pledges, it is reasonable to expect the stock will be forthcoming unless the breeders "boggle" at the model set of rules which has been prepared and submitted to them, as a condition of the Government grant being given, one of which stipulates that every animal entered "must be sold to the highest bidder." I do not know whether they had contemplated such a serious condition as that—it is so unusual a feature in auction sales. Another serious rule is that "there shall be no by-bidding, either by the owner or anyone on his behalf." I wonder if the present generation of breeders know what that means. I had thought it was out of date, and that the compound word, by-bidding, was obsolete. I understand some thirty years ago it was quite common, especially in a certain county in Ontario, by certain breeders in that district who used to hold occasional auction sales, to put in italics in the announcement in their catalogues, "there will be no by-bidding," but it got to be a by-word, in that there was said to be more by-bidding than buy-bidding at the sales held by those people, and they had to quit holding such sales, for the reason, I suppose, that the public had lost confidence in their being bona fide. But though there have been no auction sales of any account in that county in the last 25 years, I think it is safe to say that in no other district in the Dominion in that time have so many good cattle been sold at as satisfactory prices by the ordinary process of private contract, and it is difficult to realize that the best breeders in that section have felt that they have suffered for want of auction sales, and especially of the combination sort, and yet, if the reports published are correct, it was a leading breeder from that district who, at a recent meeting in Toronto,

in touching words and impassioned tones pleaded for this class of sales to relieve him from the "humiliation" of under-bidding his neighbors in trying to make sales of his stock in the ordinary way, and who, strange to relate, enjoys the reputation of being one of the best salesmen in the country.

It seems to me that anyone with ordinary perception ought to be able to see at a glance, with half an eye, that it will be a great improvement to have our business done for us by Government officials. It so nearly realizes Bellamy's dream of the good time coming, when the State will take over all the business in the country, and pension all business men before they become bald-headed. It will surely be a great relief of the strain upon the mind of having to make one's own sales, when all the breeder will have to do is to keep his stock till the end of the year, send them to the machine and have them put through while you wait, pocket your check, pay your freight and hotel bills and be happy, the Government paying the outlay for auctioneers, advertising, printing, etc., and the bills of the officers at the "Grand Central."

Reverting to the use of the term by-bidding, I do not remember having seen it in a sale catalogue for 25 years till this spring in connection with a sale of Shorthorns held near Guelph, and now we have it in the model rules prepared for the combination sales. I don't know how others regard it, but I confess it always makes me feel a little suspicious when I see such an announcement. It savors so much of wearing of the old flag on the breast to convince the world that you are true to Queen and country. I think a fine sense of honor would lead



BARTHORPE PERFORMER (5097) 237.

Imported Hackney stallion to be sold in dispersal sale of Hillhurst Hackneys, at Toronto, April 28. PROPERTY OF HON. M. H. COCHRANE, HILLHURST, QUE. (SEE GOSSIP, PAGE 230.)

one to leave it to the world to judge of our honesty or loyalty by our life, but it may be merely a matter of taste, and there is no accounting for tastes, as the lady said when she kissed her cow—no doubt it depends a good deal on the breed or the breeding.

Col. McCrae, in advocating the combine at the Toronto meeting referred to, I am told, frankly admitted that although the first of the sales held at Guelph under a local breeders' organization was fairly successful, the last was not so, as he bought from some of his animals back after the sale, paying from \$10 to \$25 advance on what they were sold for. Of course that is perfectly legitimate, but not every breeder would enjoy that way of doing business, except in the sense in which a person is said to "enjoy bad health." But I have it from one who knows, that not all the contributors to that last sale were as honorable as Col. McCrae, as a friend of his, not a breeder nor a farmer, who was present was asked by one whose cattle were going at slaughter prices, to do a little by-bidding for him, which out of kindness he did, but, in the babel of three auctioneers selling at once in the same building, he made a mistake in the number of the animal, and to his consternation found that a bull belonging to another contributor was knocked down to him. The latter breeder being an honorable man, who felt that he had a character to maintain, could not or would not understand the explanation; indeed, I doubt if he could have been induced to take \$10 or \$25 to have had the animal seen on his farm after the sale, and he shipped the bull to the buyer, who had no more use for a Hereford bull than the man in the moon, and was the butt of the jokes of his friends for some time after.

It was, I believe, at the last of the Toronto sales under the supervision of the Breeders' Association, that registered Shorthorn cows sold for \$35 "a skull," and yearlings at \$13 apiece, but of course there were no inspectors under that arrangement to visit the farms and to see that the "critters" offered were put through the fanning mill before being accepted. That will not happen under the new regime, for has it not been intimated that such eminent expert judges as the president and second vice-president of the Shorthorn Society are to be appointed inspectors, salary not stated, to travel through the country on free passes, and to be supplied with long rubber boots, and blue jean overalls with bibs on, to pronounce upon the animals offered as to whether they are eligible in type and breeding, and sound in wind, limb and waterworks. It has been suggested that these gentlemen, being magistrates, be given a roving commission (even if a special Act of Parliament be necessary) and empowered to take evidence, in a fence corner, a cow byre, or any place, as to the cows entered for the sale having been properly served on a given date by a registered bull of the same breed, and that they shall keep a record of the movements of the said cows after the sale to ascertain whether they produce offspring at a date to correspond with the date of service given. This, I think, is a very important point to be guarded, for it was at the last of the Toronto sales, I am informed, that a young breeder was congratulated on getting great bargains in three fine-looking heifers said to be in calf, the date of service some months before being given, but the young breeder was not so elated when he sold two out of the three to the butcher the next year, as being hopelessly barren.

It was, I believe, at that last sale, too, that a small breeder who had brought cattle to the sale, paying heavy freight bills, was so discouraged at the end of the first day on account of the wretched prices that were being obtained, that he proposed to sell out privately to a big breeder and go home. He was offered a mean price and accepted it. The cattle were run through the sale next day in the name of the original owner, the second owner bidding on them, with a decoy bidder or by-bidder to bid against him, with the understanding that by a system of wireless telegraphy he was to stop at a given sign. A small breeder seeing a big breeder bidding on one of the cows, concluded she must be a good one, and put in his little bid, when something dropped, and he found she was his at a price which left the big breeder two other animals for practically nothing. But the decoy-duck thought it too good a thing to keep, and some time later "quacked," with the result that for a time there were "strained relations" between the second and third owners. But of course that class of big breeders are all dead, and all this sort of juggling will be done away with under the new dispensation, for we shall be working under a model code of inflexible rules, the ninth and last of which is that "the Live Stock Commissioner may decide in any case whether or not all or any of the required conditions have been complied with, and his decision shall be final," "a man," to quote Mr. Linton again, "eminently qualified for the position." This should surely dispel all doubts and quell every fear.

It will doubtless be reassuring to the little breeders to know that the leaders will not monopolize the sale, and are willing to limit the number of animals they shall enter. This, of course, will be no great sacrifice for some of them, who own no stock, but to others it will be a real deprivation, and such unselfishness can only be compared to that of Artemus Ward, who generously consented that all his first wife's male relations should be given the privilege of enlisting for the war before he claimed his right to bleed and die for his country. Indeed, some of the leaders have, I am told, gone so far as to state their willingness to pledge themselves that they will not mention to prospective buyers at the sale the stock they have at home till the last animal in the combination is sold, and will not even give or show their private catalogues of stock, as the manner of some is at private breeders' auction sales, except it may be in a very extreme case, when they will invite the party behind the barn, and caution him to put it in his inside pocket.

Allow me to state that I think there is not much to fear from the bogey which some one has trotted out, that this thing may lead to political scandals. Is it not true that most of the leaders are in loving sympathy with the Government, and what object could they have in getting the Minister into a mess? And, anyway, will someone please rise and explain what politics has to do with the price of pork. It is comforting, too, to know that the Live Stock Commissioner is reported as having denied the rumor that the tuberculin test would be applied to cattle entering for the sales, and I presume it will be so advertised, so that any buyers coming from the United States will understand that they will have to assume the risk of that test themselves.

BREEDER.

The Cowboy.

BY J. M'CAIG.

(Continued from page 189.)

ON THE RANGE—THE SEMI-ANNUAL ROUND-UP.

The work of the cowboy is arduous at times, and these times are at the round-ups. There are two round-ups: one in May and extending into June, the other beginning in August and extending into fall. The spring round-up is to brand the calves, generally a couple of months old at that time, and the fall round-up is to cut out the beef cattle from the bunches to ship them. It must be borne in mind that the cattle of different owners are intermingled and in small scattered bunches all over the country, and that the round-up is a combined movement to either brand the calves and let them go again, or to cut out each man's sale beef. As range is being bought up there is a tendency to limit the range to the land where the cattle belong. If a man owns sufficient range for his stock it is to his interest to keep them near home, as well as to keep other cattle off his range. When a cowboy goes on a circle he covers a great deal of ground. He rides hard for five or six days or more at a time, so hard that one horse is no use to him. He takes with him what is known as his "string" of cowhorses, generally eight or ten, and rides a different one each day. Cattle were formerly branded in the open in the old days, being simply held or herded by the cow-punchers, while one of them rode in after a calf, roped it and dragged it out to where the branding irons were heated. Now the stock associations have corrals in different parts of the range country, and the cattle are branded in these corrals. It is less picturesque and exciting, but is handier, and requires fewer men. Sometimes a calf may be missed on the round-up, and being weaned by next year its owner cannot be known. Such an ownerless animal is called a "maverick," from the name of a man in the early cow days who showed unusual facility in hunting up unbranded cattle and putting his own brand on them. Mavericks are considered the property of the stock associations, and are sold by them to individual cattlemen.

It is in the round-up and branding that the nice work of the cowboy is seen. Much as has been written about it, the operations must be seen to be understood. The converging of the various small bunches of cattle—steers, cows and calves together—at a point presents a curious spectacle. The cattle keep moving after being bunched, and this develops into what is called "milling," or a circular movement of the mass, while the cowboys ride close to the herd. There is a clanking of horns, a strong, murmuring, confused tramping as the motley colors and heads are carried aloft—here the pretty white-faced Hereford with spreading horns, the red or roan Shorthorn, the black, hairy Galloway, and occasional Texan, but all moving, tramping, jostling and excited, like the half-wild things that they are. The beef stuff are cut out and let go generally, and the cows and mothers held for the calf branding. The cowboy rides into the mass of mothers and calves, sees a little calf following close to the mother, recognizes her brand, and prepares to do for the calf. The two are followed to the edge of the bunch so as to be clear; the cowboy already has his rope with a running noose swinging about with a turn of his wrist, and watching his chance. It seems a sort of fatality for the poor calf, this running noose in the poise of the experienced cow-puncher; but roping a calf is an impossible feat to the uninitiated. With a fling of the rope the calf is literally snared by the heels and brought down. The pony, immediately the noose is caught, backs up and almost sits down; after a twist or two the rope is thrown about the horn of the saddle, and then the calf is drawn off to the fire; it is held down and the red-hot iron is applied to the side, hip or shoulder. There is a mixed odor of burning hair and burning beefsteak, and the pretty curly skin is marked for life. An agonized cry from the calf sometimes excites a fond mother, and she is a good kind to keep away from. The branding of heavier steers is more trying work. In cases of sale a "vent" brand has to be made and a new one put on. A steer's hide is sometimes an interesting piece of patchwork, from having changed hands frequently. Heavy cattle are roped both in front and behind. The noose in front is thrown over the head, and usually falls behind one of the front legs also by the stepping forward of the steer. After some plunging and jumping the steer stands still a moment, when a second cowboy strikes the hind leg with the noose, the steer steps into it, both horses draw in opposite directions, the steer loses his support and goes over, and the brand is applied. The steer occasionally becomes enraged, and it is wise for the operators on foot to reach the fence without loss of time after the steer is let loose.

The fall round-up is for the purpose of "cutting out" the beef. All cattle that are to be shipped are cut out and held or carried on from one round-up center to another, and are finally driven to the nearest shipping point to be loaded. Range cattle will sometimes travel twenty-five miles a day. A camp outfit must be carried along with a drive of cattle, and

herders must be on night duty to hold the cattle together. Cattle scatter easily on the prairie. They are not seen in large herds, as might be expected. A drive may consist of five hundred steers, often from a single ranch.

The number of cowboys employed in the summer is much larger than in winter. Summer is the busy season. In winter the chief duty is to keep the cattle from drifting too far from the customary range, as they are apt to do before a storm, and to keep the cattle out of the brush and in the open. The crests of the hills are usually blown clear of snow, and are the surest feeding in rough weather. Cattle that shelter in the brush are likely to get logy and to get snowed up. Winter is a time of considerable hardship, but the tendency is to put up more hay, keep up weak cows and others requiring attention, besides all the calves of the previous spring. Large areas are likewise being enclosed by fences, and the whole ranching operations getting to resemble more the operations of eastern stockmen.

Cowboys receive thirty-five or forty dollars a month, but everyone cannot be considered proficient. It takes time to become valuable. As the life is quite isolated, there is little opportunity or need for spending much, and a steady fellow, by sinking his earnings in cattle and working at the same time, may in the course of a few years find himself with a valuable property. The business of cow-punching has its hardships and drawbacks, but it is free, eager, healthful, and, to a careful man, profitable and satisfactory. The cow-puncher is not a brigand, outlaw or sharpshooter, as he is represented in yellow-backed literature, but a serious, hard-working business man, with a love of freedom and a strong sense of honor, justice and politeness. He is not an ornamental product, but is an evolution of the cattle business and the predominating spirit of that business.



IMPORTED SHORTHORN BULL, GOLDEN FAME =26056- (72610).
OWNED BY W. D. FLATT, HAMILTON, ONT.

The Use of the Whip.

If an expression of a few of the things I have learned from actual experience would lead to an exchange of ideas on the use of the whip in breaking and training horses I shall feel amply repaid for doing—what someone else might have done far better.

In the first place, I think the whip is used too much. It is often used as an instrument of torture. Cases where it is necessary to punish a horse are rare. Of course, a horse that kicks or bites its master should be punished, but a martingale is more suitable than a whip. The noise together with the blow frightens him more than the cut of a whip and he suffers from no after-effects; yet experience proves that he remembers it just as long.

The whip is misused more in the treatment of shying horses than in any other class. A horse is trotting quickly along the road, when a piece of paper flies up. Not knowing what it is, the horse immediately—as in the case of all other unexplained phenomena—attributes it to and associates it with his Satanic Majesty. His driver pulls and shoves alternately on the lines and tries to soothe the frightened animal by roaring "Whoa boy! Whoa boy!" When the paper has been safely passed, he pulls out a rawhide whip, and with an, "I'll teach you to shy!" he begins to belabor the now thoroughly frightened animal. The horse attributes the whipping to the object that frightened him, and the next piece of paper he sees frightens him so much the more. This is not mere theory. I have seen it tried time and again, and always with the same result. Above all things, if you cannot whip a horse without losing your temper, do not whip him at all. But little satisfaction is to be derived from whipping a dumb brute for what was, after all, partly its master's fault. For every horse is, to a certain extent, what some man has made him.

ROTARY.

Judging Dairy Bulls.

RUDIMENTARIES, MILK VEINS, ESCUTCHEON, AND COLOR SIGNS.

BY F. S. PEER.

Replying to a correspondent, who says in the *Jersey Bulletin*, March 14th: "I wish Mr. Peer would tell what are his methods in selecting animals, especially males. I judge he pays no attention to color of ears, escutcheon, rudimentaries, etc." I may say in reply that I judge on points as far as I am able to give a reason for them. As soon as they lead to guesswork I stop.

RUDIMENTARIES.

I am not able to give any good reason for considering rudimentaries, nor have I ever heard anyone attempt to give one founded on facts, why one bull with rudimentaries half an inch long was a better stock-getter than one whose rudimentaries were $\frac{3}{4}$ of an inch long or simply scars. I remember hearing a judge's apology for awarding a certain ungainly-looking bull a prize: "Oh, but you ought to have seen his rudimentaries, never saw the like of it in my life, nearly an inch long." I ventured to ask what that indicated. "Well—well—it's a good sign," and that was all the answer I received—no reason, only a good sign.

It's a good sign also when you see 13 geese walk in a row all toeing in. I have heard it was a sure sign the children would have the measles light during the coming season.

No, Mr. Dickerman is right; I do not select bulls by signs; I want something a little more tangible. It is safe to say that for the last twelve years I have judged an average of a hundred bulls a year, and in going among the herds in England, Scotland, Jersey and Guernsey, I have had splendid opportunities of observation. I have followed the question closely and have no hesitation in pronouncing it a fad with no foundation of fact.

When you find a bull that is getting cows with good, well-placed teats and are large milkers, look up the sire, and when you find them repeatedly, as I have, with scars instead of rudimentaries, you will begin to lose faith in signs. Some of the worst shaped udders and teats I ever saw were the daughters of a Guernsey bull with long, well-placed rudimentaries. I do not mean to say that long rudimentaries are a sign of a poor-shaped udder. I do not believe the length or placing of the rudimentaries has anything whatever to do with it. If they must take it for a sign, I would as soon take it for a bad as a good one.

MILK VEINS.

I have often found the richest milkers, and many of the largest milkers, instead of having two large tortuous milk veins on the belly, have numerous small veins there and on the udder. I remember seeing some Holsteins at Mr. T. G. Yoeman's farm in Walworth that were giving nearly a hundred pounds of milk a day with milk veins no larger than are often found on heifers with their first calves. I have seen many Ayrshire cows that gave 60 pounds of milk and over a day, with veins of very ordinary size and but few of them externally. I have no way of knowing how many veins are leading to a cow's udder that do not show on the surface. A small, active gland can do more work than large, sluggish ones.

ESCUTCHEON.

This is a subject I have studied with great persistence and one that also fails too often to be worthy of serious consideration. I have read every work published on the subject, but I would never condemn a bull, that suited me in other respects, because he lacked an escutcheon. When we raise a bull calf out of a 22-lb. cow by a prizewinning sire out of a 20-lb. cow, and he has neither escutcheon nor rudimentaries, and a scrub bull out of a worthless heifer has a full flanders escutcheon with thigh ovals and all, it ought to teach us a lesson, but it seldom does. We want to see the sign.

COLOR.

This is another uncertain sign. It comes and goes. It depends upon the condition of the animal. It is invariably more noticeable in animals that are on the gain. Dry cows as a rule exhibit more color than the same cows in milk. Color continues to glow in an animal as long as she is thriving or until she reaches her bloom. A change of diet, a day with looseness of the bowels, a sudden exposure to cold or storm, indigestion, and it fades like a flower.

Again it has been proven over and over that color is no indication of butter-fats. My advice is to look for it in the milk and not in the ears, and when you do, you will find it is not at all in proportion to the color in the ears. I think the reverse is more nearly correct; at least, it often happens that cows with the lighter colored ears give the higher colored milk.

In judging Guernseys it is a point the club wishes to encourage. Therefore, in judging Guernseys, color must be considered and breeders have to take their chances. The color may be there when

they started from home and gone when they come before the judge in the ring.

All of us doubtless inherit from our superstitious ancestors of old testament times, a fondness for looking after signs. The relics of prehistoric ages cling to us all more or less, "and they must have a sign." We come to believe in signs because we want to. Exceptions to the sign teach us nothing.

Two years ago I went to Nova Scotia on a shooting trip. I called at a settler's shanty. "There," said the housewife, "I told my daughter only yesterday—didn't I, Mary?—that if we didn't get around to it and black that stove on Monday, someone would surely come before the week was out—it's a sure sign. I never knew it to fail."

I knew then why it was I had travelled over a thousand miles by sea and land and had tramped through forty miles of forest to this settler's shanty. It was that the prophecy might be fulfilled and the sign that never failed might come to pass.

I look upon rudimentary, milk vein, escutcheon and color signs as signs and nothing more. They are poor and flimsy things to lean upon in judging the merits of bulls. A scrub may possess them all, and the best bull—the best sire—have none of them.

In my next letter I will call attention to the principal points about a bull that decides me in his favor.

Entomology in Alberta.

A meeting of Territorial farmers was held in Archer's Hall, Innisfail, Alta., on April 4th, for the purpose of exchanging experiences concerning insects that have been troublesome in 1899, and, by invitation of the Innisfail Agricultural Society, to hear an address from Percy B. Gregson, president of the Northwest Entomological Society, on "Pernicious Insects." President John Robinson occupied the chair, and had on the platform with him Vice-President Henry George, M. D.

P. B. Gregson, on being called upon, mentioned that the many replies he had received from farmers, locally and distant, as to insects, showed the general interest that was being taken in this subject. He then proceeded to explain the gradual development of entomology, said that it was only within the last few decades that entomology (the collection of facts relating to insects) became a real help to farmers. Agriculturists became more enlightened to its importance, governments encouraged its study, and now there is not a civilized nation in the world where this study is not recognized as an adjunct to the system of government, and necessary for the welfare of the farmer. Entomology having thus become recognized as of practical value, the next thing to be aimed at was to reduce the remedies that should be discovered to a simple level of utility such as would easily be understood by every one, and to narrow the remedies down as far as possible to a few effective and cheap materials of universal application. Two common remedies (those of Paris green and kerosene) will illustrate my meaning. The use of a mixture containing too large a proportion either of Paris green or kerosene will injure the foliage, and so it was necessary to have certain defined proportions which the farmer could use without fear of making a mistake. Insects and insecticides, moreover, vary in power and effectiveness in different localities. The remedies that are from time to time published by the Departments of Entomology are based on years of study and observation, and the habits of each insect and its full life-history must be understood. The characters of pernicious insects are almost infinite, and their field of operations includes almost every object in the animal and vegetable kingdom. Many minerals even are not free from their attacks. Mr. Gregson then gave a long catalogue of insects injurious to cattle, horses, birds, bees, grain, garden produce, grasses, trees, flowers, minerals, etc., without the house, and to household goods, flour, meal, bacon, cheese, meat, rice, woollens and furs, books, paper, even medicines, cayenne pepper, and baking powder, within the house, and stated that he had given the catalogue (quite incomplete as it really was) so that an idea might be gained of the work of the practical entomologist. By our own popular Dominion Entomologist (Dr. James Fletcher, of Ottawa) are published every year simple and effective remedies for every variety of trouble caused by insects; but we are apt to forget the immense scope of his work and the great range over which his labors and observations as Entomologist must extend. In addition to this, the entomologist must have an intimate knowledge of the different species and families of plants—their value as food or as poison. The pyrethrum blossoms, for instance, he knows when dried and powdered make a powerful insecticide. He must be a botanist. He must also be a chemist, so as to understand the properties of the various chemical remedies, such as Paris green, kainit, etc.

Let us pass on now to some of the results of these labors. Now, what I wish to suggest at this meeting of farmers is the greater importance of observing the actual injuries caused by insects, and their full and precise character; for the differences of treatment are not so variable as the insects and are easier understood by the farmer, and from an exact description of the injury, the kind of insect to be dealt with can be pretty surely deduced, without the farmer even having seen the insect. But he must be quite exact in his description of the injury and the time when it was caused, and from the nature of his occupation the farmer is much

better able to give an expert description of damage done to his crop than of any insect he may see.

All injuries by insects conform with certain fixed rules, and depend upon the structure of the mouths of the insects, which are all made upon one or other of two plans. They are either in the shape of jaws which nip the food, or in the form of a hollow tube, by which the juice, or blood, is sucked up. If, therefore, we find our potato leaves have portions eaten away, we know that it has been attacked by some insect which nips the food off with jaws, and that some kind of poison must be applied to the food, which the insect will consume with the leaf. So where the attack is made by some insect that sucks, such as plant or animal lice or flies, which pierce their tube through the surface, we know that this requires some remedy which destroys them by contact with their bodies, because they would push their tube through any poison on the food plant without being harmed, and suck from beneath the surface. No insect breathes through its mouth, but through several minute holes, called spiracles, on each side of the abdomen. That is why we apply oil to kill lice on cattle. The oil spreads over and clogs up the breathing holes. Larvæ or grubs, with few exceptions (such as the maggots of bot flies), also breathe through spiracles at the sides.

TREATMENT FOR CUTWORMS.

Bearing these broad principles in mind, let us notice now some of our own familiar insect pests, and see how we ought to do in the way of discovering them, and of "active" and "preventive" remedies. We find one morning our young cabbages and parsnips or onions eaten off at the surface of the ground. The nature of the damage shows the enemy to be a nibbler, and a poison of some kind at once suggests itself to us as the proper thing to give him. Further investigation by scraping in the soil just around the plant attacked will discover the enemy to be a "cutworm," of which there are several kinds, and as he evidently is very fond of young succulent plants, bundles of some succulent weed, such as "lamb's-quarters," dipped in a strong solution of Paris green (2 ounces to a pailful of water) and placed between the rows of the crop will lure many to their doom. The cutworm is very fond of sweetened bran, so a little Paris green mixed with sweetened bran and laid around or near the cabbages will attract the culprit and destroy him. (Take, say 50 lbs. of bran and slightly moisten it with water and sweeten with a little sugar; then mix well with it 1 lb. of Paris green.) Cutworms do not tunnel from plant to plant, but pass over the surface. They can nearly always in the morning be found just under the soil near the plant they have attacked overnight, and so can be dug out and destroyed. These are what are called "active" remedies—applicable where the damage is in actual progress. Prevention, however, is always better than cure, and so wherever possible we ought to adopt "preventive" measures. Moths are always attracted by vegetation, for they must have somewhere to lay their eggs, and as our common cutworm moth lays its eggs in the fall, the clearing away of all weeds, garden refuse, cabbage stalks, etc., will also clear away those cutworms which hatch in the fall, or else starve them; and will also prevent the late moths from laying their eggs in that locality. Gardens which are allowed to become weedy in the fall are almost certain to be troubled with cutworms in the spring. Our common or garden cutworm is not a climber, so wrapping a piece of paper round the stem of the young cabbage when it is planted out is another preventive measure.

RED TURNIP BEETLE.

Or perhaps on another morning, at the end of July or beginning of August, we find our turnip leaves being eaten by a beetle something like the Colorado potato beetle, but having only three stripes down its back. It is the red turnip beetle. It eats the leaves of our turnips, and therefore is a biter, and should be dealt with as such. Hence, for an active remedy we should place poison on its food by applying Paris green solution (1 lb. to 160 gals. of water), and stir in also 1 lb. of quicklime, or in smaller quantities of ½ ounce of Paris green, ½ ounce of quicklime, and a pailful of water. In mixing Paris green, Dr. Fletcher recommends in his valuable bulletin, No. 11, on "Noxious Insects," that it should just be made into a paste with a small quantity of warm water, and the paste afterwards mixed with the larger amount of water required, and if it does not adhere readily to the leaf, a little soap added to the water will overcome the difficulty. A little investigation around the base of the turnip, under clods, etc., soon after discovery of the beetle, will reveal to us where it lays its eggs, so that a good preventive remedy would be to grow a different crop on the place the next year. Rotation of crops is one of the surest preventive remedies that can be adopted in all cases, because very many insects lay their eggs in the fall in the vicinity of the recent food of the larvæ, and when the larvæ hatch in the early warm days of spring and find either no crop or a strange crop, they will starve.

HESSIAN FLY.

In the Territories, as yet, there is no serious trouble reported as caused by the Hessian fly, but it is an undeviating law that insect pests follow cultivation, so we must not be sure of always escaping. We notice among our ripening wheat, or barley it may be, many stems broken down at a joint, and examining a strand we shall find at the point where it has broken down (usually at the first

or second joint), if the Hessian fly larva has been at work, one or two small objects looking like "flax-seeds." This is the chrysalis of the larva of the Hessian fly. In this latitude (with our September frosts) this chrysalis would probably not hatch till the following spring, when the fly would emerge to lay its eggs on the blades of young wheat or barley. The young larva, on hatching from the egg, works its way down the groove of the leaf to the stem, where it remains until the approach of harvest, sucking the juice. In warm climates this fly produces two, or even four, broods during the year. Although after the fly has once attacked the grain there is obviously no way of destroying the larvæ except by also destroying the crop, preventive measures—i. e., to prevent future injury—can at any rate be adopted. I wish to emphasize the great value of warding off an attack of injurious insects by preventing their breeding. There are various ways of doing it. In the case of the Hessian fly, for instance, by a proper attention to the date of sowing wheat or barley, by timing the sowing so that the young blade should not appear till a week or ten days after the fly hatches; for the fly, when it hatches, must soon lay its eggs, and not finding any crop, must go elsewhere. The careful burning of all screenings and other refuse from the threshing mill will destroy large quantities of the "flaxseeds." This refuse should always be burnt, whether there be Hessian fly or not, as it contains many weed seeds. The stubble should also be plowed under, and some crop other than a grain should be grown the following year. Any special wheat that has a natural tendency to stool or throw out lateral shoots is also less apt to be seriously injured by the fly. The fly is like a very small gnat or midge, and if we should notice it flying about our young crop, application of fertilizers so as to produce a strong, healthy growth will enable many a plant to survive and overcome an attack.

(TO BE CONTINUED.)

How to Obtain a Flock of Thoroughbred Fowl at a Small Cost.

"Were you at the market on Saturday?" This question we often hear asked. "What had you in?" is generally the next question, and in nine cases out of ten the answer is: "Butter, eggs and chickens." "What did you get for chickens?" "Oh, mine were not very good; I got 45c. a pair for a few, and 35c. for the rest." "Why," says the first speaker, "I got 75c. a pair for chickens last Saturday." "Oh, yes, but yours were thoroughbreds, mine were all kinds." Now, how do people get all kinds? For example, here is one way: I met a farmer the other day, and he said: "How's the chickens? Are you still breeding thoroughbreds?" I said, "Yes, wouldn't have anything else." "Well," he says, "I want a couple of settings of eggs after a while." Now, after a while means some time, and some time generally means forty cent chickens in the fall. I said, "All right; I suppose you have a good flock of thoroughbreds now?" He said, "No, we have all kinds." Now, I happen to know why he has all kinds instead of thoroughbreds. About four years ago he bought two settings of Barred Rock eggs, and got seventeen cockerels out of the two settings. The first time he met the breeder he got the eggs from, he accosted him with: "Say, the chickens out of them eggs are no good, they are all roosters. I will trade you fifteen of them for pullets." The breeder said, "All right; he would not trade his own pullets, but he would get them for him." He said, "All right; any kind would do." The breeder went and bought fifteen half-bred Rock pullets from a neighbor for 40c. a pair, and got the fifteen thoroughbred Barred Rock cockerels for them. He killed six pair of them the next week, and got 75c. a pair for them. He kept three of the best and sold them later for \$1. The man who raised these cockerels, bred from the half-bred pullets he got in the trade, and to-day he has, as he says, "all kinds." Now, if these cockerels had been all kinds, would they have brought 75c. a pair on the market in September? I think not. If the pullets had been thoroughbred, could they have been bought for 40c. a pair? I think not. My experience is, that it costs no more to keep a flock of thoroughbreds than all kinds. The question with a great many people of limited means is, "How can a flock of thoroughbreds be obtained at a small cost?" There are two ways of getting a flock of thoroughbreds. One is to buy about ten pullets and a cockerel. These would cost about \$12—more than a great many people would care to pay, and about half what some others would pay. The other way is to buy eggs, and with ordinary good luck with the chickens, I think a person could get as good a start, with the chance of a better. From six settings, at a cost of \$5, a person should (barring accidents) raise enough chickens so that after selling enough to pay for the eggs he would have enough pullets left to start a flock with. The next season sell all the cockerels and buy another to mate with the pullets. After the first year, buy at least one setting of eggs each season. By doing this you can, with good luck, have your cockerels each season for nothing, by selling enough to pay for the eggs. Never sell your good pullets if you wish to have and keep a flock of good ones. Now, to those who have all kinds, and wish to obtain a flock of thoroughbred fowl at small cost, I say buy eggs, and when you go to market with chickens have thoroughbreds, worth 75c. a pair, and not all kinds, worth about half that price.

W. J. CAMPBELL, Peel Co., Ont.

The Peace River.

To the Editor FARMER'S ADVOCATE:

About latitude 56° north and in longitude 124° west, there is the meeting of two rivers which join their forces here between the ranges of mountains, which run in a north-westerly and south-easterly direction, giving a strictly opposite direction from each other of the rivers mentioned. Although their junction is not more than perhaps 300 miles from the coast in a direct line, yet these streams drain a very large area, and even before their meeting are respectable-sized rivers. These are the Finlay, coming from the N.-W., and the Parsnip, from the S.-W., whose principal tributary flows from Summit Lake, which is only seven miles from the Fraser River, and not far from the Pacific Coast. Its altitude is 2,300 feet. At the junction of these rivers, to form what is known as the Peace River, they are at an elevation of 2,000 feet.

From here, through the main chain of the Rocky Mountains, the course is eastward, where it flows mostly in a tranquil current, with few rapids, along a beautiful valley about two miles wide, flanked by mountains from two to three thousand feet above the river, and whose highest peaks attain an altitude of about 6,000 feet above sea level. The river along this course is from 600 to 1,000 feet in width.

Where it leaves the mountains and is compressed through the canyon, it is in places not over 200 feet in width, and has a descent of 270 feet in 25 miles, making a water power sufficient to turn the world if it could be utilized; or even perhaps run the Manitoba political machine at a low speed.

From saying farewell to the mountains, it flows on to form what is popularly known as the Peace River Valley. Here the river is about 1,500 feet above sea level, and the high and beautiful table lands upon both sides of the river are from 800 to 1,000 feet above the river. These are drained by numerous small rivers from 100 feet to 400 feet in width, which flow in beautiful valleys from 300 to 500 feet below the general level, and deepening as they near the main stream. The Pine River is the largest of these. It comes in on the south bank, and passes through the mountains at an elevation of only 2,850 feet, and was formerly highly recommended for the main line of the C. P. R.

The trend of the river is eastward until after it receives the waters of the Smoky River, another stream from the south, whose waters rise in higher mountains, much further south, and whose tributaries interlace with those of the Athabasca River. The Smoky is a stream swift in its course and difficult to navigate, and is about 900 feet wide near its mouth. Among the peculiarities of this river are the subterranean fires, which give rise to its name, and though it is the most southern freshets take place at a later date in the season than that of the other rivers. This is caused by its feeders being in a higher altitude, and therefore not so quickly affected by the summer's heat.

From this locality, which is known as Peace River Crossing—i.e., where the trail from Lesser Slave Lake to Dunnegan crosses the river—it turns to a northerly course for about 250 miles, to near Vermilion, thence easterly again for about 300 miles, until it receives in its embrace the waters of the Athabasca River, in the stream generally known as Slave River. This stream is the outlet of Athabasca Lake, flowing northward; about 30 miles north of the lake the Peace comes in. When the water is low in the latter river, they flow on oceanward in partnership; but when the waters of the mighty Peace are in the exuberance of summer vigor, there is but one river, and that, taking upon itself the task of filling up the great basin of Athabasca Lake, flows northward through two channels, the Slave River just mentioned, and one about six miles further up the stream, called the Quatre Fourche. Probably about one-third its volume of water is thus deflected southward, and performs what is generally considered the impossible feat of water flowing up hill. The balance of its waters proceed northwards, unbroken for about 75 miles, to the Smith Rapids. The river during this part of its course is not unlike the St. Lawrence along its course through the Thousand Isles.

This much we have said about the river, yet it is not the river in itself in which the principal interest lies, although from that standpoint alone it is one to which all Canada may unite with pride. A mighty stream, which even up among the mountains contains hundreds of miles of water stretches suitable for light-draft vessels, and then as it leaves the mountains gives about 600 miles of first class navigation for ordinary river boats, until broken by what are called the Vermilion Rapids and Falls, which are about a mile and a half apart, and where the waters descend about 25 feet in about two miles. I cannot particularize much in an article of this kind; suffice it to say that the river flows on from here to the Smith Rapids, a distance of about 300 miles. These rapids necessitate a portage of 18 miles, and

are the only other obstruction existing ere the mouth of the McKenzie is reached, a distance of more than 2,500 miles from Summit Lake, and which, including all its rapids and falls, descends less than one foot per mile on an average during its entire course.

Along the main part of the Peace River the current is from two to four miles per hour, according to the height of water, and the stream varies from a half mile to a mile in width.

E. J. LAWRENCE, Peace River.

Seasonable Notes on Cheesemaking.

BY J. A. RUDDICK, DAIRY COMMISSIONER OF NEW ZEALAND.
HEATING OR "COOKING" TEMPERATURES.

There is a tendency for the curd from rich milk to retain too much moisture, resulting in a weak, pasty cheese. This excessive moisture may be removed by extra hand-stirring when the whey is run off, but such treatment causes an unnecessary loss of fat and curd particles (white whey). A better way is to raise the "cooking" temperature gradually as the percentage of fat increases in the milk. When it reaches 4 per cent. on the average, heat to

equal, and the lowering of the temperature tends to harden the fat and solidify the curd, and in that way prevents loss.

Curd which is kept in a single layer will not become as "flaky" as it does when it is piled, but the proper "mellowness" and change as shown by the hot-iron test will come on just the same. This flakiness is more or less of a mechanical condition, due to the pressure and tendency to spread when the curd is piled in heaps, but it is often mistaken for a sign of maturity. The hot-iron test is far more reliable. Another point to be remembered is that curd will not mature so quickly at a low temperature as it will at a higher one.

WEAK, OPEN-BODIED CHEESE.

There are a good many cheese having weak body and very open texture. These are defects entirely due to faulty methods of manufacture, and the responsibility for such must be shouldered by the cheesemaker. The body of the cheese is determined very largely by the condition of the curd at the time the whey is removed. If the curd at this stage is soft and tender the chances are the cheese will be short and tender in body. If acidity is allowed to develop to any extent while the curd is in a soft condition, a more or less sour cheese will be the result. It is not the amount of acid in the curd at the time the whey is run off which determines whether a cheese will be sour or not, but rather the condition of the curd as regards firmness when the acid develops. The curd must be firm and slightly elastic, so that when a handful is pressed together it falls apart readily afterwards.

Two causes contribute to openness in the cheese. In the first place, it is a common error to hurry the process by salting and putting to press too soon—that is to say, before the curd has become sufficiently mellow to mould together readily under the pressure. A sweet cheese is always open, because it resists the pressure and "huffs," or swells, after removal from the press. Secondly, the pressure applied in many cases is not high enough to do the work properly. It requires a man's strength with a lever at least 3½ feet to 4 feet long. The levers on many presses are not over 2 feet long, and, moreover, it is doubtful if some of these presses would stand any greater strain.

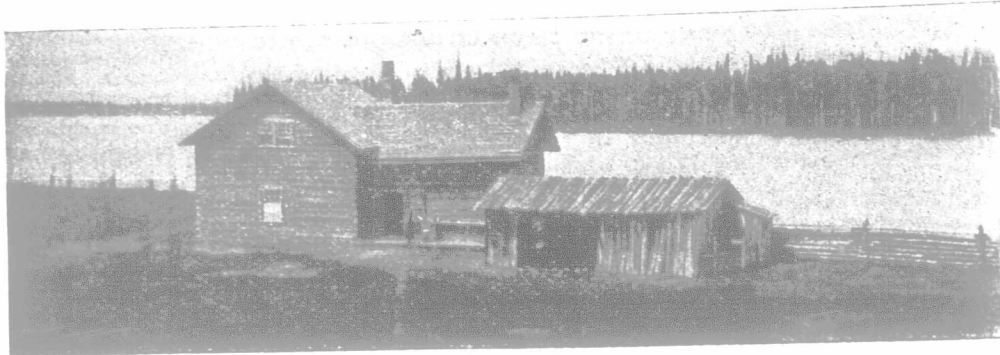
Possibly the reason why this state of things exists is because the first gang-presses were brought here from the United States, where, as a rule, they give their cheese comparatively little pressure, owing to the fact that a large proportion of the output is intended for local consumption—a trade which seems to prefer an open cheese. British buyers object to open cheese, because they have come to associate "openness" with a tendency to early deterioration.

The Report of the Elevator Commission.

The report of the Elevator Commission, which has recently been given to the public, will have been read with a great deal of interest. As the document is of very considerable length, space forbids our reproducing it.

The Commission practically acknowledges that the producer has had good cause for complaint; that the railway and elevator companies have, up to the present, made all the regulations affecting the handling of grain. The grievances have arisen chiefly from the protection given by the railway companies to elevator owners. Owing to this protection, the report points out that too many standard elevators have been erected to do a profitable business unless the owners buy and handle grain in addition to storing. Consequently the elevator owners, who have formed themselves into combines, have to get out of producer enough over and above what would be fair profits to pay the interest on an unnecessarily large amount of investment in standard elevators. These big elevators assist the railroads by storing large quantities of grain, thus enabling the traffic to be handled with less rolling stock than would otherwise be required. At many points the trade could as well be handled by small elevators or flat warehouses as by the more expensive standard elevator. The Commission recommends that flat warehouses be allowed, also shipping platforms be constructed by the railways and that farmers have the right to ship direct on cars. It also recommends that elevator operators be obliged to guarantee weights and grades; that uniform checks be given on delivering every load of grain, showing grade, weight, dockage, price. Legislation is also recommended to regulate "dockage," "shrinkage," etc., and it is suggested that a warehouse commissioner be appointed, with power to investigate all complaints, go through the books of elevator companies, and deal with all details relating to the grain trade.

E. J. PROPHET, Brechin.—"I have not taken the ADVOCATE this last year; no paper fills its place."



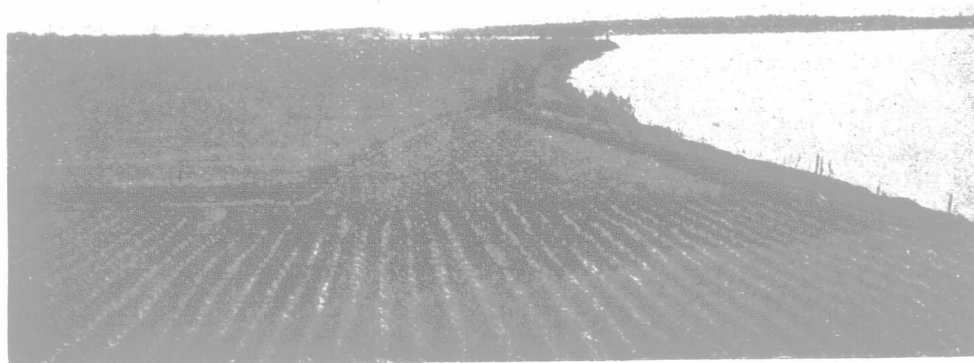
HOME OF E. J. LAWRENCE, PEACE RIVER DISTRICT.
River 1 mile wide here.

100 degrees, and from that up to 102 in extreme cases. Some judgment must be exercised in making such changes, and if other means have been employed to get the curd firm these will have to be relaxed somewhat if higher heating is resorted to, or else the thing will be overdone.

SALT AND SALTING.

Endeavor to procure only pure and clean-flavored salt. It is very frequently tainted with objectionable odors, such as tar paper, bone dust, salt fish, etc. It should be even in the grain, and rather coarser for cheesemaking than for buttermaking. Having secured a good article, protect it by keeping in a dry place, free from all odors and danger of contamination.

More salt should be used as the milk becomes richer in fat, because the yield of cheese increases in proportion. The quantity of salt may be varied slightly from day to day, or on different curds, according to the moisture which they contain. Dry curds require less salt than those with more moisture, because there is less drainage to carry it off. Salt which is very fine in the grain will dissolve so quickly that more of it runs away before being ab-



PEACE RIVER VIEW.
Wheat and potatoes on farm of E. J. Lawrence, 700 miles north of Edmonton.

sorbed by the curd than is the case with coarse salt. Certain brands of salt dissolve more slowly than others, even when the grain is the same. This is particularly true of some of the ground rock-salts.

EXCESSIVE LOSS OF FAT IN PRESSING.

When the curd shows a tendency to lose too much fat during the process of maturing and pressing, and when the fat appears in the open spaces and fractures of the cured cheese, it is an indication of an abnormal condition of the milk that produces a curd with a weak structure which is unable to retain the fat properly.

This difficulty may usually be overcome if the following suggestions are observed: 1. Have the curd fairly firm before running off the whey. 2. Do not pile it after matting, and thus avoid the pressure consequent upon having several pieces placed one on top of another. 3. Mill the curd at least one hour before salting, but do not stir it afterwards any more than is necessary to prevent it from matting. 4. Keep the temperature a little lower at all stages after running off the whey. A curd which is put to press at 80 degrees will make a closer cheese than if it had been kept warmer, everything else being

COMMENTS ON THE PICTURE.

The Admiration of Britain and America.

A. J. LOVEJOY, Gen. Supt., Illinois State Fair.—“I consider the engraving a masterpiece of workmanship; full of character and very lifelike.”

J. DEANE WILLIS, Bapton Manor, Codford St. Mary, Bath, Eng.—“‘Canada's Ideal’ arrived safely. It is well done, both its execution and, as far as I can judge, its individual portraits.”

HON. D. FERGUSON (Senator).—“In my opinion ‘Canada's Ideal’ is indeed a beautiful work of art in animal portraiture, and cannot fail in having an excellent influence on the minds of the young farmers of Canada.”

I. P. ROBERTS, Director College of Agriculture, Ithaca, N. Y.—“It is a most emphatic and beautiful way of giving instruction in the breeding and feeding of live stock. It is a volume in itself. I trust that your people will appreciate it as highly as we do.”

THOS. A. SHARPE, Superintendent Experimental Farm, Agassiz, B. C.—“‘Canada's Ideal’ is indeed a beauty, and worthy a frame in any breeder's library. It must be exceedingly gratifying to those who owned the animals to have them so splendidly illustrated.”

WM. WARFIELD, Lexington, Ky.—“‘Canada's Ideal’ is hanging now over my head in my library, and makes a very handsome appearance among many very celebrated men and Shorthorns. I wish I was strong enough to write you more than this brief note.”

F. D. COBURN, Secretary Kansas State Board of Agriculture.—“‘Canada's Ideal’ surely required a vast deal of work and study of the breed and the animals it represents. It is the most extensive affair of the kind that has yet come to my attention.”

HON. M. H. COCHRANE, Hillhurst Farm, Compton, P. Q.—“This handsome picture of Shorthorns is well named ‘Canada's Ideal,’ and affords abundant proof that the Dominion is deserving of the place she has won as second only to Great Britain in the exportation of pure-bred stock.”

WM. SAUNDERS, Director Central Experimental Farm.—“‘Canada's Ideal’ is one of the best things of the kind I have ever seen. The animals are all very choice representatives of the breed, and they are admirably shown in the plate. You deserve much credit for the good work you are doing.”

PROF. THOMAS SHAW, University of Minnesota.—“The animals represented are a credit to any country, and they are beautifully sketched. The dissemination of such pictures cannot fail to convey more correct ideas as to animal form and to stimulate young breeders to aim still higher.”

H. J. ELLIOTT, Danville, P. Q.—“Rightly named ‘Canada's Ideal,’ especially at the present time, when the Shorthorns are taking such a prominent place throughout the world, and should serve as a means of stimulating that standard of excellence amongst the breeders of Canada's live stock. I appreciate it more highly on account of my having the honor of being the breeder of one of the animals—No. 7—Robert the Bruce.”

JAS. MILLS, President Ontario Agricultural College, Guelph.—“I look on this engraving as a valuable contribution to the stock industry of the Province at the present time, bringing prominently before the minds of students and others the pre-eminent value of the Shorthorn breed of cattle for the farmers of Ontario. I am inclining more and more to the opinion that Shorthorns, and well-selected Shorthorn grades, some for beef and others for milk, are amongst the most profitable cattle in this country at the present time.”

HON. JOHN DRYDEN, Minister of Agriculture, Toronto, Ont.—“Both the readers of your paper and yourself are quite familiar with my conviction that one of the best means that can be used to encourage better production in our live stock is the presentation before our people as often as possible of what may be considered the correct ideals to which they should work. The most perfect living animal that can be secured is undoubtedly the best object lesson. The next best thing is to secure as good a portrait of the animal as possible. Your second picture of this character, called ‘Canada's Ideal,’ will be very useful in carrying out this idea. I have no doubt that the privilege of gazing upon the portraits of the animals therein presented will, in the days to come, be a means of stimulating and encouraging many of our young men to try to follow the guide thus presented, and thus aid, so far as they can, in the production of prime beef in this country.”

Our Scottish Letter.

BIRMINGHAM BULL SALE AND LONDON HORSE SHOWS

Bull sales were tapering off when I last wrote, and the concluding event at Birmingham was quite as big a tribute to the Beaufort herd of Lord Lovat as those that went before it. The highest average priced bulls again came from this famous herd in Inverness-shire, and its record at the spring sales has been something to boast about. Three bulls from it at Inverness sale made an average of £126, three at Perth made £139 5s., and four at Birmingham made £257 5s. The average price of these ten young bulls was £108 9s. 6d. Six of them are descended on the female side from the Sittyton Broadhocks family, and all of them were got by Royal Star, a bull bred at Cronleybank, Ellon, by Mr. Reid. His sire was a Collynie bull, and his dam an Uppermill cow. It is thus Cruickshank everywhere in the ascendant, and 1900 will rank as one of the best spring sales for Shorthorn bulls ever held. The Galloway bull sale at Castle-Douglas was spoiled through an excess of moderate animals being presented, but the tops were first-class and made good prices.

The month of March is closing, and on the whole, March dust has been conspicuous by its absence. There has been an abundance of snow, sleet and bitter cold winds, but the dust which is supposed to be invaluable to the farmer was not much in evidence. As a result, farm labor is now behind, and all classes of farmers are anxiously looking for an alteration in climatic conditions. Let us hope the desire to see this may be gratified, and that ere this appears in print leeway will have been made up. The leading feature of the month was the London Horse Shows, three of which were held during the opening weeks of the month. The Shire horsemen had the first innings, and a good show was the result, while the spring sales have again shown high averages for high-class horses. In spite of the great boom in Shires amongst the wealthy nobility, it is a curious thing that most of the rank and file of breeders have got comparatively little good out of the boom. The Clydesdale trade, although less buoyant, is much more steady, and while we have no record of colts being sold at 1,500 guineas, as was the case with the junior champion Shire, there is a fine, healthy trade for Clydesdales, and at the Kippendavie sale, rendered necessary through the death of Colonel Stirling, an average of £32 2s. 10d. was obtained for eleven animals. One mare, “Brenda,” made £152 5s., and a three-year-old filly named “Selina” made £162 15s. Canadian buyers have been in evidence during the past few days, and a shipment of half a dozen good Clydesdale stallions has left by the Amarynthia this week. They have been purchased by Messrs. McLachlan Bros., Guelph, Ont., and were selected by Mr. John Duff, Guelph, who accompanied Mr. McLachlan. A very good horse amongst them named King's Own was purchased from Mr. Riddell. He is a capital Canadian horse with plenty of bone and substance, and was got by the Cawdor Cup champion horse, “Royal Gartly” 9844, out of a specially well-bred mare. Three horses have been purchased from Messrs. A. & W. Montgomery, namely, Scottish Celt 10007, Montrave Florist 10240, and Reckoner 10884. These horses are bred for size and weight of bone, and their breeding is high-class. The first is a son of Macgregor and the second is out of a daughter of Macgregor, which sold by public auction for 400 gs., and has won many prizes. The sire of this Montrave horse is the £3,000 champion horse, Prince of Albion, and the sire of Reckoner is the big, powerful stallion, Mains of Airies 10379. Another well-bred horse, named Alfred the Great, has gone to Mr. James Moffatt, Teeswater, Ont. He was got by the celebrated Prince Alexander 8890, which sold when a yearling for £1,200, and was champion at the H. & A. S. Show when a yearling, and also winner of the Cawdor Cup when a three-year-old. After a somewhat weary period of comparatively poor trade there is a good prospect for Clydesdale breeders, and the recently-issued twenty-second volume of the Clydesdale Stud Book shows that renewed activity has been manifested in the entering of stock in the stud book.

Hackney breeding always excites lively interest in the London Agricultural Hall, and the show of this year was a great success. All the same, the opinion was general that the young horses were not equal to what they had been in some former years. The championship went to a fine animal named McKinley, owned by Mr. Harry Livesey, sired by Garton Duke of Connaught, and first last year at the H. & A. S. Show at Edinburgh. He is a tremendous mover, going with great force, and it was generally expected that he would win. The female championship and also the reserve championship came to Scotland to Mr. C. E. Galbraith, Terregles House, Dumfries, who has one of the best studs in Great Britain. He was President of the Hackney Horse Society last year. Mr. Galbraith's horses were splendidly brought out, and the champion Rosadora is a great mare—a daughter of the dual London champion, Rosador. The reserve champion was Queen of the West, a mare of superb quality, with great action, got by Garton Duke of Connaught. The most successful Scottish exhibitor after Mr. Galbraith, and in some respects even more successful than he, was Mr. Henry Liddell-Grainger, Ayton Castle, Berwickshire. Mr. Liddell-Grainger shows fine stock, and never shows anything but what is bred by himself. He has made quite a reputation for himself in this way, and there are few breeders of Hackneys anywhere who have had anything like equal success with animals bred at

home. The other Scottish breeders of Hackneys did not get so far forward, but the north was quite worthily represented. The Hunter Improvement Show, which is the last of the London spring events, does not bulk so largely in public estimation as the Shire and the Hackney shows, but it is growing, and by combining with the Royal Commission on horse-breeding and the Polo Pony Society, a very good week's programme is made up.

Dairy farmers are greatly interested at present in the inquiry being held in London into the question of a standard for milk. At present there is no official standard, but the Somerset House standard of 2.75 per cent. butter-fat is accepted as the final court of appeal. Many farmers, although not all, are of opinion that their interests would not suffer were the standard made 3 per cent. butter-fat and 8.50 per cent. solids other than fat, and a great amount of evidence on the subject is being heard. The agricultural feeling, generally, is that the low standard of 2.75 leaves a considerable margin for the reduction of the quality of average farmers' milk, and it is clear that in a great many cases a much higher percentage of butter-fat than 2.75 is obtained from an average herd of dairy cows. Most milk from well-kept dairies of Ayrshire or grade Shorthorn cows will give 3.5 per cent. butter-fat, or even more, but there are cases in which at certain seasons of the year even 2.75 is not reached. It would be hard to penalize a farmer who was doing his best, and I fear the standard may be settled on a lower basis than some expect, just because those below the average must be considered as well as those above. A movement is on foot amongst dairy farmers in North Ayrshire to force up the price of milk. They are certainly not being paid a fair price, when the general figure is 6d. per gallon in summer and 8d. per gallon in winter, and Essex farmers have shown what can be done towards raising prices by forming a dairy association wrought on sound principles. Whether Scotchmen will be equally successful remains to be seen.

“SCOTLAND YET.”

Clydesdale and Shire Amalgamation Recommended.

To the Editor FARMER'S ADVOCATE:

SIR,—Certainly the horse-breeding industry of this country is of great importance in the meantime, and likely to continue so. We will take up the indispensable class for home and foreign city purposes. In the first place, a horse has to be up to a fair weight, not less than 1,600 lbs., and up to 1,800 lbs. or more, for export. A few years ago things were different, the American markets were our principal markets; they called for and tolerated smaller-sized sires. In their advertisements for a number of years their headlines were always for quality, little mention of weight being made. But with quality there should be weight also. Now I notice weight is the leading feature, and any one who has it does not forget to advertise the same to the fullest extent. Now comes the question, how are we to attain quality coupled with the size required for the British markets for heavy work in the cities? I will simply give you my observations for, say the last 30 years. At that time there were no stud books known as Shire or Clyde. Breeders simply used good judgment in crossing the best of what is now known as Shire and Clyde, and what grand progress was made in bringing up the standard of the draft horse! See what the late-lamented Laurance Drew showed to the world what could be done, and what he did has been done by no one breeder before nor since his decease. Twenty-five or thirty years ago, when we went after sires to Scotland or England, we wanted type. Sure and good breeders were, with few exceptions, the rule. Wonderful improvement took place in our heavy horses for ten or fifteen years, then they seemed to come to a standstill, and latterly, I am sorry to say in honesty, they are certainly deteriorating, from some cause, as is plainly seen throughout our country. Space will not permit to enumerate the numbers of our grand old breeding sires when constitution and type was our aim. Briefly I may say I believe that when the distinctions between the different types of Shire and Clyde or Scottish horse were tried to be made, each having their own separate book of record, and the export demand began, then began a course of inbreeding, pampering and over-feeding, which has ended in the present state of affairs. Now, when we want young sires of either class, the question is to get a breeder of average quality, or one that will sire a reasonable percentage of offspring that will prove profitable to the owner or the public. We may possibly increase the size of the Clyde or the quality of the Shire through themselves by selection, if we can afford to wait ten or fifteen years. If anyone can tell us how we can produce the best commercial export heavy draft horse in reasonable time by keeping those so-called breeds separate, I am willing to learn. I think the Shire and Clyde cross is just as much a draft horse model as the Bates and Booth families are a typical Shorthorn. I simply say I believe if we had only one stud book in Canada for the two classes we could soon bring the heavy horse up to his former standing. If you see the best representatives of the breed at the Highland Show of Scotland and the Royal of England, you will see the two types are becoming consolidated, and are much alike. I personally have been importing and breeding Clydes for 30 years, and have only owned one Shire in that time, so I have no personal axe to grind by any means. But as you have asked my views on that point, I give

what I think is for the best interests of breeders and farmers, and for the best interests of the finances of our country. I will be pleased to have the disinterested views of anyone who will kindly contribute any information that will further the horse interests of our country in any way, at any time.

Huron Co., Ont.

A. INNIS.

Clover as a Fertilizer.

[An address delivered before the Farmers' Institute at Portage la Prairie in February, by Frank T. Shutt, M. A., Chemist of the Experimental Farms.]

(Continued from page 186.)

I have said that farm crops obtain their required nitrogen by absorption of nitrates formed from the nitrogenous organic matter (humus) of the soil. There is an exception to this rule. The exception is the legumes, a family to which clover, peas, beans and vetches belong. These are able to utilize—in a way I shall shortly tell you—the free nitrogen of the atmosphere. All other crops, cereals, field roots, potatoes, Indian corn, fruit trees, etc., must depend upon nitrates formed in the soil. If we take up carefully a plant of clover and wash the earth from its roots, we shall most probably find upon the rootlets numerous small nodules or tubercles. An examination of the contents of these nodules under the high power of a microscope reveals the presence of a swarm of minute bodies, known to science as bacteria, but popularly called germs. They are simply one-celled, microscopic plants. It is through the agency of these that their host plant, the clover, appropriates the free nitrogen that exists (in the air) between the particles of the soils. Without them, clover, like all other plants, would have to obtain its nitrogen from the nitrates, but since these germs are widely distributed in our soils there can be no doubt that the larger proportion of the nitrogen in the roots, stem and leaves of clover is derived from the air in the soil. Hence, the growth of clover enriches a soil in nitrogen, while other crops impoverish it in this particular. We come, then, to recognize two great classes of plants, the nitrogen-collectors, the legumes (of which clover is the most prominent member), and the nitrogen-consumers, to which all other crops belong. You will readily understand, therefore, that by plowing under a crop of clover we can materially increase the percentage of nitrogen in a soil. Subsequent decomposition of the clover in the soil serves to convert its nitrogen into forms available to other crops. Since wheat is a crop that particularly responds to an application of available nitrogen, you can realize the importance and value of this method of manuring to Manitoba and the Northwest Territories. Moreover, it is an exceedingly cheap method. We have found that a soil can be enriched with nitrogen from a crop of clover sown at the rate of 8 lbs. per acre to an extent equal to that from an application of 10 tons of barnyard manure. Chemical analysis has proved this.

In a rather vague way it has been known from the time of the ancients that a crop of clover improved rather than impoverished a soil, and in this respect differed from other farm crops, but it has only been within the past ten years that we have learnt the reason for this improvement, and the extent to which it may take place. For this knowledge we have to thank certain German scientists, who worked patiently for years before they could satisfactorily establish the fact that I have to-day brought before you, namely, that clover, through the agency of certain bacteria residing in nodules upon its roots, can appropriate and build up into its tissues free nitrogen gas, present in the air and existing as such between the particles of soil. The investigations that led up to this discovery were of the most careful, thorough and scientific character. The discovery is worth untold millions to the agricultural world, and must be considered the most useful and valuable to the farming community of those which mark the present century.

We must not lose sight of the fact that without these bacteria, clover, in common with other plants, must obtain its supply of nitrogen from nitrates in the soil. These bacteria are not necessarily present in the soil, though I have reason to believe they will be usually found in soils that have grown clover for any length of time. In the neighborhood of Ottawa, we find all fairly good soils produce clover having these nodules on their roots, showing the presence of clover bacteria in the soil. Mr. Bedford tells me that clover grown at Brandon has plenty of nodules on its roots, so there is every probability that the germs are to be found in the soils of those I am now addressing. I think it only right, however, to inform you that we have, both at Ottawa and Brandon, induced a much more luxurious growth of clover by introducing the germs in quantity. This we have done by "inoculating" the clover seed or the soil upon which it was grown with a preparation or culture containing the germs, and which is manufactured or prepared by Meister, Lucius & Buning, of Hoechstam Main, Germany. The preparation is sold under the name of nitragin—a rather unfortunate term, as it so closely resembles our word nitrogen. It is made by growing the bacteria taken from the nodules in suitable media, and comes to us in the form of a jelly. The bottles containing it must be kept from light and heat. The contents are dissolved out with a sufficiency of lukewarm water (not above 100° Fahr.) and the resulting solution in the case of seed inoculation poured over the clover seed. Some sand or dry loam is then mixed with the seed, to facilitate sowing, and at once sown. Soil inoculation is

carried out by pouring the well-diluted contents of a bottle over, say, 300 lbs. of soil, and this scattered over the acre about to be sown, and harrowed in. A bottle of nitragin will cost about 75 cents, and is said to be sufficient for an acre. The vitality of the germs is not guaranteed for longer than six weeks after the preparation leaves the factory.

It is very doubtful to me, however, whether it is necessary for you to obtain this nitragin. By taking a few hundred pounds of surface soil that has grown clover well—and for this work it is well to select a cloudy day—and scattering it over the field to be inoculated, you will, in the majority of instances, be introducing the germs. This plan has been tried, with success, both in Europe and on this continent. It is advisable to harrow the field as soon after the inoculation as possible.

I have already said that we do not find any difficulty in getting clover to grow in any fairly good soil at Ottawa, but I should add that inoculation, using nitragin, has always given an increase of yield amounting to from 10 to 15 per cent. A detailed account of the results of our investigations in this matter for the past three years is to be found in the reports of the Chemist of the Experimental Farms. In these reports you will find fuller details and explanations concerning these germs and their work than I have been able to give you this afternoon.

For the past three or four years we have at Ottawa been in the habit of sowing eight to ten pounds of clover seed with the cereal crop of the rotation. This we find does not diminish the crop of grain and very much improves the productive-



BALSAM, 30 FEET HIGH, 16 YEARS OLD.

Grown from seedling; on property of A. P. Stevenson, Nelson, Manitoba.

ness of the soil. Cereals grown after clover have always given us an increased yield. When potatoes, corn or roots are to follow, we plow the clover under in the following spring, after there is a fair growth. The plan of sowing the clover with wheat or other grain is not, I believe, suitable in Manitoba, as in most years there will not be, in all probability, sufficient moisture to serve both crops. It will be necessary for you to grow the clover by itself, for it is a crop that makes great demands upon soil moisture, if it is to give a good stand.

Though, speaking in a general way, nature has endowed Manitoba and the Territories with soils far richer in plant food than those occurring in either the East or West Provinces of this Dominion, I am firmly of the belief that you will find the more extensive growing of clover to be of great advantage. It is always well to lock the stable while the horse is still there. It is always easier and less costly to maintain than to regain soil fertility. We know as a scientific fact, as well as from practical experience, that cropping with wheat continuously for a number of years lowers a soil's productive power, through the abstraction of available plant food and through the inevitable destruction of humus. The latter constituent we have learnt is not only a natural storehouse of nitrogen, but its gradual decay in the soil sets free mineral nutrients for our crops. It improves tilth by increasing a soil's water holding capacity. It guards a soil against extremes of temperature. It furnishes food for the myriad of germs so necessary to fertility and whose special function is to prepare both nitro-

genous and mineral food and present them in assimilable forms to our crops. Clover will add from 50 to 100 pounds of nitrogen per acre to the soil—gained from the atmosphere—and it will further enrich the soil with a large amount of humus-forming material. Let every one of you determine to try, at first, if you like, on a small area, the truth of what I have been saying regarding the value of the legumes—and especially clover—as a fertilizer. We shall be very much surprised if your older cultivated lands do not show an immediate response in increased yields of wheat. In conclusion, I would say that both Mr. Bedford and myself will always be glad to give you such further information as we have on this important subject, and to help you in any way possible.

Butter--From the Stable to the Table.

MILKING TIME.

If there be one time above all others when peace and quietness should reign supreme in the stable, it is during the milking hour. Let us reason out why we should not irritate or in any way excite the cow at this particular time.

First we will briefly consider what milk is, and how produced. The average composition of milk is: fat, 3.6 per cent.; casein, 2.5 per cent.; albumen, .7 per cent.; sugar, 5.0 per cent.; mineral matter, .7 per cent.; water, 87.5 per cent.

We know that milk is made from the food the cow eats, and that the food is first converted into blood; after that the process it undergoes is, as yet, largely a mystery.

There are two general theories advanced—the metamorphic and the transudation. The advocates of the first claim that the cellular tissue of the udder is built up and then broken down, and so changed into milk. This theory cannot be accepted as the only source of milk production, for it would be hardly possible for a cow giving from sixty to eighty pounds of milk a day to build up and break down her udder four or five times in the course of twenty-four hours.

The transudation theory is that the milk is simply filtered from the blood as it passes through the udder.

If this be true, then we would expect to find in the blood the same properties, to a large extent, as are in milk. Such is not so, for the blood contains but a small per cent. of the constituents found in milk. A combination of the two theories is a reasonable solution of the process of milk production, the fat, casein and sugar to a large extent being formed in the udder, while the other properties are filtered from the blood.

When is the milk manufactured? Just while you are milking the cow—all but perhaps a quart. That is the fact I want to impress the most deeply.

The manipulating of the teats excites the nerves in the udder, thus stimulating the milk secretion. Any harsh treatment, fright or unusual excitement prevents the nerve action in the udder. We say "The cow is holding back her milk"—in reality she has ceased to make it.

One hasty blow not only materially lessens the quantity of milk, but also greatly affects its quality, and experiments along this line have shown that it takes several milkings to bring a very sensitive cow back to her normal record.

If the nerves have no part in the milk secretion, then the horn-fly would not cause a shrinkage in the flow of milk, nor would the snapping and barking of the dog as he drives the herd from the meadow have a like effect.

To insure pure milk the atmosphere in which the cows are milked must be pure. Putting down hay or cleaning out the stable just before milking is a bad practice. The milk in passing from the teat to the pail through an atmosphere laden with stable odors and dust may become sufficiently contaminated to materially affect the flavor of the butter. For similar reasons we hear milking in the barnyard condemned, especially in dry, dusty weather.

I noticed in England the farmers had milking sheds in or near the pasture fields, and that the men had long linen ulsters which they slipped on when going to milk. I thought this a good idea, as it tended to cleanliness in milking and also to a saving of the clothes.

Before starting to milk, the flanks and udder of the cow should be wiped with a damp cloth to remove loose hairs and dirt, which otherwise might fall into the milk pail.

It is found a good practice to cut off the cow's switch and clip the hair from the hind quarters when putting her in for the winter. Endeavor as far as possible to have the cows milked by the same person, at the same hour, in the same place, and in the same order.

Milk with dry hands, vigorously and exhaustively. Nothing will prolong the milking period more than by getting the last drop, and remember the first pint has but one per cent. butter-fat, while the last pint has ten per cent.

Bacteriologists tell us the small amount of milk which has collected in the teat abounds with injurious forms of bacteria, while the remaining portion of the milk is practically germ free, and they recommend not allowing the first stream to go into the milk pail.

I have often heard a person say, "I can get more milk from that cow than anyone else," or "This animal will not let another person near her." Why is it? In such cases there is between the cow and her milker a sympathy and confidence. He has in some mysterious way crept into her affections, and

it is her pleasure and delight to show her regard in the brimming pail. Does this sound sentimental? There is far more truth than poetry in it. Get a cow to love and trust you by feeding and caring for her kindly, and she will repay you by bringing you in additional dollars and cents.

Laura Rose.

O. A. C. Dairy School, Guelph.

Evergreens.

NO. 6.

BY A. P. STEVENSON, NELSON, MAN.

It is admitted by all, that in our prairie country groves and wind-breaks are a necessity. For wind-breaks and shelter belts to modify the climate, evergreen trees are by far the best. A home in Manitoba seems to be incomplete without being sheltered from storms and snowdrifts. How necessary, then, to have our homes protected by evergreens, judiciously planted, and what shade in summer, comfort in winter, and ornament the year 'round such a home affords!

Shall we ever be able to prize highly enough the wonderful influence that a home surrounded by and clustered among evergreens has upon the aesthetic tastes of the family? In a brief way I will give some of my experiments, or tests, with evergreen trees, made during the last twenty-five years. Although they may not be of any great benefit, yet they have cost me many hard days' work and not a little money. I, at least, have the satisfaction of knowing that evergreens can be successfully grown here. The varieties that I have tested are as follows: Native spruce, Scotch pine, white pine, Austrian pine, Norway spruce, Colorado blue spruce, white spruce, balsam fir, arbor vitae, and red cedar.

Of the spruces, our native spruce is the hardiest, as well as the prettiest, and is the safest to plant in almost any locality. They are rapid growers, if good cultivation is given. White spruce appears to be closely related to our native spruce, only lighter in foliage. Colorado blue spruce is quite hardy and ornamental, with its dark blue colored foliage. This makes a pretty tree for the lawn, but is rather slow growing. Norway spruce, the leading spruce offered for sale by eastern nurseries in this Province, proves, from the accumulated experience of twenty years, to be of no value to us. Every spring the foliage is sun-scalded, giving them a dingy appearance, leaving the impression that a fire must have run through the trees.

Now we come to the pines. The hardiest and best is the Scotch pine; it needs nursing and possibly some protection while small, but when thoroughly established it is master of the situation, and is grand and imposing when 10 to 12 feet in height. The greatest trouble with it is that it is hard to transplant. When grown for a few years without disturbance, you cannot gather the roots. It is a very rapid grower. Our best are now over 16 feet in height. The Austrian pine are of no value to us here. Four hundred were grubbed out and burned three years ago, after having been carefully attended and cultivated for six years. All too tender; killed back every winter. The above has also been our experience with the white pine.

The balsam fir is a beautiful tree, and is far more hardy here than I at first thought it would be. It makes a very rapid growth, and growing so perfect and with such beautiful foliage, it ranks among the first of ornamental trees; it delights in moist, rich soil. Our largest trees are nearly 30 feet in height.

Arbor vitae.—This is one of the most useful, and is quite hardy; stands pruning fairly well; transplants with success; is a medium rapid grower; does best on moist soil. Red cedar is too tender; gets killed to the snow line every winter.

Care and Management.—With regard to evergreens, I would say that for our locality the growing of conifers has long since passed the experimental stage. They are being planted more and more every year. If certain requirements are carried out, they will grow as easily as the box elder. The roots must never be exposed to air or sun at any time from the time they are lifted until they are in the ground again. They must be kept covered and kept damp all the time. Keep the tops dry. There are many ways to handle them and observe these conditions; if not observed, the result is death. Evergreens properly dug and packed can be shipped hundreds of miles and planted out with as good results as though they had been moved but twenty rods, by observing the aforesaid conditions at both ends of the route. Evergreens do not take kindly to primitive conditions on the open prairie, but once the *rawness* is worked out of the soil and shelter belts started, the leading sorts can be grown. Ground on which evergreens are to be planted should be deeply plowed the previous fall. It will then be found in excellent condition the following spring. In planting, the earth must be packed firmly over the roots. Use both feet or a pounder, but leave the top soil loose and cultivate thoroughly, or use a mulch of chip manure, but never allow manure of any kind among the roots when planting. Plant trees

3 inches deeper than they stood in the nursery, and plant before the buds burst in spring. The question is often asked, why farmers cannot sow seed and raise their own evergreens. The reason is, that it requires an expert to start evergreen trees, and those who have learned by long experience how to do it, can raise them so cheaply that you cannot afford to try it. When it will pay the farmer to make his own coat or plow, it will also be profitable to raise his own evergreens from seed.

The Natural Method--Hatching Chicks with Hens.

For those who raise poultry on a moderate scale and in the natural season, the natural method is nearly always the best and the cheapest.

Mode of Hatching Chickens.—Except on a few occasions when I was very much provoked with some sitting hens, I have never been able to agree with those who give the broody hen a bad reputation; nor have I ever been able to see much sense in that particular teaching which lays it down as a law that the first thing to be sure of is that your hen wants to sit. I have set over three hundred hens in a season, taking many of them from the nests in the laying pens the first night they remained on the nests, and often giving them a nestful of good eggs to begin with, and rarely had a hen that did not settle down to business from the start—if she was in good condition and broody, not sick. The usual proportion of hens that would not "stick" was one in thirty-five or forty, but I have gone through an entire season in which more than three hundred sitters were used, and had only two desert their eggs. In handling smaller numbers of fowls,

the nests long enough to allow the eggs to become chilled.

Double nests are preferable when more than five or six hens are set in one apartment. Straw, hay or excelsior may be used for nesting material. Soft hay or straw of medium length is best. A nest of coarse, long material is too springy, and one of short cut stuff does not hold its shape well. It is a good plan to dust the nest well with insect powder when the material is put in it. If the hens were free from lice they need not be powdered until the eleventh or twelfth day. Then if they are given another good dose a week later, the chicks should be as free from lice when hatched as any incubator-hatched chicks.

In the summer of 1898 I raised only about eighty chicks, and, as with so small a number I could rout the lice in a hurry, even if they did become numerous, I decided to change from my usual plan of giving the lice no opportunity to establish themselves, and use an insecticide only when I saw it was needed. The hens were treated for lice during incubation. The coops were kept clean, but the chicks had no dust baths other than they made for themselves.

To Go Back to the Sitting Hens.—When any considerable number of hens is to be set, it is best to have a regular day, once a week, for setting them. It is much easier to keep things in order this way than if hens are set whenever they happen to be ready, or whenever the eggs are ready. And when hens are set only once a week, it is a good idea to have the nests ready a few days in advance, that broody hens may be transferred to them and allowed to incubate nest eggs until the day for setting comes around. This takes them away from the laying nests, and often prevents egg-breaking and egg-eating, which are both fostered when broody hens are allowed to quarrel with the layers for the possession of nests.

Unless the hens are very docile, wait until dark to remove them to the nests they are to occupy. Have the eggs all ready in the nests. Move the hens quietly, without exciting them, and as you place each hen on the nest, cover it with a piece of burlap to keep out the light next morning, and keep her quietly on the eggs until the day is well advanced. A hen that leaves her nest early after one night on the eggs is hard to persuade to settle down on that nest again.

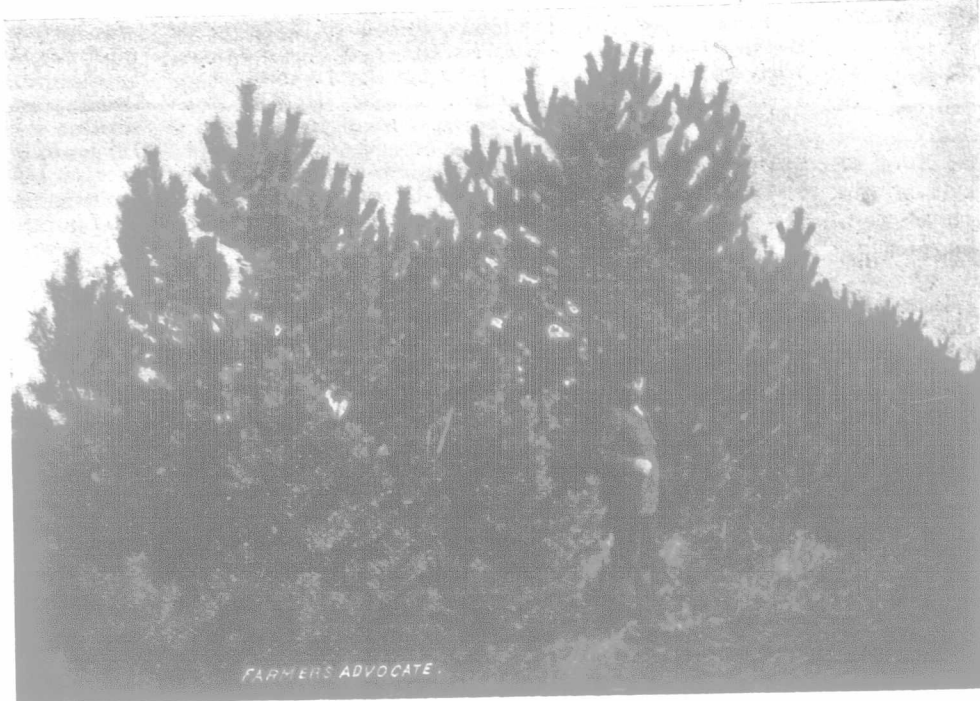
The best food for sitting hens is whole corn. This, with a dish of clear water, a box of grit, and a place to dust themselves, is all they need. If convenient, they should have the opportunity to go outdoors every time they leave the nest. This is not absolutely necessary, but hens allowed this privilege keep in better condition, and generally give better hatches of stronger chicks. In winter weather the hens should not remain away from the nest more than twenty minutes. In warmer weather, they may, as a rule, safely be left to follow their own inclinations, though the keeper needs to keep an eye out to see that none of them abuse their privileges.

A close watch should be kept for fouled nests and broken eggs, and when from either cause a nest becomes filthy, it should be cleaned at once, the nesting material replaced, and the eggs washed clean in warm water. Broken eggs and fouled nests are mostly the fault of the keeper. Hens do not foul the nests unless confined to them too long; and unless over-fat and too heavy, they rarely break perfectly formed, strong shelled eggs in a properly-made nest.

Fertility can be determined about the fourth or fifth day for white-shelled eggs, and two to four days later for dark-shelled eggs. When hens are set once a week, a good plan is to test the eggs in the early part of that day, and double up sittings whenever it can be done to advantage after the infertiles have been thrown out. Then a part of the hens set the previous week can be re-set at the same time as the new lot. In the case of eggs with very dark, thick shells, fertility cannot always be determined on the seventh day, but with most eggs it can.

When the Chicks are Hatching watch them closely. Especially note whether any hens become restless and uneasy when the chicks begin to break the shells. From then until the chicks are removed from the nests is the most trying period of all. Some hens, which up to this time have been model sitters, get so restless now that they crush the chicks almost as fast as they leave the shells. This trampling in the nest, though, is not always the fault of the hen. Sometimes the chicks are weak because the parent stock was in poor condition. A puny, sluggish chick is more apt to be trampled than a smart, lively one. When you get one of these nervous, fussy, chick-mashing hens, and are not able to substitute for her, you are in a most aggravating position, for in spite of all that you can do she will mash the most of the chicks before they are ready to leave the nest. But if you have hens sitting which are not yet hatching, you can generally change them, and save the chicks.

Chilled Eggs—It is sometimes a matter of considerable importance to most poultry-keepers to



HEDGE OF SCOTCH PINES, 11 YEARS OLD.
Grown from imported seed; on the property of A. P. Stevenson, Nelson, Manitoba.

since that, on a rented place where things were not fixed up as they should be, I have had more annoyance with a dozen sitting hens at one time than I used to have with seventy-five or eighty suitably provided for, and from stock which I had handled for some generations, and knew thoroughly.

I tried to use judgment in selecting the hens, to discriminate between those which would make good sitters and mothers and those which would not. Anyone who tries to set every hen that goes broody will find results about as unsatisfactory as people generally do with incubators and brooders when they buy eggs from anywhere and everywhere.

The Hen.—A hen that is not in fair condition (neither thin nor grossly fat), or that does not feel hot to the hand when handled (with the hand under the body, and the fingers touching the skin), or that will not allow herself to be handled freely, after dark at least, should not be used. Nor should a hen having a vicious disposition be used, for it is of great importance that sitting hens should be easily managed. I have found large hens, Brahmas, Cochins, Langshans, and extra large Plymouth Rocks, usually as good sitters as small and medium sized hens, and better mothers. If they are not over-fat, and if the nests provided for them are large enough, they are not more apt to break eggs than others, and as mothers their size, long feathers, and quiet disposition give them an advantage.

Hens should be set where they will not be disturbed by other hens, visitors, children, dogs, cats, rats, mice, or anything else; and when many are set in the same apartment the nests should be of such construction that the hens can be released or confined at the will of the operator. In hatching with hens in cold weather it is always best to have nests to which the hens can be confined, and to make sure that the hens are not at any time away from

know how much chilling eggs will stand without injury. If eggs get cold, it is as well to continue incubation, and note results. Sometimes their condition can be determined by testing. If there is any reasonable hope that the eggs have not been injured, give them the benefit of it, and run the hatch through. I knew a case where a hen set out of doors in a drygoods box in March was found stiff and cold on her nest at daybreak one morning, when the thermometer was some degrees below the freezing point. The owner thought that without doubt the eggs were ruined, but out of curiosity put them under another hen, and got about a fifty per cent. hatch of vigorous chicks, one pullet from which made the phenomenal record of sixty-eight eggs in seventy-two days before December 1st in the same year.

When chicks are hatched from chilled eggs, I think the poultryman ought to determine from their apparent vitality whether or not it will pay to try to rear them. A puny, weak chick, no matter what it came from, ought to be killed as soon after hatching as it shows for just what it is. It don't pay to fool away time and waste food on chicks that did not get a right start.

Another point that puzzles some is to know how far it is advisable to help chicks out of the shell. As a general proposition, the chick that cannot get out itself is not worth helping out; but if, after all the others are out, those that have chipped the shell and progressed no further, appear strong and lively, I think it worth while to make an effort to save them. Break the shell gently, following the line the chick would make as closely as you can, and remove the cap. If the membrane has not adhered to the chick, it should be left to get out without further assistance. If the membrane is dry and adhering to the down, moisten it with warm water, or, better, saliva, and manipulate it gently with the fingers until it has become detached. If the chick is perfectly formed and gets out of the shell without bleeding, the chances of life are in its favor.—*Farm Poultry.*

Cheesemaking.

At a district dairy convention, held recently at Peterboro, Mr. G. G. Publow, instructor in cheesemaking at the Kingston Dairy School, addressed a meeting of cheesemakers and the patrons of factories, taking for his subject "The Faults in the Cheese Made in Eastern Ontario During the Season of 1899," mentioning the causes and suggesting remedies.

Mr. Publow stated that many complaints had reached him in regard to the quality of the cheese made. The buyers were becoming more critical and exacting, and prices were "cut" on everything except the finest goods, so close was the competition, and so narrow the margin of profit to the cheese buyer. The principle fault had been openness of body in the cheese. This was not so much a weakness of body, but on boring the cheese one did not get that close, solid plug that is essential in a good cheese. The second cause of complaint was on account of objectionable flavors in the cheese. These may be divided into two classes—off flavors and food flavors. Off flavors are caused by some kind of bacterial growth; these grow worse with age, as the bacterial growth increases. Food flavors are worse when the cheese are fresh made, and to some extent pass off from the cheese during the curing process. They never get any worse after the cheese are made.

In regard to openness of body, it is often caused by makers having their curds too dry early in the season. In order not to get curds too dry, they should not be cooked too high in the spring (we cook lower because we have less fat in the milk), as the high temperature used in cooking drives off the moisture. Give them time to mature in the vat. Mature the curd evenly by turning it often; leaving the curd unturned for a long time allows the moisture to settle to the bottom of the curd; the top of the curd gets dry and does not cure so fast as the bottom, in which the moisture has remained. In the spring keep up the temperature, and do not let the curds get chilled.

Another prolific cause of openness in the body of cheese was the bad surroundings of some factories, open ditches containing stagnant water, flies carrying contamination from filth to the cheese by falling into the vat or crawling over the curd. Dust would be likely to cause open cheese. Sometimes in such surroundings you would get round holes or "fish eyes," and sometimes a "pinhole" curd. Much of the openness complained of in cheese is from dirty milk, this in its turn from dirty cow byres. In the factory, leaky dippers or scoops would cause the trouble. The filth organism, whether originating from filthy surroundings on the farm or at the factory, was responsible for the open cheese, and the cheesemaker must have his person, factory, utensils and surroundings scrupulously clean. If these organisms were in the milk, and the milk came to the factory cold, they might escape detection, especially if the senses of the cheesemaker had not been educated. You must educate the sense of smell, taste and touch, so as to be able to reject milk that cannot be made into first-class cheese. Some makers have so educated their senses that they could set a vat without a rennet test. The speaker did not advise their doing so, but he had met a great many makers who could tell when the vat was ready to set almost as accurately as it could be found out by the rennet test.

DETECTING FAULTY MILK.

The fermentation test is a valuable aid in finding out the faults of milk, whether it was a gassy curd, taints from feed and filthy surroundings, or any abnormal fermentation in the milk that would prevent good cheese being made out of it. To conduct a fermentation test, take a sample of the patron's milk to be tested in a half-pint bottle, set in a zinc-lined box, keeping the water in the box up as high as the milk in the bottle, and warm enough to bring the temperature up to 86 degrees. If one simply wishes to find out what flavor will develop in the milk, it will not be necessary to add rennet; but to find out what kind of a curd the patron's milk will make, rennet must be used. To set the bottles, take a dram of rennet and add it to two ounces of water, add a dram of this diluted rennet to each bottle, and after setting 25 or 30 minutes, cut with a curd knife. In taking the samples and cutting the curd, be very careful to scald off the utensils, so as not to carry contamination from one sample to another. Heat to 100 degrees. After a time the whey can be drained off, leaving the curds in the bottles.

Where there is something wrong with the quality of a patron's milk, if he is actually trying to care for it, the maker can often help him to locate the trouble after he finds out from which patron it is coming. The speaker had noticed many instances where a slimy curd, curds that had no body, and gassy curds, had been traced to some particular farm, and on visiting the farm he had been able to point out the source of the trouble, so that the patron could remove it. In most cases, after a personal visit there was no further trouble. Where there was bad water in the pasture, and the cows splashed it over the udder, the milk would often be badly infected, and in such it was necessary to fence off those places so that the cows could not obtain access to them.

OVER-RIPE MILK.

Some cheese had been rejected on account of having too much acidity; sour cheese was caused where over-ripe milk had been used. In some cases the patrons were coming in too late. If milk does not work fast, so that the whey is off in two and a half hours, it would not be considered over-ripe, but in many cases it worked much faster. To the patrons present he would say, do not let your milk get over-ripe. A good cheesemaker could make it up so that the cheese would pass inspection, but there will be a loss to the patrons. It is necessary for the cheesemaker to cut the curd very fine, and in this way a great deal of fat is lost that might be retained in the cheese, and the fine particles of curd escape with the whey. Again, to get the whey out of the curd properly, hard hand stirring must be resorted to. With the milky whey drained from the curd, much of the solids that might be retained in the cheese run into the whey tank. Again, a cheesemaker could make good cheese where there were gas organisms in the milk, if the milk were not too badly infected, but it was necessary for him to ripen this milk or use a heavy starter, so that there was a condition similar to that brought about by over-ripe milk. Tainted milk could be made up by a well-qualified cheesemaker so that when it was sold, before much age had brought out the bad flavor, he would get it off his hands without any loss, but cheese from tainted milk was certain to go off flavor sooner or later.

FEED FLAVORS.

The objectionable flavors from feed do not get any worse, like that caused by tainted milk. The cheese usually improves, especially if the curd is allowed to get firm and dry, and there is not an excess of moisture left in it. This would apply to cheese made from milk where turnips or rape had been fed. In some factories in the Brockville section, a practical way had been found out of the difficulties of feeding turnips in the fall. The patrons agreed, when they opened the factory, that if any of them fed turnips, and the cheese were cut in price in consequence of the turnip flavor, the patrons who fed the turnips would pocket the loss. This arrangement had been found entirely satisfactory. Makers were too afraid of losing patrons, and actually injured each other by taking in milk that they knew would not make first-class cheese. Owing to this policy, many patrons were very careless in regard to how they cared for their milk, knowing that if it was rejected at one factory some other factory would be glad to get it.

(TO BE CONTINUED.)

Argentine Cattle Prohibited.

Owing to the prevalence of foot and mouth disease in the Argentine Republic, the British Government has prohibited the importation of live cattle from that country into Great Britain, the order going into effect on April 30th. While this may have the effect of increasing the South American export of dressed beef, it is believed by many that it will have a decidedly stimulating effect on the present season's export of live cattle from Canada to Britain. The withdrawal of freight boats, for use in the South African war transport, has had a very prejudicial effect upon the outlook for trade across the Atlantic, and an effort is being made to call into service the vessels now shut out from the South American carrying trade. The reorganization of the Dominion Live Stock Association at Montreal has also been proposed.

Farm Tests of Cows.

BY PROF. E. H. FARRINGTON, WISCONSIN AGRICULTURAL EXPERIMENT STATION.

At the present time there is not much necessity of urging creameries to use the Babcock test. Within the past five years it has become almost universally adopted as a just and satisfactory means of determining the value of all milk delivered to both creameries and cheese factories in the advanced American dairy States. Creamery patrons can no longer sell milk to the factory by weight only, neither can the factory buy it in this way. It is generally agreed that milk ought not to be bought simply by the pound any more than a cow or a horse. We would all think it absurd to see or hear the statement that horses were quoted in the market at a certain price per pound, but such a statement is not much further behind the times than the practice of buying and selling milk by weight without testing it.

Since the practice of testing all milk at butter and cheese factories has become so well established, the justness of the plan has led many farmers to apply the same test to their cows. This, it seems to me, is the direction in which the use of the test should be pushed at the present time. Every farm that supports cows for the purpose of selling their milk ought to be provided with a pair of scales and a Babcock test. By weighing and testing the milk of each cow a sufficient number of times, the owner can keep himself informed of the actual performance of each cow. Records of this kind show the relative value of the cows as milk producers and aid in determining the actual profit or loss which should be charged to each cow annually. The farmer who wishes to keep cows that will support him, and does not intend to work for the purpose of supporting his cows, needs to understand that:

First—If 150 pounds of butter only pays for the yearly feed and care of a cow, then one producing only this amount or less is not paying a profit.

Second—One cow is often worth twice as much as another, or more than two cows, although there may not be a very marked difference between the total annual production of two cows. This may be illustrated by comparing the record of a cow that produces 152 pounds of butter with one producing 151 pounds. The former yields twice as much profit as the latter, provided 150 pounds represents the amount necessary to pay for feed and care, and a 250-pound cow makes twice as much above expenses as one with an annual production of 200 pounds of butter.

This is a side to the dairy cow question that a good business man will consider carefully. There are some dairymen who have been convinced that the time and money spent in weighing and testing the milk of each one of their cows is a profitable investment for them, and they could not be persuaded to abandon the practice of keeping records of the quality and quantity of each cow's milk. There are others, however, that have not yet reached this stage of development, and it was with the hope of reaching them that the writer undertook the testing of forty cows on six different farms. The owners of these cows had been sending milk to the Wisconsin Dairy School creamery for several years. None of them had a Babcock tester, and some did not have a suitable pair of scales for weighing the milk of each cow at milking time. By paying each one of these farmers one dollar per cow tested, I was able to induce them to weigh and sample the milk of each cow they owned for one day per week during an entire year.

METHOD OF MAKING THE FARM TEST.

The tests made on the different farms were all conducted on the same general plan. The milk of each cow was weighed and sampled at the morning and night milking one day each week. This testing day was selected by the patron. Each dairy was supplied with a pair of scales for weighing the milk of each cow at milking time, a box of bottles for milk samples, a small 1-ounce tin sampling dipper, and a record book. Each cow was given a number, which was also placed on the label of a 2-ounce sample bottle, the cow being known by this number throughout the test. About one-half gram of potassium bichromate was added to each sample bottle to keep the milk sweet until tested. The box of samples and the record book containing the weights of both the morning and night milk of each cow were sent every week to the University creamery, where the samples were tested; the tests were recorded on the patron's book as well as the permanent record at the creamery, after which the book and box of sample bottles were returned to the farm. This weekly sampling, testing and weighing continued throughout the year. The records thus furnished obtained data for determining the value of the milk produced by the different cows.

ACCURACY OF THE RECORDS.

The accuracy of such records as these is necessarily influenced by conditions common to nearly all farms. Milking is usually done with more or less haste, especially at the planting, haying or harvesting seasons. The milkers, as a rule, are not accustomed to the use of scales, and often consider the weight within one pound of the true figures to be "near enough." They do not understand the necessity of promptness in sampling the milk after it has been poured from one pail into another before the cream has begun to separate. In spite of these and other disturbing factors, our results show that tests of dairy cows can be made by the farmers themselves with sufficient accuracy to give a satis-

factory knowledge of the performance of each cow. PRODUCT FOR THE YEAR.

The total annual production of a cow was found by multiplying the average of the four or five daily weights of milk and of butter-fat taken each month by the number of days in the month, and adding the products together. The money value of the milk of each cow was found by multiplying the monthly weight of butter-fat by a certain figure which was one-half cent less than the average Elgin market price of butter for that month and adding the products together.

The extreme variation in the value of the butter of the cows on the different farms is shown in the following table:

Received for milk of	Farm A	Farm B	Farm C	Farm D
Best Cow	\$53.35	\$56.20	\$60.72	\$56.49
Poorest Cow	28.72	44.83	37.96	39.60
Average Cow	36.30	50.00	48.83	44.12
Number of cows in herd	12	5	12	4

Since each farmer fed all his cows in the same way, there is no evidence to show that it cost farmer A any more to feed the cow that paid \$53.35 than the one that paid \$28.72. But these figures do not mean that cow No. 1 is worth \$53 and No. 9, \$28, because if the feed of a cow for a year costs \$30, the profit or loss from each cow is shown by comparing the value of her annual product with this figure. If the cow produced \$53 worth of butter from \$30 worth of feed, she made \$23 profit; but another cow producing only \$28 worth of butter on this same amount of feed was a loss of \$2 to the farmer.

An inspection of the receipts from the twelve cows on each of the two farms, A and C, shows that at farm A there were three cows which did not produce milk enough to pay for their feed. The entire herd only paid a profit of \$75, and three of the twelve cows paid \$50 of this amount, while the combined profit of the other nine cows was only \$25. In this case three cows earned 100 per cent. more money in a year than was earned by nine other cows on the same farm.

On farm C the twelve cows earned a total profit of \$228, instead of \$75, as on farm A; but even at farm C there is a considerable difference in the cows. One earned only about \$8 profit, while another earned nearly \$31—a difference of about 400 per cent. in the annual butter value of these two cows to their owner. The record further shows that six of these cows paid 60 per cent. of the total profit for the year, and the other six paid only 40 per cent. of it.

LENGTH OF MILKING PERIOD.

A few of the cows tested were such persistent milkers that their owners had some difficulty in drying them off. These cows were among the greatest producers. The cows that were dry the longest time were generally the smallest producers. This is shown by the records at farm A, where several of the cows were dry for three or four months in the year.

Mr. Rennie's Book.

SIR,—I have just received the 5th of April number of the ADVOCATE, and am very much pleased to see a portrait of Mr. Wm. Rennie in it. I sent for and received, a few days ago, his book, entitled "Successful Farming," and must say it is the best work of the kind I ever read. It is not only scientific, but also thoroughly practical in all departments, both farming and gardening, on all branches of farming and stock-raising, cattle, horses, sheep, hogs, poultry, and fruits of all kinds, restoration of worn-out soils, cleaning dirty land from all foul weeds, best implements to do the work with, building of different kinds of silos, and many more things too numerous to mention here.

I would say to each and all my brother farmers that want to be progressive, buy one and carefully read it, and if you do not find it worth more by the year's end in some way than many times the price of the book, I cannot think you are one of the progressive farmers, for we are never too old to learn.

I have not written this for the sake of putting money in the publisher's pocket, for I am not personally acquainted with him, but for the sake of my brother farmers, that it might wake them up to a better system of farming, and put a change on the face of our country. JOSHUA BOBIER, Oxford Co., Ont.

Animal Portraiture.

Isaac J. Hammond, Greencastle, Ind., writes:—"During the past few years there has been a great improvement in animal painting and portraiture. This is especially true in the United States. Some of this work is very true to nature, and we feel that the artist was honest in his desire to reproduce the animal on canvas as near to life as he could approach. There are also artists in the field, and men of no mean ability, who are using their talents merely for mercenary purposes. Their productions are overdone, and one can readily see that the animal on canvas is more a representation of the artist's ideal or perfect animal, and is not true to life. At present, the camera is assisting to remedy these impositions of artists, breeders and stockmen. Whenever one of these overdrawn pictures is compared with a good photograph we find that the contrast is too great, and the model, which (with a few changes in coloring, etc.) served for either a Shorthorn or a

Hereford, must give way to the negative true to nature. The careful breeder, in sending out an illustrated catalogue or even in placing a cut in an agricultural paper, should remember that these unnatural animals (although they may approach his ideal in form and symmetry) are impostors, and deceive our correspondents and intending customers, and are a source of more harm than good.

"I am pleased to notice that your recent work, 'Canada's Ideal,' is free from the above criticism, and I hope that you may ever continue in this line."

To Get Manure into Proper Mechanical Condition

The letters of Mr. Buck and S. L. J., in your issue of 20th March, indicate that some farmers in Manitoba have considerable difficulty in getting manure into proper condition for spreading on the land. These writers take a good deal of trouble to get the manure to heat, and at the same time to keep it from fire-fang.

On the better class of farms in Scotland, the fattening cattle are partly tied up in byres and partly fed in loose boxes. The heifers and horned steers are tied up; the polled steers—natural poles or dehorned—are put in loose boxes, in lots of any number from a pair to a dozen. The younger cattle or store stock are generally wintered loose in covered courts. The buildings are arranged so that the manure from the cattle byres and horse stables can be conveniently cleaned out daily and spread over the surface of the loose boxes or courts. If much straw is used for bedding in the byres and stables, no additional litter may be required for the stock in the loose boxes. In any case the quantity of litter can be regulated so as to keep the animals in comfort, and at the same time guard against the manure being fire-fanged.

The mixture of horse and cattle manure promotes heating, and excellent manure, as far as mechanical condition goes, is the result. The chemical value is, of course, determined by the quality of the food given to the stock. The floor of the loose boxes being on a lower level than the byres and stables, a large quantity of manure can be accumulated and removed to the fields at the season most convenient to the farmer.

I can speak from considerable experience of the great advantage of feeding in loose boxes, both in regard to the progress made by the cattle, the condition of the manure and facility in handling it. Circumstances are no doubt somewhat different in Manitoba, but not so much so as to prevent a similar system from being carried out with success.

WM. WALLACE.

QUESTIONS AND ANSWERS.

Veterinary.

INFLAMMATION OF THE BLADDER IN RAM.

D. M., Grey Co., Ont.:—"I have just lost a valuable ram, from what seems to me inflammation of the bladder, as that organ was filled to its utmost capacity and terribly discolored; the hind quarters were also inflamed. What treatment would you advise should the like occur again? The animal had daily access to salt and water, was fed roots and grain mixed with cut oat straw once a day, pea-straw and clover hay to pick at when he wished to. I used salts, also saltpeter, without effect. Success to the ADVOCATE."

[The writer has lost several rams from this cause, and it invariably occurred with sheep that had been rather closely housed for considerable time, and at the same time highly fed. Preventive treatment has been the only successful one with us. It consisted of greater freedom and less nutritious feeding. When a sheep is attacked it would be well to rub spirits of turpentine along the course of the urethra, up and down between the hind legs.]

Miscellaneous.

OPEN JOINT IN HORSE.

J. O., Huron Co., Ont.:—"In looking over back numbers of your very highly esteemed paper, I cannot find any remedy for an accident that occurred to a horse of mine, I think from a bruise on the fetlock joint of the hind leg. He has been unable to put any weight of any account on injured leg, or will not even lie down, seeming to suffer considerable pain; joint swollen some. After one week's suffering, broke on inside of joint, and ever since has been discharging corruption of a yellowish to a red tinge; and, also, I think the oil is escaping either from the joint or tendons. Horse has good appetite, eats and drinks. His pulse and temperature about right; failing in flesh pretty fast. Have been poulticing with flour and oatmeal this last week. Please give me the best treatment available, as I would like to get him around for the spring work. In case of oil escaping from joint, do most cases treated in a proper way recover, and about what length of time do I need to expect the horse to mend?"

[This horse is suffering from open joint, and from the description of the case we are inclined to think it will be a long time before a complete recovery, if ever, may be expected. Clip the hair closely all around the entire joint, and rub in the following blister for 40 minutes: Iodine crystals, 1 dram; biniodide of mercury, 1 dram; powdered cantharides (Russian), 1½ drams; lard, one ounce; all well mixed. Oil on third day with sweet oil. Apply equal parts turpentine and oil two or three times daily to

the wound. Feed the horse well, and give him a teaspoonful of the following tonic twice a day in his feed: Powdered gentian, 2 ounces; bicarbonate of soda, 2 ounces; nitrate of potash, 2 ounces; powdered nux vomica, 1 ounce. Well mixed, and keep in a dry place.]

EWES DISOWNS HER LAMB.

AN OLD SUBSCRIBER, Lincoln Co., Ont.:—"I have an ewe with twin lambs now two weeks old, and she only owns one. Can you advise any remedy?"

[It is not uncommon for an ewe, especially with her first produce, to disown one of her lambs, and it is not always an easy matter to make her take to it again. We have met success in placing the ewe's head between stakes for a time, and in milking her own milk on the back and tail of the rejected lamb. We have also found it a good plan to cut their tails off and allow the blood of the favorite lamb to run on the back and rump of the other one. We would also recommend removing the favorite lamb for a few days, simply allowing it to suck three or four times a day, and giving it, if necessary, a little help with a recently-calved cow's milk. Of course, the ewe and lamb should be penned off from the rest of the flock.]

CROP TO SOW FOR HAY.

M. D., Leeds Co., Ont.:—"I have an acre and a half of gravelly soil. Would like to know what mixture of grain would be best to sow on it, to cut green for winter use for horses. Please tell the proportion in which the different seeds should be sown, and dates of sowing and harvesting?"

[For eight years in succession, an experiment has been conducted at the Ontario Agricultural Experimental Farm, by sowing nine different proportions of peas and oats, in order to determine which mixtures, and what quantities of seed, would give the best results in the production of green fodder or hay. The mixture of two bushels of oats and one bushel of peas per acre produced the heaviest yield and best quality of food. The mixture should be sown as early in spring as the ground will work well, and should be harvested just as the oats are coming into head.]

GEESSE TO ONE GANDER.

J. C., Ridgeville, Man.:—"How many geese ought to be kept for one gander?"

[In Toulouse geese, the gander mates with one goose, and will accompany that goose to the nest while laying, and during setting will sit near and watch and protect it from any threatened danger. It will allow one or two other geese to accompany it, and will serve them, but does not sit with them or protect them. To insure fertile eggs, ganders should be mated with geese several months before laying time, but if there are no other ganders near, he may take to the geese at once.]

M. MAW, Winnipeg.]

A SUBSTITUTE FOR GLASS IN HOTBED.

"I notice an enquiry in your recent issue by J. D., New Westminster, B. C., as to whether you could recommend a substitute for glass in making a hotbed. I have covered my frames with ordinary factory cotton, with a coating or two of boiled oil, for some years, and I may say that the scheme works perfectly satisfactorily and has saved me a great deal of expense in replacing broken panes, which, with the high winds in the Calgary district, was a matter of frequent occurrence."

CHAS. W. PETERSON.

Chatty Stock Letter from Chicago.

FROM OUR OWN CORRESPONDENT.

Following table shows current and comparative live stock prices:

prices:	Extreme prices now.	Top Prices		
		ago.	1899	1898
Beef cattle.	\$4.90 to 5.80	\$5.70	\$5.80	\$5.50
1500 lbs. up.	4.65 to 5.75	5.50	5.75	5.40
1200 to 1500 lbs.	4.30 to 5.60	5.60	5.75	5.25
1050 to 1200 lbs.	4.10 to 5.40	5.45	5.50	5.25
900 to 1050 lbs.	4.00 to 5.20	4.90	5.35	5.00
Hogs.				
Mixed.	5.15 to 5.60	5.20	3.92	4.05
Heavy.	5.10 to 5.65	5.25	3.85	4.10
Light.	5.10 to 5.52	5.15	3.87	4.02
Pigs.	4.00 to 5.30	4.85	3.75	4.00
Sheep.				
Natives.	3.50 to 6.30	6.00	5.05	4.90
Lambs.	5.00 to 7.40	7.15	6.00	6.00
Colorado lambs.	7.10 to 7.50	7.25	6.00	...

The cattle market is now in a little better position. The news of the embargo against South American live stock was received with considerable interest.

A well-known authority says: "The cattle situation is an exceptionally good one as we view it at present. There are but few good cattle coming, and the corn advance is hastening in the short-fed cattle held in small lots. There are a good many big lots of cattle being held in all parts of the country, but there is a big demand, and we believe the outlook is good."

Hogs are selling the highest since 1891, and the statistical situation seems strong.

Eastern hogmen seem to think hogs may sell up to \$6. That's always the way. When prices are going up lots of people figure there will be no top. When it goes the other way they can see nothing but still lower prices ahead.

The horse market is good. Prices have ruled firm, but not higher. Choice farm chunks, weighing 1,200 to 1,400 pounds, have sold steady, at \$65 to \$105; export and Boston chunks, \$80 to \$130; drafters, \$125 to \$200; expressers, \$90 to \$150; drivers, \$75 to \$500; saddlers, \$75 to \$200; unbroken range horses, \$15 to \$70; broken range horses, \$60 to \$150; plugs and scrubs, \$15 to \$55.

A report from the sheep section of Texas says: "Sheepmen here this week report that shearing has commenced, and say they never saw better prospects. The lambing outlook is especially good; the weed crop has been fine, and the ewes are in fine condition, full of milk, insuring a large per cent. of lambs, and they will be very thrifty."

Nineteen professional sheep-shearers have begun shearing 40,000 sheep at New Brighton, Minn. The task will keep them busy for over a month. The men use specially-designed power instruments, and they will each draw from \$7 to \$10 per day.

Interest in fine stock matters has never been greater than it is at present. There is no boom at that, and it will be better if there is none.



The Mutiny of the "Helen Gray."

BY GEORGE MANVILLE FENN.

(Continued from page 193.)

I gave the Malay another snatch toward me, and stood gazing out to sea peering through the darkness. "No," I said aloud, "unless your eyes are sharper than mine, that's no light, only a star low down."

CHAPTER III.

We touched at Colombo, but I had no opportunity to go ashore, and as Joe Stacey and I were chatting in the shade cast by one of the sails, I gave vent to my disappointment.

I was already watching the little bright-eyed thing who seemed to set the heat at defiance, and was playing about with her ball, tossing it here and there, and then chasing it with much eagerness as a kitten would have shown.

"What are they looking at?" I said to myself, but I was not long in doubt, for their attention was evidently fixed upon the child as it tripped merrily here and there after the ball.

"Lyddy, come here directly; I told you that you were no to do that."

I knew without looking that it was the captain's lady, and that she had started from her chair and was standing close to the rail, looking down on where we stood.

The child darted to the steps and ran up, while as I stood there frowning with my face averted, I caught a few words about "common sailor," and "I forbid you to do that. How dare you be such a naughty child."

"As to contaminate yourself by speaking to a common sailor," I muttered. "What a fool I was to forget myself, madam, and not recollect that I am a different kind of being to you."

I went forward bitterly, and stood gazing at the glittering sea, with the sun beating down on my head, chewing the cud of bitterness the while, till that child's little innocent face seemed to be looking up again in mine; and as I seemed to see it my own grow less hard, her smile must have been reflected therein, and I went and hunted out the boatswain, who was below asleep.

"What?" he growled; "oakum? Ho! If you want to twist it into a rope to hang yourself, I'll give you some. No, I won't; be off. Here, stop, whatever want it for?"

"To make a ball for the skipper's little one," I said, sulkily. "Why didn't you say so before?" he cried, hastily. "But she's got one."

"Gone overboard!" "Oh, There; you'll find some farrard. Go and help yourself, my lad."

I took a couple of good handfuls of the soft tow and some sail maker's thread, went back on deck and seated myself in the shade, to begin rolling up the hemp as smoothly and closely as I could, but not without breaking out bitterly now and then, and in a petty spirit saying that I daresay it would be thrown back at me by the proud mother, when just as I had pretty well shaped the ball, a dark shadow was cast on the deck just in front.

I looked up sharply, and saw that Ismael was watching my busy fingers.

He smiled, and his half-closed eyes gleamed as in his quiet, subdued way he pointed at the ball.

"For missee!" he said, softly. "Eh? Yes," I said, "for the child."

He stood watching me, and I worked away, binding the tow hard with sail maker's thread, and the ball began to grow more and more into shape.

"You love little missee?" "I looked up again sharply in the smooth brown face, with its coarse black hair and gleaming eyes.

"Of course. Anyone would."

He nodded his head slowly two or three times, and stood calmly watching my work, till a wild shriek rang out from away aft, accompanied by a splash, and as I sprang to my feet I was in time to see that the captain had leaped from his chair and was holding his wife, who with arms extended, was frantically struggling with him and straining over the side.

I guessed what had happened, and ran aft as the captain roared out his orders for a boat to be lowered down; but I was too much excited and confused as I dashed up the steps, right on past the struggling pair, and sprang upon the bulwark, to see a little white face surrounded by golden hair, floating far astern.

If ever man felt a horrible sensation of fear, I did at that moment when the water thundered in my ears, and I seemed to be going down and down right into the jaws of some huge shark. We had seen the long, loathsome-looking wretches gliding about the ship over and over again during the voyage—sometimes so deep down below the keel that they looked shadowy and spectral, at other times so close to the surface that the black fin rose from the water and made a track that grew wider and wider till it died away.

A chorus of shouts and cries made me turn my head once, as I rose with my vigorous stroke, and felt half startled to see how far the vessel already was away; but it was only a momentary glance, and I swam on hard right in the rippled, eddying water in the wake of the vessel. At every stroke I raised up my head as high as I could reach, and strained my eyes to catch sight of the child, but as I strove again and again, my heart sank with despair, for I could see nothing but the glistening, sun-glazed surface.

"Gone!" I cried with a hoarse gasp and a strong sensation of something suffocating at my breast, but even as the word left my lips and I swept the surface with my eyes, I caught sight of something white rising from the water just where the swell was highest.

The speck of white I had seen was full forty yards away to my right, and as I rapidly decreased the distance a cold chill of horror shot through me and paralyzed my efforts for the moment.

Something cold and yielding touched my hand, making me shrink away as a strange stinging sensation shot up my wrist and arm.

For the moment I felt sure that I had been seized by some keen-toothed being, but as I caught sight of a great opal disk surrounded by glistening iridescent filaments, I strove to recover my lost way, realizing as I did that it was only one of the great jelly-fish that abound in some seas.

"It must have been about here," I thought, as I rose up in the water and searched around, but I could see nothing—nothing but the clear water, and my heart sank lower. Then a yard or so away on my right I caught sight of the object of my search slowly rising to the surface, and the next instant I had clutched her, raised her little head above the water, and was swimming strongly and well.

But a feeling of horror began to attack me again. There was the ship with all sail still set gliding slowly and surely away, seeming to my weary eyes further than she really was, while the boat that had left her side, and whose oars at every dip sent the spray flashing in the glowing sun-shine—would she reach us before I grew weak and sank?

I used to swim well as a boy, but I never felt more helpless in the water than I did that day after I had caught hold of little Lyddy. My nerve began to go at once, and I exerted myself to my utmost to help to lessen the distance between myself and the boat, feeling sure as I did that I could never hold out till she reached us.

Then as the oars flashed she was eighty—fifty yards from me and it was all over. I could swim no more, the water was bubbling at my lips, and a dizzy sensation made all seem dim before my eyes, till I heard a yell rise in chorus from the boat.

That yell sent a shock through me, and I made one more feeble stroke or two, and then floated motionless with my eyes fixed upon the object of my greatest dread—the black fin of a shark gliding slowly toward me at about the same distance as the boat, whose crew strained at their oars so as to reach us first.

What followed seemed like part of some horrible dream, in which, perfectly helpless myself, I waited for the end, and I can recall smiling grimly as I felt that I was between the shark and the child.

Closer boat—closer shark, gliding deliberately toward me with nothing but that triangular back fin cutting the water, and then as I set my teeth and glared wildly at the coming peril, I had a dim vision of the captain raising himself high up on the thwart, and then bending low as he delivered a fierce thrust with the boat-hook down at the shark. The next instant there was a tremendous swirl, the monster rose two or three feet out of the water in its agony, and struck the boat a blow with its tale as I was dragged over the side to lie motionless in the stern, hardly realizing that I was still alive.

"Take a nip of this, my lad," said a rough voice, close to me, as I was lifted on deck, and the first mate went down on one knee and held a little cup to my lips. "Better?"

"Better, sir," I said, "I'm all right," I said, huskily, "only a bit played out."

"There, you go and get into some dry clothes, and I'll attend for you to get feverish and on the sick bed," he said, taking my arm.

"No, no, sir," I said, "I'm not so weak as that. There, I can get on, but the first light."

"Coming to rest," said a familiar voice.

"Here, Robert, the captain wants you in the cabin."

"I'll accompany him, but I did not want to be thanked, but

I walked up to the door, knocked, and a voice that was not the captain's said,

"Come in."

I went in, and as I did so the light of the setting sun showed me the captain in the inner cabin, bending over a cot in which I supposed little Lyddy would be lying, but I had hardly time to realize this, for my hand was seized and held tightly between two that were soft and warm—and a choking, passionate voice exclaimed—

"God bless you for that! You saved my poor darling's life."

And as I stood half shrinking away, the woman who seemed to have treated me with such scorn and contempt that morning pressed her warm lips upon my hand.

"Yes, God bless you for what you have done, my lad," said the captain, coming to my side. "Give me time and I will try and think out what I ought to do."

CHAPTER IV.

I could not sleep much that night for thinking of the events of the past day.

"It's a curious world this," I said to myself rather bitterly as I lay there in the stifling cabin, and at last, unable to bear the heat, I crept quietly up on deck and looked about me.

All was quiet, and the ship was gliding slowly on with her lights burning, and the glow rising from the binnacle just showing the face of the man at the wheel.

"Where shall I go?" I thought to myself. The idea came directly, and lightly, and without a sound, I climbed up to where the long boat rested between two of the masts in its chocks.

The next minute I had settled myself down to have a good restful sleep in the cool night air, when I heard a slight whisper, which made me raise my head and look over the side of the boat.

I could see nothing for the darkness, and was about to settle down again when a shadow seemed to pass over the cleanly-scoured deck, and then another, to stop just below where I was, and one shadow whispered softly to the other shadow.

"Why, they are the Malays," I said to myself. "What's up?"

I strained my sense of hearing, as one, whom I knew to be Ismael, said a few words rapidly to the others, and these were evidently objected to by Dullah, and received with a low murmur as if of dissent. But Ismael whispered again in a more authoritative tone, and the men separated as they had come till all had gone, and as far as I could make out two went forward to join the watch and the others went below.

What does this mean? I asked myself, wishing the while that I had been able to understand the Malay tongue, and I lay there in the boat listening for some time, but they did not come again, and I dropped off fast asleep, to be awakened by the sun shining down hotly on my face.

In due course we put in at Penang, and then sailed on south, first skirting along by Sumatra, and then contrary winds caused us to sail east for a time, till we were well in sight of the opposite coast by the low, jungle-covered shore.

We made very little way, for it fell almost calm, and the heat was tremendous. For two days we drifted nearer and nearer to the coast, till first of all the long lines of mangroves of a dull green could be seen along what looked like the entrances to creeks and muddy rivers; beyond them palms with their beautiful tufted heads stood up tall and columnar, and beyond them again a dim line of great forest trees in the distance, with here and there, but hardly seen, a round-topped hill. Then all dim bluish distance, and the glaring sun over all.

"Well," said Joe to me on the hottest of these days, "we shan't want no storms, for there won't be a bit of pitch left in any of the seams. Look at that, mate."

He pointed to a row of black beads which had oozed out from between two of the planks.

"Have you been down here before, Joe?"

"Me! Lots o' times."

"But is it often calm like this?"

"Oh, I don't know, my lad. Sometimes, and sometimes there's fair breezes. But lor' bless you, it's the same everywhere. Weather's about the untrustworthyest thing I know."

Joe went on talking, and I listened, but hardly heard a word he said; for the rest of that day glided by in a drowsy, dreamy way which made me think that I did not wonder people in hot countries did little work, and let the time go by without displaying any energy; and that night I felt almost disappointed because it was my watch below, for by comparison it seemed cool, and I thought how pleasant it would be to lean on the rail and gaze at the black shore yonder beyond the oily sea; and as I scented the moist air, listen to the faintly-heard sounds of wild nature as it woke up in the jungle.

But a sailor has to do as he is bid, and we went down into the stifling fore-cabin, where I lay talking to Joe for a time, making up my mind that I should not sleep a wink, but dropping off into a heavy, dreamless state, from which, after how long I did not know, I suddenly started, for in a hurried, stifled way I heard, or dreamed I heard, someone saying—

"No! No! Don't pray don't! Man—man! I've a wife and child. Don't kill me. Help!"

Then all was as still as death. The sweat stood out on my face in great drops, which trickled together and ran down as I lay there resting on my left elbow. My head was all stupid and confused as one's when wakened out of a heavy sleep, and for long enough I could not tell whether I was awake or still asleep. But all was so still that I drew a heavy breath full of relief.

"Dreaming!" I said to myself. Then, "Awake," I muttered through my teeth, for there came now the sound of scuffling, and a curious noise as if someone was trying to call out with a hand held over his mouth. Then there was a dull splash, and pat, pat, pat, naked feet running along the deck over my head.

Two thoughts flashed through my brain in the darkness, as I rolled out of my bunk: "If I lie here I may be safe—if I go up on deck I may get a knife in me, and be pitched overboard."

But come what might I could not stop.

"Here, Joe, quick, rouse up."

He was not in his bunk, and with a horrible thought that we must have been attacked in the darkness by one of the Malay prahus which lurked in the creeks of this shore, I made for the hatch and climbed out, to drop down on the deck directly and lie panting with excitement, as once more I heard the sound of scuffling, a smothered cry, a fall, and then the sound of something being dragged along the deck, and a plunge into the sea.

My hand went involuntarily to my pocket for my knife. It was not there, and as I vainly tried to think of some weapon with which to arm myself, I heard the pat, pat, pat of steps again on the deck, and shrank away round the foremast, crouching low down, listening, and trying to make out what was going on.

I was not kept in suspense, for there was a peculiar sound which puzzled me, but not for long. I made out directly that the hatch had been shut down, and the clink clink of chain told me that the enemy was dragging and piling up on it a quantity of cable to keep it fast if those below tried to get out.

I strained my eyes in all directions trying to make out where the prahu that had boarded us lay, but tried in vain, and though I listened I could only hear hurried breathing and whispering in two places—one by the fore-cabin hatch, and the other right aft.

A hissing whisper close at hand made me shrink down, but I could see nothing, and I felt now how it was that it was so dark, for we were in a heavy mist, one that must have floated off from the low-lying shore.

Then like a flash I recollected about lying in the boat and the six Malay sailors coming together to whisper.

I saw it all now. These men, in resentment of their treatment, which they had borne so humbly and patiently, had taken advantage of our being so close in to their own land, and were in mutiny to murder all on board and seize the ship.

[TO BE CONTINUED.]



What was It?

Guess what he had in his pocket:
Marbles and tops and sundry toys
Such as always belong to boys,
A bitter apple, a leathern ball?
Not at all.

What did he have in his pocket?
A bubble pipe and a rusty screw,
A brass watch-key broken in two,
A fishhook in a tangle of string?
No such thing.

What did he have in his pocket?
Gingerbread crumbs, a whistle he made,
Buttons, a knife with a broken blade,
A nail or two, or a rubber gun?
No; not one.

What did he have in his pocket?
Before he knew it slyly crept
Under the treasures carefully kept,
And away they all of them quickly stole;—
Twas a hole.

Not Lost, but Gone Before.

"I wonder what becomes of the frog when he climbs up out of this world and disappears so that we do not see even his shadow: till, plop! he is among us again when we least expect him. Does anybody know where he goes to?"

Thus chattered the grub of a dragon-fly, as he darted about with his companions at the bottom of the pond.

"Who cares what the frog does?" answered one of his friends. "What is it to us?"

"Look out for food for yourself," cried another, "and let other people's business alone."

"But I want to know," said the grub. "I followed a frog just now as he went up, and all at once he came to the edge of the water, then began to disappear and presently he was gone. Did he leave this world, do you think? And what can there be beyond?"

"You idle, talkative fellow," cried another, shooting by as he spoke, "attend to the world you are in, and leave the 'beyond,' if there is a 'beyond,' to those that are there. See what a morsel you have missed with your wonderings." So saying, the saucy speaker seized an insect which was flitting right in front of his friend.

"Ask the frog himself," suggested a minnow, as he darted by.

This advice seemed to be very good, so the grub resolved to take it. Screwing up all his courage, he approached the frog in the meekest manner he could assume, and said—"Respected frog, there is something I want to ask you."

"Ask away," exclaimed the frog, not in a very encouraging tone.

"What is there beyond the world?" inquired the grub, in a trembling voice.

"What world do you mean?" cried the frog.

"This world, of course—our world," answered the grub.

"This pond, you mean," remarked the frog, with a sneer.

"I mean the place we live in, whatever you may choose to call it," cried the grub pertly. "I call it the world."

"Do you, sharp little fellow?" rejoined the frog. "Then what is the place you don't live in, the 'beyond' the world, eh?"

"That is just what I want you to tell me," replied the grub.

"Oh, indeed, little one!" exclaimed froggy, rolling his eyes. "Come, I shall tell you then. It is dry land."

"Can one swim about there?" inquired the grub. "I should think not," chuckled the frog. "Dry land is not water, little fellow. That is just what it is not."

"But I want you to tell me what it is," persisted the grub.

"Well," said the frog, "if you choose to take a seat on my back, I will carry you up to dry land, and then you can judge for yourself what it is like

there. Get on my back and cling to me as well as you can. For if you go gliding off, you will be out of the way when I leave the water."

"The grub gladly obeyed, and the frog, swimming gently upwards reached the rushes by the water's edge.

"Hold fast," cried he, as he clambered up the bank.

"Now then, here we are! What do you think of dry land?" but no one spoke in reply.

"Hello! gone?" he continued, "that's just what I was afraid of. He has floated off my back, stupid fellow."

"But the grub, meanwhile? Ah, so far from having floated off the frog's back through carelessness, he had clung to it with all his might, and the moment came when his face began to issue from the water.

But the same moment sent him reeling from his resting place into the pond, panting and struggling for life. A shock seemed to have struck his frame, a deadly faintness followed, and it was several seconds before he could recover himself.

"Horrible!" cried he. "Beyond this world there is nothing but death. The frog has deceived me. He cannot go there, at any rate."

After talking over the mystery and danger with his friends, he suddenly encountered, sitting on a stone at the bottom of the pond, his friend the yellow frog.

"You here!" cried the startled grub. "You never left this world at all then, I suppose. How you have deceived me."

"What do you mean?" replied the frog. "Why did you not sit fast as I told you?"

Bringing Home the Turf.

Now that our beloved Queen is enjoying a true Irish welcome in beautiful Erin, amongst some of her most loyal subjects, an Irish picture seems peculiarly fitting. This realistic and typical scene has doubtless been witnessed by many who have visited certain parts of Ireland, while to her true-born sons and daughters it will bring a thrill of recognition. We see so few donkeys out here that the present writer almost feels like shaking hands with "Neddy," even in a picture. What a gentle-looking donkey this is, and I dare say he has pretty heavy loads sometimes of that same turf. No one looks in any particular hurry, especially the small girl and the young fellow sitting on the rough wall, whom I suspect is glancing at the colleen a little further off.

Food Fads.

The health and food fads of the day are producing their legitimate result. Over-zeal in their pursuit was to be expected, and it now exists to the extent that medical men have actually found a scientific name for a condition which arises from fear of food. It is not exactly a disease, but its effect speedily becomes harmful if the condition continues. It seems desirable to avoid too much thought over what one eats. If certain general principles of hygienic food are observed, a healthy appetite and a relish for the dishes set before one may be trusted. It does not need any conversion to mental science to discover that if we make up our minds something will disagree with us, it will. This, of course, is not a plea for the pendulum to slip too far the other way, but merely one more caution that in food fads, as in every other development of this investigating age, there is need for sanity and poise.—N. Y. Evening Post.

A New American Dish.

When Paul Laurence Dunbar was in England two years ago he was invited to read, before a distinguished company, from his poems at the house of a certain lord. The poet chose the poem, "When the Co'n Pone's Hot." Just before he began, a guest arose and said:

"I fancy that Mr. Dunbar's poem may be a bit unintelligible to those who have not traveled in the States. The Co'n Pone is a peculiar American dish in which the Southern negroes bake their cakes." Then he sat down.

The poet was too polite to correct the traveler, and to this day many who heard him believe the darkey's fragrant ponies are Yankee skilletts.—The Saturday Evening Post.

Cogitations.

The man born in a cabin may some day name a cabinet.

You can't size up an orator by the dimensions of his mouth.

The roughest roads are those we have not traveled over.

Many handkerchiefs are moistened by sorrow that never occurs.

A bridge should never be condemned until it has been tried by its piers.

A politician left alone with his conscience sees mighty little company.

In diving to the bottom of pleasures we bring up more gravel than pearls.

Women are not inventive, as a rule. They have no eagerness for new wrinkles.

Hope builds a nest in a man's heart where disappointment hatches its brood.

Minds of moderate caliber ordinarily condemn everything which is beyond their range.

—Texas Siftings.

There was a young lady of Wilts,
Who walked thro' Scotland on stilts;
When they said, "Oh, how shocking to show so much stocking!"
She said, "What about you and your kilts?"

The Man and the Lion.

A man and a lion once argued as to which belonged to the nobler race. The former called the attention of the lion to a monument on which was sculptured a man striding over a vanquished lion. "That proves nothing at all," said the lion. "If a lion had been the carver, he would have made the lion striding over the man."



BRINGING HOME THE TURF.

So the grub described his terrible adventure, and then said, "As it is clear that there is nothing beyond this world but death, all your stories of going there yourself must be inventions."

Then the frog told how he had lingered by the pond, in the hope of seeing him, "And at last," continued he, "though I did not see you, I saw a sight which will interest you. Up the stalk of a bulrush I saw one of your race slowly and gradually climbing, till he had left the water behind him. Presently a rent seemed to come in his body, and after many struggles, there emerged from it one of those radiant creatures who float through the air, and dazzle the eyes of all who see them—a glorious dragon-fly! He lifted his damp wings out of the carcase he was forsaking, and they stretched and expanded in the sunshine, till they glistened like fire."

"It is a wonderful story," observed the grub, "and you really think that the glorious creature you describe was once a—"

"Silence," cried the frog: "I am not prepared with definitions. Adieu. The shades of night are falling. I return to my grassy home on dry land. Go to rest, little fellow, and awake in hope."

The frog clambered up the bank, while the grub returned to tell his companions of this new and wonderful hope of another life beyond their world.

(TO BE CONTINUED.)

The Highest Inhabited Spot.

The highest spot inhabited by human beings on this globe is the Buddhist cloister of Hanle, Tibet, where twenty-one monks live at an altitude of 16,000 feet.

THE QUIET HOUR.

God With Us.

"For the glory and the passion of this midnight
I praise Thy name, I give Thee thanks, O Christ!
Thou that hast neither failed me nor forsaken
Through these hard hours with victory overpriced;
Now that I, too, of Thy passion have partaken,
For the world's sake—called—elected—sacrificed!

Thou wast alone through Thy redemption vigil,
Thy friends had fled;
The angel at the Garden from Thee parted,
And solitude instead
More than the scourge, or Cross, O Tender-hearted!
Under the crown of thorns bowed down Thy head.

But I, amid the torture and the taunting,
I have had Thee!
Thy hand was holding my hand fast and faster,
Thy voice was close to me;
And glorious eyes said: "Follow Me, thy Master,
Smile as I smile thy faithfulness to see!"

A few days ago a little book was put into my hands, a book which pictures very vividly the darkness and desolation of a Christless world.

The writer tells of a vision which he saw of a great city, where all the heads of Christendom had gathered together to publicly proclaim their disbelief in Christ. It was said that His body had been found in the sepulchre, which was indisputable proof that He had never risen. This great company of men and women openly professed that they had been guilty of idolatry in paying Him Divine honors. The writer is not convinced, but boldly declares that no amount of outward proof could shake his confidence and trust in One he knows so well. It can only be a delusion of Satan to deceive the unwary. Then the dream changes. He sees the sick and the sorrowful deprived of their one consolation and hope. He assures them that God cares for them and has numbered the very hairs of their head. They turn away, sadly saying that Jesus, who said so, is dead, and how can they tell whether the great and awful God cares for them or not. A poor woman who had been rescued from shame and misery, gaining new hope from hearing that the Son of God was ready to forgive and help her, falls back again into hopeless degradation when the wise men of this world assure her that He is dead and unable to hear her cry. Only the mothers still clinging to a remnant of their faith in the Saviour of the world. They still treasure as a sacred thing that beautiful picture of purity—the innocent children held to the heart of the sinless Man.

Now that we celebrate once more the great Easter festival, it may make our faith in a living Lord more bright, to glance for a moment at this visionary picture of a dead Christ. Think what it would mean to have no living, loving Saviour to pardon our sins, to help us in the hard struggle against our three great enemies, to be with us when we pass through the dark waters of death, to greet us when we reach the other side.

Those glorious words which have cheered so many mourners—"I am the Resurrection and the Life"—would be utterly meaningless if He were dead. The weary and heavy-laden could not come unto Him for rest. The sheep would be hopelessly lost without the Good Shepherd. The beautiful parables, so full of heavenly teaching, would no longer have Divine authority, if He who gave them to the world failed to fulfil His own promise of rising again. How could we be sure that God loved the world, if this great revelation of His love in His only begotten Son were taken away from us?

But, thank God, this vision is only imaginary. The Lord Jesus is not dead, but liveth. He watches over each one of us with unwearying, tender care. Every little incident of our lives is important in His eyes. As the disciples, struggling with winds and waves in the darkness of night, were under the eye of their Master, so it is now. We are never alone, never forsaken, never helpless. God is with us always, ready to hear our slightest cry for help; "able and willing to do exceedingly abundantly above all that we can ask or think."

We do not worship a dead Christ. He is risen as He said. If the Gospel story ended with the Cross, it would be powerless to enlighten a dark world. If He could not save Himself, it were useless to expect Him to save others. Think of the parting promise: "I am with you always, even unto the end of the world." Think, too, of the command attached to the promise of His presence: "Fear thou not, for I am with thee." The disciples, who did not think their Master's presence was a sufficient protection against the storm, were rebuked for unbelief. Fear is always the outward visible sign of unbelief. To be afraid, proves that we do not believe that God is able and willing to take care of us. To have perfect trust and confidence in an ever-present God, is to be utterly fearless. Abide under the shadow of the Almighty, and then "Thou shalt not be afraid for the terror by night, nor for the arrow that flieth by day; nor for the pestilence that walketh in darkness; nor for the destruction that wasteth at noonday. A thousand shall fall by thy side, and ten thousand at thy right hand; but it shall not come nigh thee."

If your religion is not practical, affecting the everyday events of life, then there is something wrong with it. If you do not trust God in little things, it is hardly likely that you will in great things.

"Then trust Him for to-day
As thine unfeeling Friend,
And let Him lead thee all the way,
Who loveth to the end.
Who loveth the morrow rest,
In His beloved hand;
His good is better than our best,
As we shall understand,
If, trusting Him, who faileth never,
We rest on Him, to-day, forever!"

HOPE.

Travelling Notes.

AUSTRALIA.

In these days, when all loyal subjects naturally turn to the great South African war theme, it will surely be of interest to our readers to hear about the brave Australian soldier boys who have sailed from Adelaide to stand shoulder to shoulder with our own dear Canadians, and with them to live or die for Queen and country. Through the kindness and courtesy of influential friends, we were fortunate enough to get tickets for splendid seats on the platform—first in the park, afterwards on the pier. We were next to the Governor of the Colony, Lord Tennyson, and Lady Tennyson, so that we heard all the speeches and saw everything to the utmost advantage. It seems a fitting coincidence that the duty of saying farewell to these brave fellows should devolve upon the son of England's greatest poet of the century—Alfred Tennyson—one whose loyalty to the Throne was proverbial, and whose patriotic verse has done so much to cement the Empire into one grand and glorious whole. Such enthusiasm as was manifested as the soldiers marched through the streets of Adelaide was a stirring sight indeed. Streets, windows and verandas were simply thronged—handkerchiefs waving and cheering deafening. Some of you doubtless saw our own boys depart, so will readily enter into all this; and even those who have not witnessed a like departure will understand how the pulses leap and the eyes fill in seeing the brave fellows go forth with surely God and right on their side.

In addressing the contingent, His Excellency said: "Men of the Mounted Contingent of South Australia, in the name of our beloved Queen, in the name of our United Empire, in the name of the Old Country, in the name of South Australia, I bid you a heartfelt godspeed, and I wish you a safe, speedy, happy, and glorious return. (Cheers.) God bless you and protect you now and always, my brave fellows."

All were evidently deeply impressed with these loyal and encouraging words.

Colonel Gordon's reply was as follows: "Your Excellency, ladies and gentlemen, I thank you for the kind references you have made to us. We hope to do our duty and return to give a good report of ourselves."

The scene at the pier was enough to stir even the most stolid soul, and the people out here are anything but stolid. A very curious sight was in the embarkation of the horses and mules. They required very different treatment. The horses were led or pulled, and in some cases almost carried, up a gangway from the wharf. They naturally are somewhat frightened at this strange sort of journeying. But, oh, those mules! We all know the old phrase, "As obstinate as a mule," and when fright is added to the proverbial obstinacy, you may well imagine there is no end of trouble with them. They were coaxed and pulled and twisted into boxes—a powerful steam winch was set to work—mule and cage swiftly hoisted into the air and lowered to the lower deck of the steamer, and all this with the thermometer at 106° in the shade! This scene had its interest and humor, of course, but the sadness of the good-byes seemed to overshadow all else; and while we cheered ourselves hoarse and tried to encourage the Australian soldier boys, we could not keep down that obtrusive big lump which will come into the throat at these times, and could not, too, repress a (perhaps selfish) thrill of thankfulness that none belonging especially to us were going.

All aboard! Slowly the great ship glides away and the brave Second Contingent from South Australia is gone. God bless them and God comfort those who love them and will wait—ah, with what full and anxious hearts!—for their return.

Puzzles.

[The following prizes are offered every quarter, beginning with months of April, July and October: For answers to puzzles during each quarter—1st prize, \$1.50; 2nd, \$1.00; 3rd, 75c. For original puzzles—1st, \$1.00; 2nd, 75c; 3rd, 50c.

This column is open to all who comply with the following rules: Puzzles must be original—that is, must not be copied from other papers; they must be written on one side only of paper, and sender's name signed to each puzzle; answers must accompany all original puzzles (preferably on separate paper). It is not necessary to write out puzzles to which you send answers—the number of puzzle and date of issue is sufficient. Partial answers will receive credit. Work intended for first issue of any month should reach Pakenham not later than the 15th of the month previous; that for second issue not later than the 5th of that month. Leave envelope open, mark "Printer's Copy" in one corner, and letter will come for one cent. Address all work to Miss Ada Armand, Pakenham, Ont.]

1—CHARADE.

In ancient days a Second came
Into a country town,
Who said he'd kill the people
If they didn't stir around
And get him something good to eat;
Also a bed whereon to sleep,
The frightened people of the town,
In terror of their fate,
Sent for the Total great to come
And bid him up or send him home
For fear they would be ate,
The Second slowly thought awhile,
It was of tricks, I ween,
He bid the Total up instead,
Then quickly out of town he fled,
And never more was seen.

ROLLY.

2—DROP-LETTER PALINDROME.

(The phrase spells the same backwards and forwards.)

Another story comes from Africa of a missionary whose life was saved by having with him an almanac in which was predicted an eclipse of the moon. The savages had seized him and thrown him into prison preparatory to killing him next day. He told them that God was angry with them for what they had done and that that very night the moon would refuse to give the light. The savages

S-w-o-m-n-f-f-n-m-o-w-s
in sight, but when the eclipse commenced they were terror-stricken. The missionary was never afterwards molested.
F. L. S.

3—ENIGMA.

An odd old man lives in "Squeerstown,"
His "lumber" regions are in his head,
He "never" drinks from out a spring
"Because" the spring is in his bed;
He says he'll "never" go to Greece
"Because he" never "cared for fat,"
And the only band he'll "listen" to
Is the "crape" band round his hat.
Though very kind and warm of "heart,"
In "religion" he is very cold,
"For," he says he walks upon his heel
"That he may save" his "soul";
No "matter" what you talk about,
He is sure to "crack" a joke,
And when he saw the church "afire"
He "ran" shouting holy smoke.
He talks the funniest "talking"
That was ever "talked" in talks,
And he is "talky" when he's talking,
For he talks such talky talk.

Now look within my quotation marks,
And two glorious names you'll see,
Names honored by both young and old,
Names dear to you and me.

IKE ICELE.

4—COUPLED SQUARES.

A	B	
1-x x x x	x x x x	1A—a point of land; 1B, a large place; 1A+1B, a place of importance
2-x x x x	x x x x	in the present war.
3-x x x x	x x x x	
4-x x x x	x x x x	

2A—a title (trs.); 2B, a musical instrument (trs.); 2A+2B, the lower part of the ear, and an interjection (trs.).
3A—Arguments in favor of; 3B, to use as clothing; 3A+3B, to swear in favor of.
4A—a girl's name (abr.); 4B, a cape in Europe; 4A+4B, a place noted for a great naval battle.
M. N.

5—HIDDEN PALINDROME.

A once able-bodied soldier lay upon his dying bed,
No mother's tender hand was near to cool the fevered head,
"Oh for a glance at home, at those I love," said he,
"Oh for the last to kiss my lips ere I came o'er the sea,
I long to see her snowy head and kiss her wrinkled cheeks,
I saw her in a dream last night a-herding 'mong the recks,
But alas, cruel fate! In Elba I must slumber thro' death's sleep."
IKE ICELE.

6—CHARADE.

I again come back to our "dom."
First, cousins, am I welcome?
'Tis nearly two years since I failed to call,
Pray! where O, where have the others gone?

Once 'twas Second, MacMurray and "Kit."
Now I recognize they're not in it.
Perhaps like *Whot* you will be relieved,
If our *First*'s wish can be achieved.

MURIEL DAY.

7—SQUARE.

1. A picture-casing; 2. a black bird; 3. to ward off; 4. to absorb; 5. to go in.
F. L. S.

8—CHARADE (Three is abr.).

As I walked the street
I saw persons not few
Who wore on their heads
Caps of strange *tra*.
They came from the *three*
In warlike array
To join brave *Complete*
In the South far away.

M. N.

Answers to March 20th Puzzles.

- 1—Lorna Doone.
- 2—Mien, mine, Emin, mein.
- 3—A m e n d a c i a
s t e e r a t i o
h o r e b i r t h
m a r i a t t i c
m a n n a t i a s
- 4—Margin.
- 5—Offender.
- 6—t i a r a
- 7—Moppet.
- 8—Wedlock.
- i h r a m
- a r a k i
- r a k e s
- a m i s s

SOLVERS TO MARCH 20TH PUZZLES.

"Diana," "Rolly," Sila Jackson, M. N., J. McLean, M. R. G.

ADDITIONAL SOLVERS TO MARCH 5TH PUZZLES.

Muriel Day, J. McLean, Sila Jackson, M. R. G., M. N.

COUSINLY CHAT.

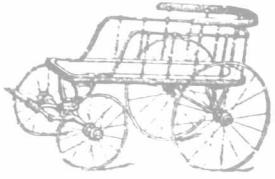
Muriel.—So very glad to hear from you again. "Kit" and most of the old cousins have deserted, but we have some very good ones still.
"Net."—I am sorry I cannot use your puzzles; your rebuses are much too simple. Try again, little girl.
"Ike."—A hard time on your fraternity just now, is it not? I like your other puzzles better than that one you explained. Why do you not solve?
"Sila."—I am ordered to pay no attention to work that does not arrive in time, so I hope you will keep your promise. Indeed you are not alone, by any means.
M. R. G. Please send your work more promptly.

PRIZEWINNING PUZZLES.

The prizes for original puzzles during January, February and March are awarded as follows: 1st, \$1.50; 2nd, \$1.00; 3rd, 75c. Original puzzles: 1st, \$1.00; 2nd, 75c; 3rd, 50c. To M. N., (Mary Nagle, West Huntley, Ont.); 3rd, 50 cents, to "Ike Icele" (G. J. McCormac, St. George's, P. E. I.). The prizes for solutions will be announced next issue.

Our 1900 Baby Carriage and Wagon

Catalogue is now ready to mail. If requiring one, send us your address.



The finest line in Canada. Ask for our big furniture catalogue—it makes house-furnishing easy by mail.

Scott Furniture Co.,

276 Main Street, Winnipeg, Man.

Largest Dealers in Western Canada.

GOSSIP.

A spring stallion show will be held in Birtle on April 24th.

The Strathelaira Spring Stallion Show will be held on Friday, April 27th.

W. S. Lister, Middlechurch, Man., has recently sold a Shorthorn bull to W. T. Muir, of High Bluff, and another to John Ross, of Portage la Prairie.

W. W. Fraser, of the well-known stock-breeding firm of D. Fraser & Sons, Lake Louise Farm, Emerson, Man., is at present in Ontario looking for a Clydesdale stallion and some other breeding stock.

Messrs. D. Fraser & Sons recently sold a very handsome young Shorthorn bull, Cecil W., by Talisman, out of Mary Emerson, and also a 7-months-old red heifer calf, by British Tom, out of Matilda of Otterburne 5th, to T. A. Skilliter, of Grenfell, Assa.

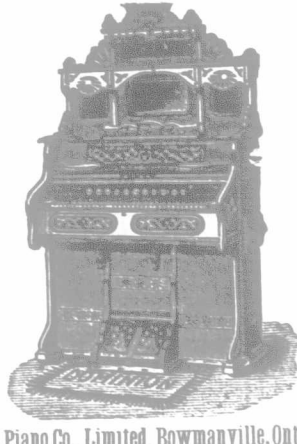
PRAIRIE HOME STOCK FARM.

The Hon. Thomas Greenway, Crystal City, has on more than one occasion expressed the laudable desire of becoming the premier farmer of Manitoba, and towards that high ideal great progress has been made. With 1,000 acres of grain, and one of the largest and best herds of Shorthorn cattle in Canada; with a fine dairy herd of Ayrshires, with a grand collection of York-hire and Berkshire swine, a very select flock of Shropshire sheep, and with a fine collection of several of the most useful breeds of fowls, the Prairie Home Stock Farm is surely well equipped for business. The latter part of March is perhaps the most trying time of the year upon farm stock, and yet at our visit the herds and flocks were in exceptionally fine condition. As a herdsman and feeder there is certainly no room to question the ability of Manager Yule. To handle the large acreage, some twenty work horses are kept, four heavy well-mated four-horse teams taking the bulk of the heavy work, with four lighter horses to do the general-purpose work. The Clydesdale stallions, Royal Reward (10003) and Young McMaster (12609), both horses of weight, style and finish, are in service. The Shorthorn herd is justly the pride of the owner, and the great attraction of the farm, and the additions recently made to the herd include the pick of the females from the celebrated herd of William Watt, Salem, Ont., with such marvels of Shorthorn perfection as Matchless 11th, 3rd-prize cow at Toronto Industrial, 39; Matchless 18th, 1st-prize 3-year-old and sweepstake female at the same fair; Mildred 6th, 2nd-prize 3-year-old; Dora Stamford, 2nd-prize 2-year-old; Matchless 24th, 2nd-prize yearling, and others. Also the imported heifer, Marjorie, purchased at the Platt sale in December last, and the many strong females previously in the herd. At the head of the herd stand such bulls as Judge; Imported Jubilee, by the Cruickshank bull, Coldstream; Sittytown Hero 7th, by Davidson's Sittytown Hero, out of 39th Duchess of Gloster; and Grand Quality, a grandson of Indian Chief. Among the many recent sales are: Jane Grey 6th, to David Allison, Roland; Crystal, to J. C. Lind, Melita; Bessie Lavender, bred by Miller & Sons, by Northern Light; Village Blossom, by Stanley, to W. D. Foster, Langdon, N. D.; Red Rose (imp.), Clara 33rd (imp.), Roan Mary (mother of Royal Judge, 1st-prize bull calf at Winnipeg, now having twin calves at foot, by Judge, Missie (imp.)—2362—, in calf to Judge; Laurel, Bracelet of Riverside, Vanity (with bull calf at foot, by Golden Flame), and Lady Aberdeen, sold to Mr. Witzel, Langdon, N. D. The calf, Sutherland Pride, to Carter & Son. The Ayrshire herd is in particularly fine condition. It numbers 21 females and two bulls, the stock bull being Surprise of Burnside. The individuals in this herd are conspicuous for their size, constitution, uniformity and excellent dairy type, and, together with the farm creamery, are in charge of Mr. Osler, a graduate of the O. A. C. and Manitoba Dairy School. The Yorkshire and Berkshire herds are at the present time both very strong—the former headed by such well-known boars as Oak Lodge Mighty and Yorkshire Bill. The Berkshire herd is headed by King Clero and Nonpareil, and a young boar of Teasdale's breeding that won first prize at Toronto last fall. Many sales have been made from both these herds, and shipments are being made almost daily. At the time of our visit the Shropshire flock were in fine shape and the ewes beginning to lamb. Among farmers and breeders who were inspecting the stock at the time of our visit were: W. G. Styles, Rosser; J. G. Washington, Nings; James Laidlaw, Clearwater; Mr. Meyers, Cartwright; Joseph Lawrence, Clearwater; Jas. Cochrane, Crystal City; Mr. Gruff, Winnipegosis, and others.

"DOMINION" PIANOS & ORGANS



HAVE been before the public for thirty years, and are in use to-day in 60,000 Canadian homes. If you want a piano or organ that is above criticism, get a "DOMINION."



For catalogues address— THE "Dominion" Organ and Piano Co., Limited, Bowmanville, Ont.

YOUR ATTENTION

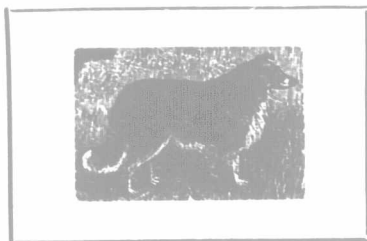
Our No. 1 Collection contains 33 full sized packets of the best Vegetable Seeds, sufficient to furnish vegetables throughout the year, and one packet of Wild-Garden Flower Seeds, which we will send prepaid to any address in the Dominion of Canada or United States for the extremely low price of \$1. Our No. 2 Collection contains 16 packets of Vegetable Seeds and one packet Wild Garden Flower Seed Mixture. Prepaid for 50 cents. Our No. 3 Collection contains 8 packets of Vegetable Seeds for 25c. Our No. 4 Collection contains 40 packets of Flower Seeds for \$1. Our No. 5 Collection contains 20 packets of Flower Seeds for 50c. Our No. 6 Collection contains 10 packets of Flower Seeds for 25c. All postpaid on receipt of price. For varieties in above collections see our Handsome Illustrated Catalogue containing other great offers. Mailed free to any address.

R. ALSTON, Royal Greenhouse & Seed Establishment, WINNIPEG, MAN

DO YOU OWN A

FIRST-CLASS COLLIE?

Get One Free.



Prizewinning Stock.

Send us the names of 10 new subscribers to the "ADVOCATE" and we will ship you, F. O. B., Winnipeg, a Collie Pup, from the kennels of Mr. W. J. Lumsden, of Hanlan, Man. These pups are all from prizewinning stock, and are eligible for registration, or, if you send us 11 New Subscriptions, we will have your pup registered and will Furnish Certificate. If you want one Speak Quickly, for the number that can be supplied is limited. Remember, you get a high-class Collie, free of all cost, excepting express charges, which will be not more than \$1.00.

Feeds and Feeding.

The latest and most complete work on this all-important subject. Consists of upwards of 650 large pages. Every stock-raiser should have a copy, GIVEN FREE for securing three new subscribers to the FARMER'S ADVOCATE. Regular price \$2.00 per copy.

FARMER'S ADVOCATE, WINNIPEG, MANITOBA.

Obtainable serviceable Shorthorn bulls are becoming scarcer every day. The new advertisement of seven, from eight to sixteen months old, should interest many not yet supplied. They are offered by Mr. A. Montague, Thamesford, in Oxford County, Ont., who also offers a few young females. They contain World's Fair winning blood.

Mr. A. J. Watson, Castlederg, Ont., writes:—"Shorthorns and Cotswolds at Ashton Front View are looking fine at present. I have some grand young bulls for sale now. Show sheep are in better fit this year than I ever saw them at the same time of year. Sales of all kinds of stock have been good with me this winter and spring, and I expect it will be much better, as there are plenty of breeders looking after show stock."

The Canadian Pacific Railway, in making their final distribution of 80 pure-bred bulls throughout Manitoba and the Northwest Territories, secured about 25 of the number in Manitoba, being from the following parties: A. Graham, Pomeroy, 2; A. McNaughton, Pomeroy, 1; I. Moore, Cypress River, 1; J. M. Stewart, Cypress River, 1; Wm. Chalmers, Hayfield, 2; R. Whyte, Wakopa, 2; Joseph Lawrence, Clearwater, 1; Hon. T. Greenway, Crystal City, 2; J. G. Barron, Carberry, 1; K. McKenzie, Burnside, 1; W. Lynch, Westbourne, 2; J. E. Smith, Brandon, 1; J. H. Kinnear, Souris, 2; R. L. Lang, Oak Lake, 1; T. Speers, Oak Lake, 1; Kenneth McIvor, Virden, 1; R. J. Phin, Moosomin, 1; T. A. Skilliter, Grenfell, 2; Messrs. D. Fraser & Sons, Emerson, 1.

Mr. John Gardhouse, Highfield, Ont., writes:—"I have sold during the last two weeks the following Shorthorns: Bull, Crusader = 32140 =, by Guardsman = 18956 = (imp.), to Mr. John Dempsey, Fairview; Bulger Boy = 32141 =, by Prime Minister (imp.) = 15280 =, to Mr. Wm. G. Moffat, Teeswater; the two heifers, Flower Girl, by Scottish Pride (imp.), and Selina, by Guardsman (imp.), to J. M. Gardhouse, Highfield; the bull, Prime Eclipse, by Prime Minister, to Wm. Ramsay & Son, Eden Mills; the bull calf, Highfield Earl, by Prime Minister, to Jas. H. Kendrick, Lyndhurst. I have on hand yet the young bull, Prime King = 32142 =, twelve months old, by Prime Minister (imp.) = 15280 =, dam by Guardsman (imp.) = 18956 =, which I think is going to be the best bull I had this year; also a few heifers."

THORNDALE STOCK FARM, MANITOBA.

Mr. John S. Robson, proprietor of the above farm, about five miles south-west of Manitou, is one of the oldest breeders in the Province and one who has always taken a keen interest in the breeding of Shorthorns. As a result of his efforts he has established a large herd. The stock has gone through the winter in good shape, and sales have been good. At the head of the herd is the bull, Royal Judge = 23419 =, out of Hon. Thomas Greenway's Roan Mary = 26728 =, and sired by Judge = 23419 =. Royal Judge was first-prize Shorthorn bull calf at Winnipeg Exhibition last July. A splendid illustration of him appeared in August 5th, 1899, issue of the FARMER'S ADVOCATE. He is a low-set, squarely-built, dark roan bull, with splendid quarters, nice head and horns, a good handler, and promises to mature into a high-quality bull. Bismarck = 28313 =, a two-year-old roan, bred by James Gibb, Brookdale, Ont., sired by Maxon = 24864 =, dam Dolly Eugenie = 29789 =, is also used on this herd. A large herd of cows and heifers are kept on this farm, among them being some animals of good individual merit. Isabella 2nd is a large roan with a nice white calf at foot, sired by Bismarck. Rose D'Erina, another nice roan, had a roan calf at foot, also sired by Bismarck. Duchess of Rosedale, a blocky, red cow, of R. D. Foley's breeding, had a red calf at foot, also by Bismarck. Isabella of Thorndale 4th, the 1st-prize cow at Manitou Show last year, is well forward in calf to Bismarck. Phoebe 2nd, sired by Village Boy 12th = 24409 =, out of Beauty of Thorndale 2nd = 23571 =, a very promising two-year-old, and Isabella of Thorndale 6th, sired by Marchmont Earls = 18179 =, dam Isabella of Thorndale 2nd = 22581 =, is a straight, smooth red, in calf to Hon. T. Greenway's stock bull, Judge. A herd of about 40 other females, from aged cows to yearling heifers, were enjoying themselves in the warm sunshine around a couple of crated straw piles in their pasture field. In one of the barns were 15 young bulls, last spring's calves, sired by Village Boy 12th = 24409 =, that had just been tested with tuberculin, and as they all proved free of disease, were to be shipped to Brandon, Minn., having been recently purchased by Messrs. O. F. Olson and T. G. Winkler, of that place. Ten young heifers, also last spring calves, were purchased by the same gentlemen. Other sales made by Mr. Robson recently are: The young bull, Scottish Chief, to Usher Bros., Carman; the young bull, Prince Charlie, to McGregor Bros., Carman; the bull, British Lion, and heifer, Primrose, to W. C. White, Calf Mountain; the heifer, Lady McDonald, to W. White, Thornhill; the bull calf, King William, to A. McDowell, Manitou; the cow, Princess Victoria, to Mr. Samuel Walker, Manitou; bull calf to Metcalf Bros., Manitou; bull calf to Harry Brier, Medicine Hat; yearling bull to Ed. Winram, Manitou; cow, Gold Dust 7th, to Geo. Howatt, Mona, N. D.; cow, Hanna, to John Ferguson, Mona, N. D.; bull calf, Cronje, to Wm. McDonald, Pilot Mound; bull calf, Village Boy, to Samuel Firth, La Riviere; bull calf, Crown Jewel, and the bull calf, Duke of Allan, to William Compton, Opawaka; bull calf, Lord Gordon, to John McKay, Manitou; bull calf, Lord Roberts, to Donald Shaw, Byron, N. D.; bull calf, Golden Flame, to Foley Bros., Manitou; bull calf, General Kitchener, to F. C. Wilson, Snowflake; bull calf, Duke of Donore, to A. Wilson; two heifers, Village Girl and Highland Lass, to Richard Agur, Holland; bull calf, Lord Strathcona, and heifer calf, Daisy 2nd, to Donald McNeil, Holland; cow, Betsy, to Joseph Godkin, Morden; cow, Duchess of Thorndale 6th, to Robert Reggs, Thorndale. We noted a good Berkshire sow, Manitou Maid, sired by Sambo = 2994 =, dam Markwell Gem = 3897 =, bred by R. L. Lang, Oak Lake. This sow was nursing a litter of 10 promising youngsters, sired by Scott Bros.' (of Calf Mountain) stock boar. A pair bred from this sow and to same sire, last year, were seen in pen close by and were good ones. Mr. Robson has had good success with the growing of Bromegrass, and has met with good sales for seed this season so far.



LISTER'S
Alexandra and Melotte
CREAM SEPARATORS
STAND UNRIVALLED FOR LARGE OR SMALL DAIRIES.

"The proof o' the puddin' is the preein o't."

Do not be misled by interested agents, men of ready speech, who are all selling the "best" machine, no matter how cheap and worthless they are, and which certainly are the best for separating the unwary farmer from his hard-earned money. Listen to men in your own rank who have tested them:

INNISFAIL, ALTA., NOVEMBER 27TH, 1899.

DEAR SIRS,—The No. 2 MELOTTE separator you sold me some time ago is very satisfactory, even more than we expected. A child ten years of age can turn it. It is both easy to turn and separates more milk in a given time than any other separator of the same size I have ever seen. I can safely recommend it as being the best separator in use here.
Yours very truly,
HUGH R. ROSS.

For full description, prices, and copies of reliable testimonials, address:

R. A. LISTER & CO.,
LIMITED.

232 KING STREET, WINNIPEG, MANITOBA.

"WHEN BUYING WHY NOT GET THE BEST?"

Stephens'
Pure Ready Mixed PAINT

The Quality of the Oil is the Life of the Paint. **CROWN BRAND** Made with Manitoba Pure, Raw or Boiled Linseed Oil.

REMEMBER, the oil used in "STEPHENS' PAINTS" is made from Flaxseed grown in Manitoba and Northwest Territories, and is not surpassed by anything in the world. Sold by leading hardware dealers between Lake Superior and Pacific Ocean, but if your nearest dealer cannot supply you, write us direct, and we will send sample color cards, prices, and cost laid down at your nearest railway station; also estimate of quantity you will require for the work.

Manufactured by

G. F. STEPHENS & CO.,
WINNIPEG.

David Maxwell & Sons,
ST. MARY'S, ONT.

STEEL ROLLER BEARINGS
IMPROVED STEEL FRAME

And combined Foot and Lever Drive, improvements you will not find on other churns. Do you want the best? Then don't purchase until you see it. Sold by the leading wholesale houses in the Dominion.

No.	CAPACITY.	Churns from
0	6 gal.	1 to 3 gal. cream.
1	10 "	1 to 5 "
2	15 "	2 to 7 "
3	20 "	3 to 9 "
4	25 "	4 to 12 "
5	30 "	6 to 14 "
6	40 "	8 to 20 "



CANADIAN DAIRY SUPPLY COMPANY,
236 KING ST., WINNIPEG, MAN.
Agents Manitoba and the Territories.

GOSSIP.

The Agricultural Society of Durham have changed the date of their annual exhibition from October to the first week in July.

William Dixon, of Boissevain, for many years groom for Knittel Bros., celebrated coach stallion, Knight of the Vale, has recently bought from Hon. T. Greenway, of Crystal City, the Clydesdale stallion, Young McMaster.

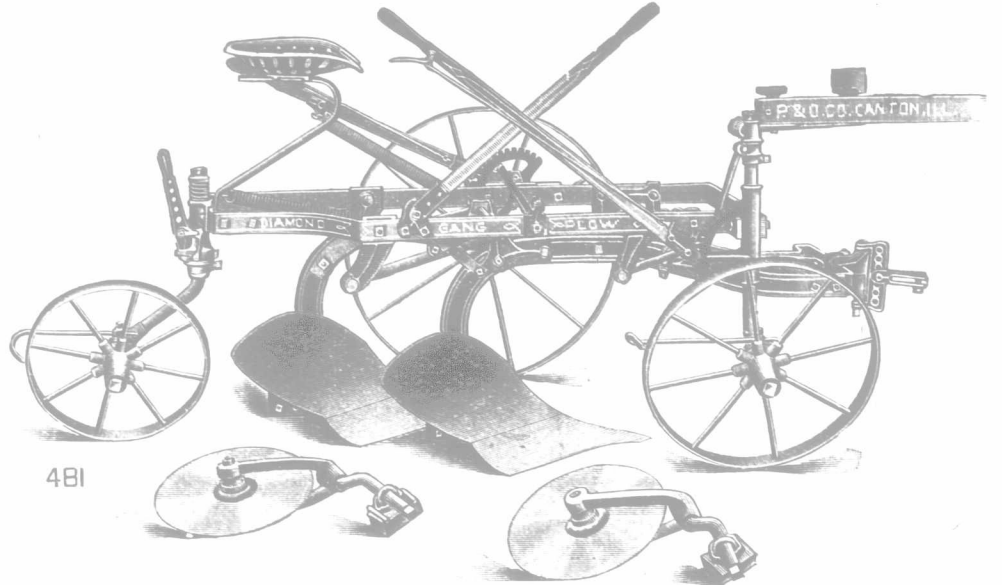
M. Maw, North Winnipeg Poultry, sends us his 1900 catalogue. He listed special ties and Herring Plymouth Rocks, White Leg horns, White and Silver Laced Wyandottes, Light Brahma, Toulouse, and Bantam and Pekin ducks, and Muscovy Bronze turkeys. In addition to these, many breeds of fowls, Mr.

Maw handles Homing pigeons, as well as Cyphers, Incubators and Brooders.

In addition to the increases in the prize list of the Winnipeg Industrial Exhibition, already noted, the manager has recently received a letter from Mr. L. A. Hamilton, Land Commissioner of the P. R., offering special prizes in the show horse class, open only to animals bred in Manitoba. The N. W. T. or R. C. all winners in the regular show horse class to be barred. The following is the classification of this special class: Best 2 years, \$100; \$125; \$50; \$75; \$100; \$125; \$150; \$175; \$200; \$225; \$250; \$275; \$300; \$325; \$350; \$375; \$400; \$425; \$450; \$475; \$500; \$525; \$550; \$575; \$600; \$625; \$650; \$675; \$700; \$725; \$750; \$775; \$800; \$825; \$850; \$875; \$900; \$925; \$950; \$975; \$1000.

"THE P. & O. CANTON LINE"

A GOOD IMPLEMENT IS AN INVESTMENT. A POOR ONE IS A BILL OF EXPENSE. YOU CAN'T GO WRONG ON "THE P. & O. CANTON LINE."



"P. & O. CANTON DIAMOND PLOW."

The plow which has added fame to the already famous "Canton Line." No implement ever placed on the market embodies so many superior qualities as the Diamond. It is built with particular reference to strength, although as light in construction as great strength will permit. The automatic hand and foot raising lever is the finest appliance of this kind ever put on a plow. The driver, by using this lever, has both hands free for guiding his team. It is a winner wherever used. It is the most successful riding plow on the continent.

PARLIN & ORINDORFF CO., CANTON, ILL.

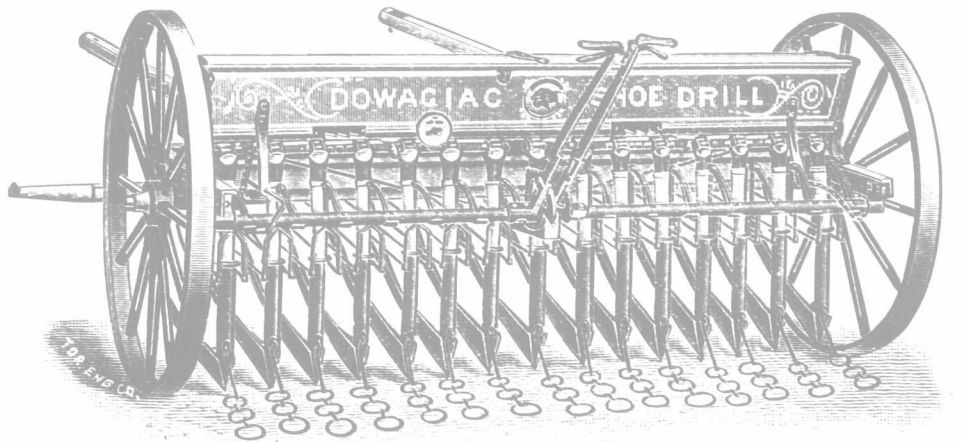
JOHNSTON & STEWART,
GENERAL AGENTS,
WINNIPEG, MANITOBA.

Made in Canada by Expert Canadian Workmen.

On the Dowagiac Pattern, but with parts strengthened and improved.

The STEVENS MFG. CO.'S SHOE DRILL

Undoubtedly the best grain seeder made. Specially adapted for use in Canadian Northwest.



WHAT IT DOES :

Works perfectly in wet as well as dry ground.
Presses down stubble and trash and passes over.
Makes furrows to any desired depth.
Cuts sod or prairie ground better than any other device.
Seed deposited at bottom of furrow—cannot be blown away.
Makes furrows close together, utilizing all ground.

WHAT IT IS MADE OF :

The best material in every respect.
The best plow-share steel for shoes.
Best tempered steel for springs.
Malleable iron for all light castings.
Main frame of angle iron, trussed and braced, and practically unbreakable.
Poles and all other parts of wood made of thoroughly-seasoned stuff.
Wheels with solid hub, hickory spokes, ash rims and three-inch tires.
In workmanship and material cannot be surpassed.

The STEVENS MANUFACTURING CO.,
WINNIPEG, MAN.

HEAD OFFICE: LONDON, ONT.

Mention this paper.

Messrs. A. E. & Ed. Muir, of High Bluff, have recently purchased from Knittel Bros., Boissevain, that magnificent Yorkshire Coach horse, Knight of the Vale, a horse well known throughout the length and breadth of the Province, having for years been a winner against all comers in his class at the Winnipeg Industrial and other local fairs. He will certainly be a great acquisition to the horse interests on the Portage plains. For the past six years he has met with great success as a stock horse in the Boissevain district.

Geo. Rankin, Melrose Stock Farm, Hamiota, Man., reports under recent date the purchase of a stock bull, by Lord Stanley 2nd, from John E. Smith, of Brandon. Mr. Rankin also reports that the Clydesdale stallion, McBean, of John E. Smith's breeding, has turned out remarkably well, and his stock is coming well forward, with lots of style and of fine quality. He recently purchased a Clydesdale filly rising three years old, which promises to make a show animal. This filly was also purchased from Mr. Smith.

GOSSIP.

The Manitoba Horse Breeders' Association have decided upon offering diplomas at local agricultural fairs in classes for light and heavy horses, to be awarded in each class for registered stallion and three of his get.

Walter Lynch, proprietor of Pioneer Stock Farm, Westbourne, Man., has recently sold the well-known Shorthorn bull, Village Hero -1432-, for many years at the head of his herd, to Mr. Kenneth McKenzie, of Burnside, Man.

W. E. Baldwin, of Manitowish, who has gone quite extensively into breeding Tamworths, is fitting a herd for the Winnipeg Industrial. He reports a brisk demand for these famous red bacon pigs.

J. A. S. Macmillan, of Brandon, has recently sold the Clydesdale stallion, Drumtochty, imported from Minnesota this spring, to McCallum Bros., of Mooseomin. This horse won 3rd prize at the Chicago Horse Show in 1897 as a two-year-old. He was sired by Lothian Top, by Lothian King. His dam was Eyebright, by Macgregor.

A. Graham, of Pomeroy, has recently returned from Ontario with a carload of pure-bred Shorthorn cattle, among which are eight very select young bulls for sale. In the car he also brought an Ayrshire bull for A. H. Price, of Lake Francis. To his own herd, Mr. Graham adds the imported cow, Myrtle 3rd, by Royal Blossom, out of Myrtle 2nd, by Nobility. The heifer, Ury 5th, out of Ury of Greenwood (imp.), by Gravesend, and the young bull, Veracity -3144-, by imp. Knuckle Duster, of the Augusta family, which has furnished so many leading winners at the leading Scottish shows, and out of imp. Beauty 16th, by Challenger, bred by Mr. Bruce.

Messrs. Ryan & Fares, who have been in the horse exchange business at 215 James St., Winnipeg, Man., for some time, advertise that they have on hand a large number of pure-bred Percherons, among them being some well-bred stallions, from yearlings up. They also have 800 Western horses, besides a number of useful farm horses, dray horses, drivers, saddlers and ponies. Anyone desirous of purchasing should correspond with this firm and receive their price list. As they handle horses on a large scale, they should be able to suit purchasers with the particular horse they require and make prices right.

WINNIPEG FRUIT AND PRODUCE EXCHANGE.

A number of the principal fruit and produce merchants of Winnipeg have formed themselves into a Fruit and Produce Exchange. The objects are to induce the Dominion Government to appoint an inspector for all apples coming into the Province and Territories. Also to obtain better facilities from the railway companies in handling perishable goods; and also to regulate credits, rebates, etc., with the retail trade.

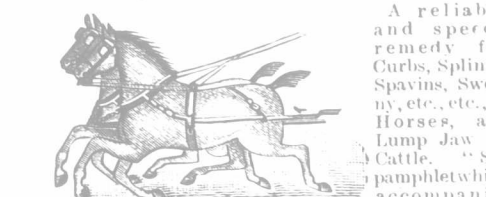
SHORTHORNS GOING UP! UP!!

The sale of Shorthorn cattle from the herd of F. A. Edwards, at Webster City, Iowa, April 3rd, was a brilliant success, especially in so far as the females were concerned, 34 cows and heifers bringing an average of \$471.60, the highest price for a cow being \$2,000. Four other females sold for \$1,000 to \$1,200 each, and one bull for \$1,000. Bulls were not so much in demand, and the average for 16 was only \$313. The 50 animals sold averaged \$421.

\$6,000 FOR A SHORTHORN BULL.

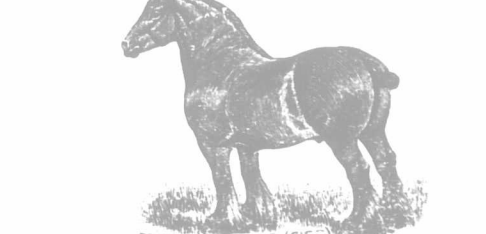
Mr. Robert Miller, who is now in Britain buying a show herd of Shorthorns for a wealthy American, has, it is reported, purchased from Mr. J. Deane-Willis the famous bull, Brave Archer, at 1,200 guineas, or \$6,000. This bull was bred by Mr. Duthie, Collynie, and sired by Scottish Archer, and is believed by Mr. Miller and many others to be the best Shorthorn bull in existence.

Important to Breeders and Horsemen. Eureka Veterinary CAUSTIC BALSAM.



A reliable and speedy remedy for Cuts, Splints, Spavins, Sweeney, etc., etc., in Horses, and Lump Jaw in Cattle. See pamphlet which accompanies every bottle, giving scientific treatment in the various diseases. It can be used in every case of veterinary practice where stimulating applications and blisters are prescribed. It has no superior. Every bottle sold is guaranteed to give satisfaction. Price 75c. per bottle. Sold by all druggists. Guaranteed remedy for sterility in cows, with full instructions. Price, \$2. Prepared by THE EUREKA VETERINARY MEDICINE COMPANY, London, Ont -can

J. E. SMITH,



IMPORTER AND BREEDER.

HAS FOR SALE - CLYDESDALES - Bargains in Stallions and Mares, all ages. SHORTHORNS - Choice Bulls, Cows and Heifers. HEREFORDS - 17 Heifers.

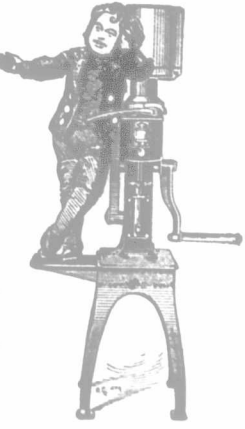
All animals registered in their respective herd books. Everything for sale except the stock bulls, Lord Stanley 2nd and Golden Measure. If notified, visitors will be met at the station. Come and see the stock. Satisfaction guaranteed. Write or wire.

J. E. SMITH, Smithfield Ave., BRANDON. P. O. Box 271. Telephone 4.

"ALPHA BABY" SEPARATOR

The CANADIAN DAIRY SUPPLY CO., Montreal, Branch Office, 236 King St., Winnipeg, sole agents in Canada for the DE LAVAL SEPARATORS.

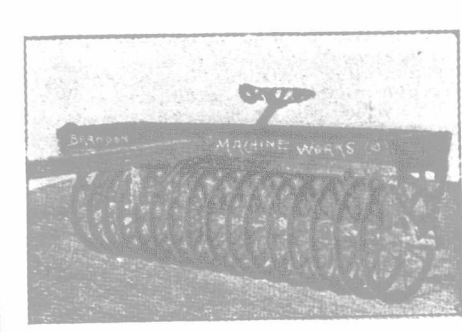
The Alpha machines still lead the procession, and only have to be known to be appreciated. The agents of cheap grade machines tell you that theirs are "just as good." You never hear them compared with each other, as they know that the Alpha is the favorite. High-grade mechanism, durable, best skimmer on any market. Dairy schools prove that fact. We do not claim that the skimmed milk from the Alpha is better for calves than from other machines, that suggests a lurking suspicion that there is too much butter-fat in the milk, which is too expensive to feed, at 20c. per pound, to calves. When they get down to the .01 and .02 points with thick cream from cold milk, then something interesting can be expected. Call and examine and be convinced, and keep out of a position where you would feel sorry that you bought so soon.



Send for circulars and particulars re prices to

The Canadian Dairy Supply Company, 236 KING ST., WINNIPEG, MAN.

Sub-Surface Packer and Davidson's Grain Pickler.



Manufactured by THE BRANDON MACHINE WORKS CO., BRANDON, MAN.

"Pasteur" Black-Leg Vaccine

THE original and genuine preventive vaccine remedy for Blackleg. Officially endorsed in all the cattle-raising States. Successfully used upon 1,500,000 head in the U. S. A. during the last 4 years. Write for official endorsements and testimonials from the largest and most prominent stock-raisers of the country. "Single" treatment vaccine for ordinary stock; "Double" treatment vaccine for choice herds. Registered "BLACKLEG" Trade-Mark. "Pasteur" single treatment Blackleg Vaccine ready for use (no set of instruments required). No. 1 (10 head), \$1.50; No. 2 (20 head), \$2.50; No. 3 (50 head), \$6. Easily applied. No experience necessary.

Pasteur Vaccine Co., 65 Fifth Avenue, CHICAGO. W. J. Mitchell & Co., WINNIPEG, MAN.

Advertisement for Hingston Smith Arms Co. featuring a 'Summer Sports Catalogue' and 'SUMMER SPORTING GOODS, BICYCLES, SUNDRIES'. Includes an illustration of a person with a rifle and the text 'NOW READY FOR DISTRIBUTION. IT GIVES A FULL DESCRIPTION OF ALL.' and 'WE WILL BE PLEASED TO FORWARD ONE TO ANY ADDRESS.'

Maw's Poultry Farm, Winnipeg.

BREEDS BEST STRAINS OF UTILITY BREEDS. Thoroughly acclimatized and best adapted to our climate. Have for sale stock and eggs of Mammoth Bronze Turkeys, Tenhouse Geese, Imperial Deep-keeled Pekin Ducks, English Rouen Ducks, White Wyandottes, White Leghorns, Silver-Laced Wyandottes, Light Brahmas, Hero Strain Plymouth Rocks. Homing Pigeons from best imported Belgian stock, same as used by the army for carrying messages from beleaguered cities. Large illustrated catalogue, giving list of prizes and medals won at all leading exhibitions, with prices, description and pedigree of stock mailed free on receipt of address. I am North-west agent for the celebrated CYPHERS INCUBATOR AND BROODER. Mr. Cypher is the discoverer and patentee of the diffusive principle in artificial incubation, thus saving the lives of thousands of chicks that die in the shell in ordinary incubators. It is asbestos-coated and perfectly fireproof, supplies and regulates its own moisture, and so simple a child can operate it with success. Write for particulars.

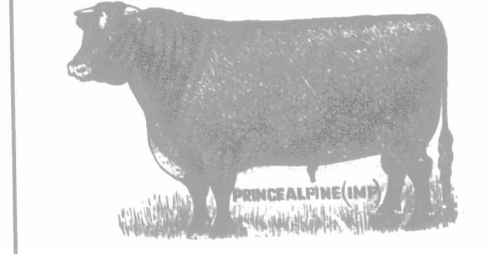
RYAN & FARES.



Largest dealers in all classes of horses in Manitoba. We have on hand from 75 to 100 head of pure-bred Percherons for sale—all ages. There are in this bunch some very fashionably-bred stallions, from yearlings up, that we are prepared to sell—worth the money. 800 head draft-bred Western horses for sale. We also keep in stock a large range of farm horses, dray horses, drivers, saddlers, and ponies. Correspondence solicited. 215 JAMES STREET, WINNIPEG.

Marchmont Stock Farm, MIDDLECHURCH, MAN.

Scotch-bred Shorthorn Cattle



7 YEARLING BULLS. 10 BULL CALVES.

W. S. LISTER, Middlechurch, Man.

"PRAIRIE HOME STOCK FARM."

Bulls at head of herd: Judge - 23419 - and Imp. Jubilee - 28858 -.



Yorkshire and Berkshire Swine. Clydesdale Stallions and Shropshire Sheep. Shorthorn and Ayrshire Cattle.

THOS. GREENWAY, Proprietor. JAMES YULE, Manager, Crystal City.

Shorthorns 4 Heifers and 2 Young Bulls. Choice ones of Royal Sailor breeding, also Admiral, their stock bull. Also imported CLYDESDALE STALLION. A. & J. CHADBOURN, Ralston, Man.

THREE BULLS Fit for service, the best I ever offered, for sale. Also some fine two-year old and year-old heifers. GEORGE RANKIN, Hamiota Man.

For Sale:

- 1 3-year-old Shorthorn bull, Strathallan Hero 28357. 1 yearling bull, Pioneer of Gloster - 31950 -. 3 bull calves: Strathallan Pioneer - 31960 -, Boharm Chief - 31958 -, and another got by Duke of Gloster - 24263 - suitable for the range. FRED W. GREEN, MOOSE JAW, ASSA. 3-4-m

TWO JERSEY BULLS FOR SALE

Of high-class breeding. Prices right. Write to William Murray, Dugald, Man.

SHEEP BREEDERS' ASSOCIATIONS.

American Shropshire Registry Association, the largest live stock organization in the world. Hon. John Dryden, President, Toronto, Canada. Address correspondence to MORTIMER LEVERING, Secretary, Lafayette, Indiana -om

PLEASE MENTION FARMER'S ADVOCATE.

D. FRASER & SONS, EMERSON, MAN.

Breeders and importers of Durham Cattle, Shropshire and Southdown Sheep, and Pure-bred Poland-China Pigs a specialty. Young stock for sale.

THREE CHOICE SHORTHORN BULLS FOR SALE

AT MODERATE PRICES, from 10 to 13 months old, with good Scotch pedigrees and individual merit. Write, or, better, call. J. G. Washington, Elysee Stock Farm, 3-f-m NINGA, MAN.



ELMWOOD STOCK FARM.

Scotch Shorthorns for Sale: Three grand young bulls, all got by imported Scotch sires, and out of extra good cows, by imported bulls.



H. O. AYEARST, MIDDLECHURCH, MAN.

SHORTHORNS, YORKSHIRES AND TAMWORTHS.

Stock of all ages and both sexes, at prices according to quality. Auction sales of farm stock undertaken. Improved farm and wild lands for sale in the Winnipeg district. Correspondence solicited.

W. G. STYLES, Sec. 12-13-1. West, Rosser P. O., C. P. R.

Landazer Stock Farm.

Shorthorns—Choice young bulls and females, Cotswolds of top-notch excellence. Prices moderate. D. Hysop & Sons, 492, Killarney, Man.

4 Young (Golden Royal -24402-) SHORTHORN BULLS.

Good size, grand feeders, in good growing order, and from choicely-bred dams. J. H. KINNEAR, SOURIS, MAN.

THORNDALE STOCK FARM, MANITOU.

JOHN S. ROBSON, PROP.

Females of all ages FOR SALE. Write for particulars.

SHORTHORNS

Masterpiece = 23750-, by imp. Grand Sweep, out of an Indian Chief dam, at head of herd. Imp. Large Yorkshires for sale. JAMES BRAY, LONGBURN, MAN.

HEREFORDS

I keep only the best. For stock of all ages. Write or call. WM. SHARMAN, "Ridgewood Stock Farm," SOURIS, MAN.



POPLAR GROVE HEREFORDS

THE LARGEST HERD IN CANADA.

STOCK OF ALL AGES FOR SALE.

J. E. MARPLES, DELEAU, MAN.

Hope Farm Galloways

Three good yearlings, home-bred bulls, still for sale. Also one imported from Ontario. To make room for some importations from Scotland, these will be sold at very reasonable prices.

Apply to T. M. CAMPBELL, Manager, Hope Farm, St. Jean Baptiste, Manitoba.



6 young bulls, by Mam-tota Chief and Robbie O'Day, out of some of our best cows.

9 Berkshire sows of choice quality and breeding, from 3 months to 3 years. The standard of our York-dam herd is steadily improving. Our stock bears the sweepstakes at last Industrial Exposition.

Other recently imported from England, are grand specimens of the breed. A large lot of sows ready for breeding. Also 20 B. P. Rock Cockerels, strong, healthy, but best of great size and 24-44 market size. All at present low prices. ANDREW GRAHAM, Forest Home Farm, Comery, Man. Rosser and N. P. R. C. P. R.

NEWTON'S HEAVE, COUGH, DISTEMPER AND INDIGESTION CURE.

GUARANTEED. "Wind, Throat and Stomach Troubles." Ninth year. Used in veterinary practice prior to 1881. Dealers or direct. Book and references free.

Newton Horse Remedy Co. (D), Toledo, O. Trade supplied by Lyman Bros. & Co., Toronto.

STEEL BROS., Glenboro, Manitoba, BREEDERS OF Ayrshire Cattle.

Choice young stock for sale. 24-2y-m

JERSEY BULLS

2 high-class Jersey Bulls for sale. Also farm lands. H. R. KEYES, 4-y-m Midway, Man.

Bulls. Bulls. Bulls.

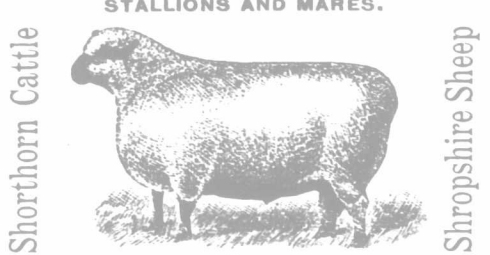
I WILL undertake commissions to purchase pure-bred bulls of any breed for ranchmen, and will attend to their careful shipment, on the best terms obtainable. Correspondence solicited.

WM. SHARMAN, RIDGEWOOD FARM, SOURIS, MAN. References—Merchants' Bank, Farmer's Advocate, Nor-West Farmer, Pure-bred Cattle Breeders' Association.

Roxey Stock Farm, BRANDON, MAN.

J. A. S. MACMILLAN, IMPORTER AND BREEDER OF PURE-BRED

Clydesdales, Shires, Hackneys. STALLIONS AND MARES.



Shropshire Sheep

INSPECTION INVITED. CORRESPONDENCE SOLICITED. TERMS EASY. Prices Right. FULL PARTICULARS ON APPLICATION. APPLY: P. O. BOX 403.

LEICESTERS!

Young rams and ewes for sale. Write or call on A. D. GAMLEY, Box 193. BRANDON, MANITOHA.

Eggs for Hatching: Silver Laced Wyandottes; prizewinners for years and now improved by imported English stock. Eggs \$2.00 per setting; \$3.50 two settings. W. D. LAWRENCE, 354 Donald St., Winnipeg.

Now is the time to buy EGGS FOR HATCHING.

Eggs from high-class G. Wyandottes, Langshans, Indian Games, Light Brahmas, P. Rocks, B. Cochins, R. Minorcas, and Silver Laced Wyandottes, at \$2.00 per setting. Also offer for sale, very cheap, 12 L. Brahmas, 10 P. Rocks, 1 trio Langshans, 10 Pekin ducks, Guinea fowl, fancy pigeons, and a few White Wyandotte cockerels. Speak quick if you want some.

S. LING & CO., Fort Rouge Poultry Yards, Winnipeg, Man.

PLYMOUTH ROCKS HIGH-CLASS STOCK.

WILLIAM LAUGHLAND, - Hartney, Man.

Norwood Bridge Poultry Yards, WINNIPEG, MAN.

Breeder of high-class S. C. B. Minorcas, Houdans, and White Wyandottes; also Bronze turkeys, Pekin Bantams, Pekin ducks. Young stock for sale of all varieties. Write or call.

The Union Mutual Life In. Co., of Portland, Maine,

CLOSED its fiftieth anniversary on Dec. 31st, 1891, with 29,799 policies and \$46,054,820 in insurance in force, being an increase in round numbers for the year of 3,000 and \$1,000,000.00 in insurance. The income for the year was \$1,833,919.16; surplus at a 1st basis \$1,013,000.00.

This Company issues all up-to-date policies, and all are protected by the benefits of the Maine Non-Forfeiture Law. The Company's office for Manitoba and Territories is in the Grain Exchange Building, Winnipeg. Room for a few more good active agents.

Agents - A. P. IRISH, Manager.

AGENTS WANTED for the Gem Sickle and Tool Grinder, with Saw Grinding attachment. A necessity to every farmer. D. M. McILROY, Brandon, Man., sole agent for Manitoba and Eastern Assiniboia.

NOTICES.

Ontario Veterinary College Graduates.—The closing exercises of the Ontario Veterinary College, Toronto, occurred on March 26th, when about fifty graduates received their diplomas. The Gold Medalist was Mr. C. D. McGilvray, of Hinscarth, Man. Among the graduates were men from England, Jamaica, Canadian Northwest, and many States of the American Union.

Cured Thoroughpin. Detroit, Mich., April 11, 1899. I have used your CAUSTIC BALSAM for thoroughpin and find it the best remedy. A doctor told me that it could not be cured, but I have given five applications and I find that it has entirely disappeared and the lameness all gone. GEO. W. PASSEE.

The Canadian Pacific Ry. intimate that a Canadian Commission office will be opened at No. 10 Rue de Rome, Paris, during the Paris Exhibition, for the convenience of Canadian visitors, where, upon arrival, they can get information as to living accommodation, etc., and in care of which they can have their letters addressed.

"Bear in mind Western Manitoba's Summer Fair."—The above is the title of a very handsome hanger issued by the Western Agriculture and Arts Association. The directors of the Brandon Fair are this year promising that it will be bigger, brighter and better than ever, and great improvements in grounds and buildings are under way, and the prize list has been considerably enlarged.

A Stubble Burner.—At a Territorial Exhibition held at Regina in 1895, a prize was offered for the best invention for burning fire-guards. This competition set the inventive genius of Edgar Caniff to work, and he invented, constructed and exhibited a machine which was awarded the first prize. After many tests, this machine, however, was not found entirely suitable. With undaunted perseverance, Mr. Caniff stuck to his work, and after many modifications from the original plan, and practical tests with different patterns and devices of machines for burning grass and stubble, he has finally evolved a Stubble Burning Machine which he contends is a success, simple, easily operated, with nothing to get out of order about it, and reasonable in price. The desirability of burning off stubble is acknowledged by every one, and there is no doubt that if this machine will do the work satisfactorily it will be in great demand. A pamphlet has recently been issued by Mr. Caniff, describing his Stubble Burner, a copy of which can be had on application to him at Portage la Prairie.

Hail Insurance Co.—While it cannot be charged that Manitoba and the Territories are particularly subject to severe hailstorms, still, occasionally, damage, and serious damage, is done, and losses seemingly much more liable to storms of this character than others. Every farmer in this western country, where dependence is placed so largely upon the grain crop, values the importance of insurance against hail, provided it can be obtained at a reasonable rate and with ample security.

The Western Canadian Hail Insurance Co. was incorporated last year, with headquarters at Winnipeg, under a plan which gives every assurance of giving the desired security at a reasonable rate. The directorate of the Company is composed of men all more or less closely connected with farming, including, also, several successful business and insurance men well-known throughout the Province as well as locally, and the capital, half a million, is being subscribed very largely by farmers. A scale of rates has been adopted so that the man on a farm not damaged by hail during the preceding 10 years gets a much lower rate than in cases where damage has occurred one or more times. When more than four times in 10 ten years no policy will be granted. These rates are, for an insurance of \$5 per acre, where no hail destructive to crops has fallen for 10 years previous to the application for insurance, the rate charged is 17 cents per acre; where hail has fallen once, 20 cents per acre; where hail has fallen twice, 25 cents per acre; where hail has fallen three times, 35 cents per acre; where hail has fallen four times, 50 cents per acre. There are many other excellent features in the plan adopted by this Company, and intending insurers would do well to secure the prospectus and look carefully into it. Jos. Cornell, until recently agent of the Northern Pacific at Wawanesa, is the manager and secretary, and will doubtless be pleased to furnish any information desired.

Wanted: Farmers' sons or other industrious persons of fair education, to whom \$40 a month would be an inducement. I could also engage a few ladies at their own homes. T. H. Linscott, Brantford, Ont.

THE Very Best

PLACE FOR THE FARMER'S SON TO SPEND THE WINTER MONTHS IS AT THE Winnipeg Business College.

WRITE FOR HANDSOME CATALOGUE (FREE). G. W. DONALD, SECRETARY.

BEEMAN GRAIN CLEANERS ARE THE BEST.



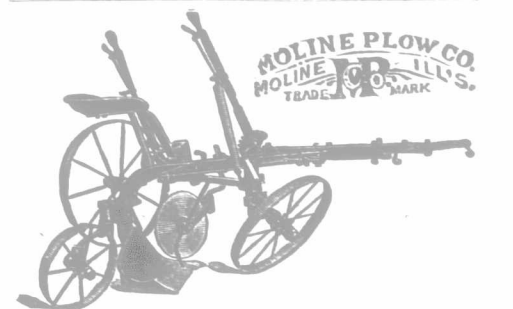
Prices are very low. Write for circulars. BEEMAN & CO., 2802 Pleasant Ave., Minneapolis, Minn.

HORSEMEN! THE ONLY GENUINE IS

GOMBAULT'S CAUSTIC BALSAM.

Your genuine without the signature of The Lawrence Williams Co. Sole Proprietors & Importers for the U.S. & CANADA. CLEVELAND, O.

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blebs from Horses and Cattle, SUPERSEDES ALL CAUTERY or FIRING. Impossible to produce scurf or blenish. Every bottle is warranted to give satisfaction. Price \$1.50 per bottle. Sold by Druggists, or sent by Express, charges paid, with full directions for its use. Send for free descriptive circulars. THE LAWRENCE-WILLIAMS CO., Toronto, Ont.



The Good Enough Sulky Plow CAN NOT BE BEAT.

The Price will please you and its work will surprise you!

Write for illustrated circular. It will pay you. MINNESOTA MOLINE PLOW CO. H. F. Anderson, Agent, Winnipeg, Man.

STAY AT HOTEL LELAND

The Leading Hotel of the West.

ALL MODERN CONVENIENCES. RATES, \$2 to \$4 PER DAY. BUS MKTS ALL TRAINS.

W. D. DOUGLAS, Prop., Winnipeg, Man.

AT THIS OFFICE

207 Dundas St., London, Ont.

YOU can make a profitable investment if you so desire. We have open for subscription the stock of the "Ron Roy" mines, and it is a safe stock and increasing in value. The management is very careful and conservative, and are pushing ahead vigorously with the work, with splendid results, and hope to be able to quit selling stock soon. This is accounted one of the "Good" mines of the Lardeau, and I should be glad to have you write me for particulars if you think of investing.

A. E. WELCH, LONDON, CANADA.

MARK STOCK with Jackson's Always Bright. Can't come out. Ear Tags. JACKSON STOCK MARKER CO. Samples sent free. St. Louis, Mo.

OAKLAWN FARM

as ever, greatly excels all other establishments in the quality and numbers of its

PERCHERONS and FRENCH COACHERS

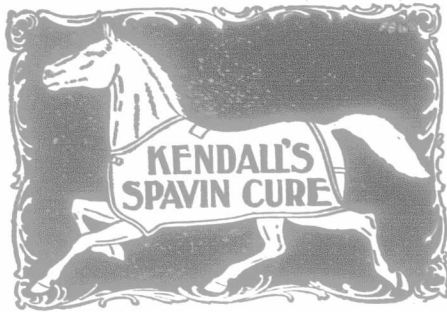
ON HAND: 229 STALLIONS—234 MARES Home bred and imported, including a few CHOICE SHIRES

At the Illinois, Iowa and Michigan State Fairs of 1899, Oaklawn's exhibits in 22 stallion classes won 18 first prizes.

Prices and terms reasonable. DUNHAM, FLETCHER & COLEMAN

WAYNE, DU PAGE CO., ILLINOIS

Don't Guess At Results.



This man knows what he did and how he did it. Such endorsements as the following are a sufficient proof of its merits.

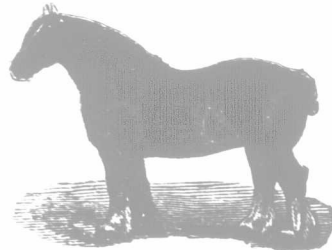
Oshawa, Minn., Feb. 22, 1898. Dear Sirs:—Please send me one of your Treatise on the Horse, your new book as advertised on your bottles, English print. I have cured two Spavins and one Carb with two bottles of your Kendall's Spavin Cure in four weeks.

Price, \$1; six for \$5. As a liniment for family use it has no equal. Ask your druggist for KENDALL'S SPAVIN CURE, also "A Treatise on the Horse," book free, or address DR. J. B. KENDALL CO., ENOSBURG FALLS, VT.

THORNCLIFFE Stock Farm

The largest stud of Clydesdales in Canada, headed by the Champion Stallion of all ages,

"LYON MACGREGOR."



Stallions and Colts

From the best blood in Scotland and Canada. Ayrshire bulls and heifers from imported stock. Jersey heifers and bull calves, sired by the prize-winning bull, Distinction's Golden. Best milking strains, with good teats.

Terms reasonable. A visit to Thorncliffe will well repay you. ROBT. DAVIES, Thorncliffe Stock Farm, TORONTO.

Clydesdale Stallion

FOALED MARCH, 1896. Bay; ratch on face, one white hind pastern. A large, smooth horse, with excellent feet and legs; imported sire and grandam, and descended from prizewinners on both sides.

Jas. I. Davidson & Son, Balsam, Ontario.

SIXTH ANNUAL... Canadian Horse Show

UNDER THE JOINT AUSPICES OF The Canadian Horse Breeders' Ass'n AND The Country and Hunt Club of Toronto, TO BE HELD IN The Armouries, TORONTO, CANADA.

THURSDAY, FRIDAY, SATURDAY, April 26, 27, 28, 1900.

ENTRIES CLOSE on Thursday, April 12th, 1900, and should be addressed to HENRY WADE, Parliament Buildings, TORONTO, ONT.

GOSSIP.

An average of \$275 is reported on 44 head of Shorthorns sold at Chicago, March 27th, being drafts from the herds of Messrs. Forbes, Prather, Bates and Wright and Boyden. The highest price was \$1,000, for Golden Venus 3rd, by Baron Gloster. The highest price for a bull was \$500, for the 10-months calf Golden Link, by Bridgroom, bought by S. E. Prather.

On March 25th, 43 head from the herds of Messrs. Fry, Green Bros., Peak, and Wilson, averaged \$175—Mr. Fry's average for his eight head being \$235; Green Bros.' sixteen averaged \$231. The highest price was \$510, for imp. Lancer.

At Humboldt, Iowa, Mr. E. D. Converse sold 40 head of Shorthorns at an average of \$238.50, the highest price being \$300 for the five-year-old cow, Sweetbriar of Oak Hill, by King James. Cherry Sweetbriar, a two-year-old heifer, brought \$650, and Scotch Pine Sweetbriar \$530; \$465, for Red Gauntlet, was the highest price for a bull.

WM. STEWART & SON'S AYRSHIRES, POULTRY, AND COLLIE DOGS.

At the Menie Stock Farm, at Menie, Ont., we found the usual activity characteristic of Messrs. Stewart & Son along the line of stock production and development.

Since they have got their Ayrshire cows comfortably stalled in their new stables they feel themselves in a stronger position than ever to produce even better stock than formerly; yet, not to the better stabling facilities alone do we look for improvement, for when we passed behind and before the animals we at once recognized that additional matrons had been added.

Sprightly (imp.), the dam of the noted show cow, Jean Armour, has taken quarters here with the imported cow, Primrose of Harper Land, adding greatly to the already long string of worthy matrons. Jean Armour is in full bloom, and her August bull calf is one of the promising things on the farm, tracing, as he does, through the most worthy of Ayrshire pedigrees.

In him is the blood of Glencairn of Burnside, Glencairn of Maple Grove, by Lord Glencairn, in Scotland, while the sire of his dam was the noted Silver King, a pedigree sufficiently strong to attract the best judgment of the leading Canadian importers.

Lady Ottawa and Ayrshire Maggie are also worthy young cows; not only good ones at Menie, but good abroad, or wherever they have had an opportunity of being impartially compared in the leading show-yards.

And this is not all, for we saw Moss Rose, by Douglas of Loudoun Hill, one of the family of four that won the first premium at the World's Fair, Chicago, and was not defeated that year. White Rose, half-sister, out of Nellie Osborne of Menie, a splendid young cow rising 3, with numerous other worthy young matrons giving equal promise.

The firm have employed many splendid sires, and speak with pride and confidence of the sons and daughters of Dainty Lad, Douglas of Loudoun Hill, and the youngsters now arriving from the services of White Chief of St. Anns and Caspian, young sires as full of quality and Ayrshire characteristics as they are rich in up-to-date breeding.

The firm's past showyard success has only stimulated them to greater effort, and we look forward to fully more formidable competition from them with Ayrshires in the future.

In poultry, Mr. Stewart, Jr., has become a recognized factor in the leading poultry shows, and his name has reached beyond the Province as a leader in the more serviceable breeds from the farmer's standpoint, frequently importing sires at great expense from the large English and American pens.

His specialties are the leading varieties of ducks, geese, and turkeys; the different varieties of Brahmas, Game, Minorcas, Wyandottes, Dorkings, Hamburgs, Houdans, Polands, and Leghorns.

Pure-bred collie dogs are also among the firm's specialties, with foundation stock tracing direct to Scotch breeding. Watch the firm's offerings.

NOTICES.

A Strong School.—Twelve regular teachers, with an up-to-date equipment, including sixty machines for typewriting, combine to give strength and prominence to the Central Business College, of Toronto, which is now recognized as the leading commercial school in Canada. The spring term continues from April 2nd into the summer term, which will open early in July, but members are admitted at any time into any department throughout the year. There are no vacations.

McDougall's Dip for Grubs.—S. E. Stone, Guelph, Ont., writes: "Re grub in head of sheep, the following is a sure and tested cure, free from all poisonous materials: Take one part McDougall's Sheep Dip to twenty parts water, mixed in a pail. Hold muzzle of sheep in it for twenty seconds, three or four times, when it will penetrate to all parts of the nostrils and will exterminate the grubs in head. This was tried last year by The F. W. Stone Stock Co. on some of their sheep affected with grub in head, and proved a complete cure when other remedies had failed."

The Study of Breeds.—The new book by Prof. Thos. Shaw, entitled "The Study of Breeds," and included in our Agricultural Library offer elsewhere in this issue, is yet hardly cold from the press. A copy received from the publishers, Orange Judd Company, 32 Lafayette Place, New York, and carefully reviewed, indicates to us that it is a valuable and reliable work on the pedigreed breeds of cattle, sheep and swine now found in America. The author has for some twelve years gathered all the reliable data at command concerning these breeds of stock, now so important to the agriculture of America. The work, of some 400 pages, with nearly 100 full-page illustrations of typical animals, treats of the history and characteristics of each breed, referring to relative size, adaptability, early maturity, feeding and breeding qualities, and uses in crossing and grading. It gives the recognized standards or scales of points, where these exist, and where they do not, standards are submitted. It is a summary or condensation, stated in a manner at once clear, concise and comprehensive. The book will become a valuable addition to many live-stock libraries, where it will prove a reliable guide in a study and comparisons of the various breeds referred to.

DISPERSION OF THE HILLHURST STUD OF HACKNEYS!

Saturday, April 28th, 1900,

Grand's Repository, Toronto, Ont.

The entire famous Hillhurst stud of Hackneys, the oldest-established stud of the breed in America, will be sold at auction. This offering will include the prizewinning stallion, Barhorpe Performer, one of the greatest horses of the breed in the show-yard or stud; brood mares that have won honors on the tanbark, in harness and in the stud, and a superb lot of young show stock, fit for any competition, and including four bay stallions of very superior excellence.

Such an offering of Hackney Horses has never before been made in America.

Sale to commence at 10 o'clock. For catalogue and full information address: M. H. COCHRANE, Hillhurst Farm, Hillhurst, Quebec.

20 - Imported Scotch Shorthorns - 20

2 BULLS, 1 and 2 YEARS OLD; 14 HEIFERS, 2 YEARS OLD; 4 YEARLING HEIFERS.

THIS importation came out of quarantine on the 12th July, and representatives of many of the leading Scotch families are amongst them, including Minus, Brawith Buds, Secrets, Mysies, Beauties, Lady Mays, Lustres, etc. The home-bred herd contains Indian Statesman—23004—, and 15 young bulls from 6 to 18 months old, and 50 cows and heifers of all ages. Registered Shropshires, yearling rams and ewes, ram lambs from imp. Flashlight. Any of the above will be sold at reasonable prices. Correspondence or a personal visit solicited. Catalogues on application.

Burlington Junction Station and Telegraph Office, G. T. R., within half a mile of farm. W. G. PETTIT & SON, FREEMAN, ONT.

H. CARGILL & SON, CARGILL, ONTARIO.

The largest herd of Imported Scotch Shorthorn Cattle in Canada.

SEVENTY-SIX HEAD IMPORTED DURING 1899.

13 BULLS.

63 FEMALES.

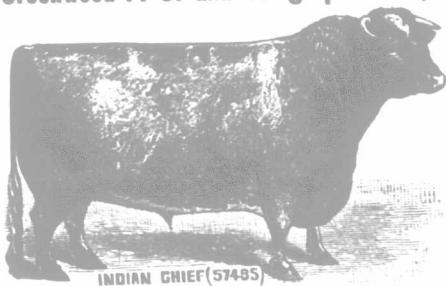
ALL imported females of suitable age bred before leaving Scotland. Catalogue free. Correspondence or personal inspection invited. Address as above, Cargill Station half a mile from barns, on Grand Trunk Ry.; 70 miles north-west of Guelph.

Catalogue Printing our Specialty.

Many of the best Catalogues in Canada are produced by us. Latest type faces, designs, ornaments, and modern machinery.—Best in America. Up-to-date covers designed by special artists without extra charge.

London Printing & Litho. Company, Ltd., LONDON, ONTARIO.

ARTHUR JOHNSTON Greenwood P. O. and Telegraph Office,



INDIAN CHIEF (57455) OFFERS FOR SALE, AT MODERATE PRICES.

13 IMPORTED AND SHORTHORN BULLS HOME-BRED 17 IMPORTED COWS AND HEIFERS 22 HOME-BRED COWS AND HEIFERS

Many of them from imported cows, and by imported bulls. Catalogues on application. Clarendon Station, C. P. R., or Pickering Station, G. T. R.

SPRINGBANK FARM.

Shorthorn Cattle, Oxford Sheep, and Bronze Turkeys. Young bulls for sale. JAS. TOLTON, WALKERTON, ONT.

SHORTHORN BULLS AND HEIFERS

FOR SALE. Cruickshank and other Scotch sort, headed by (imp.) Knuckle Duster. Herd has furnished the Fat Stock Show champion three out of the last five years. Correspondence invited.

Exeter Station, G. T. R., half mile from farm. H. SMITH, HAY, ONT.

BONNIE BURN STOCK FARM

Forty rods north of Stouffville Station, offers for sale (5) five grand young Shorthorn bulls, good breeding and excellent quality, at very moderate prices. Write for what you want. D. H. RUSSELL, Stouffville, Ont.

PLEASE MENTION FARMER'S ADVOCATE.

FOR SALE:

The roan Scotch-bred Shorthorn bull, Golden Robe 20396, By Knight of St. John (17102); dam, Golden Bud (imp.) 23015. Having sold most of my females, I can dispose of Golden Robe. He is sure and quiet. ISRAEL GROFF, Alma, Ont.

W. D. FLATT, Hamilton, Ontario, Can., Importer and breeder of Shorthorn Cattle.



GOLDEN FAME (IMP.)—26056—(72610).

My herd is one of the largest in America, both imported and Canadian-bred. A very choice selection of both sexes always on hand for sale. Personal inspection invited. Address all communications: JAMES SMITH, Mgr., Millgrove, Ont. R. R. Station and Telegraph, Hamilton, on main line Grand Trunk RR.

John Miller & Sons, BROUGHAM P. O. and TELEGRAPH OFFICE,

OFFER FOR SALE...

4 Imported Clydesdale Stallions. 10 Scotch-bred Shorthorn Bulls. ... PRICES REASONABLE.

Clarendon Stn., Pickering Stn., C.P.R. G.T.R. Correspondence Invited.

R. & S. NICHOLSON

SYLVAN P. O., PARKHILL STATION. Scotch Shorthorns, imp. and home-bred. The Imp. Clipper bull, Chief of Stars, heads the herd. Eight extra good 2-year-old heifers for sale, in calf to Chief of Stars (7215). Inspection Invited.

GOSSIP.

Mr. W. G. Pettit, of Freeman, Ont., having sold over 70 head of Shorthorns from his herd since September, left for Scotland April 5th, with a view to making another importation. His address while there, up to May 15th, will be "Waverly Hotel," Aberdeen.

The 1st volume of the Herd Book of Large Black pigs has recently been issued under the supervision of the council of the Large Black Pig Society of Great Britain, of which Mr. Ernest Prentice, 61 Oxford St., Ipswich, is secretary and editor. It is a creditable volume, 106 pages, containing the pedigrees of 632 animals.

At the joint sale of Herefords at Independence, Mo., March 20th and 21st, from the herds of Gudgeon & Simpson, of that place, and H. H. Clough, of Elyria, O., 99 head were sold at very uniform prices, making an average of \$259.15. The highest price for a bull was \$605, for Douglas, by Lamplighter, sold to W. L. Bass, El Dorado, Kan., and the highest for a female, \$650, for Lillian, by Roseland, to Scharbauer Bros., Midland, Texas.

We regret to note the recent death of Mr. Harry L. Goodall, chief editor and publisher of the Drover's Journal, Chicago, Ill., the publication of which he began in 1873, issued as a weekly, semi-weekly, and daily. It proved a most successful enterprise, and we rank it among our most valued exchanges. Deceased was a native of Vermont, where he was born about sixty years ago. A man of the highest ability, he was at the same time upright in character, just and generous in all his dealings, and a model citizen.

At the annual sale of Shorthorns from the herd of Mr. H. F. Brown, Minneapolis, Minn., on March 26th, the 45 animals sold brought an average price of \$342.80, the 35 females averaging \$368.60, and the 10 bulls \$252.50. The champion 7-year-old show bull, Nominee, formerly owned and shown in Canada with much success by Capt. T. E. Robson, M. P. P., was sold for \$510 to Geo. Hornbeck, Mount Sterling, O. The fact that he had been but little used in the herd is said to have told against him in the bidding. The show cow, Spicy of Browndale 1th, sold for \$1,100 to W. I. Wood, Williamsport, O., and was the highest-priced animal in the sale.

George Rice, Currie's Crossing, Ont., reports the sale of the following Holstein cattle: The 2-year-old bull advertised in last issue of the ADVOCATE, to Mr. J. W. VanDyck, Conway, Ont. Mr. Abram Rowand secured a fine bull calf from the great sire, Homestead Albino DeKol; and to Mr. Andrew Bow, Lachute, Quebec, was shipped a fine heifer calf from the same sire; also a 5-month-old bull calf, whose dam is Isoco Pride. Her udder measures 5 ft. 8 in. around when fresh, and she is full sister to Woodland Isoco, that won 2nd in the London test after being in milk 75 days. She is now in the Brookbank herd, along with many other public-test winners. Mr. Thomas B. Carlaw, Warkworth, Ont., ordered a fine bull to head his herd. Enquiries are pouring in from all over. Far-off Newfoundland has just been heard from.

On page 229 of this issue Jas. I. Davidson & Son offer for sale the 4-year-old Clydesdale stallion, Tofly Superior [252], which they describe as a large, smooth horse, with short legs, heavy body, and good action; was exhibited seven times and never beaten. His sire, Tofly (imp.) 2123 (952), was a prizewinner in every competition at the leading shows in Canada, including gold medal at Ottawa. His dam, Kate Hill 2nd, was the winner of twelve medals, several sweepstakes, and gold medals, winning sweepstakes for best mare and two of her progeny at the Toronto Industrial, progeny being Tofly Superior and full brother, Pride of Balsam. Her dam, (imp) Kate Hill, was a prizewinner whenever shown; a superior mare, her sire being young Surprise (1054), who was awarded 3rd prize at the Agricultural Society Show at Glasgow. Tofly Superior's grand sire, Lewis Gordon, was the winner of twelve 1st prizes. He was also awarded the 1st prize at the Industrial, Toronto, as the sire of the best 5 Clydesdales of either sex under 3 years old. Intending purchasers will not be disappointed when they see him.

DEATH OF MR. JOHN BELL.

We regret to have to record the death of Mr. John Bell, of Amber, York Co., Ont., on April 3rd, at the age of 52 years. Mr. Bell was one of the first importers to Canada of Tamworth swine, having made an importation in the year 1889, which is the earliest importation recorded in the Dominion Herd Book for that breed. He was also an extensive breeder and importer of Clydesdale horses, a very large and useful stud of which, as well as a good herd of Tamworths, he kept at "Clydesdale Farm" up to the time of his decease. He was a careful and discriminating breeder, and enjoyed in large measure the confidence and respect of his brother breeders and of all who had dealings with him.

A SCOTCH SHORTHORN FOR IRELAND.

The Rev. Mr. Smith, of Boyle, Connaught, has purchased the grand Sittytan bull, Count Arthur, from Mr. Jolliffe, Stratford-on-Avon. This bull was used for two seasons by Mr. Duthie at Collynie, where he was greatly admired, and where his bull calves made an average of £71 apiece. He comes of the grand Victoria family, his dam, Victoria 8th, being one of the best cows at Bapton Manor. This cow was bred at Sittytan, and she won second prize at the Great York-hire Show in the family class with her daughter, Countess Victoria, her sons, Count Valiant and Count Arthur, all of which were sired by the famous Count Lavender, winner of fifty-three 1st and championship prizes. Count Arthur is in full working order, as he has not been exhibited since he was a year old. Yet he weighs 8 foot 8 inches, and is a straight to the back as a calf. He is almost full bred to the famous Count Victor, who carried all before him at the best shows in England, including 1st at two Royal shows. Mr. Jolliffe writes that he is one of the best bulls in England, and has been used with most satisfactory results. He has 1st prizewinning calves, full of heat and quality, and good cows. A sire with such credentials should prove a great acquisition to Shorthorn interests in the West of Ireland.

SHORTHORN CATTLE AND LINCOLN SHEEP.

Imp. The Baron at head of herd. Seven young bulls for sale—good ones. Also a few females. Stud rams all imported from H. Dudding, Esq.; the same blood as the 1000-guinea ram.

J. T. GIBSON,

om DENFIELD, ONT.

Scotch Shorthorns FOR SALE.

100 head to select from: 15 grand young bulls by Valkyrie = 21896, and cows and heifers of all ages, of the most approved breeding, served by (imp.) Diamond Jubilee = 28861, now at the head of our herd.



T. DOUGLAS & SONS, Strathroy Station and P. O. Farm 1 mile north of the town.

Hillhurst Farm.

ESTABLISHED 1861.

Scotch Shorthorns.

SIRE IN SERVICE:

Scottish Hero and Joy of Morning.

BRED BY W. DUTHIE, COLLYNIE.

Oldest Stud of Hackneys in America. Shropshire, Dorset Horn and Hampshire Down Sheep.

M. H. COCHRANE.

Hillhurst Station, Compton Co., P. O.

SCOTCH SHORTHORN BULLS AND HEIFERS

HERD ESTABLISHED IN 1872.

Such sires as imported Royal George and imported Warfare have put us where we are. Imported Blue Ribbon now heads herd.

A. & D. BROWN,

ELGIN COUNTY, IONA, ONTARIO.

5 SHORTHORN BULLS

Of the most noted Scotch families, and choice individuals. For prices and particulars write

SHORE BROS.,

White Oak.

3 Shorthorn Bulls for Sale: 13 months to 16 months old; color, red; big, sappy fellows.

Also a few cows with calves at foot.

JOHN MCKENZIE, Keward.

3 miles from Chatham Station, C.P.R.

FOR SALE.

Seven Shorthorn Bulls, from 8 to 16 months. Also eight Shorthorn heifers by Red Stanley; bred by J. & W. Russell, Richmond Hill; dam Roan Princess (imp.), the dam of Lord Stanley, Russell's World's Fair champion. Apply—

A. MONTAGUE, Thamesford, Ont.

Thamesford Station, C. P. R., 3 miles.

SHORTHORNS

I have six young females for sale—three are in calf and three old enough to be bred. These heifers have four or more crosses of the finest Booth sires, on imported Marr and Gordon Castle foundation, a desirable and needed line of breeding.

D. ALEXANDER, Bridgen, Ont.

JAS. DORRANCE,

SEAFORTH, ONTARIO.

BREKDER OF

Shorthorn Cattle and Berkshire Pigs

Young stock always for sale.

Glover Leaf Lodge HERD OF Shorthorns

A number of choice young bulls, heifers and cows, excellent milking strains. Correspondence invited. R. CORLEY, Helgrave P. O., Ont., and G. T. R.: Wingham, C. P. R.

J. & W. B. WATT,

Salem, Ont.

Offer for sale the four-year-old imported Clydesdale stallion,

Heather Bloom (10203),

and

Six Shorthorn Bulls

Fit for service.

Elora Station, C. P. R. and G. T. R.

Maple Lodge Stock Farm

ESTABLISHED 1854.

SHORTHORNS An excellent lot of young bulls, and a special value in young cows and heifer in calf to our imported Knuckle Duster.

LEICESTERS Imported and home bred—the best.

ALEX. W. SMITH,

MAPLE LODGE P. O., ONT.

PLEASE MENTION FARMER'S ADVOCATE.

AN ENGLISH JERSEY SALE.

Thirty yearling Jerseys, heifers and bulls, from the herd of Mrs. McIntosh, Havering Park, were sold by auction, March 30th, making an average of \$295 each. The highest price was \$400, for Havering Buttercup 3rd.

DISPERSION SALE OF HILLHURST HACKNEYS.

The catalogue of Hon. M. H. Cochrane's registered Hackneys to be dispersed at auction at Grand's Repository, Toronto, on the morning of Saturday, April 28th, the last day of the Canadian Horse Show, is issued, and shows that a magnificent stud is to be disposed of. This sale will include the best lot of Hackneys ever offered in Canada at auction. The imported stallion, Barthorpe Performer, illustrated in this issue, the king of the sale, is not only a celebrated showing winner, having won 1st prizes at the New York Horse Show, the Toronto Spring Show, and the Industrial Exhibition, but comes of stock not excelled in Britain, being sired by and ranking as one of the best sons of the noted Garton Duke of Connaught, illustrated in the April 5th issue of the FARMER'S ADVOCATE, who has succeeded in securing the premier Hackney sire of Great Britain, who also sired the stallion, McKinley, winner of first and championship at the London (Eng.) Hackney Show, 1900. The offerings also include the stallions: Matchless Performer, by Barthorpe Performer; Majestic 2nd, by Hay-ton Shales; Everingham, by Hillhurst Sensation—all of which are two-year-olds of promise. The females offered include the three imported mares, Lady Lynn, Nancy, and Cameo, in foal to famous English stallions, and a number of others of exceptional quality and breeding, from six years old down to a single yearling, five of them being three-year-olds. This great sale offers exceptional opportunities to secure the best class of stock of a very desirable breed of increasing popularity. Read Hon. M. H. Cochrane's advertisement, and attend the sale on April 28th, in Toronto, the last day of the Horse Show. Owing to a mistaken order, this sale was wrongfully advertised in our last issue to take place on Tuesday, April 17th.

SPLENDID SALES FROM THE PETTIT HERD.

W. G. Pettit & Son, of Freeman, Ont., under date of March 26th, write us that they have had a very active demand for Shorthorns during the last two months and have made the following sales: To Robert Miller, Stouffville, Ont., four young bulls for the Canada Pacific Railway Co.; one young bull, 11 months, to Farmers' Club, Quebec; To J. R. Robinson, Manion, Ont., two 3-year-old cows, Strawberry Beauty and Red Cherry; To T. A. McClure, Meadowdale, Ont., the 12-month-old bull, Favorite, by Indian Statesman, a thick, sappy fellow that should come out a good one; To Albert Lough-wood, Churchville, Ont., the 8-year-old cow, Minnie Aldershot, a good breeder and an excellent milker; To S. J. Menzies, Kirkwall, Ont., Red Knight, a very promising young bull by Indian Statesman, from Minnie Aldershot; To W. H. Little, Trenton, Ont., the 8-month-old bull calf, Rising Star, by Indian Statesman, from Mara 17th; To R. & J. Featherston, Flamboro Centre, Ont., Monitor, a straight, smooth young bull, got by Indian Statesman; To T. E. Adams, Cresco, Ind., the yearling roan bull, Indian Laird, by Indian Statesman, and five straight, smooth young cows with three young calves by their side; a very profitable bunch. Many buyers will walk right by a nice, smooth, young cow, a little thin in flesh, with a good calf 2 or 3 months old by her side, and bred again to a valuable sire, and buy a fat heifer that nobody knows how she will breed. Adams is not one of this kind; he buys the kind that there is no risk in. To F. D. Harding, Martin, Mich., we sold Gloster Chief, by Lord Gloster, out of Mina Buckingham, of the Cruickshank Buckingham family; To J. M. Haymaker, Charlestown, Ind., Challenger, by Lord Gloster, a Cruickshank Duchess of Gloster, by the celebrated Abbotsford, out of Village Blossom, dam of Young Abbotsford, the champion over all best breeds at the World's Fair, Chicago; To Taggart Bros., Vesta, Ind., Craibstone's Heir (imported in dam), by Nobility, winner of first prizes at Aberdeen Show, 1898, out of Craibstone's Beauty (imp.), by Craibstone, by William of Orange, one of the most noted stock bulls in Great Britain. This young calf should make his mark. To C. E. Bladgett, Marshfield, Wis., the imported Mahabala Chief, one of our best bulls. We had received many tempting offers for him, but we put on a long price to keep him; but Mr. Bladgett, who has a large herd of good Shorthorns, said: "He suits me, and I am not going to look further and come back after he is sold to someone else." The price is no secret—\$1,000—straight. We also sold to Mr. Bladgett five choice imported 2-year-old Scotch heifers belonging to the following popular Scotch families: Urvys, Cecilias, Stamfords, Miss Ramsdens, and Crimson Flowers. To Messrs. Kains & Lee, Hartwick, Iowa, imported bull, Red Light, and fourteen imported heifers with six young calves by their sides. In making this purchase Messrs. Kains & Lee will take their place in the front rank as breeders of Scotch Shorthorns in the United States. Imported Red Light was got by Captain Ripley, by Captain of the Guard, and out of Red Lady 18th, by the celebrated William of Orange, and belongs to the noted Gordon Castle Lustre tribe. The fourteen heifers are a smooth, even, uniform lot, and belong to the following popular Scotch families: Brawith Buds, Minas, Beauties, Lady Annies, Lady Marys, Mysies, Maudes, Minervas, and Matildas. Six young calves go with this lot, all imported in dam. To Mr. W. J. Bartow, Saginaw, Mich., three choice heifers and young bull calf, Mara 18th and Roan Beauty, both got by Indian Statesman, and Gloster 3th, by General, dam Gloster 6th, by Earl of Moray, the sire of the great show bull, Nominee. To Mr. John McAvoy, Ready, Saginaw Co., Mich., the yearling bull, Golden Eagle, by Nelson, he by Strathallan Lad, a prizewinner at Toronto, and three excellent dairy Shorthorn cows with two young calves by their sides: the paying kind. To Mr. E. E. Ellison, of Layton, Davis Co., Utah, near Salt Lake City, the grand young 5-months calf, Scottish Statesman, by Indian Statesman; To Mrs. C. a choice 3-year-old red heifer of the favorite old family bred at Kinellar, and four good Scotch topped yearling and 2-year-old heifers. This makes 70 head of Shorthorns sold from this herd since September, but we still have a herd of over 60, and can give good bargains yet.

CANCER CURED WITHOUT KNIFE OR PLASTER. FULL PARTICULARS FREE. F. STOTT & JURY, Bowmansville, Ont.

HAWTHORN HERD OF DEEP-MILKING SHORTHORNS. We are offering 5 young bulls for sale, of first-class quality, and AI breeding. Wm. Grainger & Son, - Londesboro, Ont.

40 HEREFORDS Bulls, Cows, and Heifers, for immediate sale.

Alfred Stone, 5 Douglas St., GUELPH, ONT.

F. W. STONE ESTATE, GUELPH, ONTARIO.

The first Hereford herd established in Canada by importations in 1859 of the best prizewinners of England, followed by repeated further importations, including winners of first prize at Royal Agricultural Show. Choice young Hereford Bulls for sale. Also McDougall's Sheep Dip and Cattle Wash, fresh imported, non-poisonous and reliable; thoroughly tested by over forty years' use on farms of above estate.

Advertisement for Windsor Salt Co. (LIMITED), WINDSOR, ONT. Includes text: "You can't do it. YOU CAN'T MAKE GOOD BUTTER OR CHEESE WITH COMMON, IMPURE SALT. IT PAYS TO USE THE BEST, AND THE BEST IS Windsor Salt... THE USE OF WHICH IMPROVES FLAVOR AND KEEPING QUALITY. THE WINDSOR SALT CO. (LIMITED), WINDSOR, ONT."

THE developments taking place in the Lardau (Kootenay, B. C.) are marvellous. One eminent mining engineer from the Transvaal, who has carefully gone over the mines of Kootenay, says the Transvaal "Simply isn't in it" with our country. "Rob Roy" is a safe investment. Get particulars. A. E. WELCH, Safe Mining Stocks, LONDON, ONT.

Advertisement for Fleming's Lump Jaw Cure. Includes image of a cow's head and text: "FLEMING'S LUMP JAW CURE LUMP JAW QUICKLY CURED. A case of lump jaw in your herd means immediate loss; it may mean the infection of the rest of your herd; it may result in the distribution of the germs all over your pastures. All loss and danger can be positively averted by prompt use of Fleming's Lump Jaw Cure. The only radical cure known. Is endorsed by the most prominent ranchers and shippers of the continent. Easy to use. Is applied externally. One to three applications cure. Leaves jaw sound and smooth. Cannot harm in any way. One bottle usually cures two or three ordinary or one severe case. Price \$2.00. Sold by druggists. Can be sent anywhere by mail. Money cheerfully refunded if the remedy ever fails. FREE—Some important reports and an illustrated treatise on Lump Jaw. Write for them. FLEMING BROS., Chemists, St. George, Ont."

Advertisement for Calvert & Dwyer Co's Wool. Includes text: "CALVERT & DWYER CO'S WOOL TORONTO, CANADA. Write us before selling your wool. It will pay you."

Nursery Stock

can be made more profitable by forcing rapid growth so as to bring the trees into market a year earlier. This is done by the judicious use of

Nitrate of Soda

in combination with other agricultural chemicals upon the young trees. Rapid, healthy and certain growth assured. Try it. Write for free pamphlets to **John A. Myers, 12-R John St., New York.** Nitrate for sale by fertilizer dealers everywhere.

Write at once for List of Dealers.

SPRING GROVE STOCK FARM

Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by Topsyman = 17847 =, champion at Winnipeg, Toronto, London and Ottawa, 1898. High-class Shorthorns of all ages for sale. Also prizewinning Lincolns. Apply

T. E. ROBSON, Ilderton, Ont.

5--Shorthorn Bulls--5

From 9 to 15 months. Also a few choice yearling and 2-yr.-old heifers, among which are grand, thick-fleshed and choicely-bred animals, mostly solid red colors. Speak quick, for they will not last long.

STOFFVILLE STATION, **G. A. BRODIE, G. T. R., BETHESDA, ONT.**

SCOTCH SHORTHORNS and BERKSHIRES.

Choice young bulls and heifers for sale. Also Berkshire pigs of the most approved breeding. Meadowvale St'n, C.P.R. Six miles from Brampton, G.T.R. **S. J. PEARSON & SON, Meadowvale, Ont.**

Kicking Cows.

Stop your cows kicking, increase the flow of milk by the use of

SORE TEAT SALVE.

Positively prevents chapped teats, warts, and caked lag or udder. Price, 25c., 50c., and \$1. per tin.

WM. MOLE, Veterinary Surgeon,

443 Bathurst St., TORONTO.

2 Thoroughbred **Hereford Bulls** for sale—1 and 2 years old. **W. R. COLEMAN, "Oakdale Farm," Cookstown P. O., Ont.**



75 HEAD
High-quality, Early maturing
Herefords
Prizewinners, Producers of Money-makers in the feed lot.

The blood of "Corrector," "Eureka," "Ancient Briton," and "Rupert," on an "Anxiety" foundation. Send for illustrated catalogue.

H. D. SMITH, COMPTON, QUE.

Wm. Willis, NEWMARKET ONT.

—BREEDER OF—
Jersey Cattle (St. Lamberts). Some fine young bulls for sale at farmers' prices, if taken at once. Also Cotswold sheep.

GLEN ROUGE JERSEYS.

WILLIAM ROLPH, Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lamberts), out of tested cows. Grand individuals. Prices right.

BRAMPTON JERSEY HERD.

Brampton's Monarch (imported), Canada's champion bull, 1898, heads the herd, which numbers 75 head. Now for sale, high-class cows and heifers in calf, heifer calves, and 6 extra choice young bulls, sired by Monarch, the best we ever saw. They are from tested show cows. A few high-grade springers.

B. H. BULL & SON, BRAMPTON, ONT.

FOR SALE:

A prizewinning Jersey bull, Rioter of Glen Ross (52607), sire of Campbellford 2nd (34753), dam Rioter Floss (76788); granddam Olive St. Hillier (41963), bred by Mrs. E. M. Jones. A fine animal in every respect. Will sell cheap to prevent inbreeding. Also two bull calves, 2 months and 11 months old. Write for prices.

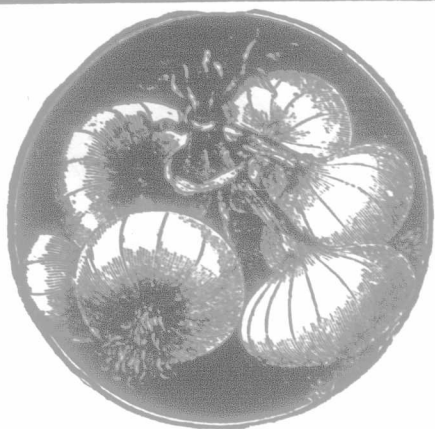
E. W. Brooks, Trent Valley Stock Farm, Glen Ross, Ont.

PLEASE MENTION FARMER'S ADVOCATE.

SEEDS for 25c.

Any 12 Varieties—Regular 5 cent Packages—Money Refunded if not Satisfactory.

- | | | |
|--|-------------------------------------|----------------------------------|
| VEGETABLES.
(Order by Number.) | 12—Herbs, Marjoram. | 22—Squash, Hubbard. |
| 1—Beet, Eclipse, Round. | 13—Lettuce, Nonpareil (Cabbage). | 23—Tomato, Extra Early Atlantic. |
| 2—Beet, Egyptian, Flat-round. | 14—Lettuce, Denver Market (Curled). | 24—Tomato, Dwarf Champion. |
| 3—Cabbage, Winningstadt. | 15—Musk Melon, Extra Early. | |
| 4—Cabbage, Fottler's Brunswick. | 16—Water Melon, Early Canada. | FLOWERS. |
| 5—Carrot, Half-long, Scarlet. | 17—Onion, Large Red, Wethers- | 25—Asters, Mixed. |
| 6—Carrot, Oxheart, or Guerande. | field. | 26—Mignonette, Sweet. |
| 7—Cucumber, Chicago Pickling. | 18—Onion, Yellow Globe, Danvers. | 27—Pansy, Mixed. |
| 8—Cucumber, Long Green. | 19—Parsnip, Hollow Crown. | 28—Petunia, Mixed. |
| 9—Celery, Golden Self-Blanching. | 20—Radish, French Breakfast. | 29—Nasturtiums, Tall Mixed. |
| 10—Herbs, Sage. | 21—Radish, Rosy Gem, White Tipped. | 30—Sweet Peas, Fine Mixed. |
| 11—Herbs, Savory. | | 31—Wild Flower, Garden Mixed. |



NO. 18—ONION YELLOW DANVERS.

FREE Providing this coupon is CUT OUT and sent to us with an order for 12 packets, we will include 1 packet New Giant Yellow Sweet Sultan—Price 25c.—FREE OF CHARGE TO "ADVOCATE" READERS.

WM. RENNIE, TORONTO. BY MAIL, POSTPAID. ORDER TO-DAY.

GOSSIP.

J. M. Gardhouse, Highfield, Ont., writes: "Horses, cattle and sheep have all wintered well. Sales have been good and prices encouraging. Our Leicesters last season were sent to Nova Scotia, Quebec, Manitoba, United States, and most all over Ontario. Our crop of lambs is very promising both in numbers and quality. In Shorthorns, some of the recent sales are: To Mr. J. T. Gibson, Denfield, Ont., (imp.) Prime Minister, bred by Wm. Duthie. To Mr. John Campbell, Woodville, Ont., Minister, sire Prime Minister, dam Fairy Fame, a half-sister to St. Valentine. To Mr. W. E. Robinson, Missouri, Violet of Highfield and Fairy Flower, sired by the Missile bull, Scottish Pride, whose dams were by Imp. Guardsman and bred to Prime Minister; Wimple of Highfield, by Prime Minister, grandam Imp. Wimple; Claret of Highfield, grandam Imp. Clate, sire Prime Minister; Crimson Floss, sire Prime Minister, dam Crimson Flower, one of the old Crimsons Flowers that has produced so many good ones. These were five choicely bred heifers, and should do Mr. Robinson good. Mr. W. J. Mooney, Iversness, Que., got a very promising Scotch calf of the Clementine family, and several others have been sent to Manitoba and Ontario. Imported Darnley, now 18 years old, is as fresh as a 10-year and his stock is the right kind. Our new purchase, King of Clydes, imp. by Mr. Dalgely, a Clyde rising 3 years old, gives great promise. He is one of the big ones with good legs and lots of quality. He now weighs over 1,900 lbs.

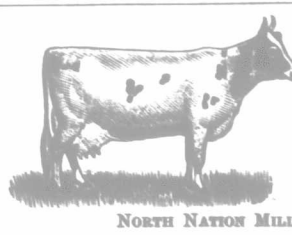
SNELGROVE BERKSHIRES and COTSWOLDS.
Snell & Lyons, Snelgrove, Ont., in ordering a change in their advertisement, write that they have a grand lot of young sows for sale, due to farrow in April and May, and are ready to book orders for pairs not skin of either fall or spring litters. Cotswold yearling rams and ewes are also offered for sale. The breeding and quality of the Snelgrove herds and flocks rank among the best on the continent, being long established and kept well up to date.

THE BIRMINGHAM SHORTHORN SHOW AND SALE.

At the English show and sale of Shorthorn bulls at Birmingham, March 7th, the first day's offerings made prices far in advance of those made at the Scotch spring sales, 175 bulls averaging £46, and Mr. R. H. Dyke's Duke of Barrington 53rd, a Bates-bred bull, with a dash of Scotch through Western Lad, making the great price of 510 guineas, or \$2,625. He was the first-prize winner in the class for bulls over 10 and not exceeding 20 months, known as the 550 class on account of the handsome prize money offered by the Society. The purchaser was Mr. Miller, for South America. Mr. J. Gowling's Cock of the North, first prize in class over 15 and under 18 months, was the second highest priced bull, going at 260 guineas to Mr. Miller. Mr. J. W. Barnes' Masterpiece, the fifth-prize winner in the class over 21 months and under 30 months, was the next highest priced bull, going at 250 guineas to Mr. MacLennan, for Buenos Ayres. Lord Lovat's second-prize calf in the young class, Encombe, went to Mr. Miller at 210 guineas. Nine others brought from 100 guineas to 215 guineas each.

AYRSHIRE HERD BOOK—THE ROSS PEDIGREES REINSTATED.
At the annual meeting of the Canadian Ayrshire Association, held in Toronto, February 6, 1900, "the Revising Committee was pleased to be able to report that the pedigrees that have been suspended so long, commonly known as the Ross cows, Bonnie Dundee, Lady of the Lake and Prince Arthur pedigrees, with all their crosses, have been accepted both in the American Herd Book and in our own. They can now all be reinstated at a charge of \$1.00 per pedigree for those that were recorded before amalgamation. This charge is made by the Finance Committee on account of the expense incurred in investigation and the registration of Bonnie Dundee in the American Herd Book. The charge for recording their progeny will be the ordinary rates."

Officers Elected for 1900.—President, A. Kains, Byron; First Vice-President, W. F. Stephen, Trout River; Vice-President (Ontario), J. C. Smith, Hintonburg; Vice-President (Que.), Hon. Wm. Owens, Montreal; Vice-President (Manitoba), George Steel, Glenboro; Vice-President (Assiniboia), C. W. Peterson, Regina; Vice-President (British Columbia), F. G. Boyer, Georgetown; Vice-President (Nova Scotia), C. A. Archibald, Truro; Vice-President (New Brunswick), M. H. Parlee, Sussex. Directors (Ontario)—Wm. Stewart, Jr., Menie; W. W. Ballantyne, Stratford; A. C. Kains, Byron; R. S. Brooks, Brantford; J. C. Smith, Hintonburg; A. Hume, Burnbrae; F. W. Hodson, Ottawa; Directors (Quebec)—Robt. Ness, Howick; John Morrin, Belle Riviere; Nap. Lachapelle, St. Paul d'Hermite; T. D. McCallum, Danville; W. F. Stephen, Trout River; A. Drummond, Petite Cote; R. Hunter, Maxville, Ont.



W. C. Edwards AND COMPANY.
IMPORTERS AND BREEDERS
Laurentian Stock and Dairy Farm,
NORTH NATION MILLS, P. Q.

Ayrshires, Jerseys, Shropshires, Berkshires.

Our excellent aged herd of Ayrshires is headed by our noted imported bull Cyclone. Tam Glen heads the young herd, and Fawn's Son 2nd of St. Anne's heads the Jerseys. The young stock are all from time-tried dams.
A. E. SCHRYVER, Manager.
We can be reached either by steambot, the C. P. R., or C. A. R.; the C. A. R. making connection with the G. T. R. at Coteau Junction. Rockland is our station on all lines. 7-1 y-om



Pine Grove Stock Farm,
ROCKLAND, ONTARIO.

Scotch Shorthorns and Shropshires.

The imported Missie bulls, Marquis of Zenda and Scottish Pride, at the head of herd, assisted by British Knight. We have a few extra good young bull calves that will be ready for the coming season.
JOS. W. HARNETT, Manager.

Ayrshires, Guernseys, Yorkshires and Shropshires are our leaders.

ALL high-class, pedigreed stock. Those desirous of purchasing thoroughbred animals should write for particulars at once. Orders booked now in rotation for present and future deliveries. Address—

ISALEIGH GRANGE FARM, Danville, Quebec.
J. N. GREENSHIELDS, PROP. T. D. MCCALLUM, MGR.

AYRSHIRES and YORKSHIRES.

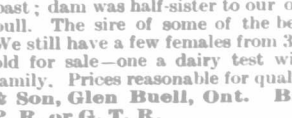
We now offer 2 yearling bulls cheap to make room for young calves. A Sept. and Oct. bull calves. We also offer several light-colored bull calves, dropped Feb and Mar., at low prices, rather than keep them over. We can still spare a few females in young cows, heifers or heifer calves. In Yorkshires we offer one two-year-old boar, one 11 months old, two 6 months old, and young pigs of either sex. All good ones. If you are in need of any above stock, write us and we will quote you lowest prices. Correspondence solicited.
Hoard's G.T.R. St'n. **ALEX. HUME & CO., Menie P.O., Ont.**



Maple Glen Stock Farm.
Special Offer: An August bull calf, sired by Gem Pieterje Hengerveld Paul DeKol, a rich bull, bred by President Matteson, Utica, N. Y. Has for dam the sweet show heifer, Gilly Flower 2nd, an undefeated winner in 1898 as a yearling, also 1st Ottawa and 2nd Toronto, 1899, as a two-year-old, where she was also a member of sweepstake aged herd. She gave over 50 lbs. milk per day on show grounds as a two-year-old. Also a bull two years old past; dam was half-sister to our old stock and show bull. The sire of some of the best in world to-day. We still have a few females from 3 months to 6 years old for sale—one a dairy test winner, of the Teake family. Prices reasonable for quality. **C. J. Gilroy & Son, Glen Buell, Ont. Brockville, or C. P. R. or G. T. R.**



3 Holstein-Friesian Yearling Bulls FOR SALE.
Prices right. Apply to **WILLIAM SUHRING, Sebringville, Ont.**



WE WANT TO SELL A FEW
Holstein Heifers, coming 2 years
THEY are of the richest and largest producing strains, fine individuals, and bred to as good bulls as there are living. We have a few bull calves and yearling bulls also for sale.
HENRY STEVENS & SONS, LACONA, OSWEGO CO., N. Y.



BROOKBANK
Is headquarters for Holstein bulls. They are going fast; be quick if you want one. In writing, state age, etc., preferred.
GEO. RICE, Currie's Crossing, Ont. Oxford Co.




Still at the Front, and Second to None. Are the Ayrshires, Berkshires, Shropshires, and B. P. Rocks bred at Meadows Farm. We offer for sale 2 yearling Ayrshire bulls, 1 three years old, and 4 calves under 6 months; females from 1 week up to 19 years old. Shropshire pairs not akin. A grand stock of young Berks., and our usual number of B. P. Rock eggs. Order soon, as the demand is great.
J. YUILL & SONS, Props., Carleton Place, Ont.



AYRSHIRES FOR SALE.
The kind that can speak for themselves. Size, constitution, dairy and show combined. Six young bulls for sale, by Glencairn 3rd (imp.), dam Primrose (imp.). Five from Napoleon of Auchinbrain (imp.). Their dams are all Glencairn heifers. Five of their dams were shown last fall at Toronto, London, and Ottawa. Also a few good cows. No culls sold.
JAMES BODEN, TREDINNOCK FARM, STE. ANNE DE BELLEVUE, QUE.



THE ANNANDALE FARM Holstein-Friesians.
For sale, after careful selection from my thoroughbred and grade bull calves, ages from 1 to 15 months old, from cows averaging 10,000 to 15,000 lbs. milk per year and testing 3 1/2 to 4 1/2; sired by the grand bull, **COLANTHUS ABBEKERK** 2nd, winner of 1st prize at Toronto, Ottawa, and London, as yearling. Prices reasonable.

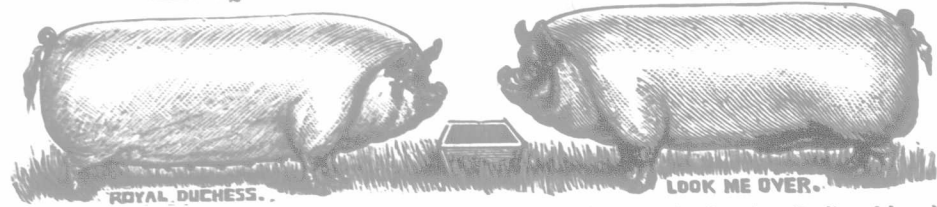


E. D. TILLSON, Proprietor, Tilsonburg, Ont.
MAPLE HILL HOLSTEIN-FRIESIANS
Three Yearling Heifers, sired by Colanthus Ablekerk 2nd, and in calf to Daisy Teake's King brother to Daisy Meake's Queen, the great test and show cow.
Three Bull Calves, sired by De Kol 2nd's Paul De Kol Duke, the great butter bred bull; dams, the fine show cows, Lady Akkrum 2nd, Cornelia Artis, and Madge Merton.

G. W. CLEMONS, St. George, Ont.

Summer Hill Herd

HEADQUARTERS FOR THE IDEAL BACON HOG.



The largest herd of pedigreed Yorkshires of the large English type in Canada. Purity of breed, size, and general excellence is my motto. One hundred awards with one hundred and five exhibits at 7 shows in 1899. A choice selection of young boars and sows of all ages for sale; also boars fit for service, and pregnant sows. Fifty breeding sows, of which 25 (twenty-five) are imported; also three imported stock boars bred by such noted breeders as Sanders Spencer and Philo L. Mills. Am also using two Canadian-bred stock boars, first prize at Toronto in 1898-99. Express charges prepaid. All stock carefully shipped and guaranteed as described. Telephone, Millgrove, Ont. Telegraph 254 Bay St. S., Hamilton, Ont. **D. C. FLATT, MILLGROVE, ONT.**

4 AYRSHIRE BULLS 4

Sired by Beauty Style of Auchinbrain (imp.), whose dam gave 72 lbs. milk in one day, and out of high-producing dams. **R. S. BROOKS, Brantford, Ont.** Formerly T. Brooks & Son.

Maple Cliff Dairy and Stock Farm

Ayrshires and Tamworths for Sale: 1 yearling and 5 fall calves, and a number of heifers. Five Tamworth boars, fit for service, and 40 fall pigs.

R. Reid & Co., Hintonburg, Ontario.

Ayrshire Bull Calves of 1899

One bull 5 months and young calves 2 to 3 weeks, from some of our best imported cows. Will sell at reasonable prices. Address:

ROBT. HUNTER, Manager to W. W. Ogilvie. LACHINE RAPIDS, QUE.

EUROPEAN ADVERTISEMENTS.

HAMPSHIRE DOWN SHEEP.

GREAT ENGLISH

Pedigree Sales

July, August, and September, 1900.

WATERS & RAWLENCE, Salisbury, Eng. Will sell by auction during the season upwards of

50,000 PURE-BRED EWES, LAMBS and RAMS,

Including both rams and ewes from the best registered prizewinning flocks in the country. Commissions carefully executed. Address:

Waters & Rawlence SALISBURY, ENGLAND.

W. W. Chapman,

Secretary of the National Sheep Breeders' Association, Secretary of the Kent or Romney Marsh Sheep Breeders' Association, and late Secretary of the Southdown Sheep Society.

Pedigree Live Stock Agent, Exporter and Shipper. All kinds of registered stock personally selected and exported on commission; quotations given, and all enquiries answered.

Address: **FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W.** Cables—Sheepcote, London.

FAIRVIEW SHROPSHIRE RAMS.

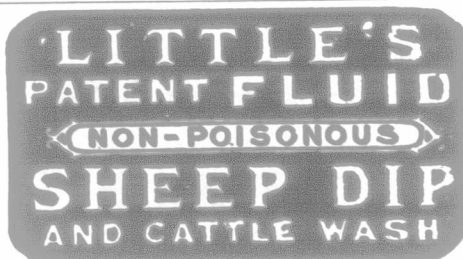
From the greatest winning flock in Canada. Excellent rams to head flocks offered. Good individuals by leading winners.

Different combinations of "Newton Lord," "Fair Star," "Montford Dreamer," and the \$1200 "Ruddington Eclipse" blood freely found in the offering. The four most famous Shropshire rams known. Blood will tell! It pays well to have the best. **JOHN CAMPBELL, Woodville, Ont., Can.**

April Offering: Yorkshires, Shorthorns

A number of improved Yorkshires ready for service, of the bacon type, also sows ready to breed, not skin pressed, for immediate shipment, or at an hour's notice, and from sows sown in the spring and skin. Also four choice Shorthorn bulls of high breeding, of the fleshy early maturing sort. Address:

H. J. DAVIS, BOX 290, WOODSTOCK, ONT. PLEASE MENTION FARMER'S ADVOCATE.



THE ORIGINAL Non-Poisonous Fluid Dip

Still the favorite dip, as proved by the testimony of our Minister of Agriculture and other large breeders.

For sheep. Kills ticks, maggots; cures scab; heals old sores, wounds, etc., and greatly increases and improves growth of wool.
Cattle, horses, pigs, etc. Cleanses the skin from all insects, and makes the coat beautifully soft and glossy.

Prevents the attack of Warble Fly. Heals saddle galls, sore shoulders, ulcers, etc. Keeps animals free from infection.

No danger, safe, cheap, and effective Beware of imitations.

Sold in large tins at 75 cents. Sufficient in each to make from 25 to 40 gallons of wash, according to strength required. Special terms to breeders, ranchmen, and others requiring large quantities.

SOLD BY ALL DRUGGISTS. SEND FOR PAMPHLET.

Robert Wightman, Druggist, Owen Sound. Sole agent for the Dominion.

Shropshire Rams and Ewes

Newly imported from the greatest English breeders. Home-bred rams and ewes of best quality. Scotch Shorthorns and Clydesdale horses for sale at moderate prices, and in large numbers, by

ROBERT MILLER, STOUFFVILLE, ONT.

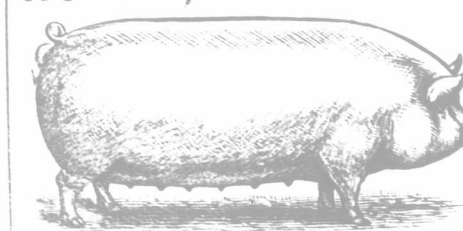
DUROC-JERSEY SWINE.

We have a fine lot First-Class Stock of all ages and either sex. Address, **TAPE BROS., Ridgetown, Ont.**

SNELGROVE BERKSHIRES AND COTSWOLDS.

We have several young boars fit for service, of choice quality. We have a grand lot of sows to farrow in April or May, and will be prepared to supply pairs or trios not akin. Now is the time to order. Our Cotswolds are of the highest class. Can supply yearling rams and yearling ewes. Write for prices. **SNELL & LYONS, SNELGROVE, ONT.**

We lead, others follow.



Oak Lodge Yorkshires have a special type of their own, and are acknowledged to be the highest class of bacon hogs. Grand sweepstakes over all other breeds, and for dressed carcasses at Provincial Water Show. Won all head prizes offered at the Agricultural Exhibition.

Buyers are invited to secure some of our best class quality. Our motto: All stock truly guaranteed. **Brethour & Saunders, Burford, Ont., Can.**

Concrete Piggeries

AND HENHOUSE

of Mr. Frank Lockwood, Delaware, Ontario.

Built With THOROLD CEMENT



HENHOUSE AND PIGGERY, 16 x 20 FEET.—Wall, from foundation to peak, built with Thorold Cement, also floors. Walls 11 feet high at eave, 9 in. thick; also cement troughs.

PIGGERY.—Basement walls, floors and troughs built with Thorold Cement, 20 x 40 x 8 feet, one foot thick.

READ WHAT MR. LOCKWOOD SAYS:

ESTATE OF JOHN BATTLE, THOROLD, ONT.:
Gentlemen.—I used your Thorold Cement in building my piggeries. It gave the best of satisfaction, and I recommend it to all who intend building. Yours truly, **FRANK LOCKWOOD.**

Estate of John Battle, Thorold, Ontario.

THE NATIONAL FARM Cream Separator

Manufactured by the Raymond Mfg. Co. of Guelph, Limited, manufacturers of the celebrated Raymond Sewing Machines.



THE National is an up-to-date machine, leading all others in separating cream by centrifugal force. It is the farmers' choice, because it runs easy, skims fast and clean, and makes a perfect cream, containing any per cent. of butter-fat desired. It is also easier to clean than any other. The National is built of the very best material suitable for the construction of a high-speed machine, and with proper care should last a lifetime. The bearings are interchangeable and easily adjusted. Every machine is guaranteed to do good work, and a trial of the "National" is solicited before purchasing any other. The already large sale of the "National," and the growing demand for it, shows how much the Canadian farmers appreciate a Canadian-made machine that does its work so easily and well, and at the same time returns such a large profit on the small investment. Ask for the "National"; try it and buy it.

THE CREAMERY SUPPLY CO., GUELPH, ONT., General agents for Ontario.

MESSRS. CAMPBELL & GLENN, 381 TALBOT ST., LONDON, ONT.,

Agents for the Counties of Middlesex and West.

The Raymond Mfg. Co'y of Guelph, Ltd. GUELPH, ONT.

"NATIONAL" NO. 1 HAND POWER. Capacity, 330 to 350 lbs. per hour.

GOSSIP.

Messrs. C. J. Gilroy & Son, Glen Buell, Ont., write:—"The reputation won by the Maple Glen stock farm Holsteins has placed them among the foremost ranks of up-to-date breeders, and sales the past few weeks have been quite satisfactory. Mr. Ransom Brown and Gordon McLean, of Athens, selected the richly-bred young cow, Witzkyde Sjut's Queen, winner of a 1st and 2nd prize at the great Toronto Industrial. She gave us as a 2-year-old 464 lbs. in 1 day, and over 8,000 lbs. in season. They also selected the young bull, Inka Sylvia 2nd's DeKol Prince, whose dam gave us as high as 55 lbs. per day as a two-year-old, 8,000 lbs. in 10 months' time. This calf is grandson of Inka Sylvia, winner of 1st test, Ottawa, last fall; 2nd Toronto, after just recovering from severe attack of milk fever. She is daughter of Carmen Sylvia, a noted test winner also. This is the kind to breed from. Mr. C. M. Keeler also paid us his third visit for purchasing, this time taking away a grand young cow, half-sister of Carmen Sylvia, also another with calf at foot, closely related to his Rideau Gretqui, a test cow also. Mr. John Stewart, of Delta, favored us with a second call for purchase. He got two choice females in calf, one is of the famous Lutskie family. Mr. A. Galbraith, Kenmore, Ont., selected the bull calf from Witzkyde Sjut's Queen, sired by our undefeated prize bull of last year, Carmen Sylvia's Prince. Individually he took first, headed the sweepstake aged herd at Toronto, the 2nd breeders' herd at Toronto last year, and 1st breeders' herd the previous year. His get have been first winners at Toronto, and were also in sweepstake young herd at Ottawa last fall. Surely this is reputation—gilt edge. The Roebuck Dairy Syndicate also took one of his sons to improve their dairy herd. They selected Bessie's Sylvia Prince from a cow giving 12,000 lbs. milk per season. A few young cows in calf to Carmen Sylvia's Prince, due in July and August, are open for sale. One is of the Teake family, a prizewinner, and a dairy test winner as well."

HEREFORD SHOW AND SALE.
The 27th show and sale under the auspices of the Hereford Cattle Breeders' Association was held at Hereford, England, March 21st. One hundred and forty pedigree bulls were entered, and there were five prizes awarded in each of three classes of bulls. The highest price of the day was made by Mr. Caddick's 3rd-prize yearling bull, Ireland, which sold for 60 guineas, the 1st-prize winner selling for 52 guineas, and the 2nd for 57 guineas.
The 1st-prize two-year-old bull (Mr. Firkin's Lurdon, by Albion) was bid up to 97 guineas and withdrawn.

BARRED PLYMOUTH ROCKS.
\$50 silver cup and gold medal winners at the "Ontario," Peterboro, 1900. More prizes than any four breeders at Toronto, London and Ottawa Fairs, 1899. Blood will tell.
EGGS \$2.00 and \$3.00 per 15.
\$3.50 and \$5.00 per 30.
ASKIN POULTRY YARDS, London.
GEO. W. MILLER, PROP.

KNAPP STRAIN S. C. WHITE LEGHORNS.
The greatest egg producers. Eggs from a fine pen, headed by a first-prize cockerel mated with prize females, at \$1.00 per setting.
W. O. BURGESS, Queenston, Ontario.

DES MOINES INCUBATOR Co
The BEST and the CHEAPEST.

95 Per Cent. Hatches are often reported by those who use these Incubators. One reason for this record is absolute uniformity of temperature in egg chamber; correct instructions for operating; has fireproof lamp. A great mistake it would be to purchase an Incubator or Brooder without first getting a copy of our 148-page catalogue. Send 3 cents for illustrated catalogue of Incubator, Brooder, Poultry and Poultry Supplies.
"THE POULTER'S GUIDE" (new edition) 15 cents by mail.

O. ROLLAND,
373 St. Paul St., MONTREAL.
Sole Agent for the Dominion.

Safety Incubators and Brooders
Are the best, most reliable, and cheapest machines you can buy. Fireproof heaters. Fireproof lamps, absolutely self-regulating, supply their own moisture, and are fully guaranteed. For circular, etc., address the manufacturer.
J. E. MEYER, Kossuth, Ont.

THE GLOBE FURNITURE COMPANY, LIMITED
WALKERVILLE, ONTARIO.
CHURCH SEWS,
PUMPS, ALIENS, BARS,
SCHOOL DESKS, ETC.
WRITE FOR PRICES

A \$3000. STOCK BOOK FREE

It contains 133 large colored engravings of Horses, Cattle, Sheep, Hogs and Poultry with an illustrated veterinary department. The engravings cost us \$3000. We will mail you one copy free, postage prepaid, if you write us and answer these four questions: 1st—Did you ever use "International Stock Food" for Horses, Cattle, Sheep or Hogs? 2nd—Is it for sale in your town in 25-lb. pails? 3rd—How many head of stock do you own? 4th—Name this paper. "International Stock Food" is a safe vegetable stimulating tonic and blood purifier. It fattens stock in 30 days less time and saves grain. Aids digestion and assimilation. Thousands of farmers feed 500 to 200 lbs. every year. It makes colts, calves, lambs and pigs grow very rapidly and only costs 3¢ Feeds for One Cent. "It Makes hogs weigh 300 lbs. at 6 months. It cures and prevents many diseases. Always sold on a guarantee to refund your money if it ever fails. Cheap and inferior imitations are on the market. Our dealers give this book free with "International Stock Food" in pails or barrels.

Largest Stock Food Factory in the World. Address **INTERNATIONAL FOOD CO., MINNEAPOLIS, MINN., U. S. A.** We occupy 15 floors, also 100x25 feet each, in addition to our large Printing Dept.
Capital Paid in, \$200,000.00.

We own for our "International Stock Food Farm" three Stallions, Buttonwood 2:17, by Nutwood 2:38½, International Stock Food, by Harford 2:22¼ and Naheola 2:52¾, by Lockhart 2:08½. They eat "International Stock Food" every day. It saves grain.

"Canada's Greatest Seed House."

THE SECRET FOR SUCCESS
Is in using the best seeds at all times, because you secure more tons per acre in the yield of roots. When you use cheaply grown seeds you sacrifice by poor yield in crop and inferior quality of roots many times the cost of good seed.

STERLING SPECIALTIES

Steele, Briggs' CARROT
"Improved Short White"
The King of Field Carrots, largest cropper, heaviest and cleanest roots, most easily harvested of any Carrot grown.
Use Steele, Briggs' Sealed Packages only (see cut), then you get the genuine sort.
Price (post-paid) ½ lb., 20c.; ¼ lb., 30c.; 1 lb., 50c.

MANGEL WURTZEL
"Steele, Briggs' Money Makers"
Have been perfected by repeated selections of seed roots during several years past, thus securing the finest strains that can be obtained. Growers who value their Mangel Crop will use Steele, Briggs'
"Prize Mammoth or Giant Long Red"
"Giant Yellow Oval" and
"Giant Yellow Globe."
Price, each, by mail (post-paid), 29c. 1b.; in 5 lb. lots or more, 27c. 1b.

STEELE, BRIGGS' "Royal Giant" SUGAR BEET
A new and distinct variety, roots rose color, very large, clean, easily harvested and heaviest cropper of any Sugar Beet known. Every grower should try it.
Can only be had in (1 lb.) sealed packages (see out).
Price (post-paid) 50c. per lb.

NOTICE TO GROWERS
Steele, Briggs' Field Root Seeds are all produced from specially selected roots and with unusual care, that the Canadian grower may secure the most profitable result from his crop. Steele, Briggs' Seeds may be obtained from local dealers who consider the growers' best interest, rather than the small increased profits to themselves by supplying "cheaply" grown seeds.
Secure STEELE, BRIGGS' Seeds
If not obtainable from your resident merchant, send your orders direct, that you may have the best.
CATALOGUE MAILED FREE TO INTENDING BUYERS.

The Steele, Briggs Seed Co., TORONTO, Ont. LIMITED

Please Mention Farmer's Advocate

Government Analysis.

LABORATORY OF INLAND REVENUE,
OFFICE OF OFFICIAL ANALYST,
Montreal, April 8, 1895.


"I hereby certify that I have drawn, by my own hand, ten samples of the

St. Lawrence Sugar Refining Co.'s

EXTRA STANDARD GRANULATED SUGAR, indiscriminately taken from ten lots of about 150 barrels each. I have analyzed same and find them uniformly to contain:

99⁹⁹/₁₀₀ TO 100 per cent. of pure Cane Sugar, with no impurities whatever."

(Signed) JOHN BAKER EDWARDS, Ph. D., D.O.L.,
Prof. of Chemistry and Public Analyst, Montreal.



Farmers' Live Stock Ear Labels \$1.50 per 100 and up, according to the amount of matter wanted on them. Also Punches to suit them. Many send for price list, and order; some send for price list, and do not order. Tell us why? Please write for circular and price list. R.W. James, Farm Implement Forwarding Agency, Bowmanville, Ont.

ADDRESS  **Belleville Business College.**
Belleville, Ontario.

FOUR WELL-EQUIPPED DEPARTMENTS.

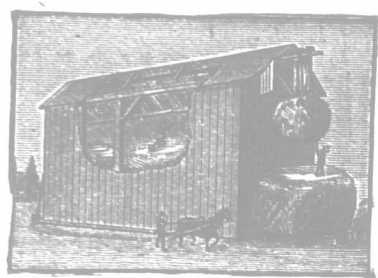
SPRING TERM
Begins Monday, April 2nd.
Central Business College, Toronto.
Twelve regular teachers. Sixty typewriting machines. Splendid equipment. Costs no more for a course here than in a small, half-equipped school. No vacations. Work runs right along through July and August. Write for catalogue.

W. H. SHAW, PRINCIPAL.

SPRING TERM OPENS APRIL 2nd.
CENTRAL Business College
STRATFORD, ONTARIO.
A school that enjoys a large patronage, has large staff of expert teachers, gives superior training, and produces best results. Write for prospectus.

W. J. ELLIOTT, Principal.

BUCHANAN'S
(Malleable Improved)
PITCHING MACHINE
For unloading hay and all kinds of loose grain.



Unloads on either side of barn floor without changing car. No climbing necessary. Malleable iron cars. Steel Forks. Knot Passing Pulleys. Will work on stacks as well as in barns. Satisfaction guaranteed.



The Common-Sense Sheaf-Lifter
Works in connection with Pitching Machine, and is the most complete apparatus ever offered to the public for pitching sheaves. Sheaves left in the mow just as they come from the load.

RESPONSIBLE AGENTS WANTED
Circulars, Prices and Terms on application to
M. T. BUCHANAN & CO., Ingersoll, Can.

PLEASE MENTION FARMER'S ADVOCATE.

Awards.
THE Spramotor Co. desire to caution intending purchasers of spraying apparatus against the misrepresentations of a certain concern in Canada who claim to have won a contest against the Spramotor in Manchester, England, and St. Petersburg, Russia, when no such contests took place. The only contest ever held was under the auspices of the Board of Control of the Fruit Experimental Stations of Ontario, which was held at Grimsby, April 1st and 2nd, 1897, at which the Spramotor was awarded first place against the best America could produce.

THE SPRAMOTOR CO. will forfeit \$100 to the Red Cross Fund if a superior award has been granted to any spraying machine other than the Spramotor, anywhere in the world where the Spramotor was exhibited.

Over 100 medals and first awards have been granted the Spramotor since 1895.

Used by the San Jose Scale Commission, Ontario Government, during the winter of 1899 and 1900.

Certificate of Official Award.

This is to certify that at the contest of Spraying Apparatus held at Grimsby under the auspices of the Board of Control of the Fruit Experimental Stations of Ontario, in which there were eleven contestants, the Spramotor, made by the Spramotor Co., of London, Ont., was awarded first place.

H. J. Hill
M. P. Hill
Judges.

Send for our 82-page copyrighted treatise and catalogue for 1900, which is free. We pay the postage. Agents wanted. Address—
Spramotor Co., 68-70 King St., London, Can.
Mention this publication.

Persiatric Sheep Dip and Animal Wash.

- A NON-POISONOUS LIQUID "DIP."
- Kills Ticks. Kills Red Lice. Heals Wounds.
- Greatly Improves quality of WOOL.
- For Horses, Cattle, and Pigs.
- Removes all insects. Thoroughly cleanses the skin.

Leading "STOCKMEN" endorse it as the CHEAPEST and most EFFECTIVE "Dip" on the market.

SOLD BY ALL DRUGGISTS, 50 cents PER QT. CAN. Special rates in larger quantities.

MADE ONLY BY
The Pickhardt Renfrew Co.
LIMITED,
STOUFFVILLE, ONT.

PLEASE MENTION FARMER'S ADVOCATE.

SEND FOR ILLUSTRATED PRICE LIST.



Churn Pumps, \$2 and \$2.50. Well Pumps, \$6.00. Well Force Pump, \$6.

Combination Cobblers', Harnessmaker's and Tinker's Outfit, only \$2.

Brace and 6 best Auger Bits, only \$1.50 Postpaid anywhere in the Dominion for \$2.

Guns, from \$6 to \$10 each.

Revolvers—a first-class one—\$1.50 or \$1.75 (postpaid).

Mouth Organs, 25c. and 50c. each. We sell a beautiful Celluloid Mouth Organ at 50c. (postpaid).

4-lb. Butter Scales, \$2.50.

1200-lb. Platform Scales, best makes, fully guaranteed, only \$16.50.

240-lb. Platform Scales, only \$5.

Threshers' Belting of all kinds, at less than factory prices.

Solld Steel Hammer, 35c.

Field Glasses, at \$4 and \$5 each. Telescopes, \$3, \$4 and \$5 each.

WILKINS & CO., 166 & 168 KING ST. EAST, TORONTO.

BINDER FARMERS' TWINE

PURE MANILA, 650 FEET,
SPECIAL MANILA,
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.

WORLD'S HIGHEST HONORS

MASSEY-HARRIS

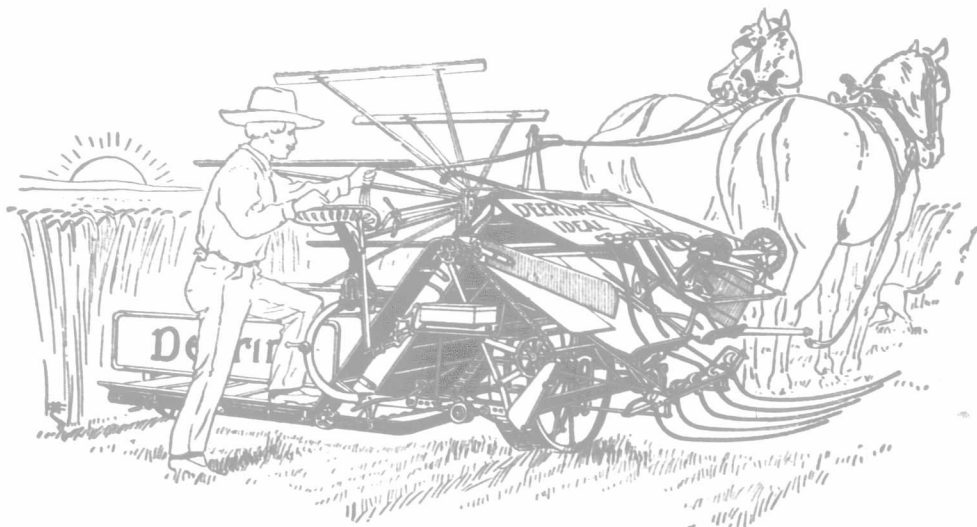
CULTIVATING SEEDING

HAY MAKING HARVESTING

MACHINES

THE MACHINES THAT MADE AMERICA FAMOUS.

DEERING
BINDER TWINE



DEERING IDEAL BINDER.

DEERING
BINDER TWINE

"Two horses, that's all." Lightest draft binder that ever cut a swath.

IT PAYS TO USE DEERING MACHINES.

SEND FOR CATALOGUE. IT'S FREE.

Deering Harvester Company,

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

Permanent Branch Houses :
TORONTO, ONT. MONTREAL, QUE.
LONDON, ONT. WINNIPEG, MAN.

Handsome Is that Handsome Does.

NO
OTHER
MOWER
LOOKS
QUITE
SO
NICE.



NO
OTHER
MOWER
WORKS
QUITE
SO
WELL.

OUR NO. 8.

Says Farmer Jones to Farmer Smith,
I have made up my mind,
A new mowing machine to buy,
And I know the very kind.

Says Farmer Smith to Farmer Jones,
Who makes it, did you say :
"Those Yankee chaps" out in the west,
Hundreds of miles away !

"No, sir !" If a windmill was what I wanted,
Perchance with them I might agree,
For the power required to run it
I am sure they would furnish free.

But as it is a mower,
And the best is none too good ;
I will be a true Canadian,
And buy the Frost & Wood.

THE Frost & Wood Company

LIMITED.

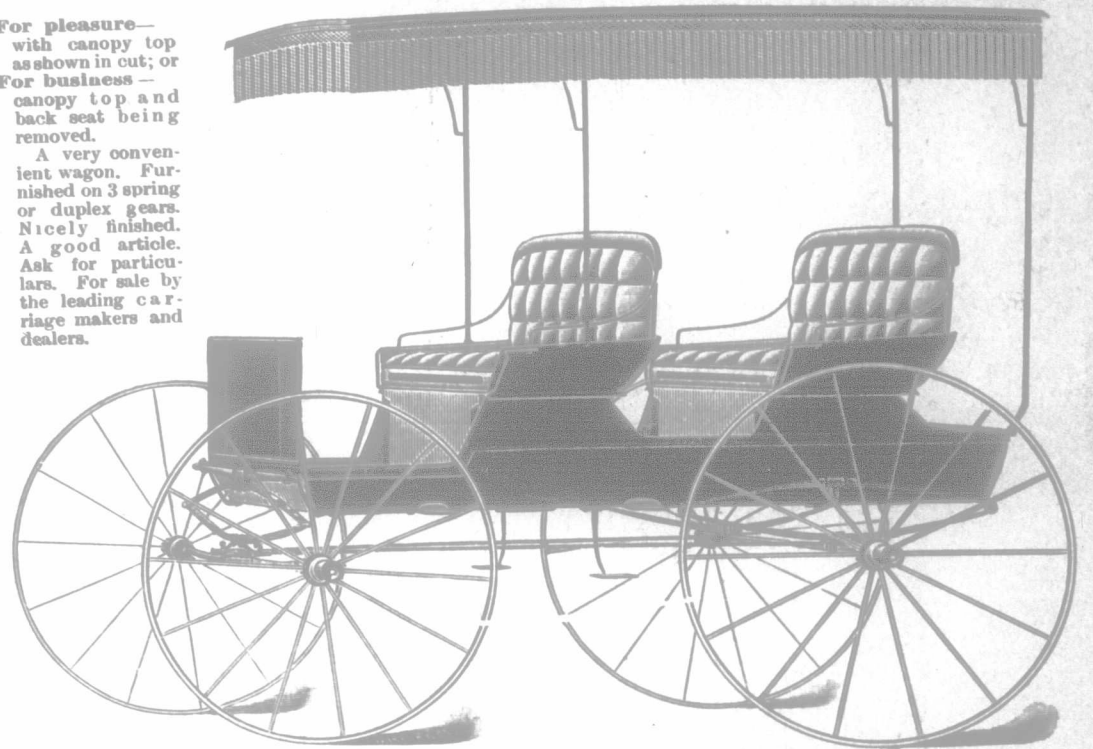
Toronto.
London.
Winnipeg.

Montreal.
Quebec.
St. John.

HOME OFFICE AND WORKS :
Smith's Falls, Ont.

Armstrong Wagon No. 205.

For pleasure—
with canopy top
as shown in cut; or
For business—
canopy top and
back seat being
removed.
A very convenient
wagon. Furnished
on 3 spring
or duplex gears.
Nicely finished.
A good article.
Ask for particu-
lars. For sale by
the leading car-
riage makers and
dealers.



J. B. Armstrong Mfg. Co., Ltd. (THE GUELPH CARRIAGE GOODS CO.) Guelph, Can.

"SAFE LOCK"
METAL SHINGLES

THE KIND THAT ARE WEATHERPROOF
COST LITTLE MORE THAN WOOD SHINGLES
AND ARE LIGHTNING AND FIRE PROOF
ASK FOR FREE SAMPLES

METAL SHINGLE & SIDING CO.

FAMILY KNITTER !

Will do all knitting required in a family, homespun or factory yarn. **SIMPLEST KNITTER ON THE MARKET.**

We guarantee every machine to do good work. Agents wanted. Write for particulars.

PRICE, \$5.00.

DUNDAS KNITTING MACHINE CO.,
DUNDAS, ONTARIO.

LIVE STOCK AUCTIONEER.
The undersigned is prepared to conduct pure-bred auction sales. 20 years' experience. References: John I. Hobson and Alfred Stone, Guelph; Jas. Hunter, Alma, and Mossom Boyd, Bobcaygeon. **Thos. Ingram, Care Mercury Office, Guelph, Ont.**

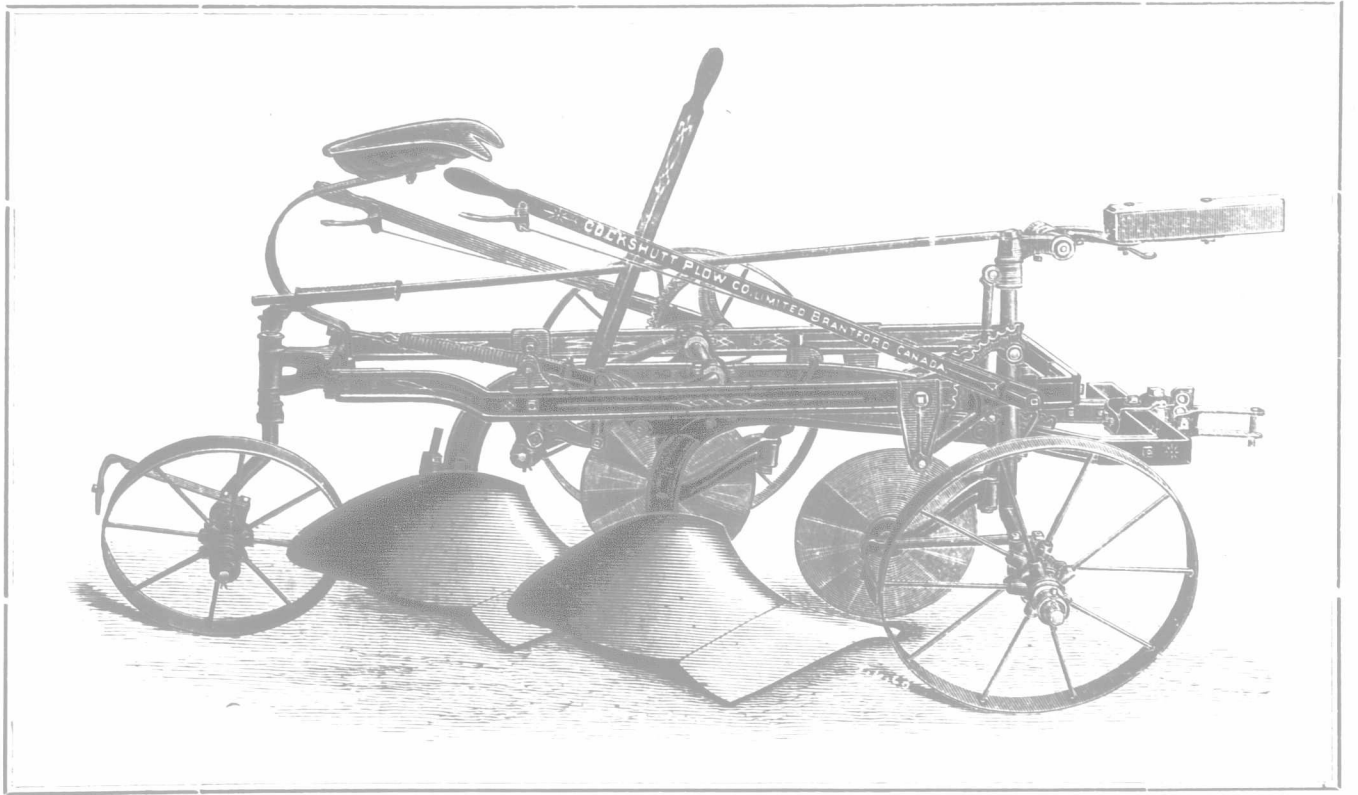
PLEASE MENTION FARMER'S ADVOCATE.

The King of Gang Plows

THE COCKSHUTT HIGH-LIFT GANG.



ASK your local dealer or write us for full description.



FACTORY: **COCKSHUTT PLOW CO., LTD., WINNIPEG,**

MANITOBA.



SHOPPING BY MAIL

Is made easy on application to

The Hudson's Bay Stores.

Are You Thinking of Building?

IF SO, TO YOUR ADVANTAGE TO WRITE Dick, Banning & Co.,

WINNIPEG, MAN.

STEAMSHIP Tickets

If you are going for your friends, agent, who can be at lowest rates. Steamers leave Port St. John, every Wednesday and Saturday.

W. P. F. CUMMINGS

General Agent, C. P. & O. Co.

WINNIPEG

ANTISEPTIC FIBREWARE

-FOR-



POYER, HONEY, ETC.,

W. P. F. CUMMINGS & CO.

General Agent, C. P. & O. Co.

WINNIPEG

No instrument is more popular in Canada to-day than the

Bell Piano

And there is no better to be had.

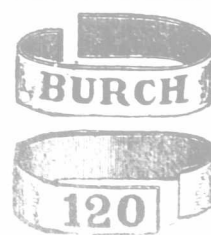
The orchestral attachment renders possible the effect of sixteen different stringed instruments. It is used only in the "BELL." Send for free booklet, No. 40, it tells all about it.



Built to last a lifetime.

The BELL ORGAN & PIANO CO., Limited, GUELPH, ONTARIO. Or J. L. MEIKLE & CO., Agents, WINNIPEG, MAN.

Teas "fragrant", "delicious", "perfect" and "best" are now plentiful as gold mines, but people only smile and say "Give us Blue Ribbon Ceylon."



METAL EAR LABELS

Used by all Live Stock Record Associations.
 Sheep size, per 100..... \$1.50
 Hog size, per 100..... 1.50
 Cattle size, per 100..... 2.00
 Punch and Pliers for attaching labels to ear, each \$1.00
 Name on one side and any numbers wanted on reverse side.
F. S. BURCH & CO.

178 Michigan St., CHICAGO, ILL.

TORONTO ENGRAVING CO.
92 BAY ST
 CUTS BY ALL PROCESSES
 LIVE STOCK A SPECIALITY.