

FARMER'S ADVOCATE

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

PERSEVERE & SUCCEED.

AND HOME MAGAZINE.

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THE FARMER'S ADVOCATE & HOME MAGAZINE

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

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The FARMER'S ADVOCATE is published on or about the first of each month, 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.

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Our Monthly Prize Essays.

CONDITIONS OF COMPETITION.

- 1.—No award will be made unless one essay at least comes up to the standard for publication.
 - 2.—The essays will be judged by the ideas, arguments, conciseness and conformity with the subject, and not by the grammar, punctuation or spelling.
 - 3.—Should any of the other essays contain valuable matter, not fully covered by the one awarded the first prize, or should any present different views of the same topic, and we consider such views meritorious, we will publish such essays in full, or the writer ten cents per inch (one dollar per column) printed matter for as much of such articles as we publish. By this rule each writer who sends us valuable matter will receive remuneration for his labor, whether he be the winner of the first prize or not.
 - 4.—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 (one dollar per column) 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.
- Replies to circulars and letters of enquiry sent from this office will not be paid for as provided by rule 4.
- We will give a prize of \$5 for the best essay which will name and describe the six most promising varieties of potatoes grown in the district in which the writer resides, and the mode of culture which has given the best results. Essay to be in this office not later than 15th Feb., 1892.
- We will give a prize of \$5 for the best essay on corn and corn culture, the writer to name and describe the three most promising sorts grown in the district in which he resides, also the best and most economical mode of cultivation before and after planting. Essay to be in this office not later than 15th February, 1892.

Editorial.

Our Next Issue.

In our next issue we will give the history and particulars concerning several of the new grains mentioned in this paper, also letters received from farmers living in various parts of Ontario and Quebec, in which they name the sorts of grain and roots that have succeeded best in their respective neighborhoods; also a very instructive illustrated paper on grasses by Mr. Jas. Fletcher, Entomologist and Botanist of the Dominion Experiment Stations.

The prize essays which should have been published in this issue will appear in the March number, as will also an excellent article on the Patrons of Industry by Uncle Tobias.

Changing Seed.

At this time of the year we hear a great deal about changing seed. A farmer who has not good seed should procure it. Not half enough attention is paid to this subject, nor is its importance fully realized. A new variety should be well tested by a grower for more than one year before he ventures to sow any but a limited acreage with it. While a new sort may have done well with a neighbor or with a farmer at a distance, that is no guarantee that it will do well with you. Every farmer should try the promising new sorts, but should move cautiously. There is as much difference between poor and good seed grain as between pure-bred and scrub stock. Obtain the catalogues issued by reliable seedsmen; note what they say regarding the varieties; new sorts introduced by them are worthy of a test. All reliable houses thoroughly test each new kind before sending it out. If they did not do so they would soon ruin their business. Their reputation is at stake; they cannot afford to introduce worthless sorts, much less to recommend them.

The selection of seed is very important work. If farmers would carefully select their seed grain, sowing only the best, we would hear little about sorts running out. Of themselves they never "run out," but are "run out" by careless handling. If the sorts you now have are not the best grown in your neighborhood, get the best and most reliable. Notice next year which is your most productive field of each variety. Select portions of the field where the most desirable samples grow; allow these samples to become thoroughly ripe; cut them and put them away by themselves. Next winter, when you have plenty of time, take the sheaves one by one and remove the small and undesirable heads; then, with a flail, thresh the choice specimens; well clean the grain obtained, and retain only the finest berries. In this way you will soon obtain a pedigreed variety that will continue to improve in quality and yield, especially if you keep your land fertile; for, like an animal, you may have your grain ever so well bred. If it is starved it will not improve but "run out."

Mr. Thomas Manderson, the well-known exhibitor of seed grain, has grown and improved a sample of White Fyfe, also Red Fyfe, for the last twelve years. While his neighbors on all sides are searching for new sorts, Mr. Manderson writes:—"My Red and White Fyfe are the best yielding sorts I grow." He tests everything that promises well. The Buckbill barley, tested by the Dominion Experimental Stations, was grown in this way by him for sixteen years, and to-day it is the best barley grown in any part of Canada, being superior to that commonly known as Duckbill, which is a good sort.

Another gentleman in eastern Ontario has carefully grown six-rowed in like manner during the last twenty years, never having changed his seed in that time. His barley crop is always above the average in yield and quality.

One of our correspondents has grown one variety of black side oats for over twenty years. During that time he has carefully selected his seed each year. Last year his crop of thirteen acres averaged a little over eighty bushels, while five acres of English Potato oats, bought for seed and sown in the same field, did not average quite sixty-five bushels per acre.

Cross fertilization and the introduction of new varieties will do much towards increasing the average yield in the Dominion; but careful cultivation of the land and selection of seed will do much more. Many will say the trouble is too great. To some, who do not love their calling, but are simply farmers because circumstances compel them to be, this careful selection may be irksome; to such we say, buy your seed from men who can supply the best, it will amply repay the extra outlay. At this season of the year, in many cases it is impossible to select the grain in the sheaf. If it is all threshed, and your crops were good last year, use a good fanning mill and coarse screens, and from what you have on hand (if you have an abundance and the variety is good), screen out the largest grains for seed and bag carefully what you obtain ready for use when seed time arrives.

We refer our readers to an article written by Mr. John S. Pearce, page 328, September number, 1891.

Mr. John Ryerson Neff, M. L. A.

The farming interest have not been overlooked in the formation of the Northwest Territorial Cabinet by Premier Haultain. Mr. John Ryerson Neff, M. L. A. for Moosomin, has been chosen as one of the cabinet. This gives general satisfaction, and the farming community are well pleased, as Mr. Neff, besides being a first-class business man, is one of the most extensive and successful farmers of the locality. His varied experiences fit him for the exalted position. If his efforts in the past are a forecast of his future, his part in the administration will be well done.

Prior to settling in the Moosomin District (N. W. T.), Mr. Neff carried on farming and a general store at Troy, County of Wentworth, and St. George, County of Brant.

Grains Tested at the Dominion Experimental Stations in 1891.

Ever since the establishment of the Dominion Experimental Stations, much attention has been paid to seed grains. Many new varieties have been imported, which have been tested side by side with the old and well tried sorts. Another most important work has been carried on, viz., cross fertilizing and hybridizing. We have no hesitation in saying Professor Wm. Saunders is the most suitable person in Canada, and probably in America, to conduct this work. Since 1889 he has originated, with the help of his assistant, Mr. W. T. Macoun, one hundred and fourteen crosses, ninety of which were wheat, sixteen barley and eight oats. To these must be added ninety-six new hybrid wheats and two of oats the results of the work of 1891, making 212 new varieties in all. Only such of our readers who have had experience along this line can form any idea of the amount of work entailed in order to produce one new sort. We know that it is very great. Few men have the scientific knowledge or patience to persevere in this line, yet it is by crossing and selection that sorts suitable to our soil and climate must be produced. Take, as an example of the results of selecting, the squaw corn, the only sort which ripens its seed in the Canadian Northwest. Mr. Mitchell, of St. Marys, by carefully selecting plump and uniform kernels of this variety from year to year for seven or eight years, has obtained a very good early ripening corn, which promises to be very useful in those parts of Canada where the season is short. Time, skill and patience will work similar changes by selecting, and still more striking changes by crossing, in our wheats, oats and barley. In order to form a correct opinion of the various sorts being tested at Ottawa, one of our staff visited the Central Experimental Farm, July 26th and 27th, 1891. At that time the earlier oats and barleys were just ready to cut, and the spring wheats were beginning to turn. We found several of Mr. Saunders's crosses very promising indeed. The spring wheats were strong growers, and appeared to be hardy and productive. The barleys were not so pronounced, generally speaking, but among them were some very promising samples. In the near future we expect Mr. Saunders will be able to distribute new Canadian barley and wheat of his own production that will be found most suitable to our soil and climate. One of the most promising of these is a cross between Ladoga and Red Fyfe, which has been named Abundance. It is a pure hard wheat which weighs 63 lbs. to the bush, as grown in Ottawa. This variety will be tested next year at all the experimental farms. It is a bearded wheat, a strong, vigorous grower, and is four or five days earlier in ripening than Red Fyfe.

A large number of varieties of each of the cereals are tested each year, both in field and plots. In 1891 sixty-nine different spring wheats, sixty-one oats, twenty-nine two-rowed barleys, and twenty-two distinct sorts of six-rowed barley were tested. Observations were taken and notes made each week during the season and after harvest. Each plot is separately threshed and the yield carefully weighed and measured. Reports of each sort are given in the annual report issued by the Department of Agriculture at Ottawa. By applying to Prof. Saunders, any Canadian farmer may have his

name put on the mailing list, and will then receive all the publications of the department free of charge. Upwards of twenty-one thousand farmers are now receiving these reports.

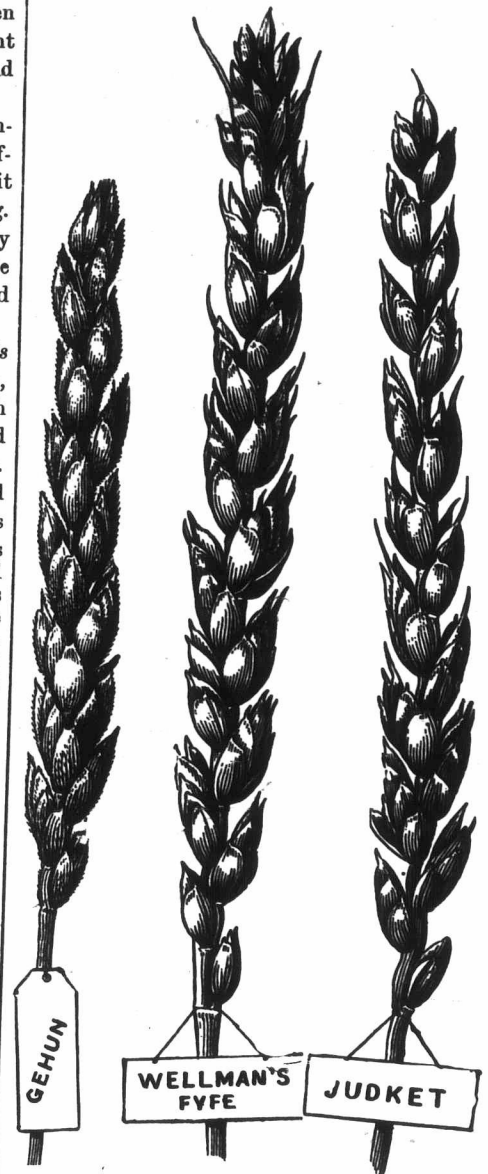
Although many of our readers are thus informed regarding the relative yields of the different sorts, we considered it essential to visit the farm and inspect the crops when growing. It is well known by farmers that the most heavy yielding sorts are not always the most profitable in the long run. Other considerations should always be taken into account.

Among the spring wheats, No. 1, *Campbell's White Chaff*, and No. 2, *Campbell's Triumph*, were growing side by side. The habits of growth were much the same; both were good, pure and early. On July 25th both were turning in color. No. 1 was the best and most promising, and seemed to be more decided in type; the head is thicker, closer and squarer. Here both sorts were quite free from rust, and promised to yield well. When threshed their respective yields were: No. 1, per acre, 25 bush. 13 lbs.; a large field averaged 28 bush. 51 lbs. per acre, weighing 58 lbs. per bushel. No. 2, per acre, 15 bush. 35 lbs.; a field crop yielded 23 bush. 58 lbs., weighing 59½ lbs. per bushel.



No. 3.—*Ladoga* was at about the same stage of ripeness, and promised a good yield; was free from rust, to which it is liable in the southern sections of Ontario. In appearance it was not as good as No. 1. Yield per acre, 21 bush. 7 lbs. A field crop yielded 28 bush. 32 lbs. per acre, weighing 60½ lbs. per bushel.

No. 4.—*Red Fyfe* was not as good as No. 1, but better than No. 3. In appearance it was the same as No. 2, but not so early. Yield per acre, 22 bush. 35 lbs.



No. 5.—*Gehun*, an Indian variety, very weak in the straw, and did not seem suitable for general cultivation in Ontario, though in 1890 it far outyielded any other sown on the Government farm at Indian Head; it is also early. The straw may improve; it is worthy of a trial on a small scale, but unless the straw becomes stiffer it will never be worthy of an important place among Canadian wheats. Yield per acre, 12 bush. 40 lbs.

No. 6.—*Anglo Canadian* is a new hybrid put out by Messrs. James Carter & Co., the well-known English seedsmen. It is a coarse growing, rather late bearded variety, being about a week later than *Ladoga*. In 1890 it gave a very small yield, viz., 5½ bush. per acre at the Central Farm, but did better at Brandon, where it produced at the rate of 26 bush. per acre; at Nappan, N. S., 29½ bush.; at Agassiz, B. C., 35 lbs. from 1 lb. sown; at Indian Head, 16½ bush. per acre. This sort is said to have done well in England. Yield per acre, 15 bush. 27 lbs. A field crop yielded 20 bush. 42 lbs. per acre.

No. 7.—The plot of *White Fyfe* looked promising, but not as good as No. 1 or as early. At Ottawa in 1890 it was fourth in yield among the sorts tried; at Nappan it came third, being a tie with *Anglo-Canadian*; at Brandon it yielded 26 bush., being excelled by several plots of *Red Fyfe* and two or three other sorts. Yield per acre, 26 bush. 7 lbs. A field crop of this variety gave 29 bush. 30 lbs. per acre, weighing 58 lbs. per bush.

No. 8.—*Wellman's Fyfe* is a very strong, thrifty grower, producing an abundance of straw; the head is long and open, and is reported to have yielded well in some sections in 1891. Yield per acre at the Central Experimental Farm, 27 bush. 7 lbs.

No. 9.—*Hard Calcutta*, an Indian variety, a weak grower, but stronger than No. 5; it has yielded well in the Maritime Provinces, and also in the Northwest. At Ottawa, 1891, yield per acre, 13 bush. 6 lbs. A field crop yielded 14 bush. 33 lbs.

No. 10.—*Colorado*.—This well-known sort looked well and promised a good yield, but not so good as No. 1. It is not as strong a grower as No. 8, but as early at Ottawa as any except the Indian sorts. Yield per acre, 27 bush. 34 lbs.

No. 11.—*Red Connell* is a strong growing, bald sort, and promised a good yield. Yield per acre, 26 bush. 29 lbs. A field crop yielded 28 bush. 47 lbs. per acre.

No. 12.—*White Connell*, much like No. 11. Yield per acre, 30 bush. 16 lbs.

No. 13.—*Julket*, a strong growing sort, which promised a large yield both in straw and grain. In 1890 the average yield where tried at the various Dominion Experimental Stations was 19½ bush. Yield per acre at Ottawa, 1891, 25 bush. 46 lbs. A field crop yielded 31 bush. 22 lbs., weighing 59 lbs. per bush.



No. 14.—*Rio Grande* grew tall and strong, and promised very well. Its average yield where tried by the Government in 1890, 22½ bush. Yield per acre at Ottawa, 1891, 35 bush. 7 lbs. A field plot of this variety gave 26 bush. 20 lbs., weighing 60½ lbs. per bush.

No. 15.—*White Delhi* seemed very undesirable. Yield per acre, 13 bush. 41 lbs.

No. 16.—*Johnson's Defiance* was not desirable as grown in the plot, where it yielded per acre, 19 bush. 17 lbs., but in the field it did much better. A field crop yielded 45 bush. 21 lbs., weighing 58½ lbs. per bush.

No. 17.—*Russian Hard Tag* resembles Colorado, but is not so strong a grower. Yield per acre, 30 bush. 5 lbs.

No. 18.—*Wild Goose* grew strong and vigorous. Yield per acre, 33 bush. 35 lbs.

No. 19.—*Irishman Sicilian* closely resembles the last named, but is not so strong a grower. Yield per acre, 19 bush. 33 lbs.

No. 20.—*Green Mountain* closely resembles Red Fyfe, but is a little stronger grower, though in 1890 its average yield was not so high. Yield per acre, 1891, 19 bush. 19 lbs.

No. 21.—*California White* is somewhat like Fyfe, but is a weaker grower, and is a velvet chaff. Yield per acre, 18 bush.

No. 22.—*Great Western* is a new sort; resembles Red Fern, but is a stronger grower. Yield per acre, 29 bush. 57 lbs.

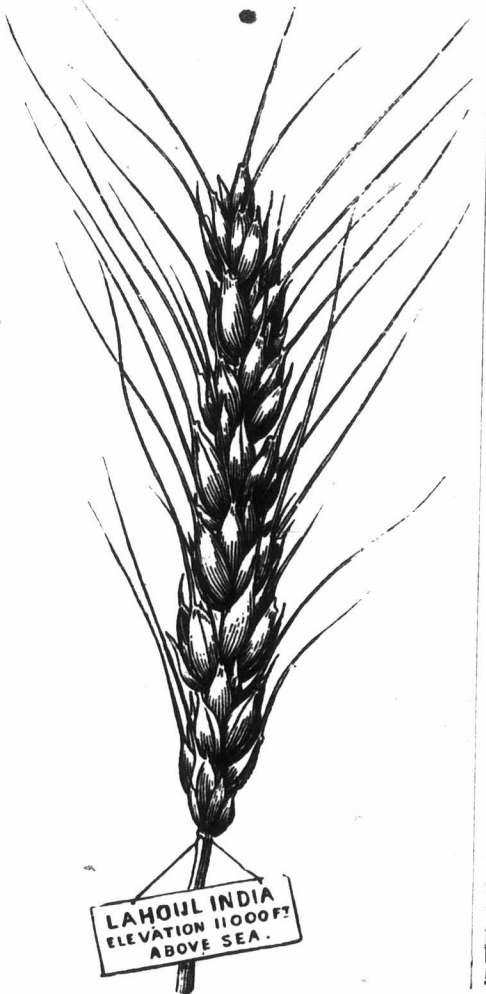
No. 23.—*Saronka* did not promise as well as many of the other sorts. Yield per acre, 19 bush. 13 lbs.

No. 24.—*Pringle's Champlain* resembles Colorado. Yield per acre, 31 bush. 59 lbs.

No. 25.—*Australian* was not promising. Yield per acre, 13 bush. 22 lbs.

No. 26.—*Democrat Spring* closely resembles the Wild Goose. Yield per acre, 32 bush. 10 lbs.

No. 27.—*Red Fern* promised well. Yield per acre, 35 bush. 30 lbs.



No. 28.—*Herrison's Beardless* promised very well. It is hardy, but has not hitherto been considered valuable by the officials of the Dominion Experimental Station. Yield per acre, 15 bush. 48 lbs.

No. 30.—*Lahoul* is grown in India, 11,000 feet above the sea. The farm officials at Ottawa pronounce it the best of the Indian sorts. It is an early, short-strawed variety. Yield per acre, 18 bush. 47 lbs.

No. 31.—*Hueston's*.—A strong growing bald sort. In 1890 it yielded over 29½ bushels per acre at the Brandon Farm. At Ottawa, 1891, it gave 25 bush. 27 lbs. per acre.

No. 32.—*White Russian* promised well. Yield per acre, 27 bush. 59 lbs.

No. 33.—*Bearded Red*.—A strong growing, bearded variety, which is expected to do well in the future. Yield per acre, 28 bush. 54 lbs.

BARLEY—TWO-ROWED.

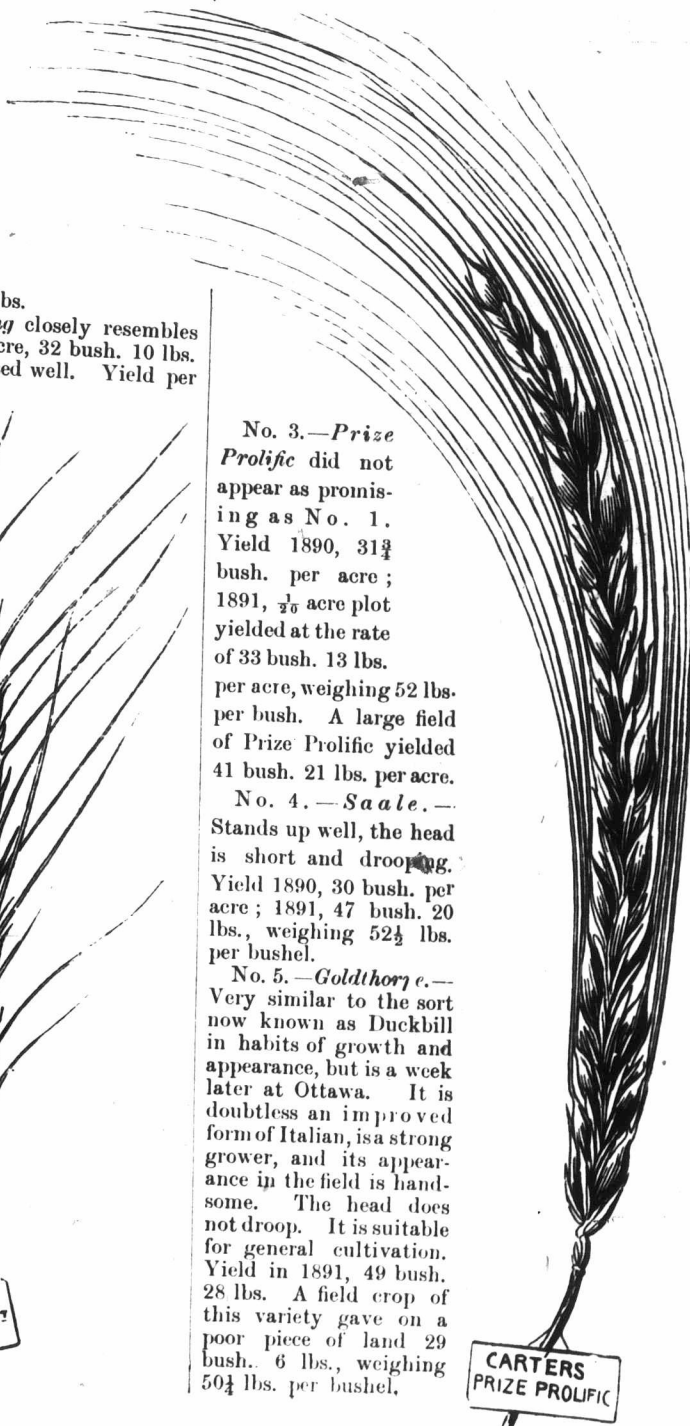
No. 1.—*Kinver Chevalier*.—Thin on the ground, straw fairly stiff, and stands up better than many of the English sorts. At a recent English Brewers' Exhibition this variety won 1st and 2nd. It yielded in 1891 42 bush. 36 lbs. per acre. A field crop of same variety yielded 68 bush. 2 lbs. per acre, weighing 51½ lbs. per bushel.

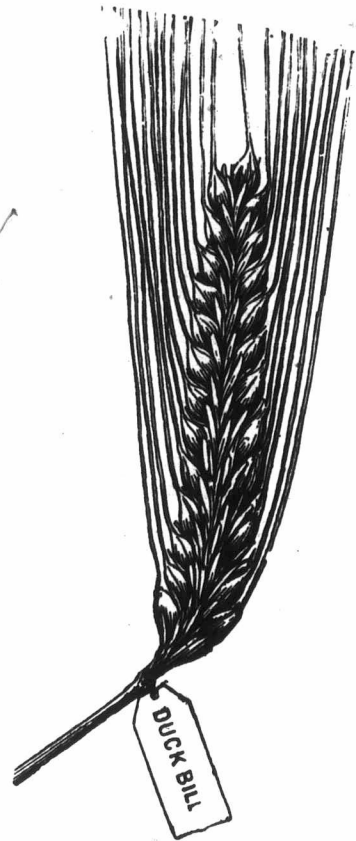
No. 2.—*Golden Grains* (introduced by Mr Webb.) Stands well; the grain is usually plump. Yield in 1891, 32 bush. 32 lbs. per acre. Large field of same variety yielded 28 bush. 40 lbs. per acre.

No. 3.—*Prize Prolific* did not appear as promising as No. 1. Yield 1890, 31½ bush. per acre; 1891, ¼ acre plot yielded at the rate of 33 bush. 13 lbs. per acre, weighing 52 lbs. per bush. A large field of Prize Prolific yielded 41 bush. 21 lbs. per acre.

No. 4.—*Saale*.—Stands up well, the head is short and drooping. Yield 1890, 30 bush. per acre; 1891, 47 bush. 20 lbs., weighing 52½ lbs. per bushel.

No. 5.—*Goldthorpe*.—Very similar to the sort now known as Duckbill in habits of growth and appearance, but is a week later at Ottawa. It is doubtless an improved form of Italian, is a strong grower, and its appearance in the field is handsome. The head does not droop. It is suitable for general cultivation. Yield in 1891, 49 bush. 28 lbs. A field crop of this variety gave on a poor piece of land 29 bush. 6 lbs., weighing 50½ lbs. per bushel.





No. 6.—*Duckbill*.—This is a strong, erect grower; it rarely lodges, yields well, ripens early, tillers freely. One of the best, if not the best, plot at the Central Farm. Yield not yet ascertained.

No. 7.—*Swedish*.—Straw shorter and tillers less than the English sorts. Did not appear as good in any particular. Yield in 1891, 48 bush. 16 lbs.

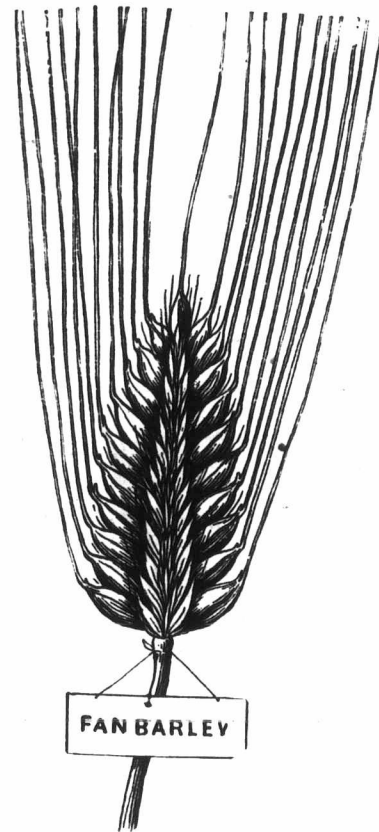
No. 8.—*New Zealand* tillers freely, is early and promises to yield well. Yield in 1890, 14 bushels; 1891, 42 bush. 4 lbs.



No. 9.—*Italian*.—Resembles the Goldthorpe and Duckbill, but is inferior to either. The straw is shorter and more inclined to lodge. Not as suitable as either for general cultivation. Yield in 1891, 49 bush. 36 lbs.

No. 10.—*Prolific*.—A poor variety, head small. Yield 1890, 31 bush. per acre; in 1891, 38 bush. 10 lbs.

No. 11.—*Peacock*.—Resembles the Italian. Straw not as stiff as Duckbill, nor does it ripen as early. Yield per acre, 43 bush. 20 lbs.
No. 12.—*Dutch* resembles Prolific. Not promising. Yield per acre, 41 bush. 44 lbs.



No. 13.—*Fan or Kice*.—A wide spreading head, straw short, not suitable for general cultivation. Yield, 34 bush. 20 lbs. per acre.

No. 14.—*Phoenix von Thalen*.—An early sort, head and grain small. Yield, 54 bush. 32 lbs. per acre.

No. 15.—*Golden Melon* yields well, but lodges badly. Yield, 43 bush. 40 lbs. per acre.

No. 16.—*Besthorn's*.—Heads fair size, straw weak, not desirable, medium early. Yield, 46 bush. 28 lbs. per acre.

No. 17.—*Selected Chevalier* yields well, straw weak, liable to lodge, medium early. Yield, 41 bush. 24 lbs. per acre.

No. 18.—*Large two-rowed Naked*.—Ripe at the time of our visit, not prolific or vigorous, straw very weak. Yield, 27 bush. 26 lbs. per acre.

No. 19.—*Peerless* is a vigorous grower, but too weak in the straw for general cultivation. Yield, 37 bush. 2 lbs. per acre.

No. 20.—*Early Minting*.—A strong grower. Yield, 42 bush. 24 lbs. per acre. A large field yielded 39 bush. 10 lbs. per acre.

No. 21.—*Danish Chevalier* is promising. Yield, 41 bush. 40 lbs. per acre. A large field yielded 43 bush. 41 lbs. per acre.

No. 22.—*Sharp's Improved*.—Resembles the Duckbill, though not as promising. Yield, 43 bush. 16 lbs.

No. 23.—*Odessa*.—Two-rowed, early but poor. Yield, 31 bush. 2 lbs. per acre.

BARLEY—SIX-ROWED.

No. 1.—*Rennie's Improved*.—A better sort than the common six-rowed now in general cultivation. Yield, 41 bush. 32 lbs. per acre. A small field of Rennie's Improved, on a good piece of land after potatoes, gave the extraordinary yield of 77 bush. 24 lbs. per acre.

No. 2.—*Baxter's*.—Is a heavy cropper. Yield, 40 bush. per acre. A field of Baxter's six-rowed yielded 51 bush. 35 lbs. per acre.

No. 3.—*Mensury* usually yields well, but is inferior for malting, very dark in color. Yield, 45 bush. 6 lbs. per acre.

No. 4.—*Common Barley*.—This plot did not look as promising as Rennie's or Baxter's. Yield, 46 bush. 26 lbs. per acre.

No. 5.—*Oderbruch*.—Better than the last named. Yield per acre, 51 bush. 32 lbs.

No. 6.—*Greek*.—A poor sort. Yield, 24 bush. 44 lbs. per acre.
No. 7.—*Petschora*.—A Russian variety, early, not very promising. Yield per acre, 32 bush. 14 lbs.

OATS.

The oats at the Central Experimental Farm compared with one another while growing were as follows:—

No. 1.—*Prolific Black Tartarian*.—A new oat introduced by the English seedsman, Webb. It produced an abundance of straw, and should yield well; is among the early sorts. Yield per acre, 20 bush. 33 lbs. A large field of Black Tartarian oats yielded 38 bush. 3 lbs. per acre.

No. 2.—*White Dutch*.—Early, but a weak grower, and thin on the ground. Yield per acre, 32 bush. 32 lbs.

No. 3.—*Siberian* is late, very thrifty, and stood nearly six feet high; the heads are long, not spangled. Yield per acre, 34 bush. 2 lbs.

No. 4.—*Welcome*.—Early, thinner on ground, smuts badly. Yield per acre, 37 bush. 30 lbs. A large field of Welcome yielded 53 bush. 9 lbs. per acre.

No. 5.—*White Russian*.—Slightly spangled head. Yield per acre, 15 bush. 12 lbs. A large field of White Russian yielded 37 bush. 31 lbs. per acre.

No. 6.—*The Cream Egyptian*.—A fine, thrifty grower, but inclined to lodge; stools abundantly. The straw was about 5½ feet long. Yield per acre, 57 bush. 12 lbs. A large field of Cream Egyptian yielded 43 bush. 31 lbs. per acre.

No. 7.—*Poland White*.—A medium early side oat; lodges very badly. Weight of this plot not ascertained. Yield per acre, 49 bush. 8 lbs., from a large field crop.

No. 8.—*Flying Scotchman*.—A thrifty side oat, also inclined to lodge. Yield per acre, 48 bush. 26 lbs., weighing 41 lbs. per bush.

No. 9.—*Early Blossom* presents a very handsome appearance in head; the straw is of medium length. This is a late sort and inclined to rust. Yield per acre, 38 bush. 18 lbs.

No. 10.—*New Zealand*.—Straw of medium length, comparatively free from rust. Yield per acre, 14 bush. 29 lbs.

No. 11.—*The Early Racehorse* has done well at Ottawa, though inclined to lodge. Yield per acre, 36 bush. 24 lbs.

No. 12.—*Canada Triumph*.—Yield per acre, 31 bush. 28 lbs. *Georgia Early*.—Yield per acre, large fields, 42 bush. 29 lbs.; ½ acre plot, 32 bush. 32 lbs. *Early Archangel*.—Yield per acre, large fields, 48 bush., 8 lbs.; ½ acre plot, 33 bush. 13 lbs. All the above are the same as No. 11.

No. 13.—*Holstein Prolific*.—Yield per acre, ½ acre plots, 45 bush.; large fields, 51 bush. 30 lbs. *Early White Canada*.—Yield per acre, ½ acre plots, 38 bush. 30 lbs.; large fields, 52 bush. 2 lbs. *Wideawake*.—Yield per acre, ½ acre plots, 24 bush. 16 lbs. *American Beauty*.—Yield per acre, ½ acre plots, 30 bush. 3 lbs. All closely resembling the Banner, we believe them to be the same oat, though the yield from the various plots may differ, which is to be accounted for by the difference in the plots.

No. 14.—*Hungarian White* is early, short and fine in the straw and thin on the ground. It does not seem to tiller freely. Yield per acre, 30 bush. 28 lbs. A large field yielded 65 bush. 5 lbs. per acre.

No. 15.—*White Giant*.—Short straw, thick on the ground. Yield per acre, 36 bush. 24 lbs.

No. 16.—*English Potato* was a good plot; straw stiff. Yield per acre, 38 bush. 8 lbs. A field of English Potato oats yielded 48 bush. 9 lbs. per acre.

No. 17.—*Longfellow*.—Straw very short, too short, though it may yield well. Yield per acre, 42 bush.

No. 18.—*White Egyptian* was promising. Yield per acre, 49 bush. 32 lbs.

No. 19.—*Hazlett's Seizure*.—A very poor sort. Yield per acre, 11 bush. 6 lbs. A field of Hazlett's Seizure oats yielded 44 bush. 14 lbs. per acre.

No. 20.—*Rosedale* promises well. Yield per acre, 27 bush. 32 lbs. A field of Rosedale oats yielded 83 bush. 6 lbs. per acre.

No. 21.—*Black Tartarian*.—Not as good as Rosedale. In the plot the yield was at the rate of 22 bush. per acre.

No. 22.—*Balger Queen*.—A poor, early sort. Yield per acre, 27 bush. 29 lbs.

No. 23.—*Victori's Prize*.—A very early, promising sort. Yield per acre, 18 bush. 33 lbs. A field of this variety, after being badly beaten by hail and much of the grain threshed out, gave 32 bush. per acre.

No. 24.—*Giant White Side*.—Straw medium, stands up well; heads long; should yield well, though in the plot it only gave at the rate of 21 bush. 24 lbs.

No. 25.—*Banner*.—Not as promising when growing as last named. Yield per acre, 37 bush. 17 lbs. A large field yielded 44 bush. 31 lbs. per acre, after being badly beaten by a hail storm.

No. 26.—*Giant Swedish*.—A vigorous grower, straw stiff and stands well; is a promising sort. Yield of this variety not yet ascertained.

No. 27.—*Rennie's Prize White* is one of the best early kinds, second only to *Prize Cluster*. It lodges under certain conditions. Yield per acre, 25 bush. 13 lbs. A field yielded 39 bush. 23 lbs.

No. 28.—*Prize Cluster* seems to be a favorite at Ottawa. It is evidently the best early oat on the Farm. It seems to be inclined to lodge, which is a troublesome quality. Yield per acre, 28 bush. 28 lbs. A large field yielded 48 bush. 24 lbs. per acre, after being much beaten by a hail storm.

No. 29.—*Bonanza*.—An early white oat. Yield per acre, 23 bush. 20 lbs. A field of this variety yielded nearly 39 bush. per acre.

No. 30.—*Challenge White Canada*.—A strong growing early sort, but weak in the straw. Yield per acre, 24 bush. 14 lbs. A field yielded 34 bush. 12 lbs. per acre.

TESTING SEEDS.

Prof. Saunders and his staff are now busily engaged in testing the vitality of a large number of samples of seed grain, which are coming in from different parts of the Dominion. He will be pleased to receive samples from every farmer who desires to know the germinating power of the grain he may be keeping for seed. Such samples can be sent free through the mail, and they should contain about an ounce of grain, and it would be well that they be forwarded as promptly as possible, so that the officials may get through with this work in good time.

THE DISTRIBUTION OF SAMPLES.

of seed grain for test is also going on, and as long as the supply lasts the department will send to any farmer who may desire to try them, one or two of the most promising sorts for trial. Write to Professor Saunders for what you desire.

MIXED CROPS.

The growing of mixed crops is attracting a good deal of attention in many parts of America. The following is the result of several experiments tried at the Central Experimental Farm, Ottawa. Each of the plots was a measured acre:—

No. 1.—Wheat, $\frac{1}{2}$ bush.; barley, $\frac{2}{3}$ bush.; oats, 1 bush.; peas, $\frac{3}{4}$ bush.; flaxseed, 2 lbs. Total yield straw and grain, 4,945 lbs.; weight of grain threshed, 1,728 lbs.

No. 2.—Wheat, 1 bush.; barley, 1 bush.; peas, 1 bush.; flaxseed, 2 lbs. Total weight of straw and grain, 4,860; weight of grain threshed, 1,595 lbs.

No. 3.—Wheat, 1 bush.; oats, 1 bush.; peas, 1 bush.; flaxseed, 2 lbs. Total weight of straw and grain, 4,975 lbs.; weight of grain threshed, 1,518 lbs.

No. 4.—Barley, 1 bush.; oats, 1 bush.; peas, 1 bush.; flaxseed, 2 lbs. Total weight of straw and grain, 5,180 lbs.; weight of grain threshed, 1,795 lbs.

No. 5.—Barley, 1 bush.; oats, 1 bush.; wheat, 1 bush.; flaxseed, 2 lbs. Total weight of straw and grain, 4,864 lbs.; weight of grain threshed, 1,808 lbs.

No. 6.—Wheat, $1\frac{1}{2}$ bush.; peas, $1\frac{1}{2}$ bush.

Total weight of straw and grain, 5,175 lbs.; weight of grain threshed, 1,871 lbs.

No. 7.—Barley, $1\frac{1}{2}$ bush.; peas, $1\frac{1}{2}$ bush. Total weight of straw and grain, 4,870 lbs.; weight of grain threshed, 1,435 lbs.

No. 8.—Oats, $1\frac{1}{2}$ bush.; peas, $1\frac{1}{2}$ bush. Total weight of straw and grain, 4,830 lbs.; weight of grain threshed, 1,495 lbs.

The land on which these crops were grown was a light, sandy loam, which was in hay when the farm was purchased. This was ploughed under after one crop had been taken off it, and has since been cropped with wheat, oats and rye without receiving any manure.

The observant reader will notice that some of the varieties that we have not recommended have exceeded in yield sorts recommended; this, however, does not alter our opinion of their relative merits. A variety which may be most suitable for general cultivation, being hardy, productive and of good quality, may under certain conditions give a less yield per acre than a very unpromising variety. In many parts of the province of Ontario the soil is extremely variable. A great difference existed among the plots at Ottawa on this account. In comparing the yields here this must be taken into consideration. As an example of this, the attention of the reader is directed to the Rosedale oat, one of the best kinds in Canada to-day, which yielded in the plot not quite 28 bushels per acre, while in the field its average exceeded 83 bush. per acre. The yield in a small, well kept test plot, should exceed that in field culture, but in this case, as in several others, it falls far behind the average in the field.

Manitoba Experimental Farm, Brandon, Man.

Wheats grown on upland prairie, summer-fallowed. Size of plots, one-fifth acre. Sown with press drill:—

| VARIETY. | Sown. | Headed. | Ripe. | No. days Maturing | Yield per Acre. |
|------------------------|-------|---------|--------|-------------------|-----------------|
| Red Fyfe | Ap. 8 | Jly 22 | Ag. 19 | 133 | 52 55 |
| Old Red River | " 8 | " 18 | " 18 | 132 | 47 35 |
| Pringle's Champlain | " 8 | " 6 | " 18 | 132 | 44 55 |
| Campbell's White Chaff | " 8 | " 4 | " 17 | 131 | 49 45 |
| Chilian White | " 8 | " 3 | " 19 | 133 | 43 00 |
| Wellman's Fyfe | " 8 | " 5 | " 20 | 134 | 28 18 |

Wheats grown on upland prairie, summer-fallowed. Size of plots, one-tenth acre. Sown with press drill:—

| VARIETY. | Sown. | Headed. | Ripe. | No. days Maturing | Yield per Acre. |
|--------------------|-------|---------|--------|-------------------|-----------------|
| Red Fyfe | Ap. 8 | Jly 5 | Ag. 19 | 133 | 45 05 |
| Green Mountain | " 8 | " 13 | " 20 | 134 | 42 20 |
| Hungarian Mountain | " 8 | " 10 | " 19 | 133 | 42 00 |
| Assiniboine | " 8 | " 5 | " 19 | 133 | 38 10 |
| Hard Calcutta | " 8 | Jne 30 | " 15 | 129 | 30 20 |

Wheat sown in the valley; soil, clay loam. Size of plots, one-tenth of an acre. Common drill. Seven pecks per acre:—

| VARIETY. | Sown. | Headed. | Harvested. | No. days Maturing | Yield per Acre. |
|----------------------|--------|---------|------------|-------------------|------------------|
| Rio Grand | Ap. 13 | Jly 25 | Ag. 31 | 140 | Bush. lbs. 36 10 |
| Pringle's Champlain | " 13 | " 23 | " 30 | 139 | 34 40 |
| White Connell | " 13 | " 29 | Sep. 1 | 141 | 34 30 |
| Defiance | " 13 | " 27 | " 1 | 141 | 34 10 |
| Saxons | " 13 | " 23 | Ag. 27 | 136 | 33 50 |
| Red Fern | " 13 | " 25 | " 31 | 140 | 32 30 |
| Judket | " 13 | " 23 | Sep. 2 | 142 | 32 20 |
| Russian Hard Tag | " 13 | " 14 | Ag. 27 | 136 | 32 10 |
| *Red Fyfe | " 13 | " 27 | Sep. 2 | 142 | 32 10 |
| *White Fyfe | " 13 | " 25 | " 1 | 141 | 29 40 |
| Gebum | " 13 | " 23 | Ag. 22 | 131 | 29 10 |
| Indian Hard Calcutta | " 13 | " 11 | " 25 | 134 | 27 20 |
| *Ladoga | " 13 | " 20 | " 26 | 135 | 22 30 |
| Colorado | " 13 | " 19 | " 27 | 136 | 20 30 |
| Australian | " 13 | " 23 | " 26 | 135 | 15 50 |

*Slightly injured by wind.

Tests of some new wheats on backsetting. Size of plots, one-fifth of an acre. Sown with press drill. Six pecks per acre:—

| VARIETY. | Sown. | Headed. | Harvested. | No. days Maturing | Yield per Acre. |
|-----------------|--------|---------|------------|-------------------|------------------|
| Blue Stem | Ap. 18 | Jly 17 | Sep. 2 | 137 | Bush. lbs. 26 25 |
| French Imperial | " 18 | " 14 | Ag. 28 | 132 | 32 30 |
| Red Fyfe | " 18 | " 17 | Sep. 2 | 137 | 33 45 |
| Waugh's Delhi | " 18 | " 17 | Ag. 24 | 128 | 28 00 |
| Kent Wheat | " 18 | " 19 | " 25 | 139 | 20 20 |

WHEAT.

Test of disc harrow cultivation against spring plowing. Soil, rich black loam. Size of plots, one-half acre:—

| PLOT. | Harvested. | Yield. |
|--|------------|--------|
| 1. Plowed in spring; harrowed with flat harrow and drilled; no weeds. | Aug. 25 | 44 24 |
| 2. Stubble burnt off; wheat drilled in and harrowed with flat harrows, some weeds. | " 26 | 40 00 |
| 3. Stubble burnt off; wheat "cutaway disc" harrowed in; quite weedy. | " 27 | 39 12 |
| 4. Stubble not burnt off; wheat "cutaway disc" harrowed in; quite weedy. | " 27 | 31 08 |

Test of cutting wheat at different stages of ripeness:—

| VARIETY. | Sown. | Harvested. | Color of straw when cut. | Stage when cut. | Yield per Acre. |
|----------|--------|------------|--------------------------|---------------------|------------------|
| Red Fyfe | Ap. 17 | Ag. 19 | Very green | In early milk. | Bush. lbs. 21 20 |
| " | " 17 | " 24 | Green. | In late milk. | 28 00 |
| " | " 17 | Sep. 6 | Ripe. | Cured but frost-ed. | 31 20 |

Tests of varieties of oats grown on summer-fallow. Soil, rich black loam. Sown with nine pecks of seed; press drill. Size of plots, one acre:—

| VARIETY. | Sown. | Headed. | Harvested. | No. days Maturing | Yield per Acre. |
|------------------|-------|---------|------------|-------------------|------------------|
| English White | May 8 | Jly 28 | Ag. 29 | 113 | Bush. lbs. 83 05 |
| Banner | " 8 | " 29 | Sep. 3 | 118 | 81 38 |
| Early Racehorse | " 6 | " 22 | Ag. 22 | 168 | 77 08 |
| White Russian | " 6 | " 29 | Ag. 31 | 118 | 74 14 |
| Early Blossom | " 6 | " 30 | " 4 | 121 | 74 19 |
| Archangel | " 6 | " 23 | Ag. 25 | 110 | 72 29 |
| Welcome | " 6 | " 23 | " 22 | 108 | 72 27 |
| Holstein | " 6 | " 28 | Sep. 5 | 121 | 70 26 |
| Black Champion | " 6 | " 30 | " 5 | 122 | 69 09 |
| Swedish | " 7 | " 31 | " 9 | 125 | 68 30 |
| Glenrotherian | " 6 | " 31 | " 5 | 122 | 67 25 |
| Black Tartarian | " 6 | " 29 | " 5 | 122 | 66 28 |
| Winter Grey | " 6 | " 27 | Ag. 22 | 108 | 66 26 |
| Prize Cluster | " 6 | " 27 | " 26 | 110 | 66 08 |
| American Triumph | " 7 | " 31 | Sep. 7 | 129 | 64 02 |
| Australian | " 8 | " 29 | " 4 | 119 | 59 26 |

Wheat.—Test of thick and thin sowing with common drill:—

| VARIETY. | Sown. | Headed. | Harvested. | Yield per Acre. |
|-----------------------------|--------|---------|------------|------------------|
| Red Fyfe, 4 pecks per acre. | Ap. 16 | Jly 20 | Sep. 1 | Bush. lbs. 33 20 |
| Red Fyfe, 5 pecks per acre. | " 16 | " 20 | " 1 | 36 25 |
| Red Fyfe, 6 pecks per acre. | " 16 | " 20 | " 1 | 38 55 |
| Red Fyfe, 7 pecks per acre. | " 16 | " 20 | " 1 | 39 55 |
| Red Fyfe, 8 pecks per acre. | " 16 | " 20 | " 1 | 39 05 |

Oats sown with common drill:—

| VARIETY. | Sown. | Headed. | Harvested. | Yield per Acre. |
|-----------------------------|--------|---------|------------|------------------|
| Welcome, 8 pecks per acre. | Ap. 16 | Jly 14 | Ag. 18 | Bush. lbs. 86 01 |
| Welcome, 9 pecks per acre. | " 16 | " 14 | " 18 | 87 12 |
| Welcome, 10 pecks per acre. | " 16 | " 14 | " 16 | 87 02 |
| Welcome, 11 pecks per acre. | " 16 | " 14 | " 16 | 78 13 |
| Welcome, 12 pecks per acre. | " 16 | " 14 | " 16 | 88 23 |

Barley sown with common drill:—

| VARIETY. | Sown. | Headed. | Harvested. | Yield per Acre. |
|-------------------------------------|--------|---------|------------|-----------------|
| Two-row Duckbill, 5 pecks per acre. | Ap. 24 | July 16 | Ag. 16 | 53 61 |
| Two-row Duckbill, 6 pecks per acre. | " 24 | " 16 | " 16 | 57 14 |
| Two-row Duckbill, 7 pecks per acre. | " 24 | " 16 | " 16 | 59 33 |
| Two-row Duckbill, 8 pecks per acre. | " 24 | " 16 | " 16 | 58 31 |
| Two-row Duckbill, 9 pecks per acre. | " 24 | " 16 | " 16 | 51 37 |

Test of drills with wheat on summerfallow. Soil, clay loam:—

| VARIETY. | Sown. | Headed. | Harvested. | Yield per Acre. |
|-------------------------|--------|---------|------------|-----------------|
| Red Fyfe, common drill. | Ap. 15 | July 24 | Sept. 2 | 33 20 |
| Red Fyfe, press drill. | " 15 | " 24 | " 2 | 28 50 |
| broadcast machine. | " 15 | " 29 | " 5 | 22 10 |

Test of drills with barley on summerfallow. Soil, clay loam:—

| VARIETY. | Sown. | Headed. | Harvested. | Yield per Acre. |
|--------------------------------------|--------|---------|------------|-----------------|
| Two-row Duckbill, press drill. | Ap. 24 | July 16 | Ag. 19 | 55 10 |
| Two-row Duckbill, common drill. | " 24 | " 16 | " 19 | 50 30 |
| Two-row Duckbill, broadcast machine. | " 24 | " 18 | " 19 | 42 14 |

Varieties of barley sown on clay loam soil; backsetting; with press drill. Seven pecks per acre. Size of plot, 1/2 and 3/4 acre:—

| VARIETY. | Sown. | Headed. | Harvested. | Yield per Acre. | Weight per bush. |
|---------------------|--------|---------|------------|-----------------|------------------|
| California Prolific | Ap. 23 | July 9 | Ag. 14 | 68 47 | 50 1/4 |
| Danish Chevalier | " 23 | " 15 | " 19 | 68 16 | 52 |
| Odessa Six-rowed | " 23 | " 8 | " 12 | 66 14 | 53 |
| Webb's Chevalier | " 23 | " 8 | " 18 | 61 17 | 52 1/4 |
| Goldthorpe | " 23 | " 16 | " 18 | 65 21 | 50 |
| Beardless | " 23 | " 16 | " 18 | 58 34 | 50 1/4 |
| Hennie's Six-row'd | " 23 | " 6 | " 12 | 56 39 | 50 |
| Two-rowed Naked | " 23 | " 5 | " 16 | 50 18 | 60 |

Indian Head Experimental Farm Tests.

Under the watchful direction of Mr. Angus Mackay, the Superintendent, an elaborate series of experiments were again carried on during 1891 at the Northwest Territories Experimental Farm, Indian Head. Of grains, roots, etc., there were during the year 383 grain and fodder plots, 90 grass plots, and 411 tests of roots, corn and vegetables under cultivation, which will indicate the immense amount of labor involved in arriving at conclusions and keeping records. During a visit of a representative of the FARMER'S ADVOCATE to the farm, Mr. Mackay furnished the following data concerning the results of the past season's work:—

WHEATS.

Red Fyfe—Sown on April 11th in one-tenth acre plots, ripened on Sept. 12th, and yielded at the rate of 44 bush. 20 lbs. per acre; sown April 8th on turnip land (5 acre plot), ripe Sept. 9th; yield, 51 bush. 10 lbs. per acre; small plot, sown April 6th, yielded 48 bush. 10 lbs.

White Fyfe—Sown April 11th on small plot, gave 39 bush. 20 lbs.; 5-acre plot, sown same date, 33 bush.

Ladoga—Sown April 6th, 30-acre plot, yielded 36 bush. 46 lbs.; sown April 8th, 36 bush.; sown April 11th, 33 bush. 20 lbs.

Of the newer sorts, Campbell's White Chaff, originated near Owen Sound, Ontario, sown April 6th on one-tenth acre plots, yielded 30 bush. 26 lb.; sown April 13th, 35 bush. 30 lbs.; sown April 20th, 34 bush., and on April 27th, 37 bush. 46 lbs.; on May 4th, 35 bush. 30 lbs.;

May 11th, 36 bush. 10 lbs. A 5-acre plot, sown April 18th, yielded 52 bush. per acre. The marked increase in yield in the latter instance was due to the protection afforded by a railway bank from 10 to 15 feet high, thus preventing the uncovering of seed by the wind, which had the effect of reducing the other yields generally. This emphasizes once more the very great importance of setting out shelter belts of hardy trees suitable for that purpose.

Incidentally it might be mentioned that the trees thus far found best adapted for that purpose on the Indian Head Farm are the following:—Native Maple, Ash, Elm, Poplars and Cherry, European Mt. Ash, *Saley Boronish* (Willow), *Saley Acutifolia* (Willow), and two Poplars—*Populus Wabstii Riga* and *Populus Aurea*.

Red Fern wheat, sowed April 11th, gave 35 bush. 50 lbs.; on April 17th (fall plowing), 32 bush. 30 lbs., and on summerfallow land 34 bush. 20 lbs.

White Russian, sowed April 11th, gave 34 bush. 10 lbs.; White Connell, 33 bush. 40 lbs.; Campbell's Triumph, 33 bush. 20 lbs.

The East India wheats, which in 1890 gave such good returns, in 1891 were very poor, failing to stand the spring winds and frosts as well as the other wheats.

In point of earliness, Ladoga ranks first, and Campbell's White Chaff next, but the latter is a soft wheat, though it shows improvement in the matter of hardness, compared with 1890. It is considered a promising wheat.

White Fyfe ripened a day or so earlier than the red variety, and Ladoga was 10 days ahead, though not as heavy a yielder nor as good in quality.

TREATMENT FOR SMUT.

Very smutty seed of the Red Fyfe variety, untreated in any way, yielded at the rate of 24 bush. 10 lbs. per acre on a small plot, and one-half the heads were found to be smutty. Ten bushels of the same seed, treated with one pound blue stone, and sown under similar conditions otherwise, yielded at the rate of 29 bush. 30 lbs., and in a plot six feet square there were 270 smutty heads and 1,789 free from smut. Where the quantity of blue stone used was doubled the yield was 32 bush. per acre, and out of 2,055 heads on a six-foot square plot there were only 17 smutty heads.

FROZEN SEED TESTED

A comparative test of the values of frozen and unfrozen seed was made, seed in all cases, of course, being thoroughly cleaned. The best seed, No. 1 hard, from the Brandon Experimental Farm, gave 32 bush. 40 lbs. per acre; No. 1 frozen, 31 bush. 50 lbs.; No. 2 frozen, 31 bush. 10 lbs.; No. 3 frozen, 38 bush. 10 lbs, the latter being not only the largest yield but best in quality.

The plots of good and No. 1 frozen were heavier in straw and considerably lodged, while Nos. 2 and 3 frozen were thinner in straw and stood upright to the last, which no doubt accounts for No. 3 frozen yielding better than the good seed.

METHODS OF SEEDING—YIELDS.

| | |
|------------------------|------------------|
| Broadcast (per acre) | 38 bush. 20 lbs. |
| Drill (per acre) | 32 " 40 " |
| Press Drill (per acre) | 30 " 10 " |

QUALITIES OF SEED—YIELDS.

| | |
|-----------------------|------------------|
| 1 bush. seed per acre | 33 bush. 49 lbs. |
| 1 1/2 " " " | 31 " 40 " |
| 1 1/4 " " " | 34 " 10 " |
| 1 3/4 " " " | 29 " 15 " |

DIFFERENT DEPTHS—YIELDS.

| | |
|---------------|--------------|
| 1 inch deep | 36 bush. |
| 2 inches deep | 31 " 40 lbs. |
| 3 " " " | 32 " 40 lbs. |
| 4 " " " | 28 " " |

BARLEYS.

The Duckbill two-rowed barley, gave 60 bushels per acre yield, and a variety called "California Prolific," 65 bushels, but the latter is believed to be Duckbill, sent to the Station under the latter name.

Selected Chevalier gave 50 bush. 36 lbs.; Prize Prolific, 54 bush. 28 lbs.; Baxter's six-rowed, 50 bush. 10 lbs. The lowest yielder was an India barley, giving only 24 bush. 33 lbs. Duckbill was the earliest of the two-

rowed sorts, being sown April 15th and cut Sept. 1st, and is considered by Mr. Mackay by far the best barley for the Northwest. The straw is of excellent quality, and stands well. It ripens from four to six days earlier than any other two-rowed sort, though not so early as the six-rowed sorts by more than a week, yet it escapes the frost.

OATS.

The earliest variety was the Prize Cluster (white), yielding 86 bush. 24 lbs. on one tenth acre plots; American Banner, yielding 88 bush. 4 lbs., but was about one week later in ripening than the Prize Cluster. Another excellent oat was the Bonanza, yielding 89 bush. 16 lbs., an early ripener also. The Cream Egyptian is an excellent oat, yielding on 5-acre stubble plot 80 bush. per acre. The Welcome oat also yielded 80 bush. per acre, and the Black Tartarian 78 bush. The Potato, a white oat, gave 80 bush.

PEAS.

This crop did not succeed as well as in former years, for the reason that the seed was uncovered in the spring by the winds. As a rule peas have done well on this farm, the better field varieties being:—Black Eyes, White Marrowfat, Multipliers and Mummy. Yields as high as 30 bush. per acre have been obtained.

FODDERS.

A number of experiments were carried on with different grains to produce fodder for summer use, if necessary, but more especially for hay. The best results were obtained from rye and barley sown April 18th and cut Aug. 3rd, yielding 2 1/2 tons hay per acre. The largest yield was about four tons per acre from Red Fyfe wheat and rye sown on April 6th and cut July 20th.

GRASSES.

Of the grasses, Meadow Fescue has done the best, the yield being 2 tons 600 lbs. per acre, Orchard Grass ranking next with a yield of 2 tons. Both these sorts have been grown two years, a second cutting of 1 1/2 tons per acre being secured during the past season of Orchard Grass.

CLOVERS.

Of the clovers, Lucerne gave 2 1/2 tons the second year from one cutting; Mammoth clover gave 1 ton 1600 lbs. the first year. Lucerne promises to be a very useful crop, the second season's growth greatly exceeding the first. Red Clover and Sanfoil were both killed out in winter, but White Clover survives the winter and promises usefulness for lawn purposes.

ROOTS.

Fifteen varieties of turnips were tried. Bangholm, a Swede, yielded 1,086 bush. per acre; Purple Top Swede, 1,086 bush. 46 lbs.; Imperial Swede, 1,056. The Purple Top is highly recommended.

Turnip seed was sown on May 11th and May 23rd, and there was a yield of 200 per acre more in favor of early seeding.

Fifteen varieties of mangolds were tested, but the results were poor, the best yielder being the Long Red, 615 bush. per acre; the poorest yield being Yellow Tankard variety, 422 bush. per acre. Sugar beets averaged about 350 bush. per acre, but further tests are to be made.

Fifteen varieties of carrots were grown, the largest yield being 366 bush per acre from the Short Whites.

Of potatoes, 75 varieties were tried, and the best yielder was a seedling obtained from the Central Experimental Farm, giving 463 bush. per acre, but in quality they were poor, being coarse and rough. Among the best varieties were:—Early Rose, 309 bush. per acre; Early Puritan, 293; Beauty of Hebron, 298; Sharp's Seedling, 287; Rose's New Giant, 377; Lizzie's Pride, 368; Empress Belle, 311, and Snow Flake, 322.

CORNS.

Thirty-four varieties were tested, the greatest yield being 10 1/2 tons per acre of North Dakota; Red Blazed gave 10 tons; Golden Dent, 9 1/2 tons. The highest corn was only 5 1/4 feet high, with hardly a trace of ear. Very few of them came in silk. The Squaw Corn, Extra Early Cory and Mitchell's Extra Early produced ears fit for table use, but did not harden.

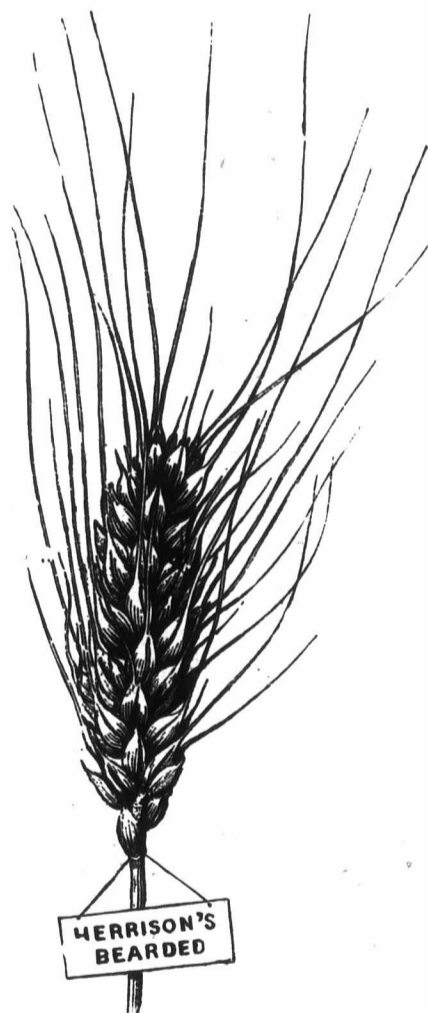
About four acres of corn was put into the silo a long with other fodders, each, of course, in separate layers, upon the results of which future reports will be made.

A DANGEROUS WEED.

At Indian Head, about the famous Bell Farm, the writer noticed vast quantities of what is called "Tumble Weed," from its habit when dry of rolling and tumbling along in large bunches. It is an annual, each plant producing innumerable quantities of seed, and in a couple of years since it first made its appearance there it has spread with frightful rapidity. Prof. Macoun some time ago predicted that it would yet be regarded as one of the worst known weeds. Prompt and general measures should be taken to destroy this new pest.

Seed Grain Tests at Guelph.

Last September we gave a review of the work on trial plots at the Ontario Agricultural College Farm, Guelph, a summary of which may serve to freshen the minds of our readers. Of the fifty plots of spring wheat at Guelph, although promising and very free from rust, few appeared to us to be growing close enough or sufficiently heavy to yield anything extraordinary. Of necessity, all reports of plots are slightly misleading, as the ground is measured only to the outside of the growing grain, while the crop has the benefit of a large outer surface, which it has not in a large field, hence the heavy yields here in proportion to the appearance when growing.



Colorado and Herrison's Bearded made much the best showing, growing closely. The heads of each were well filled.

Red Fyfe, the standard sort in the Northwest, was a moderate crop.

Ladoga did not promise well; was thin on the ground; straw weak, and head open.

Wild Goose was, if anything, still worse.

Red Fern promised more favorably, although it has never been considered a reliable sort. For general cultivation, it does well in some sections.

White Fyfe was very like the red variety in appearance.

White Russian was later, although yielding well some seasons. It is not to be relied upon in many localities, though in some it does well.

As they appeared to us, the first two mentioned are the most likely to prove useful in Ontario and Quebec.

Campbell's White Chaff was not grown.

Of the one hundred varieties of oats, only a few appeared to be worthy of cultivation on the best lands. Doubtless some of the earlier sorts should be tried in localities where oats ripen late. Of these, Early Calder and Early Racehorse are reliable.

Of the moderately early sorts, Banner, Magnet and Cluster are very much alike. The two former have yielded well in many localities.

The White Cave is a particularly heavy cropper; very heavy yields are reported last season. It has a strong, stiff straw, standing fully 4 1/2 feet; berry heavy and light skinned; a good milling variety.

Early Gothland is a very handsome new sort from Sweden, and, like the White Cave, ripens earlier than the black varieties. It has a close, heavy head, stands well and is reported to have done exceedingly well wherever grown. It is certainly one of the most promising of the new oats. All the foregoing are white.

In black oats, several new varieties of French oats have done very well and proved heavy yielders of good grain, but we think that where straw is an object they are too fine and short, the straw not giving more than half the yield of some of the others mentioned.

The Black Tartarian, than which there is no more reliable sort, should never be discarded on land which suits it, but growers must remember it requires care in the selection of seed.

What the Seedsmen Write Us.

THE STEELE BROS. CO., TORONTO.

The Steele Bros. Co., Seed Merchants, Toronto, Ont., write:—In response to your request we gladly give you reports regarding seed grain, etc., that are engaging our attention for the season of '92. In this connection, the fact that is uppermost in our minds is the loss the country has sustained through farmers sowing inferior seed grain, and more particularly low grades of clover and timothy seed. To such an extent is this carried on that some country merchants complain of the difficulty of selling choicer grades, stating that while the farmer says he wants the best, yet his actions belie his words, for low prices always seem to make the sale. Now, while we do not in any way assert that this is the case in all sections, yet we are safe to say it is so in many, and we take this opportunity of drawing attention to the fact, and urging our farmer friends to buy only the best. "Low grade seed does not pay." Realizing this important fact, we have for years past used the most perfect machinery obtainable for the purpose of cleaning all seeds, and this year have added additional cleaning mills and the most perfect machinery that money can procure, that the requirements of our vast trade may be more fully met. From time to time we notice writers in the agricultural papers referring to this matter, and yet with it all we regret to state there still exists a very large demand for poorer grades of seed, and some low, trashy grades are imported by unscrupulous dealers and sold, to the great detriment of the farming community. Now the dealer is not so much at fault as the farmer, for if there was no demand for these low grades, there would be none imported. The farmers have the remedy in their own hands. We only wish we could impress this fact more forcibly. They talk about wanting the best, but are not willing to pay the price necessary to select, care for and produce the same; this is where the difficulty lies.

SPRING WHEAT.

In spring wheats we are still placing Campbell's White Chaff to the fore, and so far as heard from to date it has done well in all spring wheat sections, and we have some very strong testimonials in its favor, which we publish in full in our '92 catalogue.



CAMPBELL'S VELVET CHAFF.

Prof. Saunders was about right in his recommendation last season when he said he anticipated it would do well for the east; to this we add Manitoba, Northern Ontario, and even parts of Western Ontario. It has been tried in various parts of the west and with varying success; in parts of the fall wheat districts it has done poorly, in some parts well, while east and north and northwest it has been a decided success.

Mr. Mackay, of Indian Head Farm, reports it is hardening very fast, and that it bids fair to stand amongst the leading wheats of that section. The price this season will be much lower than last, and thus enable all parties to give it a fair trial. One farmer reports a 100 pound crop from one pound sown.

We shall introduce this season, in small packages only, a new variety which has originated also with Mr. Campbell. We are not prepared to state, however, that it will be a success, but have strong hopes of same. In order, however,



VOLO WHEAT.

to test it through the length and breadth of the land, we have arranged with Mr. Campbell to offer one bushel only in two ounce packages, and thus have it fully tried. It is a broad wheat with somewhat the appearance of the old Egyptian, the head measures three-quarters of an inch in width and about two and a-half in length, and has a peculiar bronze cast; the grain is hard and flinty, somewhat resembling goose wheat, the straw is solid from the ground up. The writer examined a field of this grain last season and found it looking remarkably well; it apparently needed the strong, solid stem to carry the heavy head which it produced, and which leaned over very much. Mr. Campbell reported the grain from each sheaf, when cleaned, to weigh half as much as the sheaf did when cut in the field. We anticipate that in sections where only goose wheat has done well in the past, this may excel it and yield a much heavier crop. It is called "Volo."

BARLEY.

Of this we have only the old varieties to offer. Our reports so far state that Carter's Prize Prolific and Duckbill have done remarkably well, and under existing circumstances it seems probable these will be the varieties sown in the future.

OATS.

Of the entire varieties we report as follows:—Steele's White Cave has yielded remarkably well this last season, in some sections running over 100 bushels per acre, but we regret to state that through want of care on the part of the party who grew the stock seed for us, it has unfortunately been mixed with black oats to such an extent that we do not feel justified, in fairness to our customers, to offer it again this season. It is without doubt a first-class oat, and we are having steps taken to have the stock seed re-selected and grown, which will prevent our offering it again for at least a season. We regret this matter very much, but it has been completely beyond our control, and we are now doing the only fair thing that we can in order to procure reliable stocks, therefore shall not offer it for the season of '92.

We have, however, a new oat which we think will give every satisfaction, which is

EARLY GOTHLAND.

This oat we have had tested in various sections. These are neither a side nor spangle oat, but grow closely and evenly all around the main stock, they are very stiff in straw, standing up well, and are entirely free from rust or smut. The grain is large and handsome, and weighs well to the measured bushel.

Mr. J. C. Snell reports them as growing from four to six inches higher than banner oats, with long heads well filled and good stiff straw.

Mr. Richard Gibson, of Delaware, reports them as "the most promising new oat I have yet tried."

Mr. R. H. Harding, of Thorndale, says: "I can heartily recommend Early Gothland oats; they yield well and weigh about forty-five pounds per bushel."

Other reports are in the same strain, and we feel great confidence in recommending them as one of the coming oats. As we have a large quantity of this variety, we are enabled to offer them at reasonable prices, that all may be able to test them.

PEAS.

The only variety that we have special reason to recommend is Mummy. This through the length and breadth of the land has done well. We strongly recommend this being sown.

POTATOES.

As usual on the watch for new and reliable varieties, we have this season succeeded in securing one or two that we think will please our customers. Last season we offered Burpee's Extra Early, and found the demand very heavy, exhausting our supply almost before the season commenced. This we have guarded against this season and had large supplies grown.

We are also offering a new early potato that we think will even excel it, and which originated

with the producer of Burpee's Extra Early, therefore comes from a reliable source.

This is Steele's Earliest of All, and is a remarkable variety which we think has come to stay. We regret that as our stock is limited it can only be offered this season by the pound and peck.

The new Toronto Queen as a medium, and New Harbinger as a late sort, are now offered at reasonable prices, and will make a welcome addition to the good potatoes now in use. Reports from various quarters show that Summit and the Rural New Yorker No. 2 have yielded remarkable results, and given splendid satisfaction throughout the country, while their freedom from disease and rot has marked them as amongst the leading varieties for future planting, and as the price is now much reduced we anticipate that they will be more freely distributed, and will, we are sure, give the utmost satisfaction.

CORN.

Rural Thoroughbred White Flint Corn.—This grand new variety originated with the Rural New Yorker, and has been tested here in Canada for several years, notably at the Ottawa Experimental Farm, with marked success.

Reports received from growers of it during last season show it as satisfactory, and we anticipate that when thoroughly disseminated and known it will by all odds take the lead. It is of a hard, flinty nature, and akin to our own Canadian White Flint, and it seems thoroughly adapted to our climate; of spreading habit, not more than one kernel should be grown in a hill. Its great suckering habit, breadth of blade and smallness of stock, recommend it as a fodder plant, while for ensilage purposes it is most valuable.

In favorable seasons it will produce large heads, which will probably reach the milk stage before frost touches them, but its chief advantage is in the large amount of fodder it produces, in some cases being fully one-sixth more than other kinds growing beside it.

The officers of the Experimental Farm, Ottawa, consider it to be the most promising of all varieties tested there. They say it stools very freely, is very leafy from bottom to top, and matures earlier than the large growing Dent varieties; it has also averaged a greater weight of fodder.

We strongly advise all to test this variety, even if only a small quantity.

JOHN S. PEARCE & CO., LONDON, ONT.

In response to your letter of the 18th ult., it gives us much pleasure to say that our stock of seed grains now in our warehouse and contracted for never was as fine as we have to offer our customers this coming year. But before entering on a brief description of these choice varieties we would just say that our 1892 catalogue is now in the hands of the printers, and will be ready to mail about the time this reaches your numerous readers. All should have a copy. It contains the cream of all the old and newer sorts of seeds worthy of cultivation.

First and foremost among the varieties of seed grains we want to call the attention of the readers of the FARMER'S ADVOCATE to is our *Selected Canadian Thorpe Barley (two-rowed)*. The following is taken from our catalogue for 1892:—

SELECTED CANADIAN THORPE BARLEY (two-rowed).—Since the passage of the McKinley Bill Canadian farmers have very wisely begun to turn their attention to two-rowed barley. The Dominion Government imported a number of varieties, which have been thoroughly tested all over the Dominion. We have carefully watched the results, and have succeeded in finding an improved Canadian variety; it is two rowed, and closely resembles the English Thorpe in some respects, but is much stiffer in the straw, earlier, more productive and hardy, and more suitable to the Canadian soil and climate. It is a variety established by selection by one of Canada's most successful grain farmers, and a noted prize-winner in this class, selected in the field, hand-picked in the sheaf and bag for the last sixteen years; previous to that date another successful grain raiser and prize-winner had devoted some six years to the improvement of this variety. It is now very productive, unusually hardy, grows an abundance of straw, which stands up

as stiffly as fall wheat, stools very freely, and in general field cultivation will outyield any of the six-rowed varieties when sown on the same soil. It is an upright grower, the heads never droop—we have never seen it lodged. Five pecks to one and a-half bushels of seed to the acre is quite sufficient. It is an improvement of and selection from what is now known as the Duckbill variety. In color it is as bright as the brightest six-rowed, when as carefully saved. In field cultivation it outweighs any of the English sorts we have tested. We have had it grown and tested in various parts of Canada; in Ontario it has yielded in actual field cultivation from fifty to seventy bushels per acre, which weighs from fifty-four to fifty-six and a-half pounds per bushel. It does well wherever six-rowed barley succeeds. In the Northwest it is found to be quite as hardy in withstanding frosts, high winds and drought as the best Northern grown Red Fyfe. Without letting the grain buyers know it was a special variety, we sent one of our growers to market with a sample. A leading buyer at once offered him fifty-eight cents per bushel, three cents above the highest price he was then giving for the best two-rowed. He finally offered sixty cents for a car load—he was shipping to the British market. We invited several leading farmers to visit our field when growing; all united in pronouncing it the best crop of two-rowed barley they had yet seen, and, without exception, each requested seed, though at that date we were not offering it for sale. We control all the stock of this grain that is pure, and have had all carefully hand-picked in the field before cutting last harvest. We may further say that this barley has been grown on one of the best barley farms in the Bay of Quinte district—the heart of the best barley country in America. We highly recommend our stock to farmers generally.

CARTER'S PRIZE PROLIFIC (two rowed)—We have also secured a small quantity of this barley that has been hand-picked, and it is relatively pure. Farmers will do well to know from whom they are buying this variety, as much of it was badly mixed last season.



OATS.

We have a new variety of oats that are really very fine. This oat cannot help pleasing all who see it. We never saw a finer field growing than the *Abyssinian*. We saw this oat growing on a farm in eastern Ontario, and were so pleased with the appearance of the field (some two acres) that we have since bought the crop. They are particularly well adapted for light and rather poor soils, as the straw is very strong, but they stand up unusually well; was brought from Abyssinia by a captain in the army and found their way to Canada. They have great stooling properties, and have a well-made, com-

compact head. They are an early variety and weigh 40 to 45 lbs. to the bushel.

Since the above was written we have got the oats in our warehouse, and we are very much pleased with them. They have come fully up to our expectations.

AMERICAN BEAUTY

is another very fine oat. We have a fine stock of this variety. The yield of these has been most satisfactory; the sample is very firm. The Experimental Station at Geneva says of these:—"Berry, long and taper-pointed; average height, three feet three inches; culm (stalk), very erect and stout; panicle (seed head), nine inches; berry, large; straw, very fine."

The above two oats are just what the oatmeal millers want, having a large, plump kernel with a very thin, soft hull.

We have also a fine stock of *Golden Giant* and our celebrated *Rosedale*, all of which have given the best of satisfaction to our customers. In

PEAS

we have the *Mummy* and *Centennial*, both of which are excellent varieties—the former for rich, heavy land. For land in a high state of cultivation we would recommend either the *Mummy*, the *Crown* or *Dan O'Rourke*. These varieties in most growing seasons are not so liable to grow too much straw, as many of the common sorts are sure to do.

CORN—MITCHELL'S EXTRA EARLY.

While it may be somewhat early to talk about corn, yet we want to say a word or two about a variety that is well adapted to Manitoba and the N. W. T., as nearly every farmer is anxious to grow a little corn, be it ever so little, even in Manitoba and the Northwest. We beg to call the attention of all such to *Mitchell's Extra Early* corn. This corn wants very rich land and plenty of cultivation, and may be planted only three feet each way. It will ripen in Manitoba.

POTATOES.

Pearce's Extra Early is among the best and earliest potato in the market. We have some fifteen choice varieties of potatoes now in our cellar, all of which have been grown on our *Rosedale* trial grounds. They are very choice stocks—pure and well selected. Those interested in choice seed potatoes should see our catalogue for 1892.

COLORADO WHEAT.—This wheat is again to the front, having done better than any other variety throughout Ontario and Quebec, and from all accounts it has done well in Manitoba, and is well worthy of a trial by all who have not grown it. It is a light, amber-bearded wheat, with a rather short, thick berry, the grain being as large as some varieties of winter wheat; in fact, when entered at some exhibitions, it has been thrown out by the judges as being fall wheat. It ripens very early.

We think this wheat well worthy of a trial in Manitoba and the N. W. T., being very early and a bearded wheat. We are of the opinion it will be safer from frost in that country than any other variety. We have letters from Quebec to say that it is just the wheat for that country, being early and hardy. Also a customer of ours in New Brunswick says:—"I can recommend your *Colorado Spring Wheat* very highly, as it is a sure cropper and 10 days earlier than any other kind I know, making it very valuable for short seasons such as we have here and in Manitoba.

JOHN A. BRUCE & CO., HAMILTON.

John A. Bruce & Co., Seedsmen, Hamilton, Ont., write:—

Spring Wheats.—The following comprise the leading varieties sold by us the past season:—*Manitoba Red Fyfe*—This is a very pure selection of the well-known *Fyfe*, and has yielded remarkably well. *White Fyfe* was also in good demand, and is a favorite with millers. *Manitoba Bearded Spring*, a strong-growing, large-grained sort, gave excellent satisfaction, both as to quality and yield. *Red Fern*, *Lost Nation*, *White Russian* and *Wild Goose* have also proved profitable varieties.

Fall Wheats.—The *Canadian Velvet Chaff*—Two years' experience with this variety by a very

large number of leading farmers is satisfactory evidence that it is a most promising introduction. *American Bronze* and *Jones' Winter Fyfe* promise well, while *Democrat* and *Seneca*, or *Clawson*, are the most largely grown varieties in this section.

Barley.—*Carter's Prize Prolific* (two-rowed)—This variety has been very thoroughly tested during the past two seasons, and the crop of 1891 was so satisfactory, both in quality and yield, that farmers are preparing to grow it on a larger scale. The ordinary six-rowed is still the leading sort grown in this neighborhood.

Oats.—*Giant Swedish*—It is four years since we introduced this variety, and during a very long experience we do not know of any oat that has given more satisfaction; sixty to seventy-five bushels per acre was an average yield, and its feeding qualities are not surpassed by any other kind. It has been largely advertised in the United States and Canada as the *Golden Giant Side Oat*, *Holstein Prolific*, *Early Archangel*, *American Banner*, *Black Tartarian*, *Triumph*, or *English Cluster*, *Welcome*, *Egyptian* and *Australian* are still well-known sorts and largely grown.

Peas.—The *Mummy* is very distinct from other kinds; the stems are broad and flat; the pods are on the top of the plants; are productive; and peas are as large as the ordinary *White Marrowfat*; have given very general satisfaction. *Centennial*, a large white pea, fine, strong skin, and very prolific. *Golden Vine*, *Crown* and *Blue Prussian* are still the leading varieties grown in this section.

Potatoes.—*Bruce's White Beauty*—This is a seedling from the *Beauty of Hebron*; similar in shape; color of skin, pure white. It is earlier than *Beauty of Hebron*, and more productive. We consider this variety a most valuable acquisition to the list of extra earlies. The *Polaris*, a new early variety, of long oval shape, creamy-white color, and cooking as white as the finest flour. *Puritan*, *Thorburn*, *Empire State*, *Early Ohio*, *Beauty of Hebron*, *White Elephant*, *White Stars* and *Dakota Red* are all grown largely for this market.

Buckwheat.—*Japanese*—This is fast becoming the standard variety. The kernels are nearly double the size of the ordinary grey sort, and its productiveness is marvellous.

A Summer Fair for Winnipeg.

At the annual meeting of the shareholders of the *Winnipeg Industrial Exhibition*, on Jan. 14, the proposition to hold a July show in 1892 was unanimously endorsed for the following reasons, as stated by President McDonald in his annual address:—

1. That is the only period of the year during which the farmers can spare time for attendance at the exhibition, and without the presence of the farmers our efforts are largely wasted. It is also the slack season for merchant and business men generally.

2. Owing to the usually heavy crops raised in Manitoba and the Territories the farmers, as a rule, do not begin threshing till well on in October, and the few who thresh earlier can ill afford the time to attend an October exhibition.

3. The great necessity experienced by farmers that all the available time between harvest and the hard frost of the fall be employed in ploughing for the next season's crop. This is now come to be regarded as of so much importance that nothing can induce the farmer to neglect it.

4. If advised in time the farmers will keep their best samples of grain for exhibition, and the display will be better both in quality and quantity than it would be in October. Also by the July-August period all kinds of stock will be in good condition, and suitable for an exhibition intended more to display their good points than to advertise the mere market qualities. The vegetable display would be rather deficient, but our reputation for vegetables is already established as that of the best in the world, and we can afford to forego the advantage of a mammoth display in this line.

The following nineteen gentlemen were elected directors, making an exceedingly strong board:—Messrs. A. McDonald, L. A. Hamilton, E. L. Drewry, W. R. Searth, J. H. Ashdown, D. E. Sprague, R. T. Riley, N. Bawlf, A. Strang, G. F. Galt, Wm. Risk, M. Bull, H. S. Westbrook, Wm. Martin, F. A. Fairchild, N. Boyd, S. Nairn, Wm. Brydon and J. W. Bartlett.

Grain, Corn and Roots in Quebec.

BY WILLIAM EWING & CO., SEED MERCHANTS,
142 & 144 M'GILL STREET, MONTREAL.

WHEAT.

Fall wheat is but little sown in our province, what wheat is grown being mostly spring varieties.

White Russian still continues the leading variety as to acreage, and yields crops satisfactory in bulk, and of fair quality, though the flour is not of such good quality as that from *Manitoba Fyfe* and some other varieties. In the last few years a great deal of *Manitoba Fyfe* has been sown, the principal reason for this being the better quality of flour obtained from it in comparison with the *White Russian*.

A variety which we introduced two years ago, called the *Champion White Bearded*, bids fair to become very popular, and justly so. It has many good qualities, and so far as we have discovered no bad ones. It is early, the berry is very large and white, while the head is extra long, and is a heavy yielder. The straw is stiff and thus stands up well, so in any section where land is rich and well cultivated, strong straw, practical farmers will admit, is a strong point in its favor.

Ladoga we consider a very valuable wheat, and especially so for the later portions of the Dominion, or for sections subject to early autumn frosts. What it is short in quantity of crop is amply compensated for by the quality of the grain, and we should say it will mature early enough in the most backward districts for all practical purposes. In short, it is the earliest sort we know of. We noticed in comparing samples of all the leading varieties of spring wheats in competition at the *Montreal Exhibition* last September, that the *Champion White Bearded* and *Ladoga* were the two best of all.

Of the red bearded varieties the *Early Red Bearded Scotch*, introduced by us from Scotland some years ago, we consider the surest cropper, especially in a late season or in high, late districts. It is early and productive, though the berry is smaller than the *Colorado Red Bearded*, a great quantity of which latter sort is sown in this and the lower provinces as well, and both are popular.

BARLEY.

Barley is extensively grown in this province, and in this immediate neighborhood the short-strawed two-rowed is the favorite sort. The berry is not so large as the *English two-rowed*, but is much more plump, and, consequently, as a rule, weighs heavier than the latter, and is altogether the safest barley to sow in rich land. It seems, however, to be developing a tendency to produce some heads of four-rowed barley, and it is next to impossible to get it perfectly pure.

We have not yet had sufficient experience with the *English two-rowed* to enable us to make a proper comparison as to crop between it and the former variety mentioned; still, as far as our present experience goes, we consider the short-strawed two-rowed the safest. A more lengthened acclimation, however, may cause us to change our opinion, and if barley growing is again to become a profitable branch of agriculture, we must grow the sort most suitable for the *English market*. Supposing one sort as a rule produces say forty bushels per acre, but is not wanted in England, and another that is saleable there generally goes five bushels less per acre, but brings (the latter) 20 or 25 cents more per bushel than the larger cropper, it's the small crop and the big price one should aim at for exportation, though not, of course, when growing for feeding purposes. The ordinary six-rowed is sown to a considerable extent, especially in the poorer agricultural sections, and principally for feeding, but the *Men-sury six-rowed* we consider far preferable. It is more productive, the straw being stronger it stands up better, and as a matter of fact is by far the heaviest cropping variety of barley we know of.

OATS

are our main grain crop, and the common white Canadian oat is mostly sown, and, as a rule, produces fairly well, considering the general treatment land intended for oats gets.

American Banner has succeeded well, and so much satisfaction has it given that in many sections it will, this coming season, nearly supplant common oats altogether. The grain is rather long and not particularly well filled, but, for all that, we are convinced that on an average, and with ordinary cultivation, few sorts, even the newer ones, will produce the same weight of grain per acre, though many of them will certainly produce plumper grain of much greater weight per bushel.

Welcome and some of the later introductions seem to be going out of fashion. We are offering this year the Early Wonder oat. It is a short, plump grain of extra quality and great weight per bushel. It is extra early, an extra heavy yielder, and in every respect we commend it, and would advise every farmer to give it a trial, believing it wise to do so.

BUCKWHEAT.

Buckwheat is also a main crop in many sections of the province of Quebec, and the common sort is principally grown.

The New Japanese variety, however, we consider to be much superior, both in quality of grain, and certainly the yield is greater. We have heard, though, that the old variety makes the best flour.

CORN.

The White and Yellow Canadian (principally the latter) are the varieties almost universally grown for the production of ripe grain for feeding, and both are suitable sorts for that purpose in this part of the Dominion. For ears either for market or canning factory (and the canning of corn has now become a great industry) Crosby is the most popular sort, though Corey, as well as many other small but early sorts, are grown largely, and so is Evergreen Sugar for 'ate market and cattle feed. For ensilage or green fodder all the leading varieties are sown, and different people prefer different sorts, but on the whole we find the Red Cob as good as any, other than sugar varieties, and if sown in proper season and thin enough, with plenty of space between rows, there is a certainty in ordinary seasons of sufficient maturity being obtained for the silo. Yellow Horse Tooth, Longfellow, Thoroughbred White Flint and Southern White are popular. This latter variety is often called Southern Sweet; this is misleading, for it is not a Sugar corn at all. We find the sale of Evergreen Sugar corn for ensilage and fodder purposes yearly on the increase, and we still continue to advise farmers to sow a considerable proportion of it. The worst fault it has is its comparative tenderness. It will not vegetate so well as varieties that are not sweet, should there be cold and wet or otherwise unpropitious weather immediately after sowing. It is a fact that unless cattle be very hungry they waste a great deal of the other varieties, if approaching maturity, when fed green or when harvested. They will not eat the "butts" of the stalks, and these "walking sticks" become very troublesome to handle in the manure. It matters little what nutrition be in these if the cattle won't eat them. On the other hand, animals will eat sugar corn clean, butts and all, even supposing the stalks be thoroughly ripe and hard. We think we have seen it stated by some chemist that an acre of small sugar beets contains as much digestible food as an acre of mangels, and if this be so we think it would be safe to claim the same for sugar corn in comparison with the larger varieties that are principally sown. Of course we know that chemical analysis has not yet become a sure and certain guide, only approximately. As regards ensilage sweet corn may not have the same advantage as claimed above, because cattle eat up ensilage clean, and call for more if it be properly made. We are, though, of the opinion, without being any way dogmatic about it, that any of the tall growing varieties of sugar corn will produce as much nutrition on an acre as any variety of corn will, and if this is so it is obvious that if a farmer can save the expense of handling an extra 20% of weight and bulk that it would be wise on his part to do

so—anyway, it is worth his while to try the experiment. Evergreen Sugar corn can easily be grown 10 or 11 feet in length. Most farmers find that length long enough to handle comfortably.

PEAS.

We find the ordinary White Canadian Pea, or French Pea as it is sometimes called, does best with us. Marrowfats and Blue Prussian are also grown, but to a limited extent. We would here remark the danger of having too many varieties of peas growing in any one section. They will be almost certain to get mixed, and as there is great differences in the ripening period of the different varieties, it is easily understood how much loss of grain may occur should a late and early sort, though similar in appearance, be sown together.

POTATOES.

The population of Montreal being so much larger than any other city in the Dominion, and it being besides surrounded by numerous suburbs, a good market is afforded all the year round, and the potato may be said to be one of the main crops in this neighborhood. Fifty acres by one farmer in common, and we have seen as many as one hundred planted by one grower. Our farmers, as a rule, hold on to the older sorts, though in the last few years they are beginning to try some of the newer, and continuing the growth of such of those as seen to be an improvement on the old sorts.

Beauty of Hebron and Early Rose are the main sorts in use, the former, however, is gradually putting out the Rose.

Early Gem, a potato resembling Early Rose in appearance, is planted largely and does very well.

Early Ohio, Rural New Yorker, Stray Beauty, Garnet Chili and New Queen are all grown, but in a limited degree. The New Queen is very early, very large, oblong in shape, and of a pale pink color, is a grand producer, and is, we think, a variety well worthy of a trial, especially for early market.

There is a recommendation we would make, which we hope will be more universally adapted by our farmers in the future than it has been in the past—we refer to the changing of seed grain and potatoes. There are a great many points in relation to farming that it seems impossible to get the best informed agriculturists to agree upon, but as regards to the regular changing of seed we are sure our best men have no two opinions, but are agreed that it is a necessity. In the province of Quebec the consequence of the opposite course is painfully apparent in the light weight of our grain, and the entire "running out" of many of the best varieties, and we know the same system has produced the same results in all parts of the Dominion. In order to produce the best average crops, frequent changes of seed must be effected, and only clean, thoroughly ripened, perfectly developed grain sown; if this be done universally the increase in our crops would be something marvellous.

Though we strongly recommend this course, and we know we are on safe ground in doing so, we are also of the opinion and as strongly commend the wisdom of trying new sorts, as many as convenient, of grain. We are aware that all new sorts are not improvements, on the contrary, many of us know to our cost that they are not, but, at the same time, it certainly is the case that farmers who persist in never forsaking the varieties they have all their lives been sowing often lose money by this want of enterprise. There is no finality to the beneficial results obtained by the selection or hybridization of the grain, any more than there is to the improvement which is constantly being effected in the machinery of the farm.

There is but One Portland

Oregon, and it is best reached via Chicago and St. Paul over the through Sleeping Car Line of the Chicago, Milwaukee & St. Paul and Northern Pacific Railways. For further information apply to the nearest ticket agent, or address, A. J. Taylor, Can. Pass. Agt., No 4 Palmer House Block, Toronto, Ont.

The Future of Two-Rowed Barley.

Public men who should be well informed express conflicting opinions concerning this grain. Some claim that it will never be well received in the English market, while others claim the reverse. It is said that the Hon. Chas. Drury is among those who discourage its growth for export to England. We have made very full enquiry, and have received reports from Quebec and a great many from Ontario, three-fourths of which declare that where barley can be profitably grown some one of the two-rowed kinds is found to outyield any of the six-rowed sorts. Growing the last named for the American market is no longer profitable. If barley has then to be grown for feed, in most of the barley growing sections the two-rowed will be found most profitable. The best samples of the last named will, from present appearances, be shipped to England at a price averaging from five to ten cents per bushel more than is paid for corresponding samples of six-rowed.

In order to obtain reliable information, we sent enquiries to a gentleman well versed in the English grain trade and Canadian capabilities. In due time we received the following reply:—

"Two questions in chief arise in relation to two-rowed barley—first, Can it be grown successfully in Canada? and second, Is there a profitable market for it in Great Britain? An answer to these questions is what Canadian farmers are most concerned in just now. Before dealing briefly with the matter, we cannot refrain from expressing sincere regret that this matter of barley growing should have been forced to any degree into the arena of political controversy. The conflicting opinions and advice which find their way into the public prints owe their origin entirely to this element in the case—a thing at once deplorable and mischievous. Let a farmer be told that the introduction of two rowed barley is aimed to help a certain political party, and he fights shy of it. His sense of prudence and caution is aroused, and he is apt to give credence to the adverse rather than the hopeful view.

"Can two-rowed barley be successfully grown in Canada? The answer which three years of careful and honest experimenting suggests is, Yes. There are very large areas in the Dominion over which it can be grown so as to yield more bushels to the acre than the six-rowed sort and weigh heavier to the bushel. This fact is beyond doubt. The reports issued from the Dominion Experimental Farms are so specific in their details, and cover so much of actual experience at the branch stations, as well as at the hands of hundreds of individual farmers, that there is no longer room to raise questions in respect to this important cereal. In substance, the essential elements of success are: Properly prepared soil, good and clean seed, and careful harvesting. If these conditions are observed the farmer will have an abundant reward for his labor. Let him, however, consult the bulletins of the Central Experimental Farm at Ottawa and take scrupulous care in buying his seed. Getting the right start is of the first importance.

"Is there a profitable market for two-rowed barley in Great Britain? Again the answer is unhesitatingly in the affirmative. Samples have been sent over to England for the past two years, and the reports of leading experts have been sent out in return. These reports all agree in recommending the Canadian grain as first-class. A few weeks ago the Dominion Minister of Agriculture received a number of cablegrams from England, offering from 35 to 40 shillings per quarter of eight bushels, at 56 lbs. to the bushel, for all the barley available of a certain grade. The enquiries for Canadian grown two-rowed barley are very numerous, and the 40 shillings just quoted was the highest figure then offered on the market. Added to this is the further fact that nearly 300,000 bushels of two-rowed barley have actually been sent over from Canada within six months at a profit. For that barley, the buyers paid in Canada from five to ten cents per bushel more than for the six-rowed variety. What further proofs could Canadian farmers ask for? But, let it be understood that this market which promises so well will not be a growing one if anything else than the very best grain, properly cleaned, is sent over. The British maltster wants

the best, and he is willing to pay a good price for it.

"In some quarters the foolish story has been started that two-rowed barley may do very well for a year or two but after that will degenerate. Four years of experience at Ottawa has taught quite the opposite. Each year after the first the grain has improved; and this has been the experience of individual farmers as well. It would seem that a year or two is required for the acclimatization of the English seed, and after that it steadily grows better in character. The substance of the whole matter is involved in this: If Canadian farmers wish to grow barley at all they had better grow the two-rowed sort; grow it carefully, and rest assured that a market awaits it in Great Britain."

Not content with this evidence alone, we wrote Messrs. Guy & Co., Oshawa, Ont., who are and have for many years been large shippers of barley. Their reply was:—"We shipped from here in the season of 1891 300,000 bushels of two-rowed barley, which went to the English market for malting purposes. So far as we know, it has given good results. The average price paid farmers was 55 cents for 48 lbs. At the same date we were paying 42 to 50 cents for 48 lbs. of six-rowed."

The Origin and Formation of Soil with Special Reference to Ontario.

BY J. HOYES PANTON, M. A., F. G. S.
(Continued from page 3.)

The question naturally arises now, Is it possible for such conditions to have ever been present in this part of the world? We are forced to admit such is the case, to some extent, when we consider the following facts:—

1. Boulders are found all over our province. These are not at all the same kind of rock as the stones of quarries near by, but strongly resemble the rocks lying to the north and north-east of us.

2. These boulders are not found much south of the 39° north latitude, that is a little south of Lake Erie. They extend in an irregular manner as far as Cincinnati. Foreign boulders can be seen almost anywhere north of this limit which strongly resemble in their distribution the boulders in districts now undergoing the grinding influence of glaciers.

3. In many parts of Ontario, where a rock surface is exposed, the rock is abraded and polished, and entirely covered sometimes by peculiar markings (striae of geologists). These have a more or less uniform direction (northerly), which indicates the glacier came chiefly from the north.

It is difficult to account for these foreign boulders and the smooth, polished, scratched rocks below, extending only so far south, unless we imagine the same condition we see now in other parts of the world where glaciers and icebergs are found.

Then, too, we find the arrangement of our clay, gravel and boulders is similar to that where glaciers are to-day. In Western Ontario our clay beds lie to the south. In Artemesia, north of these, are great stretches of gravel; and still further north are extensive areas covered with boulders. No better explanation to account for this state of affairs can be given than the presence of a glacial period in Ontario—a time when the northern part of our continent was more elevated and became the starting point of glaciers that made their way southward until regions were reached where they melted, leaving the boulders of our wayside as silent monuments of that period in geological history. It is an open question to what extent these phenomena

are due to the action of glaciers and icebergs. Some attribute them entirely to glaciers, while others consider them partly due to iceberg action.

In regard to the duration of the glacial period, there is great diversity of opinion. No doubt it lasted for thousands of years. During this time immense quantities of rock were ground up and transported to the south of the starting point of the glaciers. At the close of this wonderful period it is supposed that all of our fresh water lakes were united, and formed a vast body of water which covered the entire province. This would have a great influence in mixing up the soil that had been formed before the glaciers existed and that which had been prepared during that period. During this stage of affairs, the waters of this great lake found an exit by the Mississippi River. In time the waters began to subside, and Queenston Heights formed a shore line. The Niagara River existed before the glacial period; part of its course extended from the present whirlpool to St. David's, this in course of time was filled up with glacial clays. When it began to flow again, instead of keeping its old bed it flowed down to Lewiston and poured its water into the subsiding lake. As this lake diminished, the falls increased, and receded gradually until they reached the place we find them to-day.

The time required for this gradual change in their position was once put at 35,000 years. More thorough investigation has led geologists to believe it more likely took only 10,000 to 15,000 years. It is doubtful at what period the waters found an outlet into the Atlantic Ocean. But shortly after this took place the physical features of Ontario began to assume their present outline, and this fair province became fitted for man's abode. No place can boast of greater advantages. Its grand fresh water lakes are conservators of heat, and modify the winter climate, so that while in some portions the tender fruits may be raised, in others only the hardiest. The variety of climate and soil render this part of Canada a rich heritage. We are chiefly indebted to the agencies described in this paper for the soil which was ground up and mixed during the ice age and the years immediately following it. Sufficient has been written to inform the reader as to the origin and formation of our soil. It now remains for him, if he desires to secure the best results, to apply skill and energy in its cultivation.

Coming Fairs.

The Agricultural Society at Portage la Prairie has decided in favor of a summer fair, and fixed upon Thursday and Friday, July 14th and 15th, for their dates, subject, however, to change, should it be thought desirable.

Lansdowne Agricultural Society intend to hold their annual exhibition at Oak Lake, some time during the month of July, and ask the farmers in this district to keep their best samples of grain for exhibition.

A Map of Chicago

Showing location of World's Fair, principal streets, hotels, railway stations, street car lines, boulevard system and other points of interest, will be sent free upon receipt of a silver dime. Address Geo. H. Heafford, General Passenger Agent, Chicago, Ill.

Prospects for Better Times in Dairying.

BY PROF. JAS. W. ROBERTSON, DAIRY COMMISSIONER.
(Continued from last issue.)
QUEBEC.

We expect to have a dairy station running for the whole twelve months of the year, commencing in the summer of 1892; and so much good has resulted from the itinerant instruction, particularly in outlying and backward districts of the province, that I shall hope to continue at least some part of that work.

ONTARIO.

In the province of Ontario our instructors visited a number of central factories early in the season to assist cheese-makers to a better understanding of their business, and to a better performance of its most difficult parts. Within six weeks we were able to help about 120 cheese-makers in some measure. Two instructors continued the work until midsummer, after which their time was mainly given to experimental investigations. The lines of investigation taken up were:—To discover the quantity and quality of cheese that may be obtained from milk containing different percentages of butter fat, the effect of different quantities of rennet upon the yield and quality of the cheese, the influence and consequence of heating the curd up to temperatures ranging from 86 to 103 degrees, the effects produced from different methods of treating the curd at all stages of the process of manufacture, the effect of different rates of salting, etc., etc., etc. Altogether some 600 boxes of cheese were made in the course of our experimental investigations, and very much new, interesting and most valuable information for the guidance of cheese-makers has been acquired. That will be given at length in our annual report, and also at the various conventions of cheese-makers held during the winter. At present we are running

TWO CREAMERIES

in Western Ontario, which have been altered from cheese factory buildings. At Mount Elgin the milk is delivered at the factory by the patrons. A centrifugal cream separator of the "Alexandria" pattern is used for the separation of the cream. The skim milk is carried home by the farmers in the same cans in which they bring the milk to the factory. During the month of December we were receiving from 7,000 to 10,000 pounds of milk per day. The new venture is receiving the most enthusiastic support of the farmers of the neighborhood, and I am confident it is the beginning of much better times for farmers in all parts of the Dominion.

Near Woodstock, Ont., a cheese factory has been altered into a creamery, which is being run upon the cream gathering plan. Cream only is collected from the farmers, and the skim milk is left at home for feeding purposes. The two plans are being compared for guidance in future years. The butter from both factories will be shipped to England for the purpose of trying to establish, upon a firm and satisfactory basis, the trade in fresh-made creamery butter during the winter. I am hopeful that by the teaching of these factories, and the influence they will exert upon dairymen in other parts of the province of Ontario, and in other parts of the Dominion, we will be able to lead the farmers to the better practice of carrying on their dairying operations

the whole year round. Cheese-making during the summer, combined with the fattening of swine, and buttermaking during the winter, combined with the raising of calves and pigs, are practices which Canadian farmers should adopt.

MANITOBA AND THE NORTHWEST TERRITORIES.

In Manitoba and the Northwest Territories we have had two travelling instructors who have carried with them an outfit for the making of butter. During August and September they held some fifty meetings, at which practical demonstrations in buttermaking were given. Until harvest time interfered with the attendance, the meetings were most successful. The farmers in that part of the Dominion manifest a deep concern for the extension of dairying in their midst. The uncertainty of temperature about harvest time has convinced most of them that safety lies in multiplying their sources of revenue. The ploughing of less land and the keeping of more stock would enable most of them to fortify their positions financially against a rather probable disaster which may follow exclusive and continuous grain-growing. The cheese factories and creameries were also visited, and we have in our experimental dairy here some thirty cheese from the province of Manitoba, which show as fine a body and flavor as those of the finest factories of Ontario. The probability is that the work of the travelling dairy will be continued in Manitoba during the year 1892.

BRITISH COLUMBIA.

In British Columbia I visited some eleven different points, and addressed the farmers on matters connected with improved dairying. Our plans for that province are not yet matured, but my opinion at present is that dairying in British Columbia will mostly be carried on at private or home dairies, after the methods that have been adopted in England and Scotland.

Now, Mr. Editor, the brief outline which I promised has grown to a rather long one. Still, I have taken time to touch only upon some of the more prominent and important features of our past and prospective work. I think it is quite possible that we should have in Canada within ten or fifteen years as large a trade in fresh made creamery butter for winter as we now enjoy for fancy cheese during the summer. The associated advantages from increased and improved stock from better stables, from more intelligence and much larger profits, can hardly be overestimated in their power for promoting the material, the intellectual, the social, and the moral welfare of the people of Canada. To help in making finer butter and better cheese were in itself a most worthy object, but to help in improving the men and women of the Dominion of Canada is the larger and ultimate end towards which the work of the Dairy Commissioners' office is being and will be directed.

Encouraging Word from the Coast.

J. L. Denholm, of Chilliwack, B. C., writes that he is well pleased with the *Advocate*. He is going in specially for fruit, having a 50-acre orchard. Has been most successful with all kinds of grain and vegetables as well.

The Dairy World says:—The man who points out your faults is not your enemy. The enemy conceals them from you, rejoices in them, and uses them to your detriment. He is your friend who speaks to you about them, tells you how to avoid them and seeks to improve your condition.

Stock.

Our Scottish Letter.

Writing on the first day of a new year, one is naturally prone to occupy a standpoint other than that from which matters have been viewed in the closing months of the year that is gone. We look forward and ask, What are the signs of the days to come? Those that are gone have not been disastrous for the Clydesdale breed. New markets have opened in 1891, but some old ones have slackened in their demands. Breeders have again reverted to the older methods and tried to rule their actions by what the home market demands. There is an evident desire to breed horses that will not merely be up to standard in form, but also up to the market demands in weight and size. A tall horse is not necessarily a big horse. The best kind of horse is the animal that looks biggest when lying down. A big "little'un" is better than a little "big'un," and the future will show that Clydesdale men are no fools. It seems a hard theory to be pressed for our acceptance, that when Shire men are imitating our type as much as they possibly can, Clydesdale breeders should remodel theirs. If one wishes to get a clear idea of what Shire horse breeders want their horses to be like, let him study the sketches of them which appear in the most widely circulated of the papers mainly devoted to their interest. If on the other hand those who decry the Clydesdale and exalt the Shire believe in the claims that they urge for the latter, let them publish photographs of their horses and mares as they actually are. There is no doubt that photography sometimes gives an unfair idea of the outline and balance of parts in an animal. If the lens be not properly focused, and many details, the importance of which can only be learned by experience, be not carefully attended to, the result of photographing an animal may be very unsatisfactory. But when every possible allowance is made for the defects that may be found in photographs, they are infinitely more reliable than the sketches from life which appear from time to time in many journals on both sides of the Atlantic. To our mind American artists refine the draught horse far too much, and many of the English sketches are excellent representations of particular animals with all their faults obliterated. The Clydesdale photographs are of permanent historical value. The Shire horse sketches in most cases convey little more than an idea of the weight and size of the animal and the amount of white there is in the color of his feet and face. We have no wish to be invidious, and therefore do not name any horse or mare, but there are some very noted animals, the sketches of which convey a favorable impression of their merits, which would appear very differently if brought under the unerring scrutiny of the photographic lens. It would not be unfair to challenge some of our wealthy agricultural journals to publish simultaneously portraits by hand-drawing and by photography of several of the best known Shire champions, and it is difficult to find any reason why in the interests of truth and honesty the demand should not be complied with, before it is, so to speak, formally made.

At the close of the year 1891 there were not less than 31 well-bred Clydesdale sires under hire for season 1892. Of that number a large proportion are famed prize horses got by Prince of Wales 673, and bred mostly in the Rhins of Galloway. A goodly number are out of mares got by horses whose dams, like the dam of Handsome Prince, Prince Alexander, Orlando, The Royal Prince and Prince Darnley were all bred in Stranreer district, and are out of Darnley mares. They will travel respectively in the Rhins of Galloway, Ayrshire, the Newton Stewart district of Wigtownshire, Central Aberdeenshire and Clackmannan. Prince Robert is out of a mare by Steel's Prince Charlie 628, and will travel in the Rhins for a third season. Prince of Carruchan and William the Conqueror are out of mares by Old Times, and will travel, the former in Perth and Forfarshire, and the latter in Dumbartonshire. Prince Patrick, the second

prize two-year-old at the Royal, Doncaster, and the Highland, Stirling, will travel in the Stirling district. He is out of a mare by the well-known McCamon. Balmedie Prince 7454 and Primus 8879 are out of good mares, both prize winners, got by that grand, big, massive horse Drumflower Farmer 286. The former will travel in Ross-shire, and the latter in Kintyre. Both may safely be trusted to breed horses that will not be lacking in weight. Amongst other sons of Prince of Wales hired we name the handsome black horse Prince of Scotia 7161, the beautiful young horse Prince of Cathcart 8915, which was in the prize list at Ayr in April, and Prince of Loudoun 8923, a promising young horse, own brother to the defunct Prince Fortunatus, which takes the place of the dead Rosemount in Bute. Of the 31 horses hired 14 are thus got by the Merryton old horse, and some are to receive terms which are without parallel in Clydesdale history, which is another way of saying that they are without parallel in the history of the breeding of draught horses. All of the 14, with one exception, are registered Clydesdales, and he is out of a Darnley mare. The full brothers Darnley's Last and Royalist, whose sire was Darnley and their dam a Prince of Wales mare, are both engaged, the former to travel in the Machars of Wigtownshire, and the latter in Morayshire. Flashwood 3604 will be found at Dunblane for the greater part of the week during the season, and will likely have all he is fit to do. Darnley's Hero, whose dam was Miss Meikle, dam of Prince Fortunatus and Prince of Loudoun, goes north to the Tariff district of Aberdeenshire. These are sons of Darnley, and amongst horses got by his sons we may specify Esquire 7699, which will travel in Kirkcudbright; Hartfield 8685, which will travel in Morayshire; Sir Everard 5353, that magnificent draught stallion, for a second season goes to Kintyre; Londonderry 7934, selected to travel for the Earl of Lonsdale's tenantry in West Cumberland, and Barrister, one of the horses chosen for the Duke of Argyle's tenantry in Kintyre. Lothian King 6985, whose dam was the renowned Darnley mare Louisa, will for a second season travel in the Lockerbie district of Dumfriesshire. Darnley blood is therefore well to the front, and will doubtless exert a powerful influence. The best known representative of the family, Macgregor 1487, will not travel in 1892, but be found at Netherhall for service of selected mares. The old horse is very healthy and vigorous, and is now a year older than his renowned sire was when he championed the Clydesdale stallions at the Century Show in 1884. Amongst the remaining engagements are those of the beautiful horse Williamwood 8391, which for a second season will be found in the New Galloway and Castle Douglas districts. The veteran Lord Erskine will, as in last season, stand at his owner's stables at Eastfield, Dumfries, a substantial guarantee of mares being already booked for him. Goldfinder 6807, the H. & A. S. first-prize horse, will be found in Ayrshire; Breastplate 8489, the Royal first three-year-old, in the Dunblane, Doune and Callander districts of Perthshire; Mains of Keir 8834 in Strathendrick; Eastfield Prince 6722 in Mid Calder, and Lawrence's Chief 7910 in Central Banffshire. Of the horses we have named nine are the property of Mr. Peter Crawford, four are owned by Mr. And. Montgomery, and an equal number by Mr. David Riddell; two are the property of Mr. William Renwick, two of Mr. W. H. Lumsden, of Balmedie; two of Mr. J. Johnston, Lochburnie; two of Mr. Alex. Scott, Greenock; and one belongs to each of those gentlemen, namely, Messrs. James Lockhart, Mains of Airies; James Kilpatrick, Craigie Mains; John Pollock, Newton Mearns; William Montgomery, Banks; William Taylor, Park Mains; and Geo. Alston, Loudoun Hill. Six of the 31 were bred by Mr. James Lockhart, and two by Mr. J. Hardie, Mull Farm, Kirkcaldie. The success of these gentlemen is an illustration of what can be done by careful selection and mating of sires and dams.

The closing month of 1891 witnessed the close of the career of the eminent Clydesdale worthy, Mr. Peter Crawford, sen. He died at the ripe old age of 57, having been closely associated

with the trade in Clydesdale horses from 1826 up to the very day of his death. Under the exceptionally able management of his son, Mr. Peter Crawford, jr., the stud of Clydesdales owned by Mr. Crawford became during the past ten years the leading collection of high class Clydesdale stallions in Scotland, but the old gentleman was always fond of a good horse, and partial to the lowest, broad-boned, old-fashioned Clydesdale. Your Canadian St. Gatien was his favorite during the time that horse was in the Eastfield stud, and many first-rate stallions of the same stamp were owned by him during his long career. He was well known to many Canadians, who will, we doubt not, unfeignedly mourn his loss.

SCOTLAND YET.

Chatty Letter from the States.

During 1891 all kinds of live stock averaged lighter in weight than during the previous year. The canning trade has made a market for many cows that were never marketed before.

There are very few well-ripened cattle coming to market now. The general supply is of cattle that either lack feeding or breeding, and the majority lack both. The following sample of one day's cattle sales shows the range of value for beefs:—Nice fat 1,117-lb. steers sold at \$4, while 1,588 lb. steers sold at \$4. The 1,000 @ 1,100-lb. cattle sold at \$3.10 @ \$3.75; 1,200 @ 1,300 lb., \$3.45 @ \$4.25; 1,300 @ 1,400 lb., \$3.70 @ \$4.65; 1,400 @ 1,600 lb., \$4 @ \$5.25.

Corn-fed Texas cattle averaging 900 @ 1,150 lbs. have been selling at \$3.50 @ \$4. Prospects are that fewer cattle will be fed in Texas this winter than last.

Every year the hog feeders turn their hogs off earlier. Twenty months in which to make a hog weigh 400 lbs. is now considered good time, but there is more profit in 360 lb. hogs at ten months of age.

Although corn is plenty and the yield of hogs is almost up to the product of last year, there is a prospect of higher prices for the swine flesh cured in this country. The reasons are few and manifold. Twelve states report surpluses of swine; but as compared with last year the crop is 93.6 to 100, and the comparative average of the entire country is 93.6.

It is the opinion of a good many people that the present liberal receipts of hogs will not long continue. Hogs coming at the rate of over a million a month for nearly three months is pretty heavy, but people forget that it is not only a large country but a rapidly developing country. One thing is certain, every upward movement of hog prices tends to strengthen the backbone of feeders, and that is why 100-lb. pigs have sold as high as 300-lb. porkers. Canadian packers bought several carloads of 180 @ 220-lb. hogs here lately at \$1.10 @ \$4.25. It is rather unusual to receive orders from Canada at this season of the year. The Eastern States seem to be getting short of ripe corn-fed hogs. Western farmers are now saving corn and marketing young pigs again. A wise man says they will soon have no pigs and an old corn crop on hand. Packers are making the most of the crop of good hogs. They act as if they were not getting enough of the choicest porkers. Indications are that they have gotten the bulk of the winter fed "crop," and higher prices to boom product will be next in order if the receipts decrease.

While countless numbers of farmers have sacrificed their young cattle, other farmers have bought them to market and shipped them back to the country, thus making three hauls for the railroads.

Mr. Featherstone's Reply to Mr. Spencer.

Mr. Sanders Spencer comments on the Yorkshire swine at Pine Grove Farm in a late issue of the FARMER'S ADVOCATE, and in the course of his remarks he says that the report of my renowned herd of pigs which appeared in the September issue of your paper was not quite clearly worded, or it contained an error, which was as follows: "Another imported sow, bred by Sanders Spencer, and another, the choice of the pen which won first at the Royal Agricultural Society's Show in England in 1890." I suppose Mr. Spencer is desirous of leading the public to believe that I have none of his breeding in my herd, therefore I will give the pedigree of the first referred to, and give him an opportunity to say whether she is his breeding or not. Her name is Holywell Royalty [58], farrowed Oct. 13th, 1888, bred by Sanders Spencer, St. Ives, Hunts, England; imported in August, 1889, by Ormsby & Chapman, Springfield-on-the-Credit, Ont.; sire Holywell Judge (993), dam Holywell Queen 21st (vol. 6. E.), by Britannia Wonder (301); Holywell Queen 10th (1182), by St. Ives (117); Holywell Queen 6th (370), by Solomon (143); Holywell Queen (122), by Samson (127), — Samson 2nd (119). The other, out of the first prize pen at the Royal, is a boar bred by C. E. Duckering, Lindsay, England. I might have given the name of another sow that I have bred from stock imported from Sanders Spencer. Her sire is Jumbo (imp.), dam Holywell Midge 6th (imp.) [64], by Holywell Syke (709); Holywell Mite (716), by St. Ives (117); Holywell Giantess (710), by Samson 11th (125); Smithfield Beauty 3rd. (180), by Samson (129); Smithfield Beauty 2nd (178), by Samson (127), — Spot (186), by Samson 2nd (119), — Mrs. Nicholson, by Jack.

If the above pedigrees are not genuine Mr. Spencer will be kind enough to correct them, and not endeavor to convince the public that there are not any pure-bred pigs kept on the Pine Grove Farm.

Mr. Spencer admits that there is no restriction as to the pigs shown in the various classes for Yorkshires at the Royal shows. In those herds which are not recorded in the herd book the different breeds appear to be bred together and then those pigs which take after the large type are shown as Large, and those favoring the middle are entered as Middle, and even from those herds in which some of the pigs are recorded we find undersized large pigs shown as Middle Whites, the pedigree for the time being dropped. I don't know whether Mr. Spencer is speaking from experience of his own or not. One thing I have noticed in the prize report of the Royal Show is that he was successful both in the Large and Middle breed classes. I believe there is a good deal of sound logic in his contentions. I noticed two boars shown at Hamilton Central Fair in 1889 in the aged class. They were three years old. One would weigh nearly 800 pounds, the other not 400 pounds. They were out of the same litter, had attained their full growth, and were bred from Mr. Spencer's stock imported from England. He hopes to see a stop put to this crossing of breeds. I can only say that I hope so also, which will prevent injustice being done Canadian importers.

In referring to the boar Billy Mr. Spencer finally says: "He is evidently a cross-bred, because sometimes stock got by him are shown in the Middle White class, while others are shown as Large Whites." These facts prove nothing. Billy may be ever so well bred, but if crossed on small white sows, or Middle Whites the offspring would not likely be Large Whites. This argument of Mr. Spencer's is like many others emanating from him—simply covered thrusts at those he considers his opponents, whom he attempts to belittle while he exalts himself.

Manitoba Studs, Herds and Flocks.

HOPE FARM GALLOWAYS, ST. JEAN BAPTISTE.

The above farm, owned by Mr. William Martin, of Winnipeg, and under the efficient management of Mr. J. G. Brown, now embraces 1,600 acres of beautifully undulating prairie land, of which about 1,000 acres is now under cultivation, free from smut and weeds. In the matter of grain growing the past season was highly satisfactory, the farm producing in all over 30,000 bushels, besides mangels and turnips. The grain was made up of 10,000 bushels of wheat, 12,000 bushels oats and 8,000 bushels barley. The wheat was all threshed and sold before winter, thus securing the full advantages of a good crop, which those cannot expect where threshing and marketing are delayed till winter or the following spring. Careful seed selection, judicious rotation, thorough cultivation and a liberal use of blue stone before seeding are the measures by which Hope Farm enjoys its immunity from that dreaded pest—smut. A recent visit by a representative of the FARMER'S ADVOCATE was more especially to look over the herd of Galloways, which are comfortably housed in the capacious stable—to which, it may be stated, large additions will shortly be made, not only for increases in the herd of cattle, but for this spring's importation of some 20 carefully selected Ontario bred mares of good size. A Clydesdale stallion is also to be added to the stock of the farm. What is grossly neglected in many barns is carefully attended to here, viz., ventilation, four small ventilating shafts carrying off the steam and surplus heat arising from the cattle, especially during the long winter nights. In the morning we found the shaggy hides of the Galloways quite dry and comfortable, just in such a condition that turning them out every day when the temperature may be down to 20 below zero, or even much colder, will have no prejudicial effect. Mr. Martin is becoming more than ever convinced as to the peculiar adaptability of these lusty black polls to north-western Canada, and giving them a run outside every day, which was not formerly the practice, is proving much more satisfactory, though the writer might remark that it is not productive of so sleek a skin, but that is not so important as general vigor and thriftiness. Neighbors who have been breeding to the "Hope Farm" bulls are decidedly well pleased with the grades as far as size, growth and easy feeding qualities are concerned, but judgment is reserved yet on how the heifers may turn out from a dairy standpoint. The manure is each day carefully removed from the stables, and dumped some distance from the barn, where it is allowed to rot, and when reduced to proper condition is ultimately used to dress the land prior to roots. These, with straw, chaff, and a little crushed grain for calves and others specially needing it, constitutes the general ration. The profitable way in which straw and chaff can thus be utilized in cattle feeding throughout Manitoba is not half appreciated by farmers. The imported bull, Black Crusader, now five years old, still heads the herd, and the presence of such grand young bulls as Annexation, General Gordon and others, (though of younger ones we cannot speak so confidently, as they lack the development of age) attests his worth as a sire. Last year nine bulls and three heifers were sold, but the supply fell short of demand. In order to provide against a similar

contingency this year, an importation of seven highly-bred young bulls is being made from the famous Galloway stock farm of David McCrae, Guelph, Ontario, which, in addition to Crusader, will make a stock of fourteen bulls, the cows and heifers now numbering nineteen. The latter are bred so that, as a rule, their first calves will be dropped between the ages of thirty months and three years, thus allowing a proper degree of maturity, which tends to secure a good, sound constitution, so essential in a breeding animal. A handsome catalogue, illustrated by an engraving of Hope Farm and herd originally prepared for the FARMER'S ADVOCATE, has been issued, and may be had on application. In the past Hope Farm Galloways have gone to all parts of Manitoba and to various points in the Territories, and nothing has come back in the way of reports but praise and satisfaction, both for the stock supplied and the produce of the same. In view of these facts it is not a matter of wonderment that the demand has so largely increased for the black-robed, thrifty rustlers, that have so highly developed the capacity for converting the cheap foods of Manitoba into the very choicest of beef.

A Trip to Manitoba.

BY C. M. SIMMONS, IVAN, ONTARIO.

I would lack in duty to the directors and managers of the Winnipeg Industrial Exhibition and to the C. P. R. officials for kind treatment received, did I not in brief give my views on a few points that interested me in my trip westward. I left London on the evening train, Friday, Sept. 25. On arrival at Toronto I learned that there would be no close connection at Carleton Place. At Smith's Falls the agent was very kind and informed me that I would have all day Saturday to visit Ottawa, as the train for Winnipeg did not leave until 1 o'clock Sunday morning. I arrived at the Capital in time for breakfast, and as I had never been there looking after government offices, cheap timber limits, or fat contracts, I was made very welcome by both parties. I almost felt sorry for those M. P.'s. Oh, how they are hunted by office-seekers! I think it is one of the abuses that the yeomanry of the Dominion will be compelled to unite upon and stamp out. It has commenced to sap our fair young country, not only of its treasure, but what is of far greater importance, its morality. We arrived at North Bay Sunday before noon. From there to Sudbury there is not much to interest an Ontario farmer, as there is precious little fertile soil to be seen. One important feature, however, is the plant of the nickel mines. West of Sudbury, all the country to Port Arthur will never be known as an agricultural district—in fact, I might be safe in saying west to the boundary line of Manitoba and Ontario. How vast are the resources that lie hidden among these rocks and in the numerous lakes and pure streams and in the forests of pine, spruce and hemlock that stand on either side of the C. P. R. for hundreds of miles! When Lake Superior is reached the scenery is beautiful in the extreme, islands of rock of all sizes and forms looming up hundreds of feet high, and the sparkling, clear water of the lake, with its deep shores bounded with red granite rock; small streams of pure water issuing from the rocks 100 and 200 feet high on the north side of the track. A journey through this section of the route would more than repay the traveller. The track runs near the water's edge, through numerous tunnels and rock cuts, showing the skill of man. Every true Canadian hopes that in the near future the mining industry, the fish

and the timber, and other resources here will become developed and assist in furnishing freight for the giant railroad of the world, and produce a revenue for the province of Ontario. We arrived at Port Arthur Monday, 27th, about 3 o'clock. There is a fine station a little out of town; a harbor, with an elevator on it, but not much more to be seen. I learned that the boats do not land there now, and there is a general change taking place. We left for Fort William, three miles to the south, and on arrival were informed that we would have at least half an hour to stay. A birds eye view of the place, and the Neebing Hotel on the bank of the river, a little to the south-west, refreshed my memory of the past, when that old statesman, Hon. Mr. Mackenzie, contended that Fort William was the harbor of the north part of Lake Superior, and the point to receive the cereals of Manitoba and the Northwest. Here you find a new town booming; new streets laid out and graded; buildings going up by the fifties, and a general prosperity noticeable. Fort William, with its natural harbor, all the boats landing there, and the two large elevators of 1,000,000 bushels capacity each and another in course of construction, is on the boom as the law makers of Port Arthur must fully realize. We left a little before sundown. On our journey I noticed a number of long boats, 75 to 100 feet long, in the shape of what we call a skiff in Ontario—they reminded me of the long, narrow boats used in some of the canals in England—lying by the side of a small river near the track. Those are the boats that Colonel Wolsely used when he became famed in his expedition overland with the troops to the Northwest.

Rat Portage was reached Tuesday morning. There is no arable land for cultivation; the rock has full possession. The town or village has a clean, thrifty appearance, and the inhabitants looked vigorous and healthy. Quite a number got on the train for the exhibition. One of them was a near neighbor, whom it was a pleasure to meet. The milling industry is here carried on to perfection in the manufacture of lumber and flour. There is a very large stone flour mill at Keewatin, three miles distant, run by unlimited water power. Here again we find a great chain of lakes and rivers. Pine logs are floated from Minnesota to the south, and from the north, for a hundred miles to the mills. The lumber is shipped east or west by C. P. R. The flour mill is supplied from Manitoba and the Territories.

We now pass out of Ontario. The land on either side of the C. P. R. until you are within a few miles of Winnipeg is not fertile. On nearing the Red River large acres of crops can be seen yet in shock. Wheat and oats in appearance a fair crop. I was surprised to see such an extent of crop not yet stacked or threshed.

We landed at Winnipeg at a 11 o'clock a. m. on Tuesday, and I found quarters at the Grand Union Hotel. I looked around the streets expecting to find there as in an Ontario city conveyances seeking passengers for the fair grounds but saw none. I met a cab and asked what the driver charged to go to the grounds. He very politely replied \$2—a modest sum. Well, I was plain; I told him I would walk first. "Oh," said he, "I will take four of you for the same price," which seemed a little more like home. I arrived on the exhibition grounds before 12 o'clock noon, and was well received by the secretary, directors and Manager McBroom, an old Londoner. On being informed that I was not required to do duty until Wednesday morning I had a good opportunity of seeing the exhibits as arranged on their new grounds, consisting of sixty acres of prairie land, not a dead level, and well suited for the purpose. The main building is an excellent structure. All the buildings are very well arranged, but a few changes might be made in the interior of the cattle sheds. The cattle sheds should be *vice versa*, and a walk behind the cattle instead of in front of them as they now are. The horse ring or half mile track is the best that I have seen in Canada. In fact the directors and management are to be congratulated on what they have achieved in the way of providing suitable grounds for the display of the products of this most fertile soil. It was

a pleasure to take a stroll through the varied departments. In the main building were to be seen the exhibit of the millers (known as the "staff of life"), innumerable articles manufactured or grown for the benefit of mankind, and a vast display in the space allotted to (I think) the Rogers Fur Manufacturing Co., of Winnipeg and Toronto. One grand feature of the exhibition was the contest for the C. P. R. prizes offered for exhibits of grain and cereals grown in townships and counties. They were grand. I took a stroll through the horse stalls, as well as having a glimpse of them in the ring. In this department some sections of the classes would rival anything that I have seen in Canada. On the whole it was far ahead of my expectations. The cattle were a very representative part of the exhibition, and as I acted in the capacity of judge on four of the breeds, I leave the decisions with the public. Among the animals shown were some that had taken first honors at the largest exhibitions in Ontario. There is a thought that I feel it my duty to mention. Why were not some of the home-bred Shorthorns on exhibition? From reliable information, I learned there are a large number of grand specimens of the breed that have been bred in the province. It was that class of Shorthorns that I expected to see form a strong part at the exhibition. I sympathize with such breeders, as they have not as yet fitted their cattle in a stable, and feel a delicacy in bringing out their herds to compete against those that have been prepared under cover for the show ring. To remedy this, I think the management might offer some recognition for province and territory bred herds, especially female herd, allowing an imported bull to head the herd should the breeder wish, at the same time allow them to show in the classes and sections for the prizes offered against all comers. I think this would increase the number of exhibitors, and be the means of bringing a large attendance from outside portions of the territory and province. Of sheep and swine some excellent specimens were to be seen. In swine I saw some No. 1 Berkshires. The exhibition to my mind was a grand success for a new province, and under an energetic management will, in the near future, be equal with any held in Canada. Wednesday evening I took the train for Portage la Prairie, for the purpose of seeing old neighbors that had made that part their home. I found them in a very prosperous condition. I saw unbounded tracts of grain yet in the shock, although one farmer, Mr. Sorby, formerly from Guelph, Ont., stated that he had to date twenty thousand bushels of wheat already in the elevator, and had enough more to make a total of thirty-six thousand bushels. It almost staggered me. Before I left I heard many other statements that looked almost unreasonable, but when I examined the fields of shocks not threshed, I am confident that there were sections of wheat that would yield forty-five bushels per acre. On my return to Winnipeg I met a number of old acquaintances formerly from Ontario, among them Walter Lynch and David Morrison, of Westburn. The first named was a former resident of the township of Lobo, county of Middlesex. There is a great future before the west with railroads traversing that vast fertile belt. All it requires is energy and perseverance and the Canadian Northwest will be one of the greatest producers known in the world.

[NOTE.—Praise from so well-known and experienced a breeder and exhibitor as Mr. Simmons is praise indeed, and the writer well knows he is not in the habit of bestowing unearned commendations. He is frank and fearless in statement. His judgment is with that of the ADVOCATE in regard to the defects of the cattle sheds.—ED.]

Get rid of rats. Catch one in an ordinary box trap and smear it with soft pine tar all over except head. Then turn it loose where caught. I assure you you will not be troubled with rats very long. I tried it last fall, and in three days after there was no rat to be seen, nor has any been seen since.—Practical Farmer.

The Farm.

Weeds.

BY J. HOYES PANTON, M. A., F. R. C. S.
(Continued from page 17.)

An examination of soils in which weeds grow shows that some soils are more favorable for their development than others; fewest are found in clay; most in loam. Chicory and blueweed seem to prefer calcareous (limy) soil. We shall now enter upon a consideration of individual weeds belonging to the different orders of plants.

Order, *Ranunculaceae* (Crowfoot Family).

This order does not contain many bad weeds; but there are some plants found in it worthy of our attention, as they are somewhat common and in some cases possess poisonous characters. In this family we find herbs and wood vines with a colorless and often acrid juice. The leaves are usually much cut, and the flowers vary much in appearance. Some very beautiful garden flowers are in this family, such as the clematis, peony, columbine, anemone and larkspur. The beautiful liver leaf that heralds spring in the woods is also in this, but the plants we deem worthy of special notice are the following:—



FIG. 5.

Ranunculus acris (Fall Buttercup).

The common buttercup so frequently seen in low spots; not a very serious weed, but yet sometimes occupying considerable space at the expense of plants more useful. It can be readily identified by its golden colored flowers, many in number and regular in form.

R. bulbosus (Bulbous Buttercup).

This receives its name on account of the nature of its root. The stem is erect, arising from a solid bulb. The radicle (root) leaves are three-parted. It and the preceding are perennial, and found in meadows in low grounds. Both are soon got rid of where the land is well drained and cultivated.

R. sceleratus (Cursed Crowfoot).

This is an annual, and bears many seeds. It has the reputation of being poisonous, and hence should not be allowed to grow. It has an erect, hollow stem, much branched, and grows about 1 to 1½ feet high, having inconspicuous yellow flowers. The juice of this plant is very bitter and blistering. Moist soil is its favorite location, hence draining and cultivation soon get rid of it. These three plants are all more or less poisonous,

but the last is thought the most virulent of the group.

Aconitum Napellus (Monkshood or Wolfsbane).

This perennial has escaped from the garden in some places and grows by the wayside. There are



FIG. 6.

very few plants more poisonous than this. It is a dangerous thing to have it in a garden to which children have access. Every part of this plant is noxious. The odor of its leaves and blossoms has an injurious effect upon some. The pollen, if accidentally blown into the eyes, has been known to cause pain and swelling. If the plant is handled by a cut hand it will likely produce serious results. Drying dissipates the poison to some extent, but not wholly. Horses have been known to eat the dried plant without injury. Monkshood has an erect, unbranched stem, about 3 feet high, bearing on its upper part a spike of dark-blue colored flowers. The upper petal of the blossom is arched and shaped



FIG. 7.

like a cowl (hence the term monkshood), and the two side petals are hairy on the inner side. The higher leaves are not so much divided as the lower ones. The blue helmet-shaped flowers, arranged along the upper part of the stem, serve to distinguish it at once. Wherever found, this weed should be destroyed.

Cruciferae (Mustard Family).

In this order are found some very bad weeds, which are exceedingly prolific in seeds that possess wonderful vitality. The four parts of the flower are usually cross like in shape. The six stamens group into 4 long and 2 short, and the seeds are frequently in pod-like structures, known as silicles or siliques.

Camelina Sativa (Wild-Flax or False-Flax).

This annual grows about 2½ feet high. The leaves are somewhat long, arrow-shaped at the

base, and sessile (without a stalk). The silicles are rounded and flat—about one-fifth of an inch in diameter. The flowers are small, of a pale yellow color, and arranged along the top of the stem, the lower ones being in flower first—June



FIG. 8.

or July. In the early history of this plant, it was often associated with flax, among which it became a common weed. It cannot be said to resemble flax, yet its association with that useful plant has led some to regard it as degenerate flax, and they probably have as good a reason for this theory as those who declare chess to be degenerate wheat. It is readily recognized in the field, and where thorough cultivation is pursued it finally decreases, so that what remains can be pulled.

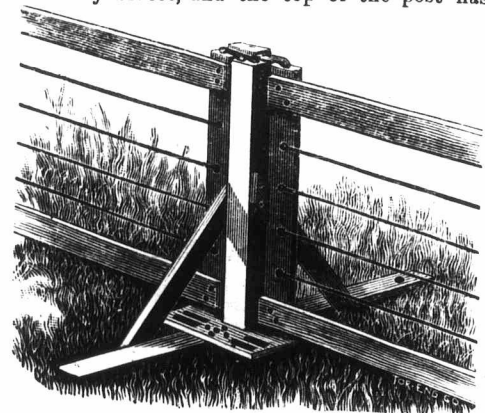
The Grange Wholesale Supply Company.

Mr. R. Y. Manning, the manager of The Grange Wholesale Supply Company, 35 Colborne street, Toronto, under date of January 13th, writes:—"We are prepared to sell teas during 1892 cheaper than ever before. We keep the best groceries and dry goods, and guarantee all goods to be as we represent them. Our trade in December, 1891, exceeded that done in December, 1890, by \$2,715.26. During the last four months of 1891 our receipts were \$8,000 greater than in the corresponding period of 1890, yet our goods were sold on closer margins. By this mail we send you our price list for 1892. Please examine it and tell us what you think of it."

The price list referred to was received, and we have looked through it carefully. As far as we can judge the goods advertised are of good quality. The prices at which they are sold are low, and the terms of sale all that could be desired. We notice here and there through the pamphlet a number of very gratifying testimonials are published, some of which were sent by purchasers and some by consigners. Those sending grain from Manitoba or the west seem as well pleased as the Ontario farmer who has forwarded his butter and eggs. We would advise each of our readers to obtain a copy of the price list.

An Inexpensive Portable Fence.

The fence shown in the accompanying illustration is designed to be staunch, durable, and of inexpensive construction, and capable of being quickly and easily set up on even or uneven ground. It has been patented by Mr. Charles E. Harris, of Brandon, Man. The post from which the fence sections are supported is secured to a block or plate attached to a bed-beam, beveled under at each end and having end apertures in which a hook may be inserted for convenience in moving the beam over the ground. The block or plate on the bed-beam has, near each end, a series of slots and central apertures, each adapted to receive a tongue on the lower end of a post of a rail section. The body section and the bed beam section of the post are connected by braces, and the top of the post has



three or more triangularly arranged recesses, and is covered by a metal plate with apertures corresponding to the recesses, there being arranged upon the plate an angular cap mounted to swing horizontally. The fence sections may be made in any approved manner, but the end posts of each section have recesses in their upper ends, and their lower ends are provided with integral or attached tongues. In erecting a fence, the tongue on the lower end of a section post is placed in one of the slots of the plate on the bed-beam nearest the main post, and the upper end of the post is connected with the top of the main post by a staple, the cap being first swung to one side, and when the staples have been forced down into place the cap is carried over them, preventing their withdrawal. If the ground is slanting or uneven the end post of the section may be placed in one of the other slots of the bed-plate, and where another fence intersects the first one at an angle the end post of the diverging fence will be placed in one of the other apertures. It will be seen that a section of this fence can be easily removed to make an opening to an inclosure, while the whole fence can be quickly taken down and set up again.

The plan upon which this fence is constructed, as examined by a representative of the FARMER'S ADVOCATE, indicates that its principle is quite simple and thoroughly practicable. Furthermore, it is no mere idea on paper, but the device of a practical man who realized its need and subjected it to a careful and crucial test on the farm with completely satisfactory results. In the east, where land is getting scarce, and in the west, where timber is not plentiful, it will be equally a boon. It is well adapted for fencing off quickly portions of a pasture for calves, pigs, sheep, etc., for temporary yards; to surround stacks or gardens, or to form corrals. Hundreds of rods of it can be taken down in a short time and piled up compactly in a corner ready to use again, each panel being independent. By the way, as showing that Mr. Harris has a gift for the practical, we examined another contrivance of his for winter use. It was simply a sleighbarrow, that is a wheelbarrow in which a stout runner of 1½ or 2-inch stuff, a couple of feet long, is substituted for the wheel, and the rig works splendidly over ice or snow, being a wonderful improvement over its twin vehicle the wheelbarrow.

Parties desiring rights or agencies of the fence should write to Mr. Harris, Brandon, Man., at once, as no doubt many will wish to prepare for building the fence in the spring, though it can be put up any time, for there is no post-hole digging to do.

Don't.

As the busy season is now over and the long winter evenings are with us once more, I thought I would be a recreant to duty if I did not give a few words of advice to my fellow farmers. I purpose touching on various topics, in the hope that my remarks may be of benefit to those who are looking for more light on the subject of farming. The wood problem is not fully understood by very many farmers, and as this is the all absorbing question at this season I will take that to commence with.

You needn't mind hauling up any summer wood now; this is the time for rest. You can haul up a log or two through the summer, and you and the hired man can saw it up during noon spells. This will put you all in good humor and keep you from getting lazy. The wood, too, will last longer, being cut only as it is needed, and none will be wasted. I would pursue the same course during the winter, but whatever you do, don't build a wood shed to put it in. The idea of building a house to put wood in that has been outdoors all its life! Then, too, the women folks need some outdoor air, and they can pull on the men's boots and wade out to the wood-pile, and it will be fine exercise digging it out of the snow.

If a board gets off the fence next summer and the old sow gets through into the garden and plays cyclone among your vegetables, don't be so foolish as to go and fix the fence. It would take too much time, and a man might be always tinkering. Just call the dog and settle the matter at once. To see him lugging the old critter out by the ears will give you more solid satisfaction than fixing a dozen fences.

Let your manure pile accumulate against the side of the barn. Under the eaves it will be in no danger of getting too dry, and besides it will help to preserve the building.

When you get through using your ploughs, etc., in the fall, just leave them where you used them last. Ten chances to one you will want to start work in the very same place next spring, and it will save hauling to and from the barn, besides it gives the place a thrifty look and relieves the monotony of the landscape in the winter time. Leave the binder out under an apple tree. The tongue will perhaps stop up a hole in the fence, and the reel makes an excellent hen roost. If it fails to work next summer you will have the satisfaction of knowing that you got some good out of it.

If you have a herd of scrub cows, don't think of improving them or introducing thoroughbred stock. Thoroughbreds take too much care and are only fit for high-toned farmers. Don't think of providing a warm stable for your cows. If you leave them outside in the cold they won't eat nearly so much, being too much occupied with shivering. You had better buy up a lot of little pigs in the fall because you can get them cheap then, and you have a lot of grain to feed. If you do lose a little on the grain you will no doubt make on the pigs. If some of the pigs get sick and seem to have caught the croup, rheumatism and all the diseases mentioned in a patent medicine almanac, nail a horseshoe over the door and the whole difficulty will disappear.

If a fruit tree agent comes along and wants you to buy some trees, say "No" at first, but if he keeps on you had better buy a few dozen, to get rid of him. You may not have any place

prepared for an orchard, but you can set them out in that old meadow back of the barn. It is too wet to grow most crops, but it will do to plant apple trees in because they will grow up out of the wet. In selecting varieties take those that look best in the book. You will be making little of the lithographer's art if you did otherwise. Have the trees delivered in the spring. You will have lots of time to set them out then, besides you will feel strong and active after your long rest and will be just wild for such work. Don't bother making a big hole for the tree and spreading the roots out; borrow your neighbor's post-hole auger, and if there are not more than fifty or sixty trees you can set them all out the afternoon they arrive, and have some time left to blow about it.

In conclusion, I would warn you against taking any agricultural papers, especially the ADVOCATE. Have nothing to do with them. They're filled nowadays with a lot of nonsense about thoroughbred stock, winter dairying, organizations, etc., which you as an ordinary farmer can't afford to even think about. Speaking about thinking, don't you ever be caught doing anything so unprofessional. Your business is to work, and work hard. Never mind system or having a definite object in view in any of your operations. Just struggle on as you have always done, and if times are hard you can't expect to make much, of course; and if they're good—but then that's for somebody else to think about.

D. G.

Meuhlenbergia Glomerata.

(Drop Seed Grass.)



Of all the experiments being made at the experimental farms, none are of greater interest or importance than those of the grasses. Clover has been, and is, an absolute necessity to eastern farmers, but is not a success in Manitoba and the west. Timothy does fairly well in some sections, but will not supply the want that will be felt in the near future. The grass that fills the bill must be, first of all, easily propagated, yielding a goodly amount of seed and responding promptly to cultivation. It must also yield a good crop of grass, and not suffer from the intense cold of winter. The subject of our illustration, *Meuhlenbergia Glomerata*, comes the nearest to filling the bill of anything that has yet been tried, being a good cropper, perfectly hardy, fine in the stalk, easily propagated and highly nutritious. Its nutritive ratio, according to the report of the Secretary of Agriculture, is 1.27, being a closer ratio than any of the cultivated grasses or clovers, except red clover before the head is formed, which, of course, cannot be considered, as no one thinks of harvesting clover at that stage. There is little doubt that, with the exception of the benefit the soil receives from a clover crop, this crop is the most profitable for hay of any grown in the Dominion. Possibly it may not succeed as well in the less fertile soils of eastern Canada, but it certainly succeeds better in the Northwest, all things considered, than any crop of a similar kind does in the east. Mr. Bedford, of the Brandon Experimental Farm, considers this the best of all the varieties yet tested at any of the experimental farms. On the rich soils of Manitoba, seed sown in May will yield a crop in September of the same year.

Making Maple Syrup and Sugar.

BY G. C. CASTON.

In a former article on this subject, which was published in the *ADVOCATE*, I gave an account of the methods practised and utensils used by myself and others in this section, in the manufacture of the greatest of saccharine luxuries. Since the publication of that article I have received many enquiries from readers of the *ADVOCATE* in various parts of the Dominion asking for more detailed information in regard to this process. Therefore I now venture to take up this subject again, hoping it may prove interesting to readers of this journal. I will endeavor to treat it in a plain, practical way, so that all may understand.

The Indians were the first sugar-makers in America, and with their rude appliances were able to manufacture a kind of sweet stuff, though it could hardly be called sugar, as the boiling was done, before the advent of the white man, by putting the sap in vessels of birch bark and plunging red-hot stones into it. This must have been a slow, tedious and dirty process, however. The white man introduced better appliances, and the product was greatly improved. But the methods employed now are as far in advance of the old kettles and tapping gouge, with the long wooden spiles and sap troughs, as these appliances were in advance of the rude methods of the aborigines.

Instead of making a great unsightly gash in the tree with the axe and gouge as formerly, we now use a patent spile, to which is attached a hook to hold a bucket, as shown in Fig. 1.

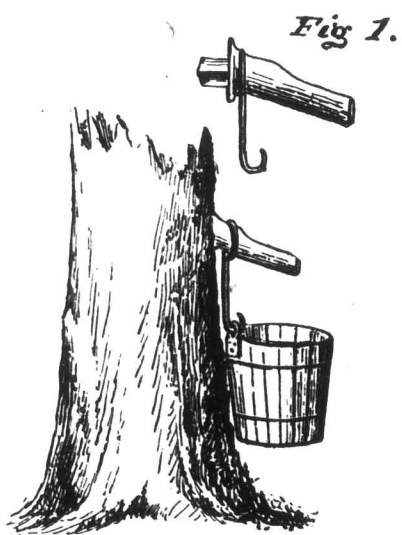


Fig. 2.

This requires a hole only nine-sixteenths of an inch in size. The rough bark is taken off before boring the hole, leaving about one-quarter of an inch of the inner bark for the shoulder of the spile to bed into. Then bore the hole with a little slant and about an inch into the tree, then drive in the spile, tapping it lightly with a hammer, and see that the shoulder is well bedded into the bark so there will be no leakage. Fig. 2 shows the spile in position, with the bucket attached. Every drop of sap is saved, there is no leakage as with the old system, and we get more sap by this process than by the old system with axe and gouge, and with far less injury to the trees, as those little holes very soon grow over. These spiles cost \$1.50 per hundred, or in large quantities or when purchased along with the buckets \$1.25. The buckets hold about ten quarts and cost \$12 per hundred. They fit inside each other when packed, and are easily moved about and handled. At the end of each season they are collected and thoroughly cleaned with boiling hot water, and allowed to stand in the sun an hour or two so that they will be thoroughly dry before being packed away.

For boiling the sap we use an evaporator, which, for a shorter name, we call the pan. It is made of galvanized iron, is twenty-two inches wide, four inches deep and fourteen feet long. This will handle the sap from 500 or 600 trees. For a larger number it would require to be larger, no wider but a little longer. A neighbor of mine has one twenty-two feet long. It boils the sap from 900 trees. There is a frame of wood attached to the pan, which is made of 2x4 stuff dressed. The edges of the pan should lap on to the wood about one and a-half inches, and be nailed on with clout nails. These should be put in pretty close together all around the edge, and care taken to make the iron fit tightly on the wood, as when boiling the sap will foam up as high as the iron, and if any openings are left between the iron and wood, leakage would occur. The pan has a number of partitions reaching nearly across, alternately leaving a couple of inches for the passage of the sap from one apartment into the other; this gives it a zigzag course, in passing over which it is evaporated and converted into syrup. The partitions in the pan are made with a flange which is soldered to the bottom, and also secured by rivets which are put through the bottom and soldered over. Fig. 3 gives a surface view, showing the partitions and the course of sap.

The furnace may be made of common field stone, with a few bricks to straighten the top where the pan sits and about the door. It

wooden cover E E, shown in Fig. 4, is made in two sections for convenience, as the back end often requires looking into, while the front section seldom requires to be raised. The object of this cover is to keep off the cold air and facilitate the boiling. A narrow opening is left along the top to let out the steam. The sloping sides of the cover should project slightly over the sides of the pan as considerable condensation takes place on the surface, and this being water it is thus carried over the sides instead of dropping back into the pan, which if it did it would only have to be evaporated over again. The flow of sap is regulated by a faucet in the storage trough. A strainer is placed across the trough near the end, so that nothing but the clear sap reaches the faucet. There is then nothing to obstruct the free flow of sap, and no danger of the faucet getting clogged and thus burning the pan. The syrup in the back end must not be allowed to get too thick before drawing it off, as being so shallow on the bottom and the heat intense there is danger of it running to sugar and burning on the bottom unless very closely watched. The syrup is drawn off when rich enough to string a little, or what we call "to rag on the dipper" when held up to the cold air. It is then strained and allowed to settle for an hour or two. It is then poured into a clean, well-scoured kettle, which is swung on a crane over a small fire. A small quantity of sweet milk is put into it and well stirred.

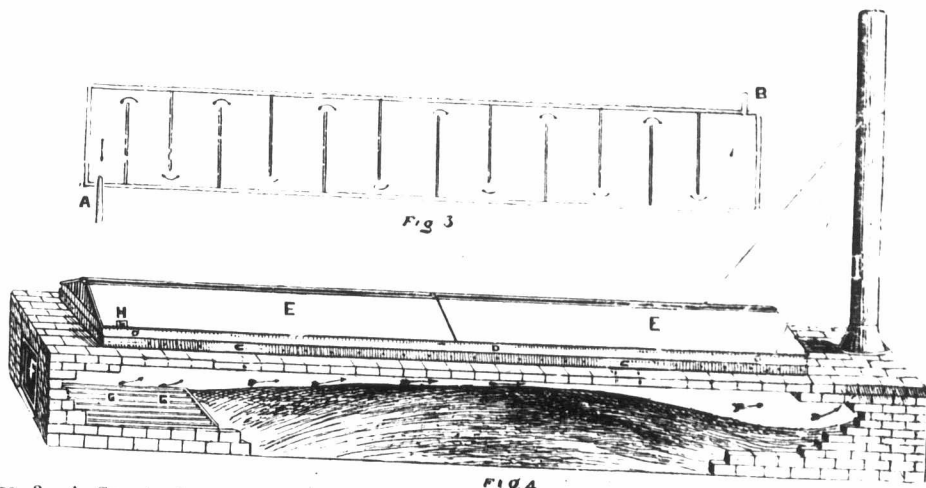


FIG. 3.—A, Spout where sap enters; B, Spout for letting off syrup. FIG. 4.—C C, Iron side and end of pan; D D D, Wooden frame attached to pan; E E, Wooden cover made in two sections; F, Furnace door; G G, Grates; H, Place where sap enters; I, Smokestack.

should be built to extend past the end of the pan, as shown in the cut. The top edges should be twenty-one inches apart; this will give the pan a half-inch lap on each side, which is quite sufficient, the object being to expose as much as possible of the bottom to the heat. The pan should sit perfectly level on the furnace, and for rapid work the sap should be not more than an inch deep while boiling, though it will require close watching. A new beginner would do well to keep a little on the safe side and run it a little deeper till he got used to it. The pan when set on the furnace should be plastered all round the edges with mortar to make the furnace perfectly tight, and preventing the fire from reaching the wooden frame. The furnace should be so constructed that from a little back of the grates the bottom gradually rises till about half way back it comes to within seven inches of the bottom of pan. Near the back end it is again depressed gradually, till at the end where it reaches the smoke stack it is fully twelve inches deep. This is to secure a good draft, without which it is impossible to do rapid work.

The smoke stack should be not less than twelve inches in diameter, and not less than ten feet high. A longer pan would require a smoke stack a little larger and higher. In Fig. 4 the side of furnace is removed to show the grates and shape of bottom, the arrows showing the course of the fire. It will be seen that the greatest heat strikes the bottom where the cold sap enters, and then passes along towards the end, for as the stuff gets thicker towards the back end it requires less heat to keep it boiling. The

This causes a scum to rise which must be all carefully removed before boiling. A few minutes suffice to finish it into first-class syrup. You then have an article that is not equalled in the whole line of saccharine products. In making sugar it is boiled till the liquid will harden and crack when spread on snow. There are several other tests, but this one will be found reliable. To make the best sugar care must be taken to remove it from the fire just at the right time. I will now conclude with a few pointers.

First as to the cost. The buckets and spiles can be bought together for \$13.25 per hundred. The evaporating pan such as I have described, fourteen feet long by twenty-two inches wide, with a capacity of twenty-five to thirty pails an hour, will cost, complete with cover, about \$14. Any handy man can build the furnace, and a piece of old smoke stack can be got cheaply at any foundry. The trees should not be bored in tapping more than an inch and a-quarter in depth. The deeper the tap the darker the color of the product and *vice versa*. The sap should not be allowed to stand long in the buckets or store trough. The quicker it is transformed into syrup the better. It must be gathered and boiled as fast as it runs.

Any farmer who has a few acres of maple should have one of these outfits. With care the utensils will last twenty years, and the work is done at a time when other work is not pressing, and the product obtained is a wholesome luxury well worth the time and trouble of making.

Ventilation of Stables in Winter.

BY ROBERT HALL, GRISWOLD, MAN.

In view of the fact that we can, and do, grow beef for export, successfully competing with eastern farmers, it becomes us to consider more carefully the great essentials in the process. Assuming that by breeding we have got a suitable animal for the purpose, the three greatest factors are: air, food and water. I think it is safe to assume that during one-third of the year our stock is confined in the stables, and only get air as the individual farmer supplies it. How often do we notice cattle in warm stables, well fed and watered, looking, to use a common expression, "tough", and making very little growth during the winter season! When the conditions are such, we are led to look for the causes that have produced this effect. In my opinion, in such cases (and they are more numerous than the casual observer might suppose) the cause is in the lack of ventilation. The thoughtless, I will not say careless, farmer is content with warm stabling, forgetting that his cattle are breathing over and over again the same air, a change only being effected when the large stable door is opened for some purpose connected with feeding, etc. This in itself is as hurtful almost as breathing the foul air, for it will be readily seen that to throw open a tight, well-built stable filled with cattle or horses, say over night, and then allow a rush of cold air to enter suddenly upon them, with pores open to the fullest extent, is very injurious, as it not only subjects them to the extreme cold shock, but creates a desire in them to be at liberty, which is hurtful in that they are not allowed to gratify that desire before the door is closed. They are again subjected to the same course of treatment, viz., a great rush of cold air three or four times a day and the rest of the time breathing the foul air, which passes and repasses through the lungs till it becomes actually poisonous, sapping the animal's vitality and wasting the food that should promote growth and the laying on of fat. With our cold winters it is absolutely necessary that a warm place be provided in order to produce the best results both in growth and fat. I think we all will agree on this. If so, the question of ventilation is of vital importance. I scarcely wish to venture an opinion as to the kind or style of ventilator. I am not discussing the high-priced or high-toned stable, but any or every kind that each individual farmer is able or sees fit to build. The stable with a ventilator large enough to put down the hay through is not suitable, the flue being so large that it carries off the heat faster than the animals generate it. In my opinion, to get the greatest good from the food, the manure should not freeze in the stable until the temperature outside is near or about 20 below zero. The best ventilated stable I have seen in this country was one about 18x24 feet (log, with sod roof), with three ventilators about six inches square at about equal distances apart. In this stable the coat of every animal was perfectly dry in the morning, and they were in a thriving condition, with none of that sluggish appearance so often noticed when cattle are in close stables. It is an easy matter for anyone to leave two or three small holes, or more, if necessary, (I think the more the better, so long as there are not too many so that the temperature falls too low); put in a small flue with four narrow pieces of board. If a sliding valve cannot be fitted in the ventilator so as to regulate the temperature, it would be an easy matter to plug the hole with hay when occasion required. In a large stable, where a barn or hay loft is built over head, ventilators should be so constructed that they will carry off all the foul air and gas without making the stable what is known as "drafty". Of course it will not do to have too many ventilators running up through the hay-mows or granary, but they can, by a little forethought when building, be so placed that they will not, to any great extent, interfere with the superstructure. The good that will accrue from the proper ventilation of a warm stable of any kind will far more than compensate for the outlay, to say nothing of the humane act, which in itself should be sufficient to prompt one to make an earnest, intelligent effort in that direction.

Entomology.**Injurious Insects.—No. 2.**BY JAMES FLETCHER, DOMINION ENTOMOLOGIST,
OTTAWA, ONT.**LICE ON CATTLE.**

During the winter and spring, the enquiry is frequently received from farmers all over the country, "What is the best way to kill lice on cattle?" There is, too, no doubt that these loathsome pests are far more prevalent upon stock than ought to be the case, considering the small expense involved and the comparative ease with which animals can be freed from their irritating presence.

The bare patches which may so often be seen on the bodies, and particularly the necks of cattle, when they are turned out in spring, bear testimony to many hours of discomfort spent by the poor animals during the winter, and are strong evidence of the negligence of the owners, not only as to the comfort of their beasts, but to their own pockets. Surely the bodily comfort of these faithful servants demands that the small amount of attention which is necessary should be given to keep them clean of parasites! In addition to this, the great loss, both in milk and flesh, due to their being constantly disturbed, make it most expedient.

It is frequently stated that only animals in poor condition are troubled with lice. This, however, is certainly inaccurate, as I have known them to spread quickly through a whole herd of fat cattle when introduced upon an infested animal. This points out the importance of examining carefully every animal at the time of procuring it, and if lice are detected upon it it should be kept separate until all have been destroyed. With regard to the more frequent occurrence of parasites upon thin or unhealthy animals, this is perfectly true, and is in accordance with a general law by which both plants and animals in an injured or diseased condition are not only more susceptible to injury, but are more attractive to their insect foes, which, having gained a foothold, increase more rapidly than under ordinary circumstances. In most cases, however, the ordinary statement should be reversed, and instead of the poor condition producing the lice it is the lice which reduce the animal by constantly disturbing it and sucking its blood. It is also the case that cattle which are swarming with these filthy and irritating insects soon become poor, and it requires much more food to get them into good condition again than animals which have been kept clean and gradually increasing all the time. The presence of lice upon cattle is plainly indicated by their restless movements and by their frequently rubbing and licking themselves. The loss from this cause is very great; it is entirely due to negligence, and it is quite unnecessary, as it can be easily prevented by trying some of the below-mentioned remedies.

DESCRIPTION OF THE LICE.

There are three distinct kinds of lice found infesting cattle; two of these belong to the true lice, and are closely allied to the kinds which sometimes occur upon human beings. These are classified amongst the true bugs, and, like the other members of that order, have their mouth parts in the shape of a hollow tube, by means of which they suck the blood of their hosts. They differ somewhat in form, and have been called by Dr. Weed, now of New Hampshire, the "short-nosed" and "long-nosed" ox lice. The third kind belongs to the same family as the "bird-lice", which are now included in the same order as the dragon flies and white ants, and here we find that the mouth parts are of an entirely different nature, being furnished with biting jaws, by means of which they feed upon the hair and skin of their hosts.

The SHORT-NOSED OX LOUSE (*Hematopinus eurysternus* Nitz.) when full grown, is about 1/4 of an inch in length, of a bluish-white or leaden color, with a broad, flattened body, and has the legs terminated by strong

claws, by means of which it holds on to the hairs of the animal it is infesting. The beak is furnished with small hooks, by means of which it holds firmly to the skin of its host whilst sucking its blood. The eggs are fastened firmly to the hairs by means of an expanded base which encircles the hair. The eggs hatch in a few days, and the young lice closely resemble the full grown specimens, except in size.

THE LONG-NOSED OX LOUSE (*Hematopinus vituli*, L.). This differs from the above chiefly in the shape of the body and the length of the head. Its mode of attack is the same, and it is said particularly to attack calves.

THE BITING OX LOUSE (*Trichodectes scalaris*, Nitz.). This is an extremely small insect, only measuring from one-twenty-fourth to one-sixteenth of an inch in length, and is of a reddish color. It is three times as long as wide, and has a round head. As stated above, it belongs to a division of the "bird-lice" where are grouped the parasites of various animals, as the horse, the pig, the sheep, the cat and the dog. It is remarkable that almost every animal and bird has its peculiar parasites, which will not live upon the others even if transported to them. Speaking of the sub-family to which the biting ox louse belongs, Andrew Murray says:—"This sub-family differs from the other *Mallophaga*, or "bird-lice", in attacking mammals. Its species are all restricted to them, as all the other genera are to birds."

REMEDIES.

There are several simple remedies by which cattle may be effectually and safely freed from lice. Poisonous substances, as mercurial ointment, must never be used, as the cattle frequently lick themselves in their efforts to get rid of their tormentors, which are always found much more numerous upon those parts of the body the animal cannot reach with its tongue, such as the neck and mane and the base of the tail. Undoubtedly the best remedy is a well-made emulsion of coal oil and soap suds. This is made as follows:—Dissolve a quarter of a pound of common hard soap in half a gallon of rain water by boiling; when all the soap is dissolved pour the boiling suds into a vessel containing one gallon of coal oil; churn this mixture briskly for four or five minutes, by means of a syringe or force pump, by pumping it forcibly in and out of the vessel containing it. If you have not these instruments, Prof. Gillette says an ordinary egg beater does well for small quantities. No farm house, however, should be without a small force pump. One can now be bought for three or four dollars, and this amount will very soon be made up in time saved and convenience in washing up the buggy, the doorway, the windows, etc., and is also a most useful protection in case of fire. When the emulsion is complete, if a little be put on a piece of glass it will adhere without oiliness. It may then be put by until required and will keep a long time. As it cools it turns to a jelly-like mass. When required for use, take of the emulsion one part and dissolve it in nine times the quantity of warm water. When all is dissolved, rub in the mixture well with cloths or a scrubbing brush. Prof. Gillette found that it could be applied more easily by means of a force pump and spray nozzle, one man working the pump while another worked in the mixture with his finger tips. This mixture will kill every insect it touches, and will leave the hair and skin of the animal treated in good condition. Another mixture which may be used successfully is three parts of lard mixed thoroughly with one part of coal oil; melt the lard and mix thoroughly with the coal oil, and rub this on the infested parts while warm. An old but very useful remedy which may be used in the same way is made by mixing one part of powdered sulphur with three parts of lard. A strong decoction of tobacco (one pound in two gallons of water) will destroy the lice, but the kerosene emulsion is preferable and cheaper. All applications must, however, be repeated several times at intervals of three or four days, so as to kill fresh young as they hatch from the eggs. The eggs are much more difficult to destroy than the lice after they have hatched. The stalls or places where the cattle rub should also be treated with strong lye, coal oil or whitewash.

Dairy.

Mechanical Cream Separation.

BY PROF. S. M. BARRE, WINNIPEG, MAN.

That force of nature by which an object revolving around a given centre is continually trying to break away from that centre is called centrifugal force. If the object which is revolving is a vessel containing a liquid composed of elements of different weight, such as milk, these elements will separate and arrange themselves according to their weight; the heavier ones will be further from the centre, the lighter ones nearer. The capacity of the separator varies with the square of the speed. Such are the principles upon which all centrifugal separators are constructed—the differences between them are only differences of detail. However, these differences of details are sometimes of great importance. For example, two separators of different construction or make, but of about the same cost, requiring the same amount of motive power, are advertised to do about the same amount of work per hour. Yet one of these separators may skim the milk much closer than the other, so much so that the use of these separators under the same conditions as regard the milk inflow per hour would entail a considerable loss. For ordinary work the one separator may skim a given quantity of milk so as to leave from 0.15 to 0.25 of a pound of butterfat in the skim milk of 100 pounds of whole milk, whilst the other to do the same amount of work per hour may skim so as to leave 0.35, 0.50, and even 0.75 of fat in the skim milk. The difference between 0.15 and 0.75 is 0.60, or nearly eleven ounces of butter per 100 pounds of milk. Working 5,000 lbs. of milk per day, during a season of 160 days, the total loss would be $34 \times 160 = 5,440$ lbs. of butter, equal in value to \$1,360. A loss of one-half this amount would still be too important to be overlooked. In order to obtain the same butter yield from both of these separators, it is evident that the inflow of milk in one of them should be considerably decreased. This would entail another loss of time, labor and fuel. Otherwise, some separators, owing to their labor-saving attachments, are well adapted to creamery work; others, owing to their simple construction, low cost, and the insignificant expense required for setting, would no doubt be much more in favor in minor establishments, where labor-saving is yet of secondary importance. Hence intending purchasers of separators would do well to look closely into the details of their construction. However, since the advent of the mechanical system of cream separation in the dairy world, inventors are actively at work striving to outrace one another in the production of machinery to effect cream separation in the most speedy, convenient and economical manner. Nearly every year brings out a new separator. Amongst them we find

THE ALEXANDRA,

a new and improved separator lately placed on the market by an English firm. It is made of seven sizes, for steam, horse and hand-power.

HOW THE MACHINE WORKS.

The new milk placed in a vat flows through a tin inlet placed over the separator. From this milk inlet it is allowed to enter the drum of the separator. When the drum begins to revolve the milk is projected against the sides and forms a complete vertical ring, the different elements contained in milk begin to separate, and arrange themselves according to weight. The impurities

being the heaviest collect upon the sides of the drum; the skim milk, next in weight, collects next, and by constant inflow of new milk it gradually rises to the top of the drum and enters an aperture leading into a specially constructed outlet. The cream collects in a wall upon the inner surface of the skim milk, and flow through another aperture into the cream outlet. (See Fig.)

SPECIAL FEATURES OF THE ALEXANDRA SEPARATOR.

Although no better than other separators in some respects, the "Alexandra" is perhaps one of the best adapted to the requirements of Manitoba and the Northwest Territories, as it excels in the following particulars:

It needs no great outlay for setting, it requires no special foundation whatever, simply stands

The Apiary.

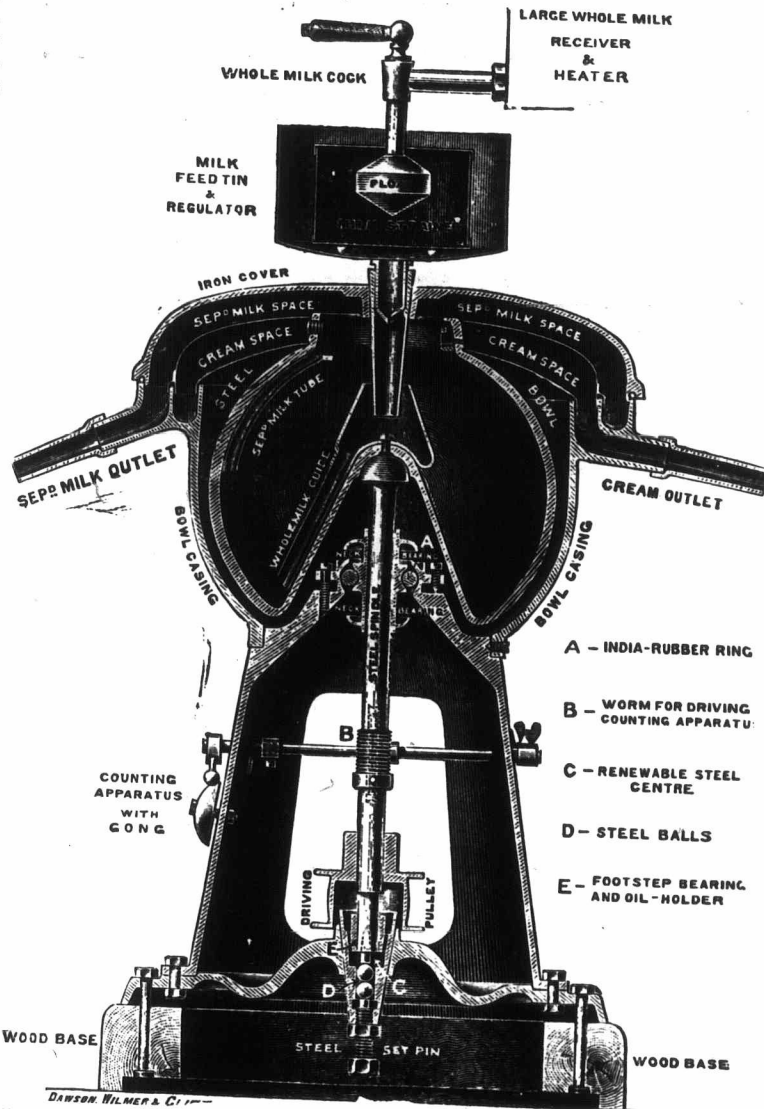
House Apiaries.

One of the very latest old ideas revived is that of house apiaries. Our advanced beekeepers are discussing their advantages and disadvantages, and almost the entire next number of one bee journal is to be taken up in this way to hear the opinions of leading beekeepers, *pro* and *con*, upon the subject.

House apiaries were very much more in use quite a number of years ago; they were unpopular, however, because the bees did not winter well in them, and in manipulation of the hive the bees would get out and have difficulty in getting back to the hive by means of the outside entrance to it. The hives, too, were fastened to the house; this it is proposed to now do away with. There appears to be no good and substantial reason why house apiaries should not be made; there is every reason why one should not be made unless it is made well. From the nature of a bee and what it requires under other conditions, there is no doubt that a house apiary, or rather the house for such an apiary, should be so constructed that it will not easily be influenced by outside temperature in winter; this is a prime requisite in a cellar for wintering bees, and it is safe to say it is the prime requisite in wintering in a house. The fly holes could be so constructed that in winter they could be closed up, and ventilation and a place to drop dead bees be secured at the entrance of the hive, but in the house. Artificial heat to a very moderate degree could be secured by a hot pipe running into the house, or by means of a stove put in the house. The latter method would not be likely to be as good, and the whole matter of artificial heat would require very close and careful administration. To keep an equable temperature is quite as important in summer as in winter, for if the rays of the sun quickly affected the temperature of the house the bees would suffer more than they would under the direct rays of the sun outside. If, however, the rays of the sun did not influence the temperature of the house for a considerable time, by ventilating the house at night the average temperature of the house for 24 hours each day could be considerably lowered, and this would, when warm, be of great assurance to the bees and prevent swarming—a very important item—for beekeepers are now working to prevent increase. It is unnecessary to say that to work in a properly constructed house apiary is far pleasanter than to work in the boiling sun. The bees, too, as all beekeepers know, are less liable to attack the apiaries in a building than in the open air. Robbery, which is such an annoyance when the apiary is not busy gathering and the apiarist exposes combs in handling honey, cannot be done, as the operator is in the house and the hive he has open cannot be reached from the outside by the other bees. The entrance from outside is only to individual hives.

BEE ESCAPES.

The invention of bee escapes will add much to the practicability of house apiaries. The bee escape is a device by means of which bees can pass one way but not another (if placed in a door, window or other place, they can pass out but not return), either by means of a circuitous passage or, as in the Porter, by means of two pieces of metal fastened at the end, the others pointing towards one another and so adjusted that coming one way the bee can put her head through and then with her body slightly press apart the



SECTIONAL ILLUSTRATION OF ALEXANDRA CREAM SEPARATOR.

loose on any level surface, and when not in use can be rolled out of the way. This is a good advantage in this part of the country where special buildings are costly, and where the material required for stone, brick and cement foundations are expensive, and in some locations scarcely available. It requires very little motive power. Some sizes of this separator can easily be driven at full speed by a horse, an ox, and even by hand-power. In cases where animal power is already available it would save the cost of a steam outfit and its running expenses. It is a well designed apparatus, well protected, easy to clean, easy to operate, and, I believe, less liable to get out of order than most of separators. These special features are all of considerable importance, and should be well considered by dairymen of Manitoba and the Northwest Territories.

The farm yields the farmer a great many luxuries that are not credited.

metal ends to pass through; returning, however, she does just the opposite and cannot pass through. Then, the bee escapes are becoming quite popular to place between the brood chamber and upper story in the hive. The bees can pass down to the brood chamber but not return; the result is the bees are soon out of the upper story and the bee keeper can take his extracted or comb honey away without molesting. These bee escapes may be purchased in Canada. The next number of the FARMER'S ADVOCATE will contain a condensed report of the International American Bee Association Convention, held at Albany, N. Y.

The questions to be discussed will be:— The Prevention of Swarming; The Outlook for Apiculture at the Columbian Exposition; Can we settle upon two sizes of section as standard? The Italian Bee; What are the principal points of excellence and to which qualities should we give the preference? Some facts not generally known among beekeepers. Doubtless other reports will be discussed and the readers of the ADVOCATE have in the report the views of the members of the most influential beekeepers' association in the world.

APIS DORSATA.

The United States government is taking great interest in the development of apiculture in the United States. It was decided to send a man to Africa and Ceylon in quest of new races of bees, especially *Apis Dorsata*, and to test their value for the beekeepers. Beekeeping is a branch of the farm which properly fostered may do much to increase the wealth of the agricultural community.

Information Wanted.

I have been reading with interest the letters in late numbers of the ADVOCATE anent Patrons of Industry and other farmers' associations, particularly the letter of Mr. Chas. Braithwaite, and I think of all the combines he enumerated the farmers suffer more from the Millers' Association than any other. Now, in the village of Beaverton we have one of the largest and best equipped grist mills north of Toronto, but unfortunately for the farmers they get very poor satisfaction in it. I am told by several farmers who have weighed their wheat at home and the flour and bran got in exchange, that the miller keeps on an average fifteen pounds off every bushel of wheat; and worst of all, the flour they get is of poor quality, often not fit to use. In talking the matter over among my neighbors I find there is a very strong feeling in favor of the farmers building a mill of their own, which would be owned and operated by them for the purpose of doing their own gristing, chopping, etc. They could also grind all their wheat and ship the flour, and have the bran and shorts for their own use. If the ADVOCATE knows of any such farmers' mill now in operation, I would like to hear all particulars of their working. I would also like to see this matter thoroughly discussed through the columns of the ADVOCATE, for it is a question of vast importance to the farming community. Any information or advice will be thankfully received by a

THORAH FARMER.

[We do not know of a mill owned and controlled by farmers. We invite any of our readers who can to reply to the question asked. A full discussion of the subject would be advantageous to all concerned.]— ED.

The Indiana farmer says:—If the voice of humanity and the teachings of common-sense usages be listened to, the tight checkrein will be among the things of the past, as it should be, for it is a useless and cruel torture to the horse wearing it.

Poultry.

Winter Care of Poultry.

BY IDA E. TILSON.

What most concerns fowls is the state of their owner's mind, rather than the state of the weather. Autumn and winter, of course, are the times when hens call for most care, and when poulterers need to exercise their best judgment. Then fowls cannot for themselves spy out the land and the products thereof, and changes in temperature are more frequent and severe. How ventilation may be decreased and food increased, gradually and properly, are two important questions, or rather two phases of one question, since both courses mean more warmth. Hens in farm poultry houses, usually unprovided with stoves, will bear being shut up at night as closely as can be now, and not poison themselves by foul air. When I first visit my hennery in the morning the testimony of my nose is taken, and ventilation regulated by that and thermometer records combined. As there are also small doors for the exit and entrance of my hens, the large doors, provided to admit me, are not left open frosty mornings to chill my prompt layers, and are likewise closed before night so that early retirers may be comfortable. A thorough airing in the warm, sunny midday will be sufficient. I give this airing every day which reaches 20° Fah., and confine hens within their houses only at zero, or "below Cicero," as a little boy said. A pullet, or "tender-foot," as she might be called west, is sometimes bewildered by the first snowfall. If every fowl is looked after that night—driven home, taught how to behave, and counted—later storms will seldom affright. Each house has attached a low, open shed, facing south, which, except during extremely cold weather, is an excellent feeding place, because it removes from the house those food odors and remnants that attract mice and rats within. This shed is a relief from the monotony of indoor quarters. Busybodies and promenaders seek it, leaving layers more quiet and undisturbed. It affords so many additional square feet of standing, scratching and sunning room, and can be a cheaper structure than is required for lodgings. Therefore, instead of a large, cold house, build a shed, and a smaller, snugger house. If there is one very large front window, which can be opened in summer, and the house itself made nearly like a shed, nothing more can be desired. Glass concentrates the sun's rays, and so toasts chickens in its range that a chilly difference seems to be felt as soon as they step aside. An open shed and natural sunlight are by many preferred above additional windows. Knot holes and cracks must early be looked to and stopped. Cold air on either fowls or human beings, striking fairly front or back, where the great organs are centered for resistance, is less dangerous than some small top or side draught. The air bound to creep in around under eaves comes so indirectly, however, it forms of itself a very good system of ventilation. If a house, pleasantly high and airy in summer, proves, as did a neighbor's, bleak and uncomfortable for winter, a few temporary boards, spaced between, placed overhead to form an attic, which is then filled with straw, will keep out cold, and by its porosity not hinder circulation. A double-boarded house holds in the animal heat, winter's principal source of comfort, and when summer comes this same thickness keeps out the sun's rays, which are hotter than anything else can be. Many suppose tarred paper lining will repel insects. It does so only for a while, when new and odoriferous. Being quite imperious to air and everything, the fowls' breaths collect on it in drops and patches of sickly moisture, but a sawdust filling is porous, and always secures a dry room. Every hennery should be located on a naturally high, dry spot, or have one artificially graded and prepared. If already

situated on a level plot, the snow shoveled out of paths to and around it in winter should be thrown as far away as possible, and no great masses collected that may run into or under the house at thawing time. The evils of overcrowding poultry quarters become well understood by every experienced poulterer. Profits cannot be doubled by simply doubling the number of fowls, unless space and attention are likewise increased. One hundred birds put where only fifty ought to be bring entire defeat, because when overcrowded none do well. It is better that fifty hens show their owner she has sufficient room and knows enough to manage a hundred. Moulting time shows the stuff fowls are made of and the stamina in them. A wise selection for winter can then be had. Fat and faulty ones can go to market. If what a modern poet has written,

"The bravest are the tenderest,"

is always true, our domineering fighting birds should certainly be eaten. Ailing fowls are dangerous for anyone's table, and must be killed summarily.

There is an ancient saying,

"Birds of a feather flock together,"

and so they should, because every age and kind requires its own treatment. Pullets and hens cannot run together and both lay equally well. That amount and sort of food which only keeps pullets maturing and laying will place useless fat on older fowls. Some poulterers have half a flock old and half young, getting eggs from the latter, and, at the same time and by one treatment, gradually, naturally and easily fattening their veterans for market.

If old hens are desired to lay they must be stunted in corn and similar things. True, egg-yelks contain much the same constituents that maize does, but nitrogenous elements are obtained from other foods also, so corn is not indispensable for egg production. At moulting time our half-naked birds require some corn, oil meal and sunflower seeds to keep up their warmth and to oil their new plumage. The pullets associated with them have now reached that stage when, frames already formed, they likewise need a filling up and rounding out. The exercise of picking kernels from cobs is good. Fed thus, corn may be used to some extent throughout our winters, and, given toward night, will help create warmth during their long hours of fasting till morning. Puddings are often provided to excess for old fowls, which eat in a few minutes an amount they ought to be hours picking up. Their crops and gizzards are distended, while exercise becomes unnecessary and impossible. It is a little compensation that domineering, greedy biddies get most and suffer most. In those European and Asiatic countries where overgrown livers of poultry are esteemed a delicacy, such results are produced by gorging birds with soft food, a case we by no means wish to approach with our laying stock. But a fowl which is getting up her new winter coat, like a chicken building its body, calls for more pudding than usual, just because it is a rapidly digested and assimilated food. Composed largely of bran, and salted, it will then prove a help rather than clog.

A poet has feelingly described this trying moulting time, when our poultry so need and appreciate friends and helpers:—

We were gazing on the monarch
Of the poultry-yard one day,
With his gold and emerald feathers,
And his coronet so gay.
Oft the whole brood, with one consent,
A cackling concert raised,
Calling on all the fowls around
To shout their chieftain's praise.

This world is full of ups and downs;
Our rooster found it so,
For off, with every wind of heaven,
His plumes began to flow,
Of golden feathers round his neck
He shortly was bereft:
One dropped by one from out his tail
Till not a plume was left.

And then it was that every chick,
The meanest of the brood,
Would cast their scornful glances when
He ventured out for food.
Oh! where was now his boastful crow?
His step of stately pride?
He seemed to feel the change, and sought,
Alone, his shame to hide.

Family Circle.

No Scenes Like the Home Scenes.

There are no scenes like the home scenes,
Through wide through the world you roam,
For the heart, however it wanders,

There are no days like the young days,
Though you live for many a year,
For earth was then filled with beauty,

A CONQUEST OF HUMILITY.

Two o'clock had been the hour set for the wedding.
It was now four, and the bridegroom had not yet appeared.

They were talking excitedly. A shrill feminine babble,
with an undertone of masculine bass, floated in volume from a mere whisper for the last half-hour.

Hiram, who was a young fellow, had gotten into his shiny buggy with a red, important face,
and driven off at a furious rate.

It was a beautiful summer afternoon. The air was hot and sweet.
Around the Caldwell house it was spicy sweet with plinks;

Some of the women and young girls pulled pinks and sniffed them as they stood waiting.

At last the woman in cinnamon-brown silk turned excitedly about.

The whisper passed from one to another. "He's coming!"
everybody repeated.

"It ain't Lawrence," said a woman's voice disappointedly.

"Somethin' has happened," repeated Mrs. Thayer.

The young girl trembled and caught hold of her mother's dress;

Hiram Caldwell drove up the road. He met the gaze of the people with a look of solemn embarrassment.

There was a large white-headed old man with him, who drew the larger share of attention.

He got lumberingly out of the buggy when Hiram drew rein at the gate.

The people stood back and stared. No one dared speak to him except Mrs. Erastus Thayer.

She darted before him in the path; her brown silk skirts swished.

"Mr. Thayer," cried she, "what is the matter? Do tell us! What has happened?"

"Where's Della?" said the old man. "O she's in the bedroom out of the parlor. She ain't been out yet."

Mr. Thayer, for mercy's sake, what is the matter? What has happened to him?" David Thayer waved her aside,

and kept straight on, his long yellow face immovable, his gaunt old shoulders resolutely braced, through the parlor, and knocked at the bedroom door.

A nervously shaking woman in black silk opened it. She screamed when she saw him.

"O Mr. Thayer, it's you! What is the matter? where is he?" she gasped, clutching his arm.

A young woman in a pearl-colored silk gown stood, straight and silent, behind her.

She had a tall, full figure, and there was something grand in her attitude.

She stood like a young pine-tree, as if she had all necessary elements of support in her own self.

Her features were strong and fine. She would have been handsome if her complexion had been better.

She did not speak, but stood looking at David Thayer. Her mouth was shut tightly, her eyes steady.

There were several other women in the little room. Mr. Thayer looked at them uneasily.

The women started and looked at each other; they then left. The old man closed the door after them and turned to Della.

Her mother had begun to cry. "Oh dear! oh dear!" she wailed. "I knew somethin' dreadful had happened."

"Della," said he, "I don't know what you're goin' to say. It ain't very pleasant for me to tell you."

"Oh, he ain't dead," said the old man; "an' he ain't sick. I don't know of anything that ails him except he's a fool."

"Won't come!" shrieked the mother. Della stood stiff and straight.

"No, he won't come. His mother an' I have been talkin' an' reasonin' with him, but it hasn't done any good."

He got his door locked, an' he called out he wasn't goin'.

He had noticed how red Olive's eyes were when she went back to the shop.

Suppose, an' so he decided, all of a sudden, he'd aint goin'.

Mean, Della, an' I'd rather out of my right hand than had it happened;

Mrs. Caldwell stepped forward suddenly. "I should think he had treated her mean!"

She said—her voice rose loud and shrill. "I never heard anything like it."

He was strung up. If you and his mother had had any sort of spunk you'd made him come.

Della caught her mother by the arm. "Mother, if you have any sense, or feeling for me, don't talk so loud."

The old woman's shrill vituperation flowed through the daughter's remonstrance and beyond it.

"I would like to show him he couldn't do such things as this without gettin' some punishment for it."

Mrs. Caldwell changed her tone suddenly. She began to cry weakly.

"It isn't going to do any good to go on so, mother."

"There's all them folks out there. Oh dear! What will they say?"

Della turned to Mr. Thayer. "Somebody ought to tell them," said she.

"O Della, how can you take it so calm?" wailed her mother.

"I suppose so," assented the old man; "but I declare I can't tell 'em such a thing about a son of mine."

The minister would be a good one, wouldn't he?" said Della.

Mr. Thayer took up with the suggestion eagerly. He opened the door a chink,

and asked one of the waiting officious guests to summon the minister.

When he came he gave him instructions in an agitated whisper;

then the minister's solemnly inflected voice broke upon it.

After a little, Della approached the door as if she were going out into the parlor.

"O Della, don't go! wait till they're all gone!" wailed her mother.

"They are gone, most of them. I've stood in this hot little room long enough."

She threw open the door. Directly opposite was a mahogany table with the wedding presents on it.

Three or four women, among them Mrs. Erastus Thayer and her daughter, were bending over them and whispering.

When the door opened they turned and stared at Della standing there in her pearl-colored silk,

with some drooping white bridal flowers on her breast. They looked stiff and embarrassed.

Mrs. Thayer recovered herself and came forward. "Della," said she, in a soft whisper,

"Please don't make any fuss over me, Mrs. Thayer," said she; "it isn't necessary."

Mrs. Thayer started back, and went towards the door. Her face was very red.

"I'm real glad she can show some temper about it," she whispered, when they were all out in the entry.

"Ask her why he didn't come," one of the woman whispered, nudging her.

"I'm kind of afraid to. I'll stop and ask Hiram on my way home; mebbe Mr. Thayer told him."

Della, in her bridal gear, stood majestically beside one of the parlor windows.

Presently Mrs. Thayer's daughter came across the room tremblingly.

She had hesitated on the parlor threshold, but her mother had given her a slight push on her slender shoulders.

"I'm goin' now," said he. "If there's anything I can do, you let me know."

"There won't be anything," said Della. "I shall get along all right."

He shook her hand hard in his old trembling one. "You're more of a man than Lawrence is,"

he said. "He was a very old man, and his voice, although it was still deep, quavered."

"There isn't any use of your sayin' much to him," said Della. "I don't want you to on my account."

"Della, don't you go to standin' up for him. He don't deserve it."

"I ain't standin' up for him. I know he's your son, but it doesn't seem to me there's a great deal to stand up for."

Well, good-bye, Della. I hope you won't lay up anything again' his mother an' me.

Well, good-bye, Della," said the old man piteously.

After he had gone, Della went into the bedroom to her mother.

"O Della, she sobbed, "what are you goin' to do?—what are you goin' to do?"

"I am going to take off this dress, for one thing."

"I don't see what you will do. There you've gct this dress and your black silk, two new silk dresses and your new brown woolen one, and your new bonnet and mantle, all these new things, and the wedding-cake."

"I suppose I can wear dresses and bonnets just as well if I ain't married; and as for the wedding-cake, we'll have some of it for supper."

"What's the matter, mother?" Della slipped off the long shimmering skirt of her pearl-colored silk, shook it out, and laid it carefully over a chair.

"Not that I know of. Why?" "You don't act natural."

"I'm acting the way that's natural to me." "What are you going to do? O you poor child!"

Mrs. Caldwell laid hold of her daughter's hand as she passed near her, and attempted to pull her to her side.

"Don't, please, mother," said Della. Her mother relinquished her hold, and sobbed afresh.

"I won't pry you if you don't want me to," said she, "but it's dreadful. There's another thing. You've lost your school. Flora Strong spoke for it, an' she won't want to give it up."

"I don't want her to. I'll get another one." Della put on a calico dress, and kindled a fire, and made tea as usual.

She put some slices of wedding-cake on the table; perhaps her will extended to her palate, and kept it from tasting like dust and ashes to her.

Her mother drank a cup of tea between her lamentations. After supper Della packed up her wedding gifts and addressed them to their respective donors.

There were a few bits of silver, but the greater

number of the presents were pieces of fancy-work from female relatives. She folded these mats and tidies relentlessly with her firm brown fingers. There was no tenderness in her touch. She felt not the least sentiment towards inanimate things.

"I think they're actin' awful mean to want to grab these things back so quick," said her mother, her wrath gaining upon her grief a little.

"It goes well with the rest," said Delia.

Among the gifts which she returned was a little embroidered tidy from Flora Strong, the girl who had been engaged to teach her former school.

Flora came over early the next morning. She opened the door, and stood there hesitating. She was bashful before the trouble in the house.

"Good morning, Mrs. Caldwell; good morning, Delia," she faltered deprecatingly. She had a thin, pretty face, with very red lips and cheeks. She fumbled a little parcel nervously.

"Good mornin', Flora," said Mrs. Caldwell. Then she turned her back, and went into the pantry.

Delia was washing dishes at the sink. She spoke just as she always did. "Good morning," said she. "Sit down, won't you, Flora?"

Then Flora began. "O Delia," she burst out, "what made you send this back?—what made you? You didn't think I'd take it?"

"Take what?"

"This tidy, O Delia, I made it for you! It doesn't make any difference whether—Flora choked with sobs. She dropped into a chair, and put her handkerchief over her face. Mrs. Caldwell heard her, and began weeping, as she stood in the pantry. Delia went on with her dishes.

"O Delia, you'll—take it back, won't you?" Flora said finally.

"Of course I will, if you want me to. It's real pretty."

"When I heard of it," the girl went on—"I don't know as you want me to speak of it, but I've got to—I felt as if—I declare I'd like to see Lawrence Thayer come up with. I'll never speak to him again as long as I live. Delia, you aren't standing up for him, are you? You don't care if I do say he's—a villain?"

"I hope she don't," wailed her mother in the pantry.

"No," said Delia. "I don't care."

Then Flora offered to give up the school. She pleaded that she should take it, but Delia would not. She could get another, she said.

That afternoon, indeed, she went to see the committee. She had put the house to rights, pinned Flora's tidy on the big rocking-chair in the parlour, and dressed herself carefully in a blue-sprigged muslin, one of her wedding gowns. Passing down the hot village street, she saw women sewing at their cool sitting-room windows. She looked up at them and nodded as usual. She knew of a school whose teacher had left to be married, as she had done. She thought the vacancy had possibly not been filled. Very little of the vacation had passed. Moreover, the school was not a desirable one: the pay was small, and it was three miles from the village. Delia obtained the position.

Early in September she began her duties. She went staunchly back and forth over the rough, dusty road day after day. She had the reputation of being a very fine teacher, although the children were a little in awe of her. They came to meet her and hang about her on her way to the schoolhouse.

Her road lay past the Thayer house, where she would have been living now had all gone well. Occasionally she met Lawrence; she passed him without a look. Quite often she met Olive Briggs, who worked in a milliner's shop, and boarded at Lawrence's father's. She always bowed to her pleasantly. She had seen her in the shop, although she had no real acquaintance with her.

The girl was pretty, with the prettiness that Delia lacked. Her face was sweet and rosy and laughing. She was fine and small, and moved with a sort of tremulous lightness like a butterfly. Delia, meeting her, seemed to tramp.

Everybody thought Lawrence and Olive Briggs would be married. They went to evening meetings together, and to ride. Lawrence had a fine horse. Delia was at every evening meeting. She watched her old lover enter with the other girl, and never shrank. She always looked at them riding past.

"Did you see them, Delia?" her mother asked in a fluttering voice one afternoon. She and Delia were sitting at the front windows, and Lawrence and Olive had just whirled by the house.

"Yes."

"You kept so still, I didn't know as you did."

People kept close watch over Lawrence and Olive and Delia. Lawrence was subjected to a mild species of ostracism by a certain set of the village girls. Delia's mates—honest, simple young souls; they would not speak to him on the street. They treated Olive with rough, rural stiffness when they traded with her in the one milliner's shop. She was an out-of-town girl, and had always been regarded with something of suspicion. These village women had a strong local conservatism. They eyed strangers long before they admitted them.

As for Delia, the young women friends of her own age treated her with a sort of deferential sympathy. They dared not openly condole with her, but they made her aware of their partisanship. As a general thing no one except a Thayer or a Caldwell alluded to the matter in her presence.

The relatives of the two families were open enough in expressing themselves, either with recrimination or excuse for Lawrence, or with sympathy or covert blame for Delia. She heard the most of it, directly or indirectly. Like many New England townships, this was almost overshadowed by the ramifications of a few family trees. A considerable portion of the population was made of these Thayers and

Caldwells—two honourable and respectable old names. They were really, for the most part, kindly and respectable people, conscious of no ill intentions, and probably possessed of few. Some of them expostulated against receiving back those vain bridal gifts, but Delia insisted. Some of them were more willing to give than she to receive their honest and most genuine sympathy, however ungracefully they might proffer it.

Still the fine and exquisite stabs which Delia Caldwell had to take from her own relations and those of her forsown bridegroom were innumerable. There are those good and innocent-hearted people who seem to be furnished with stings only for those of their own kind; they are stingless towards others. In one way this fact may have proved beneficial to Delia: while engaged in active defence against outside attacks, she had no time to sting herself.

She girded on that pearl-coloured silk as if it were chain armour, and went to merrymakings. She made calls in that fine black silk and white plumed wedding bonnet. It seemed at times as if she were fairly running after her trouble; she did more than look it in the face.

It was in February, when Delia had been teaching her new school nearly two terms, that Olive Briggs left town. People said she had given up her work and gone home to get ready to be married.

Delia's mother heard of it, and told her. "I should think she'd be awful afraid he wouldn't come to the wedding," she said bitterly.

"So should I," assented Delia. She echoed everybody's severe remarks about Lawrence.

It might have been a month later when Flora Strong ran in one morning before school. "I've just heard the greatest news!" she panted. "What do you think—she's jilted him?"

"Olive Briggs—she's jilted Lawrence Thayer. She's going to be married to another fellow in May. I had it from Milly Davis; she writes to her. It's so."

"I can't believe it," Mrs. Caldwell said, quivering.

"Well, it's so. I declare I jumped right up and down when I heard of it. Delia, aren't you glad?"

"I don't know what difference it can make to me."

"I mean aren't you glad he's got his pay?"

"Yes, I am," said Delia, with slow decision.

"She wouldn't be human if she wasn't," said her mother. Mrs. Caldwell was cold and trembling with nervousness. She stood grasping the back of a chair. "But I'm afraid it ain't so. Are you sure it's so, Flora?"

"Mrs. Caldwell, I know it's so."

Delia on her way to school that morning looked at the Thayer house as she passed. "I wonder how he feels," she said to herself. She saw Lawrence Thayer, in her stead, in the midst of all that covert ridicule and obloquy, that galling sympathy, that agony of jealousy and betrayed trust. They distorted his face like flames; she saw him writhe through their liquid warring.

She pressed her lips together, and marched along. At that moment, had she met Lawrence, she would have passed him with a fiercer coldness than ever, but if she had seen the girl she would have been ready to fly at her.

The village tongues were even harder on Lawrence than they had been on her. The sight of a person bending towards the earth with the weight of his just deserts upon his shoulders is generally gratifying and amusing even to his friends. Then there was more open rudeness among the young men who were Lawrence's mates. They jeered him everywhere. He went about doggedly. He was strong in silence, but he had a sweet womanish face which showed the marks of words quickly.

He was still very young. Delia was two years older than he, and looked ten. Still Lawrence seemed as old in some respects. He was a quiet, shy young man, who liked to stay at home with his parents, and never went about much with the young people. Before Olive came he had seldom spoken to any girl besides Delia. They had been together soberly and steadily ever since their school-days.

Some people's said now, "Don't you suppose Lawrence Thayer will go with Delia again?" But the answer always was, "She won't look at him."

One Sunday afternoon, about a year after Olive Briggs's marriage, Mrs. Caldwell said to Delia, as they were walking home from church, "I just want to know if you noticed how Lawrence Thayer stared at you in meetin' this afternoon?"

"No, I didn't," said Delia. She was looking uncommonly well that day. She wore her black silk, and had some dark-red roses in her bonnet.

"Well, he never took his eyes off you. Delia, that feller would give all his old shoes to come back, if you'd have him."

"Don't talk so foolish, mother."

"He would—you depend on it."

"I'd like to see him," said Delia sternly. There was a red glow on her dull, thick cheeks.

"Well, I say so too," said her mother.

The next night, when Delia reached the Thayer house on her way from school, Lawrence's mother stood at the gate. She had a little green shawl over her head. She was shivering; the wind blew up cool. Just behind her in the yard there was a little peach-tree all in blossom.

She held out her hand mutely when Delia reached her. The girl did not take it. "Good evening," said she, and was passing.

"Can't you stop just a minute, Delia?"

"Was there anything you wanted?"

"Can't you come into the house just a minute? I wanted to see you about somethin'."

"I don't believe I can to-night, Mrs. Thayer."

"There ain't anybody there. There was somethin' I wanted to see you about."

The green shawl was bound severely around her small, old face with its peaked chin. She reached out her long, wrinkled hand over the gate, and clutched Delia's arm softly.

"Well, I'll come in a minute." Delia followed Mrs. Thayer past the blooming peach-tree into the house.

The old woman dragged forward the best rocking-chair tremblingly. "Sit down, dear," said she. Then she seated herself close beside her, and, leaning forward, gazed into her face with a sort of deprecating mildness. She even laid hold of one of her hands but the girl drew it away softly. There was a gentle rustic demonstrativeness about Lawrence's mother which had always rather abashed Delia, who was typically reserved. "I wanted to speak to you about Lawrence," said the old woman.

Delia sat stiffly erect, her head turned away. "I can't bear it to think you are always goin' to feel so hard towards him, Delia. Did you know it?"

Delia half arose. "There isn't any use in bringing all this up again, Mrs. Thayer; it's all passed now."

"Sit down just a minute, dear. I want to talk to you. I know you've got good reason to blame him; but there's some excuse. He wasn't nothin' but a boy, an' she was sweet-lookin', an' she took on dreadful. You'd thought she was goin' to die. It's turned out jest the way I knew 't would. I told Lawrence how 't would be then. I see right through her. She meant well enough. I s'pose she thought she was in love with Lawrence; but she was flighty. She went home and saw another fellow, an' Lawrence was nowhere. He didn't care much as folks thought. Delia, I'm goin' to tell you the truth: he thought more of you than he did of her the whole time. You look as if you thought I was crazy, but I ain't. She jest bewitched him a little spell, but you was at the bottom of his heart always—you was, Delia." The old woman broke into sobs.

Delia rose. "I'd better go. There isn't any use in bringing this up, Mrs. Thayer."

"Don't go, Delia—don't. I wanted to tell you. He got to talkin' with me a little the other Sabbath night. It's the first time he's said a word, but he felt awful bad, an' I questioned him. Says he, 'Mother, I don't dream of such a thing as havin' of me, or carin' anything about me again; but I do feel as if I should like to do somethin' if I could, to make up to her a little for the awful wrong I've done her.' That was jest the words he said. Delia, he ain't such a bad boy as you think he is, after all. You hadn't ought to despise him."

"He'll have to do something to show I've got some reason not to, then," said Delia. She looked immovably at the old woman, who was struggling with her sobs. She told her mother of the conversation after she got home.

"You did jest right," said Mrs. Caldwell. "I wouldn't knuckle to 'em if I was in your place." She was getting tea. After they had finished the meal, and sat idly at the table for a few minutes, she looked across at her daughter suddenly, with embarrassed sharpness. "Speakin' about Lawrence, you wouldn't feel as if you ever could take him, anyhow, would you?"

"Mother, what are you talkin' about?"

"In a few weeks the anniversary of Lawrence's defeat-ed wedding came. She spoke of it herself after dinner. She and her mother were making currant-jelly.

"Why, it's my wedding-day, mother," said she. "I ought to have put on my wedding gown, and caten some wedding-cake, instead of makin' jelly."

"Don't talk so, child," said her mother. Sometimes Delia's hardness started her.

Delia was pressing the currants in a muslin bag, and the juice was running through her fingers, when there was a loud knock at the door.

"Who's that," her mother said, fluttering. She ran and peeped through the sitting-room blinds.

"It's Mrs. 'Rastus Thayer," she motioned back, "an' Milly."

"I'll go to the door," said Delia. She washed her hands hurriedly and went. She noticed with surprise that the two visitors were dressed in their Sunday best. Mrs. Thayer in her nicely kept cinnamon-brown silk, and Milly in her freshly starched white muslin. They had an air of constrained curiosity about the new as they entered and took their seats in the parlour.

Delia sat down with them and tried to talk. Pretty soon her mother, who had drunk a little, entered; but just as she did so there was another knock. Some of the Caldwell cousins had come this time. They also were finely dressed, and entered with that same soberly expectant air. They were hardly seated before others arrived. Delia, going to the door this time, saw the people coming by twos and threes up the street. They turbed her outward composure; but her mother grew pale and tremulous. She no longer tried to speak; she sat staring. At two o'clock the rooms were filled with that same company who had assembled to see Delia wedded two years before.

They sat around the walls in stiff silence; they seemed to be waiting. Delia was not imaginative, nor given to morbid fancies; but sitting there in the midst of that mysterious company, in her cotton gown with her hands stained with currant juice, she began to fairly believe that it was a dream. Were not these people mere phantoms of the familiar village folk assembling after this truly fantastic manner, and sitting here in this ghostly silence? Was not the whole a phantasmagoria of the last moments of her sweet old happiness and belief in truth? Was not she herself, disenchanted, with her cotton gown and stained hands, the one real thing in it?

The scent of the pinks came in the window, and she noticed that. "How real it all is?" she thought. "But I shall wake up before long." It was like one of those dreams in which one clings staunchly to the consciousness of the dream, and will not sink beneath its terrors.

When Lawrence Thayer entered she seemed to wake violently. She half rose from her seat, then sank down again. Her mother screamed.

Lawrence Thayer stood by the parlor door, where everybody in the two rooms could hear him. His gentle, bearded face was pale as death, but the pallor revealed some strong lines which his youthful bloom had softened. He was straight, and stooped a little naturally; now he was straight as a reed. He had a strange look to these people who had always known him.

"Friends," he began, in a solemn, panting voice, "I have asked you to come here on the anniversary of the day on which Della Caldwell and I were to have been married, to make to her, before you all, the restitution in my power. I don't do it to put myself before you in a better light; God, who knows everything, knows I don't; it's for her. I was a coward, and mean, and it's going to last. Nothing that I can do now is going to alter that. All I want now is to make up to her a little for what she's been through two years ago to-day she stood before you all rejected and slighted. Now look at me in her place."

Then he turned to Della, with a stiff motion. It was like solemn formal oratory, but his terrible earnestness gave it heat. "Della Caldwell, I humbly beg your pardon. I love you better than the whole world, and I ask you to be my wife."

"I never will." It was as if Della's whole nature had been set to these words; they had to be spoken. She had risen, and stood staring at him so intently that the whole concourse of people vanished in blackness. She saw only his white face. All the thoughts in her brain spread wings and flew, swiftly circling. She heard what he said, and she heard her own thoughts with a strange double consciousness. All those days came back—the sweet old confidence, the old looks and ways. That pale speaking face was Lawrence's—Lawrence's; not that strange other's who had left her for that pink-faced girl.

This revelation of his inner self, which smote the others with a sense of strangeness, thrilled her with the recognition of love. "A coward and mean." Yes, he had been, but—Yes, there was some excuse for him—there was. Is not every fault wedded to its own excuse, that pity may be born into the world? He was as honest in what he was saying as a man could be. He could have had no hope that she would marry him. He knew her enduring will, her power of indignation. This was no subtle scheme for his own advantage. Even these people would not think that. They would not, indeed, believe him capable of it. The system of terrible but coolly calculated ventures for success was one with which this man would not be likely to grapple. He was honest in this. There sat all the Thayers and Caldwelles. How they would talk and laugh at him!

Lawrence turned to go. He had bowed silently when she gave him her quick answer. There was a certain dignity about him. He had in reality pulled himself up to the level of his own noble avowed sentiments.

Della stood gazing after him. She looked so relentless that she was almost terrible. One young girl, staring at her, began to cry.

Mrs. Erastus Thayer sat near the door. Della's eyes glanced from Lawrence to her face. Then she sprang forward.

"You needn't look at him in that way," she cried out. "I am going to marry him. Lawrence, come back."

Parlor Magic for the Boys.

AQUATIC BOMB.

Drop about two grains of potassium into a saucer of cold water. It will immediately burst into flame with a slight explosion, burn vividly on the surface, and dart about with great violence in the form of a red-hot fire-ball.

THE DOUBLE MEANING.

Place a glass of any liquid on the table, put a hat over it, and say that you are able to drink that liquid without removing the hat. Go under the table and knock, then ask the company to look under the hat; when they lift the hat you instantly take the glass and drink the liquid.

TO TELL THE DISTANCE OF THUNDER.

Count, by means of a watch, the number of seconds that elapse between seeing the flash of lightning and hearing the report of thunder. Allow somewhat more than five seconds for a mile, and the distance may be ascertained. In a French work it is stated that if the pulse beat six times, the distance of the thunder will be about 30,000 feet or five miles and a-half, thus recovering five thousand feet for each pulsation.

Minnie May's Dep't.

MY DEAR NIECES:—

What a vast amount of sighs and regrets are wasted over the "long ago"—"the good old days," as they are called. But we as women have little to regret that they are gone, and not a chance of returning either, for, as women, we were but little considered, socially or otherwise.

Why should we sigh for the return of semi-barbarism? Our grandmothers can tell us what woman's work was in those days, and the hardships they endured in the daily discharge of their household duties. Then there were no baby carriages to ease the aching back and arms of the mother, no nurses to be had, no help to even give the rudest assistance. All the cooking was done before a blazing fire, in a hearth about ten feet wide and four deep; and heavy pots had to be lifted on a crane and swung over the fire, when filled, and emptied, when cooked, in the same laborious fashion. All the meat had to be baked before the blazing fire, and basted while baking, with no shelter for the poor face of the cook—often with the result that the cook was almost exhausted when finished. All the bread was baked, one loaf at a time, in a Dutch oven, with live coals kept on the lid as well as under it until done.

Ale was brewed at home by the women. All the meat had to be salted, dried and smoked by her, and even the much-talked-of fire of blazing logs had oftenest to be built by the woman of the house. Many of the logs, weighing over one hundred pounds, had to be hoisted on the huge "dogs" with a poker as large as a sleigh-stake. If her children got sick, the responsibility of making them well fell upon her, and home remedies were all she had to resort to. What woman can wish for a return of such savagery?

True, there were periods of recreation; but, I will ask, were they enjoyable as they might be, had so much coarseness not mingled with it? The days of old were as well as they could be with all the disadvantages that had to be contended against, but let no woman let herself be heard sighing for the return of those days. There may be more conventionalities now-a-days, but there is more respect for women—a truce for such gallantry as would prompt a man to kiss a lady's hand and then stand by while she drudged like a slave for his comfort, or took his wife for a sleigh-drive and got beastly drunk before he returned, or used blasphemous language in her presence. Compare our home life with that of fifty years ago!

My dear girls, sigh not for the days gone by, but thank your lucky star that you were not born then, but live in the present age of civilization and enlightenment; and the work of our homes is now just what we make it, and there is no evil we complain of that we cannot remedy ourselves, if we only make the effort. **MINNIE MAY.**

P. S.—Minnie May offers a prize of \$2.00 for the best essay on "How to spend Sunday," all communications to be in our office by the 18th February. Also a prize of \$2.00 for the best essay on "The policy of tongues, or how we should govern our speech," all communications on this to be in our office by the 10th of March. To those who have been unsuccessful in winning a prize I would say, try again, for sometimes it has been very difficult to decide upon the best, and only after reading and re-reading by competent judges can it be done. **MINNIE MAY.**

Fashion Notes.

SKIRTS.

The new skirts are invariably in a bell shape, but it is not to be supposed for that reason that the foundation skirt is entirely done away with. On the contrary, many bell skirts are still mounted on foundation skirts of silk from the belt, in order to make them hang more gracefully, and it is somewhat easier for an inexperienced dressmaker to make them up in this way than simply to line them with silk. The back part of all bell skirts is now interlined with foundation muslin, in order to make the pleats set firmly and smoothly. For those who do not know how to cut a bell skirt, we give the following simple directions:

Take a piece of cloth about a yard and a-half wide and three yards long, fold it in the center lengthwise, find the length of your front on this fold, and use this length as a radius to form the quadrant of a circle. You have now barely outlined the bell skirt. On the top edge of your fold of cloth, at the top of your quadrant is the back seam of the skirt. The tip, or point, of the quadrant must be cut off enough to fit the skirt into a belt and form the waist line. The curved edge of the quadrant forms half the bottom edge of the skirt. When the fold of cloth is spread out, after it is thus cut, it will be found to be in the form of a semicircle, with a second tiny semicircle cut out where the waist line comes. Thus a complete bell shape is formed where the back seam is sewed up. Three or four little gores, about four or five inches long, must be taken out at the top of the skirt, to fit it around the hips, and a cluster of thick pleats must be pressed in and held in place by elastics, to give a graceful, fan-like sweep to the back breadth and hold the skirt smoothly down at the sides and in front. The skirt must be trimmed off around the bottom in such a manner as to make it hang evenly. If it is to be a trained skirt, the back seam must be lengthened.

For ordinary street dress, the preference is for a skirt with many gores rather than for the bell skirt, which is especially suitable to house and elegant dress, though it has been worn on the streets during the summer. Moreover, the use of a bell skirt on the streets necessitates a train, and the best-dressed women of our large cities refuse to be chained down to such an incumbrance in walking costume. The skirt with six gores offers an excellent model for street dress. It has a narrow front breadth, gored on either side, two breadths on each side, and a narrow back breadth, gored up the edges.

Tomato red is the newest color. The divided skirt is recommended for wear beneath the bell-gored skirts.

Feathers are abundantly used in all millinery, and are always pretty and becoming.

Fringes never were prettier or more elaborate than now, and promise to have a long run of favor.

Rose color, in its numerous delicate shades, is seen in many of the latest silk and woollen gauzes and satins.

A new sleeve, called the "Amy Mossart," promises to be becoming and popular; the lower part fits neatly to the arm, and the top has a large soft puff.

Cloaks, coats, wraps, ulsters and circulars can be worn with good taste, for all are in vogue. Some are trimmed elaborately, while others are finished with two rows of stitching, some are edged with fur or feather trimming, and some have nothing but a bright colored lining, which often shows as the arms are moved or the breeze turns up one end of the front, and real jaunty and natty it looks.

A Family Group.

There is a sweet remembrance comes down through the years to most of us of some happy home it has been our privilege to know. It may once have been our own, or it may have been one we have only been permitted to enter as a visitor. It may have been one of luxury, but more likely it has been one which had within it the necessities of life only—a home whose atmosphere was happiness and love, and where each member was in harmony with his or her surroundings; where there was no more discord observable than there is in a garden or orchard in June, when the birds sing and the squirrels run and the beetle "wheels his droning flight". Why does the influence of that home come to us in our better moments? and why do we yearn to be there once again? Is it not because there was that in it which called out the better side of our nature, which was, on earth, a faint type of what we expect a heavenly one to be? It was not alone the music as the familiar words were sung. We have heard since then sweeter voices and better trained, but they do not sound to us so well. It was not the beauty of the faces, for they were plain. There was, however, something far better the faces expressed, and the minds within grew bright or sad as the thoughts came; yet it was not intelligence alone, it was the playful, natural outcome of the soul without affectation, with unconscious sincerity and cheerfulness.

There were the three generations there—grandmother looking over her spectacles, sitting with quiet dignity of bygone days in her easy chair. There was the baby, too, which in every home tends to keep hearts young and simple. In whatever grief or trouble or vexation, the baby comes as comforter with the waxen touches, bright smiles, happy ways and perfect trust, though all else in the world should turn cold.

Our illustration represents such a group—grandma, baby on the floor, with cradle and playthings about; a little man, whom we are inclined to call Willie, with curly hair, with a toy drum at his side. Mamma is proud of her boy, but is just now showing him to grandma in his new suit. Papa is not visible, but his coat hangs on the wall and he soon will join the "family group".

Happy now, does someone say, but it will not last. That may, but need not, be so. In grown up and large—perhaps in the larger the more likely—families once in a while we find an ideal home. In it we are sure to find good parents, unselfishness ruling the home life and love binding all together. K. R. M.

After the juice is squeezed from lemons the peels are useful to rub brass with, dipped in common salt; then brush with dry bathbrick.

Drain-pipes, and all places that are sour or impure, may be cleaned with lime-water or carbolic acid or chloride of lime.

Answers to Inquirers.

Please to tell me the cause, and how to prevent shirt fronts blistering. The collars and cuffs never blister, but the shirt fronts do so, although I have tried all I could to prevent it.

JEANIE.

Shirt fronts never blister if starched on the right side; if starched on the wrong side they often do so.

How can I clean hair brushes. I washed one in water with sal soda, and have completely spoilt it.

B. B.

The best way to clean hair brushes is with spirits of ammonia, as its effects are immediate. Take a teaspoonful of ammonia to a quart of

but if they come empty-handed they are sure to bring poverty. The name January comes from Janus, who in mythology was the god that presided over the gate of the New Year. He was always represented as having two faces, one looking to the past, the other to the future; in his right hand he held a key, and in his left a rod, to show that he opened and ruled the year. Sometimes he bore the number "300" in one hand and "65" in the other, to denote the number of days.

Temper.

Believe me there is nothing to boast of in the possession of a bad temper. We may call it "soured" or "inherited," or what we like, but it can only be looked upon as one of those bad traits of humanity that should be striven against and eradicated at all costs. The possession of a bad temper betokens an irritable, nervous, cruel and selfish character, and the effects upon others do untold harm. The selfishness of this indulgence can easily be seen when we do not care whose feelings we hurt, nor what a sorry show we make of ourselves. When we hear of parental severity we can always trace a bad temper as a foundation, for as a rule children are punished as an outcome of parental temper rather than any regard to the welfare of the child. We might as well boast of inheriting cancer or scrofula as temper, and those who are born with it can only claim our contempt that they have not eradicated it as they grew to maturity. To witness any human being in a paroxysm of anger is a most humiliating sight, and one on which we do not care to look for long. Bad temper in one person is a constant cause of irritability in others. Some women are constantly angry, peevish or snappish. What is the use of living under such pressure? It can be overcome or the cause removed if we try. If it is household matters that crowd us we should study to arrange them so they would not overtax us, and doubtless our own want of method is the sole cause. If it is the care of our children we should bear in mind that they have nothing whatever to do with our burden. We are to blame entirely, and they, poor innocents, should not be abused for our own deliberate acts. I do not say we can pass through this world entirely without being irritated, but we can control it, and keep before us what we owe to ourselves and others; and the woman who betrays temper habitually before husband, child or servant, just lowers herself that much in their and her own respect. A child's love for a parent will lessen as his observation teaches him her lack of self respect; and as she cannot control herself she will lose her hold upon her children. In many homes the bad temper of the parents is the one blight upon domestic happiness.



A FAMILY GROUP.

water; dip the hair part of the brush without wetting the back, and the grease will be removed in a moment. Then rinse in cold water, shake well, and dry in the air, but not in the sun. Soda and soap soften the bristles.

What caused New Year's Day to be established, and what is the origin for it? M. B. K.

With the Greeks it was a solemn festival; with the Romans one of glad feasting and congratulation, when they interchanged visits and small gifts, a custom which is kept to the present day in Scotland. The folks say that if they have a fair man for a first foot (that is first visitor) they will have good luck all the year round; and if he is dark they have trouble, unless he takes a fair-haired lady with him. Then they will be all right;

PRIZE ESSAY.

Idleness.

BY A. BERYL COULTER, PINE VIEW, ISLINGTON, ONT.

"The busy world shoves angrily aside
The man who stands with arms akimbo set,
Until occasion tells him what to do:
And he who waits to have his task marked out
Shall die and leave his errand unfulfilled."

Many moralists have remarked, that of all human vices pride has the wisest dominion, appears in the greatest multiplicity of forms, and lies hid under the greatest variety of disguises—of which disguises, like the morn's veils of brightness, are both its lustre and its shade, and betray it to others though they hide it from themselves.

It is not my intention to degrade pride from its pre-eminence, yet I know not whether idleness may not maintain a very doubtful and obstinate position. Idleness predominates in many lives where it is not expected, for, unlike many other vices, it does not arouse suspicion, being a silent and peaceful quality that neither excites envy by ostentation or hatred by opposition.

Some there are who profess idleness in its full dignity, who glory in saying they do nothing, and thank their stars that they have nothing to do; who sleep every night till they can sleep no longer, and rise only that exercise may enable them to sleep again; who prolong the reign of darkness by double curtains, and who wake to tell the messenger of the morning how they hate his beams; whose days differ only from their night but as a couch or chair differs from a bed. These are the true and open votaries of idleness, who exist in the state of unruffled, stupefied laziness, and at whose death the survivors can only say they have ceased to breathe.

Such a person is a nuisance and an annoyance to the active business man, and often makes him feel unhappy that such creatures exist to counteract the influence of honest labor. Whether he possesses an income to support his laziness or sponges on his good-natured friends, he is equally despised. He is the prolific author of want and shame, and no good is ever expected from him; he is a confused workshop for Satan to tinker in. In short, he is a nuisance in the world, and needs abatement for the public good.

Idleness is the bane of body and mind, the nurse of naughtiness, and the chief author of all mischief, one of the seven deadly sins, the cushion upon which the devil reposes, and a great cause, not only of melancholy, but of many other diseases, for the mind is naturally active, and if it is not occupied about some honest business it rushes into mischief or sinks into melancholy. Of all contemptible things there is nothing half so wretched as the *lazy man*. The Turks say, "The devil tempts everybody, but the idle man tempts the devil." When we notice that a man can be a professional loafer, or a successful idler, with less capital, less brains than is required to succeed in any other profession, we cannot blame them so much after all, for these are the things that the idler is generally destitute of, and we notice it is an actual fact that they succeed in their business, and it costs them no brains, no character, no energy, no nothing. They are dead-beats; they should not be classed among the living, they are a sort of dead men that cannot be buried.

We have those among us who would rather go hungry and in rags than to work. We also have a numerous train of gentleman idlers who pass down the stream of life at the expense of their fellow passengers. They live well and dress well as long as possible by borrowing and sponging, then take to gambling, swindling, stealing, robbing, and often pass on for years before justice overtakes them. So long as these persons can

keep up fashionable appearances and elude the police, they are received in the company of the upper ten. Many an idle knave, by means of a fine coat, a lily hand and a grateful bow, has been received with the polite circle of society with eclat, and walked rough-shod over a worthy young mechanic or farmer, who had too much good sense to make a dash or imitate the monkey-shines of an itinerant dandy. A fine dress, in the eyes of some, covers more sins than charity.

Young man, if you do not wish to graduate a nobody, or somebody worse than a nobody, then guard your youth. A lazy youth will make a lazy man, just as sure as a crooked sapling makes a crooked tree. Whoever saw a youth grow up in idleness that did not make a lazy, shiftless vagabond, when he comes to be a man, though he was not a man by character? The great mass of thieves, paupers and criminals have come to what they are by being brought up to do nothing useful. Laziness grows on people; it begins in cob-web, and ends in iron chains. That man who waits for an opportunity to do much at once, may breathe out his life in idle wishes, and finally, when too late, regret his useless intentions and barren zeal—a young man idle, an old man needy. Idleness travels very leisurely along, and poverty soon overtakes it. To be idle is to be poor.

It is said that riches and poverty are inconsistent companions, but when idleness unites them, the depth of wretchedness is complete. Leisure is sweet to those who have earned it, but burdensome to those who get it for nothing.

"In the world's broad field of battle,
In the bivouac of life,
Be not like dumb, driven creatures—
Be a hero in the strife."

The Automatic Knife.

We are always on the lookout for something useful and novel for our subscribers, and now give the boys and girls an opportunity of getting an excellent knife for very little effort. The blades are all warranted hand-forged of the very finest Sheffield silver steel. The handle is beautifully chased and nickle-plated. The opening device is curious and unique. It is done by pushing a button at the end of the handle, and the blade springs up as shown in the cut. These knives sell for \$1.00 each. We will give one to any of our subscribers who send us \$2.00 and the names of two new subscribers. In forwarding your order with names and remittances, state if you wish both blades smooth or one smooth and the other with nail-cleaner.



Our Premiums.

On account of being overcrowded for space, we were obliged to leave out our vegetable and flower seed premiums. We refer you to same on pages 28 and 29, January number.

For nine new subscribers and nine dollars we will give you one of Lenox sprayers, see illustration and advertisement of same on page 77. We also call your attention to our knife premiums shown above; every boy and girl should have one of these handsome and excellent knives. Secure the new subscribers at once, so that all parties will get our handsome January number. We are pleased to say our circulation is increasing very rapidly.

Uncle Tom's Department.

MY DEAR NIECES AND NEPHEWS:—

Have you ever noticed how loud and coarse your music seemed after hearing a well-trained musician perform? How feelingly the chords harmonized, and how your inmost soul was stirred as familiar air of song or hymn or psalm was sung? What new beauties you find in them now! Although you heard them so often before, you failed to find their beauty. You may have felt a similar feeling when listening to a good reader, when the one reading had studied the selection so well as to understand what the author meant; then had read and read it again, until inflection, pronunciation, emphasis, accentuation and punctuation had brought out the best of what was in it. We are told that Charles Dickens would not read to others his own composition without practicing it for six weeks. Yet some of nieces and nephews will read and think they fully understand such extracts as "The Death of Little Nell," or "The Child's Dream of a Star," by simply reading it over. Your teachers are urging you, you say, to commit poetry to memory, and, as an exercise for the memory, strengthening it, making it reliable, quick, tenacious, it cannot be excelled. Beautiful thoughts clothed in beautiful language are in that way fastened on the memory as nails hold pictures on the wall. What society boys and girls are admitted into who love good reading! Their thoughts are ennobled, their language improved, and new interests awakened, calling out their better feelings.

During the holiday season two or three books have probably been added to each of your homes. What they are will affect you for all time to come. Happy the home, happy the niece or nephew who has found a treasure, which, like an opening gate, will admit him or her to "the primrose path of literature" to gather fresh flowers, and with taste to choose only the beautiful ones as the years go by. For as in music, so in reading, having once tasted the honey and the wine, we do not care to go back to the strong meats and gravies, or, I might better say, to husks and poisons, for many books have less mind-sustaining power than husks to the body, and some thereof that do poison and kill the life of the mind and the soul. You have heard of the upas tree that was said to poison the atmosphere around it; well, some books do just that, they kill or at least stunt and often defile the mind—that mind God gave you to develop.

Of books which do not grow old, which have the same interest for you as they had for your father and grandfather, have you noticed that the authors were familiar with the Bible?

"Woe worth the chase! Woe worth the day!
That cost thy life, my gallant gray."

Scott says in "The Lady of the Lake," and we find his expression in the prophetic words of old, "Where the wicked cease from troubling and the weary are at rest."

Tennyson, the present poet laureate, says:—
"And in Job we find the old words, and in the new they are but reset."

In prose, too, the best writers of the day are those who have in younger days studied their Bible and nature, and now, in mature years, when conflicting opinions are being stirred, they stand firm having a foundation for their feet on which they may stand firm and secure.

Other books grow old as times and customs change, but this one Book has stood through all the centuries copied from, a target for shots of all kinds, admired, hated, despised, yet the one unchanging Book in which life lessons are ever learned.
UNCLE TOM.

Puzzles.

1—WORD SQUARE.

- 1—To assume.
- 2—A relation.
- 3—A tie.
- 4—A name.

EDDIE R. DOW.

2—DROP LETTER.

D-S-O-S-S-I-N.

I am twelve inches tall,
And greatly loved by all,
My outer garment's red,
But I'm black and white inside.
J. ST. CLARE BARNABY.

4—DECAPITATION.

Young ninety-two has called on us;
I think he means to stay;
But tho' we loved old ninety-one,
He went from us away.

Now, the old adage tells us
From good old friends and true
To Primal not, nor Final go
From them to greet the new.

But this is what is being done
By our old Uncle Tom,
Leaving the old to coax the new
To join our merry "dom."

And though it leaves us in the cold,
I think it's only fair,
To let the puzzle prizes
Take a trip or two elsewhere.

ADA ARMAND.

5—STAR.

- 1—A letter.
- 2—First person of the verb "to be."
- 3—The name of several species of small South American monkeys of the genus MIDAS.
- 4—A fish.
- 5—Peruses silently.
- 6—To influence.
- 7—Beginning to exist.
- 8—Half a square of type.
- 9—A consonant.

FAIRBROTHER.

7—ILLUSTRATED REBUS.



Be. 2D9

7—TRANSPOSITION.

They say I am a roving lad,
That never can keep still;
They put me in a one-hoss shay,
And sent me to the mill.

The hoss belonged to my grand-dad,
The shay to my Uncle Ben;
It was my task to get some meal,
Then hurry back again.

I pen the way the hoss did balk,
A step he would not go,
And you just bet I first that mad,
I wished him down below.

But all things to an end must come,
Even a hoss's balk;
At last he started down the hill,
Some faster than a walk.

Perhaps you'd take it as a joke,
But I was last behind;
The hoss did go, I hollared when,
And caught him, as you'll find.

Now when I came unto the mill,
The miller was not in,
I was destined to get no meal,
Now wasn't that a sin?

Alas! alas! what could I do?
Without the meal return?
But here, dear reader, if you please,
My story I'll adjourn.

FAIRBROTHER.

Answers to January Puzzles.

- 1. Fifty cents.
- 2. Culmi nation, Coro-nation, Illumi-nation, Desig-nation, Determi-nation, Machi-nation, Expla-nation, Desti-nation.
- 3. Fare well.
- 4. Better late than never.
- 5. Liars ought not to be believed out of respect to their affirmations.
- 6. Nothing.

Names of those who have Sent Correct Answers to Jan. Puzzles.

Ada Armand, I. Irvine Devitt, Harry K. Backer, Sylvester Innie, Jack Wilson, G. H. Merriman, Frank Stiles, Elsie Moore, Gus Harris, Willie Moorhead, Mary A. Weyler, Anna Gordon, Edward James.

NEW ADVERTISEMENTS.

Plants—W. W. Hilborn, Leamington, Ont.
Fruit Trees, Shrubs, etc.—Ellwanger & Barry, Rochester, N. Y.
Ditching Machines—D. Mackenzie, St. Thomas.
Trees, Grape Vines, etc.—E. D. Smith, Winona, Ont.
For Sale—Shorthorns—S. B. Gorwill, Ballymote.
Nursery Stock—Thos. W. Rowman, Peterborough.
For Sale—Shorthorns—J. & W. B. Watt, Salem, Ont.
Horses Wanted—Adam Beck, London, Ont.
For Sale—Hambletonian Trotting Stallion—C. S. Gillespie, Campbellford, Ont.
Trees and Plants—J. T. Lovatt Co., Little Silver, N.J.
Ayrshires and Yorkshires—Alex. Hume, Burnbrae.
Two-Furrow Plow—Wm. Dick, Albion, Ont.
Portable Fence—C. E. Harris, Brandon, Man.
Scotch Shorthorn Cattle—Peter Toles & Son, Mt. Brydges, Ont.
Free—Illustrated, pamphlets and Maps—Traffic Department N. & W. R. R., Roanoke, Va.
Cleveland Hay, German Coach, English Shire and Clydes—Blair Bros., Aurora, Ill.
For Sale—Shorthorns—Jas. Hunter, Alma, Ont.
Berkshires and Cotswolds—S. Coxworth, Claremont, Ont.
Champion Stump and Stone Extractor, Safe, etc.—S. S. Kimball, Montreal, Que.
Gombault's Cautic Balsam The Lawrence-Williams Co., Cleveland, Ohio.
Public Sale of Shorthorns—Jas. D. Smith, Maple Lodge, Ont.
Dorset Horned Sheep—Jno. A. McGillivray, Ex-bridge, Ont.
Reg. Clyde Stallions—Jas. H. Esdon, Currie Hill, Ill. & Missouri Farms—Thos. Betts, St. Louis, Mo.
11th Semi-Annual Auction Sale—W. B. Scatterd, Wyton, Ont.
Ayrshire Bulls—M. Ballantyne, St. Marys, P. O.
Poland Chinas—J. J. Payne, Chatham, Ont.
Fertilizers—W. A. Freeman, Hamilton, Ont.
Choice Seed Potatoes—J. Cavers, Galt, Ont.
For Sale—Goldstut Horses—L. L. Dorsey, Middle-ton, Ky.
Registered Clydesdales For Sale—H. H. Spencer, Brooklin, Ont.
Shorthorns for Sale—D. Alexander, Brigidon, Ont.
Yorkshires for Sale—G. Ballachee, Brantford, Ont.
Pure-Bred Herefords—F. W. Stone, Guelph, Ont.
Imp. Clydesdales for Sale—H. George & Sons, Crampton, Ont.
Public Sale—Red Polled Cattle—W. P. Crouch, Randolph, Ont.
Provincial Spring Stallion Show, March 9th and 10th—Prize Lists, apply to Hy. Wade, Toronto.
Sap Buckets—S. Mills & Co., Hamilton, Ont.
Seeds—D. M. Ferry, Windsor, Ont.
Dorset Horned Sheep—T. W. Hector, Springfield-on-the-Credit, Ont.
For Sale—Durham Bull—H. Golding, Thamesford.
Fruit Trees—Smith & Vanduzer, Winona, Ont.
Oats and Wheat—Steele Bros. & Co., Toronto, Ont.
Separators—J. S. Pearce, London, Ont.
Farms—H. B. Chaffin & Co., Richmond, Va.
Seeds—John A. Salzer, La Crosse, Wis.
The Lennox Spraying Co., Pittsfield, Mass.
For Sale—G. P. Collyer, London, Ont.
Auction Sale—J. Prouse.
Seeds—John A. Bruce & Co., Hamilton, Ont.
Shorthorns—Shore Bros., White Oak.
Disc Harrow—J. F. Millar & Son, Morrisburg, Ont.
Spraying Fruit Trees—W. H. Vantassel, Belleville.
Dispersion Sale—J. H. Martin, Cayuga.
Holstein Cattle—Fernwood Stock Place.

Public Sale of Red Polled Cattle

At MAPLE HILL STOCK FARM, Wednesday, Feb. 10, 1892, at 11 o'clock, a.m., 30 head of imported and home-bred cattle—all recorded—of best quality and breeding, including very fine show cattle of both sexes. Sale positive, without reserve, regardless of weather. Free transportation from railroad station, Meadville, Pa. Send for catalogue, 314-a-0. Address W. P. CROUCH, Randolph, Pa.

SECOND PROVINCIAL Spring Stallion Show, DRILL SHED, TORONTO,

March 9 and 10, 1892,

Under the management of the Agriculture and Arts Association, and the Clydesdale and Shire Horse Associations of Canada.
Prizes will be given to Thoroughbred, Carriage and Coach, Standard Roadsters, Suffolk Punch, Clydesdale and Shire Horses. Horses to be stabled in the city and brought to Drill Shed as required, of which notice will be given by advertisements and catalogues. Seats will be provided.
Admission each day, Adults, 25c.; Children under twelve, 10c.
Prize Lists are ready, and can be procured from

R. VANCE, Pres., HENRY WADE, Sec., 10a, 314-b-0M Toronto.

Choice Farm, Stock and Implements FOR SALE.

On account of ill health, the following property is for sale:—160 acres of choice land, situated within 2 miles of WELLBYN and 16 miles from Moosomin, Man.; 50 acres under cultivation, 30 of which has never been cropped; good hewed log house, 5 rooms; good garden; 100 feet of stabling; implement shed, 35 feet long; large granary, 22x33 feet; good well, 50 feet deep, never less than 20 feet of water; 5 mares supposed to be in foal; also 2 fillies—1 coming 2, the other 1 year old, and two horse colts, 1 cow in calf, 1 heifer in calf, 1 yearling heifer; also a good registered Clydesdale Stallion, coming four years of age.
This is an exceptional opportunity for anyone in Ontario to make a good investment.

Address—
G. P. COLLYER,
London, Ont.,
"WESTWELL HOUSE," 314-b-0

AUCTION SALE!

Clydesdales, Hackneys, Cattle & Implements

Messrs. Prouse & Williamson, of Ingersoll, having dissolved partnership, the following Stock and Implements will be sold by Auction on

FEBRUARY 16.

AGED STALLIONS.

Horseman 4600; Lord Marmion 6063; Hopetown Lad 7363; Chan McPherson, three-year-old, 8529; three yearling stallions, one imported, other two sired by Horseman, pure-bred; the Hackney Stallion Gold Finder, entered in E. H. S. B. Vol. 9.

MARES.

Jeanie Beans 793 (Imp.); Covilton Maid 794 (Imp.); Jean of Greenhill 9336 (Imp.); Nell Muir, Vol. 12 (Imp.); Daunby 943; Theresa 1196; Lady Jessie 138; Lady McKay; Kitty McKay. These mares are supposed to be in foal to Horseman and Lord Marmion.

ONE PAIR DRIVERS; 16 FAT STEERS; 9 COWS AND HEIFERS, WELL BRED;

—ALSO THE WHOLE OF—

FARM IMPLEMENTS.

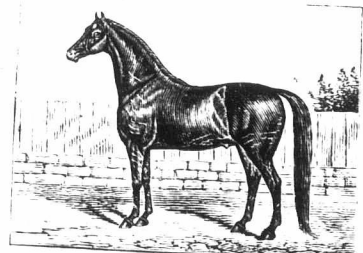
TUESDAY, FEBRUARY 16th, 1892,

Commencing at 1 o'clock.

Ingersoll is 20 miles east of London on the G. T. R. & C. P. R. Conveyances will meet all trains. Send for catalogue. Everything will be sold to the highest bidder. Eight months' credit on furnishing approved joint notes. 314-a-0

J. PROUSE.

FOR SALE, HAMBLETONIAN TROTTER STALLION.

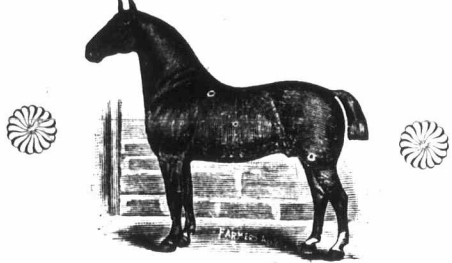


W. E. Gladstone, No. 6613

Standard and registered in W. A. J. R.; 16 hands high; weight, 1,225 pounds; seal-brown horse; foaled 1882; sired by Chicago Volunteer, No. 2611, the sire of Country Girl 2294, May H. 2294, Edwin G. 2223, Ella E. 2255, Barney A. 2274, and Woodstock Belle 2292; dam, Brown Kate, by John E. Rysdyk, the sire of Big Emma 2262; g. d. by Davis' Black Hawk Morgan; g. d. Polly Meux, ably bred young horses in the country, and has shown a mile class to 2:50 without training, and has proved himself an all stock horse and sure foal getter, and will be sold below his value, as the owner has no time to devote to the business. For further particulars, address C. S. GILLESPIE, Campbellford, Ont., Box 25. 314-b-0M

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WANTED



Forty Well-bred Saddle Horses, 15 hands 3 inches and upwards. Thirty high-stepping Harness Horses. Send full description and price. Only first-class horses wanted.

ADAM BECK,
LONDON, 314-a ONT.

HOLSTEIN CATTLE.

IMPORTANT AUCTION SALE.

We will sell on **THURSDAY, MARCH 3rd**, at Auction, about 25 head of registered Holstein Cattle. They have been selected, with great care, from the richest herds in the United States, combining the Aagies, Netherlands, and Clothides families. This sale is worthy of attention. The farm is about three miles east of Burlington Station. Conveyances will leave depot at one o'clock p.m. for the farm. Send for Catalogues.

FERNWOOD STOCK PLACE,
314-a-OM BURLINGTON, ONT.

STOCK FOR SALE.

FOR SALE, CHEAP.

The fine Imported Clydesdale Stallions
Buffalo Bill and Tom Norrie,

Also the Imported
English Blood Stallion
BON-DERRA.

Buffalo Bill, No. 6558, Vol. XI, page 591, sire McCammon, No. 3818, is a dappled brown, rising 5 yrs. old. Tom Norrie, No. 7354, Vol. XI, page 790, sire Young Lord Keir, No. 3320, is a bright bay, rising 5 years old. Bon-Derra is a rich chestnut, rising 6 years old, stands nearly 16 hands high, and weighs about 1,250 lbs. Will guarantee them sure foal getters, and will be sold at a bargain. For particulars and price, apply to

314-b-OM **H. GEORGE & SONS,**
Crampton P. O., Ont.

D. & O. SORBY, GUELPH, ONT.

Breeders and Importers of
FASHIONABLY BRED CLYDESDALES

We always have on hand a large number of imported and home-bred Clydesdales (male and female) of good breeding and quality, which we will sell at honest prices. Our specialties are good and well-bred horses and square dealing. Come and see us or write for particulars.

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AND YORKSHIRE COACHERS.

MR. FRANK RUSSELL, Mount Forest, Ont., offers for sale at low figures and on easy terms choice stallions of the above breeds; also pedigreed Improved Large Yorkshire Pigs, at \$15.00 per pair. 310-y

Clydesdales, Shropshires and Berkshires.

Choice Registered Canadian-bred Clydesdale Colts and Fillies, Shropshires, imported and Home-bred of the very best strains. Berkshires, bred from Snell Bros' stock. Prices right. Always glad to show stock. **T. M. WHITESIDE,** Ellesmere P.O., Ont., Agincourt Station on C. P. R. and Midland Div. G. T. R., 1 mile. 304-y-OM

ROBT. NESS, WOODSIDE FARM,
—IMPORTER AND BREEDER OF—
Clydesdales, Shires, Coachers, Shetlands, and Ayrshire Cattle.

I have still a few of the twelfth yearly importation of high quality on hand, notably, James Arthur (5888); sire Macgregor (1477); sire of dam Prince of Wales (672); Macheemie (7009); sire Macgregor (1487), own brother to the great breeding horses, Macpherson, Macalun and Energy.

Yorkshire Coachers. Seven imported mares from Druid, Darnley, etc.; four in foal. Also some good Shetlands. Having every facility for purchasing direct from the breeder myself, neither acting agent in Scotland or here, and paying cash, I am prepared to sell on any terms agreed upon. Quality and pedigree of the best. Give me a call. The farm is situated 40 miles southwest of Montreal, on the G. T. R., and 100 miles east of Ottawa, on the C. A. R. Station on the farm.

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DUNDAS & GRANDY

Have a large number of

IMPORTED CLYDESDALE MARES

In Foal, which they are anxious to close out by the

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REG. CLYDE STALLIONS FOR SALE!
I will sell either, or both, of my Stallions - Prince Royal (646), or Wait-for-Me - both pure-bred and registered, and a grand three-year-old filly in foal. Prices very low. Write or call. **JAS. H. ESDON,** CURRIE HILL, ONT., Bainsville, on G.T.R. 314-b-OM

Clydesdale Stallion!
FOR SALE, CHEAP.
THREE YEARS OLD
Six crosses reg. in American Record. Weight, 1900 pounds.

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Sea Pilot, No. 3177, Vol. 6.

Apply - **L. CALBRAITH,** Mt. Forest.

HON. LOUIS BEAUBIEN, Pres., MONTREAL.
BARON EDEGRANCEY, Vice-Pres., PARIS, France.

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LA COMPAGNIE

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NORMAN, PERCHERON, BRETON STALLIONS

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IMPORTED & CANADIAN-BRED CLYDESDALES.

BEATTIE & TORRANCE, Summerhill Farm, Markham, Ont., importers of and dealers in Imp. Clydesdale Stallions and Mares, of the choicest strains; also Reg. Canadian-breds always for sale. 304-y-OM

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THE OLDEST STUD IN AMERICA.

New importation of most fashionable pedigree and action, by the celebrated sires Danegelt, Matchless of Londesborough, Wildfire and Prince Alfred. For sale - young stock by Fordham 287 son of Denmark 177.

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Electioneer, Almont, Happy Medium and Wilkes blood. For sale - Bay Stallion, Courage 13181; foaled 1888; 16 hands; handsome and speedy; sire Hermod, 22914; dam by Meredith, by Hambletonian 10. Aberdeen-Angus, Hereford and Jersey cattle. Shropshire sheep and Yorkshire swine.

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- ENGLISH SHIRE HORSES. -

J. G. WARDLOWE, Fairview Farm, Downsview, Ont., breeder of and dealer in Registered Shire Stallions and Mares; also some choice Canadian-bred Draughts on hand. 304-y

STANDARD-BRED TROTTERS

Headed by Mambrino Rattler, alias Crown Prince (2447), the best bred son of Mambrino Patchen in the Dominion. Write for his terms of service. Also standard Mares of choice breeding. A grand young Stallion for sale. **A. M. VANSTOLE,** Jerseyville Stock Farm, Jerseyville, Ont. 303-y-OM

Registered Rough-Coated Scotch Collies.

Young dogs for sale from the imported sires Turk II., first prize Toronto, and Moonstone, value \$500, and out of the choicest prize-winning bitches money could buy in England. **A. BURLAND,** Sec. Ont. Collie Club, Grimsby, Ont. 307-y-OM

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CHEFTAIN, 7 years, imported; 2nd prize at Royal Show '87; **ACTIVE,** 4 years, imported; 1st prize at Buffalo Show '88; **CHARLIE,** 3 years, imported; 1st prize at Toronto Show '90. Also a two-year-old and a yearling, both from imported sires and dams. All these horses are registered, and are sound and right in every way. We will sell any or all of them for far less than their value, as we are overstocked and have no use for so many stallions. This is a rare chance to get a good registered Shire at your own price. Address -

MORRIS, STONE & WELLINGTON,
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Standard-Bred Trotters and A. J. C. C. Jerseys for Sale.

Produce of such sires as Gen. Stanton (2545), 5 in 30 list this year; Almont Wilkes (1242), 2.20, trial 2.16; and superior, sire of Canadian Girl. Brood Mares, daughters of Gen. Stanton, Almont Wilkes, Clear Grit, Brown Douglass and Winfield Scott, including dam and three full sisters of Fides Stanton 2.28 1/2, last half in 1.12. Jerseys principally of St. Lambert strain, all young stock, sired by sweepstakes bull Toronto 1890. - **J. CARPENTER,** Ingledale, Winona, Ont. 307-y-OM

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A fine lot of Shorthorn bulls fit for service. Bred from imported stock.
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Quality
Milking
a Specialty.

A number of EXTRA YOUNG BULLS, COWS and HEIFERS, for Sale at Reasonable prices.

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Offers for sale, at reasonable figures, Registered shorthorns, bulls and heifers of the very best milking strains, and Improved Large Yorkshires of all ages. Herd is headed by imported boar "Lincoln Lad," and contains choice sows, both imported and home-bred. 313-y-OM

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I have fourteen particularly good young bulls for sale; among them are some fine show animals. Also a few good females. All are good in color and breeding. Prices to suit the times. Write for particulars.

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6 Choice Young Bulls

And the Imported Cruickshank Bull

ABERDEEN HERO,

Their sire. Also some nice

Young Heifers

From one year old up. Prices to suit the times.

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SHORE BROS., White Oak.

SHORTHORNS AND SHROPSHIRE.

I have three nice young Bulls, and a lot of good Heifers; also some choice yearling ewes.

W. G. PETTIT, FREEMAN P.O., ONT., Burlington Station.
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Some grand bulls and heifers, the 9th of Roan Prince (imp.) A number of Yorkshire fall pigs for sale, also Berkshires of same age from imported stock. A few choice early litters to select from, sired by imported boars, and out of show sows. None but select stock shipped.

Box 290.
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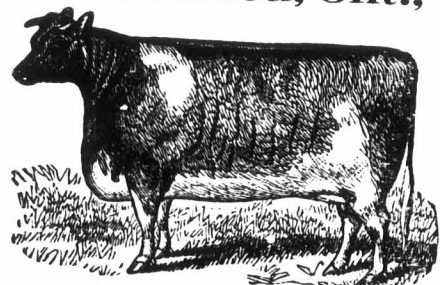
H. J. DAVIS, Woodstock, Ont.

FOR SALE,

Fourteen young Shorthorn bulls, good ones. Also cows and heifers.

J. & W. B. WATT,
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ARTHUR JOHNSTON,
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Announces that he has for sale, at MODERATE prices, a large and exceedingly good lot of young things of both sex. The calves, yearlings and two-year-olds, are particularly good—all by imported sires and mostly from imported dams of the best strains obtainable in Scotland.

EXCELLENT CLYDESDALES OF BOTH SEX FOR SALE.

New Catalogue for 1891 now ready for delivery. Send for one; they are sent free.

My motto: "No business no harm."

Greenwood P. O. and Telegraph Office, Clarendon Station on C. P. R., or Pickering Station on the G. T. R. Parties met at either station on shortest notice. Come and see them.
290-1f

SCOTCH-BRED : SHORTHORN : BULLS,

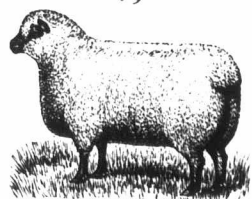
Scotch-Bred Heifers.

Imported Shropshire Rams, Imported Ewes, Home-Bred Rams, Home-Bred Ewes,

FOR SALE,

in any number. All of very best quality, and at the lowest prices. We want 500 recorded rams for ranches. Correspondence solicited.

John Miller & Sons,
Brougham, Ont.



Claremont Station, C. P. R., 22 miles east of Toronto.
306-y

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Mr. John Ackrow & Son, Hillside Farm, Highfield P.O., Ont., have been breeding Shorthorns for over thirty years, and now offer a few young bulls and heifers of the richest breeding for sale at reasonable figures. Our cattle are the smooth, short-legged, beefy kind. Imported Scotch bull Reporter heads the herd. Station and Telegraph.



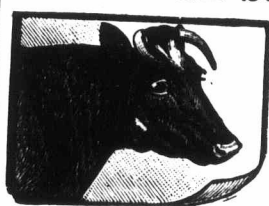
MALTON, ONT.
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SHORTHORNS AND BERKSHIRES

The herd is headed by the noted Sir Christopher = 3877-, and Mina Chief = 3670-. The females consist of Mina and Strathallan families. Our Berkshires are prize-winners wherever shown. Choice young bulls and Berkshires for sale.

C. M. SIMMONS, Ivan P. O., Hderston Stn., Ont
JAMES QUIRIE, Delawon, Ont.
309-y-OM

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Shorthorns & Berkshires

My herd of Shorthorns are from select milking strains. Young animals at right prices. A few fine yearling bulls now ready. For particulars and pedigrees of stock address

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SHORTHORN BULLS AND HEIFERS A CHOICE LOT FOR SALE.

H. & W. SMITH, Hay, Ont.
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Plymouth Rocks, Bronze Turkeys. Write me for prices on the above. I have one of the finest show cows in Ontario for sale. Waterloo-Booth strain. H. Chisholm, Montrose Farm, Paris, Ont. 309-y-OM

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PURE-BRED SHORTHORNS.

Have always on hand and for Sale young Bulls and Females, which we offer at reasonable prices.

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DURHAM BULLS FOR SALE.

Five bulls from five to eighteen months old, good colors, good pedigree, prices reasonable.

Apply to **H. GOLDING or W. HOGG,**
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HOLSTEIN-FRIESIAN CATTLE.

My stock is selected from the leading herds. My principle is "Live, and let Live." Before you buy elsewhere, write me for quotations.

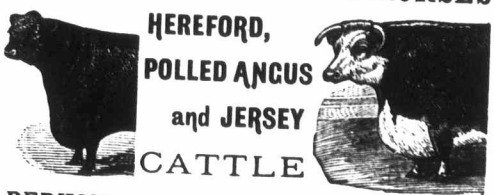
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DAWES & CO., LACHINE,
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BERKSHIRE AND YORKSHIRE SWINE.

The largest breeding establishment in Canada. Inspection and correspondence solicited. 303-y-OM

PURE-BRED 30 Hereford Bulls 30

12 to 24 months. Prices within reach of Farmers and Ranchmen. Also see card Breeders' Directory.

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1835—ESTABLISHED—1835



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Three yearling Bulls for sale from imported sire and dam. Good, strong animals. Prices to suit the times.

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—AND—
Chester White Hogs.

The undersigned offers for sale three grand bulls and a few heifers of the above breed. Also pigs of both sexes. Prices dead right.

JOS. CAIRNS, CAMLACHIE, ONT.
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14 miles from Sarnia.

HOLSTEIN-FRIESIANS

Several very choice bulls now fit for service. Heifers in calf by our Colanthus Abbecker, and remarkable fine bull and heifer calves. All will be sold at greatly reduced prices if taken soon before the dissolution of partnership is made. Come and see our stock and get prices.

306-y-OM **H. & W. F. BOLLERT,** Cassel, P.O., Ont.

THE GREAT MILK AND BUTTER HERD OF HOLSTEIN-FRIESIANS.

SMITH BROS., Credit Valley Stock Farm,
CHURCHVILLE, PEEL COUNTY, ONT.,
(24 miles west of Toronto).

MINK 402, H.F.H.B.

This is the place to get stock of best quality at reasonable prices. We have seventy-five head, including prize-takers; best strains, cows and heifers, with large milk and butter records; young bulls of superior quality. Send for catalogue. 304-y-OM

J. F. QUIN, V. S., BRAMPTON, ONT.

Ridgling horses successfully operated upon; write for particulars.
275-y



FOR SALE.

The entire Oakdale Herd of Registered Holstein Cattle. Although considerable sales have been made lately the herd now numbers 55 head, including bulls, imported cows, heifers and calves. This is undoubtedly the finest lot of Holstein cattle in the Dominion. We have no pen and ink records for our cows, but we invite farmers and others wanting to buy Holstein cattle to go to the farm, spend a day there and test and weigh for themselves the milk produced. The herdsmen will gladly afford them every facility for so doing.

The bulls in use up to this season were the great prize-winning animals Presto and Adanac. Presto was the only bull ever brought to Canada that was a first prize-winner at the great Alkmar Fair in the Netherlands and was a great prize-winner in Canada. Adanac, whether judged by Canadian judges or an American expert, always took first. He was never beaten, and was so perfect as a show bull that Mr. Stevens, the expert, said he would score a full hundred points. This is a dispersion sale and all animals not disposed of by first of March will be sold by auction, as the farm will be sold or rented by first of April next. Catalogues will be issued in a few days, for which, address John Leys, 18 Court street Toronto.

This herd at the large exhibitions of '87, '88 and '89 won more diplomas, more gold and silver medals and more money prizes than was ever won by any herd of any breed of cattle at same number of exhibitions in the Dominion. At the Industrial in 1889, when F. C. Stevens of Attica, an American expert, was judge, this herd literally swept the show ring, taking first for aged bull, sweepstakes for best bull of any age; first for yearling bull; first, second and third for cows and first herd prize for bull and four females.

This was enough glory, and the herd was not exhibited in 1890 and 1891. 313-a-OM

BROCKHOLME STOCK FARM
Aucaster, Ontario.

R. S. STEVENSON,
Breeder of Holstein Cattle and Improved Yorkshire Pigs. Holsteins recorded in advanced registry. Yorkshires bred from imported stock. Young stock for sale at all times. 307-y-OM

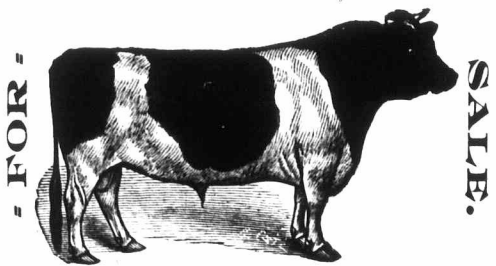
Holstein-Friesians

My herd is composed of the choicest individuals obtainable, and belong to the best milking strains. Young stock at the lowest living prices. Communications promptly attended to. Watford R. R. Station. 306-y

S. D. BARNES, - Birnam P. O.

Holstein-Friesians
OF THE CHOICEST MILKING STRAINS.

Extra individuals of both sexes for sale.
J. W. JOHNSON,
313-y-OM SYLVAN P. O.



A choice lot of thorough-bred Holsteins. We have on hand a large number of choice bull and heifer calves which we offer for sale at reasonable prices. They can be seen at Wyton, which is on the St. Mary's Branch of the Grand Trunk R. R. Before buying, give us a call. For further information apply to **W. B. SCATCHERD,** Secretary, Wyton, Ont. 312-y-OM

HOLSTEINS AGAIN IN FRONT.

At Toronto show we showed eight head, and we brought away 1 first, 1 second, 2 thirds and 3rd on the herd. Stock for sale.
J. C. McNIVEN & Son,
307-y-OM Lansdown Farm, WINONA, ONT.
13 miles east of Hamilton on the G. W. Div. G. T. R.

REGISTERED HOLSTEIN BULLS AND HEIFERS.

John Pringle, Maple Lawn Farm, Ayr, Ont., offers for sale a few well-bred bulls and heifers of the above breed at reasonable figures. My bull, Ira's King, was bred by Dudley Miller, and my cows are all of choice breeding. 309-y-QM.

HOLSTEIN-FRIESIANS

THE CHOICEST HERD IN CANADA.

Stock of highest excellence and most noted milk and butter families of the breed. Stock of all ages for sale. Prices right. Railway Station, Petersburg or G. T. R.; New Dundee P. O., Waterloo Co., Ont. Send for catalogue. 307-y-OM

TWO PURE-BRED AYRSHIRE BULLS!
FOR SALE.

314-ff-OM M. BALLANTYNE, St. Marys P. O.

PARK HILL HERD OF AYRSHIRES.

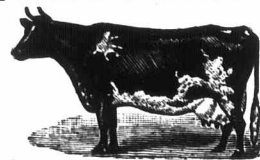
This herd took all the first prizes in Quebec in 1887 and 1888, and in Ontario in 1889, in competition with all the leading herds. Young stock for sale, all of which is from the celebrated bull ROB ROY (3971), which is at the head of the herd.

JAMES DRUMMOND,
303-y-OM PETITE COTE, MONTREAL, P. Q.

MAPLECLIFF STOCK FARM
Choice Ayrshire Cattle for Sale.

We make a specialty of these grand dairy cattle, our stock consisting of very heavy milkers, and have some fine young stock for sale; also high grades. One mile from Ottawa. R. REID & CO., Hintonburg, Ont. 311-y-OM

Imported and Canadian-Bred

**AYRSHIRES AND CLYDESDALES**
FOR SALE.

I have on hand a large herd of finely-bred Ayrshires of splendid quality. My Clydesdales are also first-class. Stock for sale. Prices and terms liberal.

THOS. BROWN,
310-y-OM Petite Cote, P. Q., near Montreal.

Prize-Winning Ayrshires for Sale

GURTA 4th (1181)
Mine is one of the largest and most successful show herds in Canada. They are finely bred and of great individual merit. Bulls, heifers and cows always on hand for sale; also a few good Leicester sheep. Correspondence solicited. Visitors welcome. Address

THOMAS GUY,
314-y Sydenham Farm, Oshawa, Ont.

PRIZE-WINNING AYRSHIRES
FOR SALE.

I have at present one of the largest & best herds in Ontario, which has been very successful in the prize ring. They are deep milkers and of a large size. Bulls, cows and heifers for sale a 1 ways on hand.
MAGGIE OF ROCKTON

JAS. McCORMICK & SON,
311-y-OM Rockton, Ont.

ALEX. HUMF. Burnbrae P. O., Ont., breeder of pure and high grade Ayrshire cattle of milking strains, and Yorkshire pigs with plenty of thickness.

Ayrshire Cattle & Poland China Hogs, MERINO SHEEP AND FANCY FOWLS.

We have the largest herd of Poland Chinas in Ontario. At the last Industrial Fair we carried off 17 prizes out of 36, including both prizes for pens. We breed from none but the best, and our aim is to supply first-class stock at living prices. We mean business. Write, or come and see us.

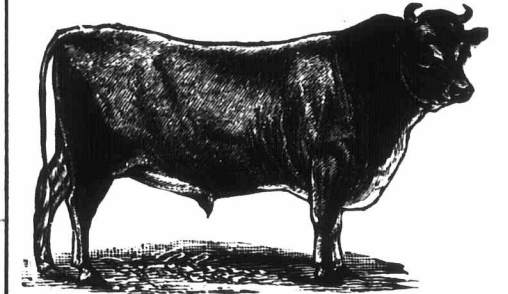
W. M. & J. C. SMITH,
310-y O M. Fairfield Plains P. O., Ont.

SUNNY BRAES FARM

Hillhurst, P. Q.
ST. LAMBERT JERSEYS.

The prize-winning herd of the Eastern Townships, headed by Rene of St. Lambert (20343), winner of 1st prize and sweepstakes wherever shown. I make a specialty of pure St. Lambert blood, and breed none but the best. Choice young stock for sale. Terms, prices and pedigrees on application.

Mrs. C. H. Crossen,
Sunny Braes Farm, 310-y-OM HILLHURST, P. Q.

ST. LAWRENCE DAIRY FARM.

My herd consists of choice animals. I breed for the best performers. Have now five bulls for sale of St. Lambert's blood. Quality and prices to suit the times. Address, **ELGIN ROW, Brockville, Ont.** 310-y-OM

GLEN ROUGE JERSEYS!

WM. ROLPH, Glen Rouge Farm, Markham, Ont., offers for sale Jerseys of all ages from his famous herd. The world-renowned St. Lambert blood a specialty. Also registered Clydesdale Horses. 309-y-QM

REGISTERED DUROC JERSEYS.

The Pioneer Herd of these famous American hogs has its headquarters in Essex County, Ont. Address, **PETER LAMARSH,** 310-y-OM WHEATLY, ONT.

BELVEDERE JERSEYS SERVICE BULLS ARE

(Canada's John Bull.)
Canada's Sir George, Allie of St. Lambert, 2634 lbs. milk, estimated to have made 902 lbs 2 oz. butter in 1 yr., 11 days. Pure St. Lambert. milk daily.

Massena's Son { Hugo Chief of St. Ames, Pure St. Lambert.
Massena, over 20 lbs. a week; 9,099 lbs. milk, estimated to have made 902 lbs 2 oz. butter in 1 yr., 11 days.

Signal of Belvedere { Sir Signal.
Miss Satanella (Signal cow), 20 lbs. 6 oz. butter a week, on 2nd calf.

Believed to be the three greatest living bulls. Silver cup at the Kellogg Combination Sale; Silver Tea Set (Farmer's Advocate) for milk test; over 20 medals, gold, silver and bronze; over 300 prizes in money, also numerous diplomas, commendations and special prizes.

Special Offering Now.
3 Sons of Canada's Sir George, (pure St. Lambert), 2 Sons of Massena's Son, from tested cows. Registered and express paid to any reasonable distance.

MRS. E. M. JONES,
313-y-OM Brockville, Ont., Can.

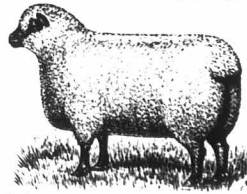
JERSEYS AND TROTTERS.

Herd headed by Carlo of Glen Duart (17637), the champion bull of 1891, and Pussy's John Bull (21290), a son of Canada John Bull.

STUD headed by Arklan (10331), a son of the world-renowned Guy Wilkes, 2,1544.
I breed none but the best and keep no culls.
A. C. BURGESS, Arklan Farm, Carleton Place, Ont. 312-y-OM

JERSEYHURST FARM, MARKHAM, ONT.
ROBT. REESOR, importer and breeder of A. J. C. C. Jerseys of the choicest breeding, with the St. Heller bull Otolie 17219 at the head of the herd. Stock of all ages on hand and for sale. 308-y-OM

Greenhouse Short-horns & Shropshires.
 I offer for sale at very reasonable prices a very choice lot of imported 2-shear ewes, imp. rams and ewe lambs; also several home-bred lambs and one grand 2-shear ram. Plymouth Rock & White Leathorn Cockerels cheap and good. Write or come and see me. **W. B. COCKBURN, ABERFOYLE, ONT., G. T. R. Station, Guelph; C. P. R., Corwin.** 310-y-OM



MAPLE SHADE
 NOTED FOR
SHROPSHIRES
 AND
Shorthorns.

Now ready for inspection—a choice lot of strong, fleshy young bulls, sired by the imp. Cruickshank bull Sussex (56625). Call or write for prices. Address
JOHN DRYDEN,
 BROOKLIN, ONT. 314-y-OM

CHOICE REGISTERED SOUTH DOWNS.

Messrs. A. Telfer & Sons, Springfield Farm, Paris, Ont., have been breeding Southdowns for thirty years. A fresh importation just arrived. Stock for sale. 309-y-OM

LORRIDGE FARM, RICHMOND HILL, ONT

MESSRS. ROBT. MARSH & SONS

offer for sale choice Southdown Sheep of all ages, from their well-known flock, which has taken over 2,000 prizes since its establishment. Correspondence promptly attended to. 307-y-OM

SHROPSHIRES!

Having sold all my ram lambs, I can offer for sale my large flock of imported Ewes, most of which are safe in lambs. Purchasers requiring real good sheep, not fattened for show purposes, will find flock as represented. My flock represents sheep from six different English breeders. Come and see me. Visitors welcomed.



W. S. HAWKSHAW,
 GLANWORTH, P. O. 314-yf-OM
 (7 miles south of London.)

SHROPSHIRES



We handle none but the best. We sell at living prices. We have one of the most successful flocks in the show yard in England. We import direct from our English to our American flocks. Write for prices. We can suit you.

THONGER & BLAKE BROS.,

Wolf's Head Farm, NESSCLIFF, Salop, Eng., 309-y-OM and GALESBURG, Mich., U. S. A.



SHROPSHIRE SHEEP

DAVID BUTTAR,

Corston, Couper-Angus, N.B., Scotland

Has taken all the principal prizes in Scotland for several years. His sheep are of the purest blood, and carefully bred; every sheep eligible for registration. Pedigrees and prices on application. 304-y-OM

SHROPSHIRE -- SHEEP.

This flock has won numerous prizes in England for the last twenty years, besides America, France and Africa. Has been established over seventy years. Several of the best flocks in England started from this flock thirty years back. Sheep always for sale.

F. BACH & SON,
 Onibury, Shropshire, ENGLAND. 289-y



SHROPSHIRES.

Imported Ram Lambs, Shearling Rams, Imported Breeding and Shearling Ewes; Ewe Lambs imported or bred from imported sire and dam.
W. E. WRIGHT,
 307-y-OM Glanworth.

SHROPSHIRE SHEEP

The Loughcrew flock has been very successful in England and Ireland wherever exhibited. It consists of 300 breeding ewes of the most fashionable appearance & blood, Ravens, Beach, Bairs, Coxon and Mansell. The Annual Sale first Wednesday in September.



EWES AND RAMS FOR SALE.

Apply to **J. DIXON,**
 Loughcrew, Oldcastle, Co. Meath, Ireland. 307-y-OM

JOHN A. MCGILLIVRAY, O. C.,
 Jerseydale Farm, Uxbridge, Ont., Midland Division G. T. R., importer and breeder of **DORSET HORN SHEEP.** 314-y-OM

DORSET HORNED SHEEP.

T. W. HECTOR, IMPORTER AND BREEDER.
 The oldest and largest flock of Dorset in Canada. First Prize Toronto and Montreal Exhibitions, 1891, for flock. Sheep of all ages for sale, ewes and rams not akin T. W. HECTOR. The Cottage, Springfield-on-the-Credit P. O., Ont. Stations, Springfield and Cookville on the C. P. R., Port Credit on G. T. R. 314-y-OM



ST. VINCENT 1ST

DORSET HORN SHEEP

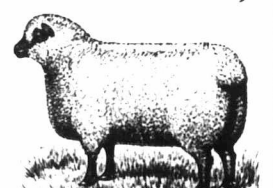
MY SPECIALTY.

These sheep drop their lambs at all seasons of the year; are good mothers and most prolific. Devon Dairy Cattle, good milkers and grazers. Flock and Herd established nearly one hundred years. Also Shire Horses and Berkshire Pigs. Sheep, Horses and Pigs exported to America have given every satisfaction.

THOMAS CHICK,
 Stratton, Dorchester, Dorset, England. 295-zv-OM

A Choice Lot of SHEARLING EWES,

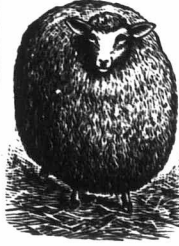
Two-shear Ewes and a few Three-shears, bred to Seldons' Pride and Prince Royal (imp.), and a choice lot of Ewe Lambs of our own breeding; also a few **YOUNG BOARS.**



PRICES LOW. **COME AND SEE THEM.**

WM. MEDCRAFT & SON,
 Sparta P. O., Ont., 309-y-OM Eight miles south-east of St. Thomas.

LINCOLN -- SHEEP



I always have for inspection and sale a large flock of pure Lincoln Longwool Sheep; including many prize-winners, having taken eighty prizes the last two years at the Royal and other shows, for both rams and ewes, also the first for the best collection of Lincoln fleeces of wool at the Royal Windsor show last year, which proves the character of this flock, which is most famous for their great size and 120 years' good breeding. Also breeder of

WHITE -- YORKSHIRE -- PIGS

Address—**HENRY DUDDING,**
 Riby Grove, Gt. Grimsby, Lincolnshire, Eng. 307-y-OM

TO STOCKMEN AND BREEDERS.

LITTLE'S PATENT FLUID
NON-POISONOUS SHEEP DIP AND CATTLE WASH.

For the destruction of Ticks, Lice, Mange, and all Insects upon Sheep, Horses, Cattle, Pigs, Dogs, etc. Superior to Carbolic Acid for Ulcers, Wounds, Sores, etc.

Removes Scurf, Roughness and Irritation of the Skin, making the coat soft, glossy and healthy. The following letter from the Hon. John Dryden, Minister of Agriculture, should be read and carefully noted by all persons interested in Live Stock:

"MAPLE SHADE" HERDS AND FLOCKS. BROOKLIN, ONT., Sept. 4th, 1890. DEAR SIR,—I cannot afford to be without your "Little's Sheep Dip and Cattle Wash." It is not merely useful for Sheep, but it is invaluable as a wash for Cattle, etc. It has proved the surest destroyer of lice, with which so many of our stables are infested. I have ever tried; it is also an effectual remedy for four in the feet of Cattle. I can heartily recommend it to all farmers and breeders. JOHN DRYDEN. Seventeen Gold, Silver and other Prize Medals have been awarded to "Little's Patent Fluid Dip" in all parts of the world. Sold in large tins at \$1.00. Special terms to Breeders, Ranchmen and others requiring large quantities. Ask your nearest druggist to obtain it for you; or write for it, with pamphlets, etc., to **ROBERT WIGHTMAN, DRUGGIST, OWEN SOUND, ONT.** Sole Agent for the Dominion. 303-y-OM

S. COXWORTH,
 CLAREMONT, ONT., Breeder of Pure-Bred Berkshire Pigs and Neg. Cotswolds of the choicest strains. A few good Boars, three and four months old, for sale, out of choice sows, and by Imp. Royal Standard and Prince Albion. I am now booking orders for Spring litters; nothing but choice stock shipped, and satisfaction guaranteed. Write for prices, or if convenient come and see my stock.—C. P. R. Station, Claremont, Ont. 304-y-OM

BERKSHIRES, SOUTH DOWNS, Silver Grey Dorkings.
 Breeding right. Quality right. Prices right. **E. MARTIN,** Nithside Farm, Paris Station, Canning, Ont. 309-y-OM

BERKSHIRES
 —AND—
COTSWOLDS.

J. G. SNELL & BRO.
 EDMONTON P. O., Brampton and Edmonton Railroad Stations.

Now is the time to secure young pigs from choice imported sows, and got by the renowned imported boars "Enterprise [1378]" and "Perry Lad [1378]." "Enterprise" won first prize at the two leading fairs in Ontario last year. He weighed just after landing from England 850 pounds. His pigs are coming fine, and are particularly well marked. We have for sale a grand lot of Yearling Cotswold Rams and Ewes which are well worthy the attention of those in want of such. Will be pleased to have visitors come and see our stock. Write for prices. 310-y-OM



W. G. EDWARDS & CO.

IMPORTERS AND BREEDERS.

Pine Grove Stock Farm
ROCKLAND, ONT.

SCOTCH SHORTHORNS.

The imported Cruickshank bull **GRANDEUR** is at the head of this herd of Imported and Home-bred Cows and Heifers of the most approved Scotch families.

ALEX. NORRIE, Manager.

THOROUGHbred -- BERKSHIRES.

A few choice fall pigs from prize-winning stock for sale. Am booking orders for spring pigs. Prices to suit the times.

W. A. BAILEY,
Aillston, Ont.

313-b-OM

CHOICE PURE-BRED BERKSHIRES—Two grand boars fit for service, also a few sows. Cheap. A. D. ROBERTS, Walmer Lodge, Ancaster, Ont. 303-y-OM

IMPROVED LARGE YORKSHIRES FOR SALE.

A few young sows from imported stock, due to farrow in April, also boars and young pigs. 314-c-OM Apply to G. BALLACHEY, Brantford.

THE MARKHAM HERD, Locust Hill, Ont. (Farm one mile from Locust Hill St., C. P. R.) Registered Improved Large Yorkshire, Berkshire and Suffolk Pigs. Stock selected from the best herds in Canada. Am booking orders for Spring Pigs. 308-y-OM LEVI PIKE, Locust Hill, Ont.

MAPLEWOOD STOCK FARM.

SCOTCH SHORTHORNS, IMP. YORKSHIRE AND BERKSHIRE PIGS. Herd of Yorkshires headed by Favorite (Imp.) and Royal Duke, both prize winners; also registered Berkshires of Snell's stock. Pairs supplied not akin, and satisfaction guaranteed. Correspondence invited. Address, 310-y-OM J. G. MAIR, Howick, P. Q.

IMPROVED -- LARGE -- YORKSHIRES!

One of the oldest herds in Ontario. Imp. Boars of Spencer's and Duckering's stock in use ever since founded. Choice stock for sale. JAS. FIELD & SON, Castle Hill Farm, ANCASTER, ONT. 305-y-OM

Improved Large (White) Yorkshire Pigs and Scotch Shorthorns.



Sweepstakes herd of Yorkshires wherever shown in 1891. The largest herd in Canada. Breeding stock selected from the most noted English breeders. All stock registered. Shipped to order and guaranteed to be as described. J. E. BRETHOUR, Burford, Brant Co., Ont. 301-y-OM

YORKSHIRES ONLY

MESSRS. BUNBURY & JACKSON, Oakville, Ont., have for sale choice young Boars and Yelts of the Improved Large Yorkshire breed, bred from stock imported from the best herds in England. Orders booked now for spring pigs. P. O., Telegrams and Station, Oakville, on G. T. R. 303-y-OM

IMPROVED LARGE YORKSHIRES

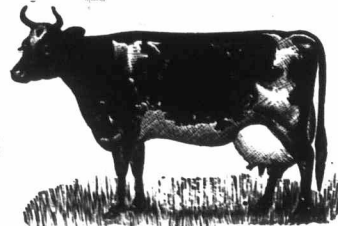
Sixty head of the best strains and quality. Write for prices.

SMITH BROS., Credit Valley Stock Farm, CHURCHVILLE, ONT. 302-y-OM

Pedigreed -- Improved -- Large -- Yorkshire.

Mr. G. S. Chapman, of the late firm of Ormsby & Chapman, is still breeding pedigreed Yorkshires, and is prepared to book orders for young stock.

ADDRESS:-- G. S. CHAPMAN, The Grange Farm, 305-y-OM Springfield-on-the-Credit, Ont.



Laurentian tock
AND
Dairy Farm.
North Nation
Mills, P. Q.

Ayrshires, Jerseys and Berkshires.

Imported **EMPEROR** at the head of a grand lot of Imported and Canadian-bred Ayrshires; also St. Lambert Jerseys and Imported Berkshires.

GEORGE CARSON, Manager. 304-y-OM

ELMHURST STOCK & DAIRY FARM

CLARENCE, ONT.

Shorthorns, Shropshires and Berkshires

Our flock is from the choicest English flocks, headed by the ram sent out by Mr. Thos. Dyke, also milking Shorthorns with imported bull **PIONEER** at the head of the herd.

HENRY SMITH, Manager.

BLAIR BROS.,

AURORA, ILLINOIS,

— IMPORTERS OF —

Cleveland Bay, German Coach, English Shire and Clydesdale Horses.

NEW IMPORTATION JUST RECEIVED.

The animals now on hand are of exceedingly fine proportions, are of very choice breeding, are showy and stylish, and have the best of action. We have now the best lot of horses we ever owned. We offer **First-class Animals** of the choicest breeding at very low prices. Every animal recorded and guaranteed. Visitors welcome. Catalogue on application. Stables in town. 314-c-OM

FOR SALE! GOLDDUST HORSES

— NOTED FOR THEIR —

Size, Style, Speed and Finish.

SPEEDY STALLIONS, FILLIES AND GELDINGS

FOR SALE AT MODERATE PRICES.

Tilcaadi Golddust colts have won five times as many premiums at the Kentucky fairs than all other horses against which they showed. Write for prices.

314-c-OM L. L. DORSEY, MIDDLETOWN, JEFFERSON CO., KENTUCKY, U.S.

AT HEAD OF STUD TILCAADI GOLDDUST 4400

(THE BEST SON OF GOLDDUST 150.)

Sire of Whirlwind; record, 2.24.
Sire of Fannie Golddust; record, 2.25 1/4.
Sire of Estelle; record, 2.26.
Sire of Hendrick; record, 2.27 1/4.
Sire of Cleveland; record, 2.29 1/4.
Also sire of dam of Rosalind Wilkes; record, 2.14 1/2.

HENDRICK,

The great show stallion, winner of over 40 premiums in Kentucky fair rings.

Improved Large White Yorkshires, Pedigreed.



We have lately added to our herd, which are from the strains of Saunders Spencer, Charnock, and F. Walker-Jones, England. Young stock on hand at all times for sale. Apply to

Wm. Goodger & Son,
306-y-OM WOODSTOCK, ONT.

TAMWORTH'S

Improved Large Yorkshires.

Our stock is all imported from the very best herds in England, and every pig traces to the English Herd Book. We offer for sale at lowest figures Boars and Sows of the above breeds and of all ages. Write for prices, or give us a call and see our stock. Over forty head on hand.

JAS. L. GRANT & CO.,
Ingersoll, Ont. 308-y-OM

Registered Poland-Chinas — Canadian Black Bess Herd.

Stock strictly of the Corwin, King, Butler and Black Bess blood. Choice stock of all ages for sale at reasonable prices. Imported Nominée at head of herd, assisted by Imported Boars Condit, Luck and Moorish King. Farm two miles south of G. T. R., C. P. R. and E. & H. R. stations. Correspondence and inspection of herd solicited. Reduced rates on shipment by express. — J. J. PAYNE, Chatham, Ont. 314-y-OM

PURE-BRED REGISTERED VICTORIA HOGS. Choice young pigs, both sexes, from Geo. Davis' stock, sire a prize winner at Toronto. Charles Brown, Drumquinn P. O., Ont. 306-y-OM

E. D. GEORGE

PUTNAM -- ONT.,

Importer and Breeder of
Ohio Improved Chester White Swine

I make this one breed a specialty, and furnish a good pig at a fair price. Pedigrees furnished. Write for prices. 305-y

R. H. HARDING,
Mapleview Farm, Thorndale, Ontario,
Importer and Breeder of Ohio Improved

CHESTER WHITE SWINE

DORSET HORNED SHEEP.

Prices low. Satisfaction guaranteed. Write for particulars. 310-y-OM

H. GEORGE & SONS, CRAMPTON, ONT.,

Importers & Breeders of

OHIO IMP. CHESTER WHITE SWINE.

Size and quality combined. Our herd of Chesters won the sweepstake herd prize both at Montreal and Toronto fairs, 1891. Choice young stock for sale. 310-y-OM

PURE-BRED TAMWORTH HOGS AND CLYDESDALES
JOHN BELL, Clydesdale Farm,

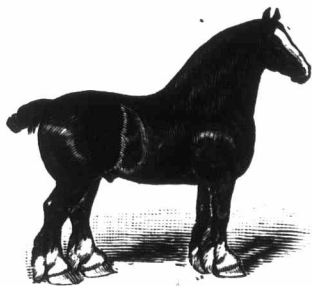
L'AMAROUX P. O., ONT., offers for sale young Boars and Sows bred from registered stock, imported from the best herds in England. This famous breed of bacon pigs is recommended by the largest bacon curers in the world. Try them, it will pay you. Orders now booked for spring pigs. Some A 1 Clydesdale Stallions kept for service. Imported and home-bred Colts and Fillies for sale. 304-y-OM

GLENHYRST.
50 acres, bordering on the City of Brantford.
JAMES MAXWELL, SUPT.
Shropshire Sheep.
Shetland Ponies.
Apples—(in quantity)—Plums.
Registered Stock, all ages, for sale.
JOSEPH STRATFORD, PROP., [309-y-OM]

OAKWOOD FARM.
100 acres, bordering on the City of Brantford.
GEORGE WALTER, SUPT.
Have on the farm a modern wooden Silo. Capacity 250 tons.
Dorset-Horned Sheep. Jerseys. A.J.C.C. Holsteins (Royal Aagie family). Advance Register. Chester White Pigs.
Three grand modernized stock farms under one management.
[309-y-OM]

CEDARS FARM.
175 acres, eleven miles from City of Brantford.
ROBERT WALKER, SUPT.
Oxford-down Sheep.
Shorthorn Cattle.
Medium Yorkshire Pigs.
BRANTFORD P. O., CANADA. [313-c-OM]

Imported Clydesdale Stallions and Mares,
Shetland and Welsh Ponies on hand and for Sale.



My last importation consists of a large number of Stallions and Mares from one to four years old, and the gets of such noted sires as Darnley (222), Macgregor (1487), Top Gallant (1850), Prince Gallant (6176), Knight of Lothian (4489), etc. Also a few choice thoroughbred Shorthorn cattle.

A call solicited. Visitors always welcome.
T. W. EVANS, YELVERTON P. O., ONT.
Pontypool Station and Telegraph Office on C. P. R., fifty miles east of Toronto. [313-c-OM]

Imported Clydesdale Stallions and Mares for Sale.



Highest Prize Winners in the Leading Shows of Scotland and Canada,
AND THE GET OF FAMOUS SIRES
Such as Lord Erskine, Darnley, Old Times, McCammon, Prince Lawrence, Lord Hopton, Bold Magee, Sir Wyndham, Good Hope and Fireaway.
Prices Reasonable. Catalogues Furnished on Application.

ROBT. BEITH & CO.
BOWMANVILLE, ONT.
Bowmanville is on the line of the G. T. R., 40 miles east of Toronto and 294 west of Montreal. [301-y]

IMPORTED AND REGISTERED
CLYDESDALE AND HACKNEY
STALLIONS AND MARES



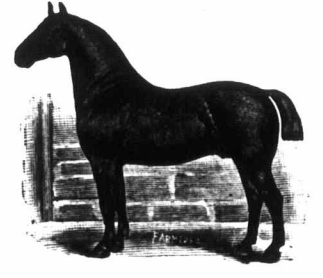
CONSTANTLY ON HAND, AND FOR SALE AT REASONABLE PRICES
Our last importations comprise a large number of one, two, three and four-year-old registered stallions and mares, the gets of such sires as Macgregor (1487), Darnley (222), and Prince of Wales (673). Also a few choice **SHETLAND PONIES.** Correspondence solicited, and visitors always welcome.

GRAHAM BROTHERS
Twenty-five miles east of Toronto, on the C. P. R. [305-OM] **CLAREMONT ONT.**

THE GERMAN COACHERS
VICTORIOUS!

29 first, 23 second, one third, and four highly commended ribbons and two grand sweepstakes prizes taken at the American Horse Show and the Illinois, Iowa and Nebraska State Fairs, 1890,

by the Hanoverian Coach Stallions and Mares owned by
OLTMANN'S BROTHERS, Watseka, Ill.



Fourth importation arrived Aug. 2, last.
Fifty Stallions for Sale.
Every animal fully guaranteed. For particulars address as above.
Watska is eighty miles south of Chicago and one hundred miles east of Peoria. [312-c-OM]

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ROSEDALE FARM, HIGHFIELD P. O., ONT.
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STOCK GOSSIP.

In writing to advertisers please mention the Farmer's Advocate.

In one of the plate pages last month, Mr. Wm. Walker, Ilderton, the well-known Lincoln breeder was represented as a breeder of Leicesters, which was a mistake. Our readers will please note this.

The Chicago, Milwaukee & St. Paul Railway is the only line running solid Vestibuled, Electric Lighted and Steam Heated trains between Chicago, Council Bluffs, and Omaha.

Mr. Arthur Johnston, of Greenwood, Ont., writes:—"Enquiries for young animals of superior individual merits and really good breeding still continue to come from all parts of the Dominion, with sales of animals of both sexes at intervals. I look for a brisk spring trade in all classes of really good stock, with the single exception of horses, and they seem hopelessly dull at present. Though crops were good in this section feed is scarce, owing to the short hay crop. I have just sold to Messrs. Graham Bros., of Ailsa Craig, a very promising young bull, in just moderate condition. His breeding is superb, sired by the Cruickshank Victoria bull, Imp. Indian Chief (57485); his dam by the Cruickshank Lavender bull, Imp. Duke of Lavender (31135), and his granddam by the Cruickshank Lovely bull, Luminary (34715). On his dam's side he is one of the late Mr. Sylvester Campbell's Minas, a tribe of which he was always proud."

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Messrs. Smith Bros., Churchville, Ont., writes:—"We herewith send you a list of Holstein-Friesian cattle sold by us during 1891. The sales show that people want first-class stock at reasonable prices. We keep records of every animal in our herd, so that buyers may know what they are getting. Here is the list:—W. Simons, St. George, Mountain Princess; J. Glennie, Portage la Prairie, Lady Bonhuer, Daisy Leake's Queen, Lady Leake's Queen, Modest Girl 3rd and Corlie's Ykema's Mink Mercedes; T. M. Gibson, of Newcastle, Heise, Lady Mede 3rd, China Bay, Chinnie Bay, Cecelia Bay and Tritonia Mink Mercedes King; Ambrose Kent, of Toronto, Erie Belle 2nd's Queen, Aaggie Gem 2nd's Mink Mercedes, Mountain Princess Mink Mercedes, Harmonia's Mink Mercedes Queen and Netherland's Mink Mercedes King; Wm. McClure, Norval, Seipje's Mink Mercedes Baron; J. H. Thornton, Dereham Centre, Aaggie Indaline, Mink Mercedes King; M. Cliphsh, Sparrow Lake, Onetta's Mink Mercedes Baron; Mr. Fairweather, for the New Brunswick Government, Mink Mercedes Princess, Onetta's Mink Mercedes Princess, Heise's Mink Mercedes, Emma Laper's Princess, Eldorado Queen, Clothilde Mink Mercedes, Harmonia's Mink Mercedes King, Li Li's King, Modest Girl 3rd's Mink Mercedes King and Seipje 3rd's Mink Mercedes King; F. N. Trudgen, of Sundridge, Ykema Mink Mercedes, Cornelia 2nd's Queen and Wedo 4th's Mink Mercedes King; Jas. Fennel, Ilderton, Jessie Church and Fong-te Aaggie's Mink Mercedes King; P. Allen, Little Britain, Dina of the Pines and calf and Clinton Mink Mercedes; S. Plack, Lavender, Janus Aaggie and Lady Oosterzee 2nd; J. Blackmore, Starrat, Jongste Aaggie's King; A. Turnbull, Galt, Ventura 2nd; Russel Bros., Alton, Dina's Mink Mercedes Chief; C. E. Kent, Kingscroft, Que., Hijke 2nd's King; W. N. Robinson, Huntingdon, Que., Cygnet Bay and Cordele Bay; Mr. Baker, Quebec, Lassie Jean's Queen; John Pickering, Frelighsburg, Hedda 2nd's Queen. Thus 48 head have been sold and two exchanges have been made, one Cornelia Tensen's Mink Mercedes King, to Ontario Agricultural College, and one to J. Fennel, Bradford, making thus a total of fifty head."

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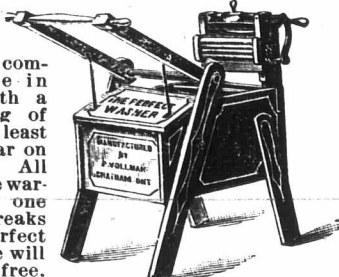
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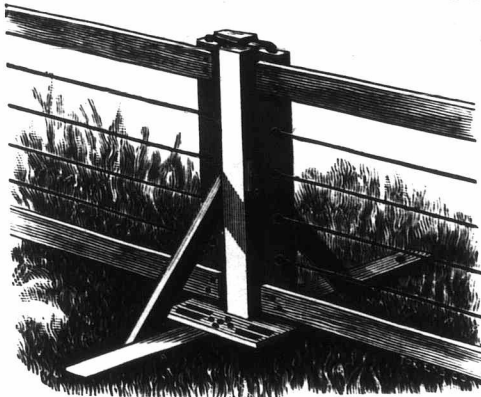
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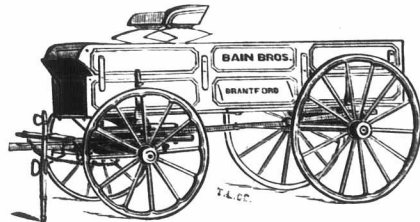
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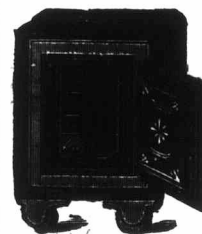
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NOTICES.

In writing to advertisers please mention the Farmer's Advocate.

SPRAYING OUTFIT.—In this issue will be found an advertisement of the Lewis' Spraying Outfit. We have tried this Sprayer and can recommend it.

Messrs. J. F. Millar & Son, of Morrisburg, Ont., have made several improvements in the new model Disc Harrow. It would be well to get one of their catalogues and get full particulars.

We will send to any of our subscribers who sends us in nine new subscribers and nine dollars, one of the Lennox Sprayers. See illustration and full particulars on page 77.

THE ONLY ONE.—The Chicago, Milwaukee & St. Paul Railway is the only line running solid Vestibuled, Electric Lighted and Steam Heated trains between Chicago, Milwaukee and St. Paul and Minneapolis.

Archibald J. Bannerman, Real Estate Agent, Main St., Winnipeg, wishes the farmers, merchants and capitalists of Ontario to place themselves in communication with him, as he has some extraordinary efforts in city properties, farms improved and unimproved, for sale on very easy terms.

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STOCK GOSSIP.

The eighteenth annual meeting of Dominion Grange will be held in the city of London, commencing Tuesday, February 9th, 1892, at two o'clock, p. m. The use of the County Council Chamber has again been granted for that meeting.

Mr. Joseph Yuill, Carleton Place, Ont., reports the following sales of Ayrshires, Shropshires and Berkshires:—Six bulls, two yearlings and four calves to the New Brunswick Government; a bull calf, Nelson Meadowside—474—, to A. Campbell, Galbraith, Ont.; bull calf, Bonnie Meadowside Boy—75—, to Alf. Brown, Bethal; cow, four years old, Beauty Bride—890—, to John P. Campbell, Vernon, Ont.; yearling heifer, Daisy Meadowside—1894—, to Thos. Murry, M. P., Pembroke; Shropshire ram to Thomas Wilson, Pakenham, Ont.; ram lamb to John Campbell, Castleford; ram lamb and Berkshire boar to A. E. Newsome, Kilmarnock; boar to P. S. McLeran, McGarry, Ont.; boar to William Baird, Hopetown; boar to Stewart Bros., Almonte, and aged sow to John Tucker, Smith's Falls, Ont. His stock has gone into winter quarters in good condition. Fifteen sows of his have calved; a few more will be in soon. He makes a specialty of winter dairying, and finds it pays well.

Mr. J. J. Fisher, Benmiller, Ont., reports his stock in good condition. He exhibited at the North western Exhibition, held at Goderich, in 1891. His heavy team Maitland Blossom and Chestnut Blossom (both of which are three years old) won first prize, beating the team which had previously won the first prizes at the neighboring township shows for two years. He also won 1st prize with his promising 2-year-old filly which has each year since a foal won 1st in her class at Goderich, beating imported stock. Maitland Jess, the dam of this filly, and also of Chestnut Blossom, was a noted show mare, never having been beaten by a Canadian-bred mare, and frequently beating imported animals. She was bred by Mr. Fisher and died in his possession two years ago. She was the grand dam of Maitland Blossom, whose dam was also a prize winner. His Poland-Chinas have done well. At Goderich and Clinton he won first and diploma for best boar, and first with his sow. These pigs are descended from prize-winning stock. He reports his Oxford sheep as doing well, and that the demand is brisk.

J. E. Brethour, Oak Lodge, Burford, Ont., sends us the following:—"My herd of Yorkshire pigs has made a successful season at the fall exhibitions. At Toronto, where I exhibited thirty-two head, I won first prize in each class in which I exhibited, including the 'Hilwell Manor Challenge Plate.' At Montreal my herd was equally successful, although I had made a draft from my herd to attend the London Exhibition which was held at the same time, and I at that exhibition secured nine prizes upon ten entries. At Ottawa I also secured first prize in each class where I had entered, with one exception. Numerous prizes were also won at the smaller exhibitions. The following is a list of recent sales:—Alex. Hume, Burford, boar; Andw. Henderson, Athens, boar and sow; J. & E. Zulani, Uly. U. S., boar; W. S. Wisner, Brantford, brood sow; Frank Smith, Fairfield Plains, boar and sow; Robert McQueen, Salem, sow; Nathan Day, Fowle Corners, boar; Cyro Smith, Tyrrell, boar; Elot Outmet, Conter, Laval, P. Q., sow; John Cousins & Sons, Harriston, boar; Ontario Experimental Farm, Guelph, boar; Joseph Fletcher, Oxford Mills, boar and sow; E. B. Miller, Broome, P. Q., boar; John Nesbitt, Petite Coat, P. Q., sow; William Hull, P. Q., boar and sow; A. M. Stewart, Dalmeny, boar; William Westington, Port Hope, boar; Wm. Brent, Hazlen, boar; D. A. Lafortune, Montreal, P. Q., boar and sow; William Werry, Salina, boar; H. E. Sharpe, Cavansville, imported sow; James Finlay, Shoal Lake, Man., boar; William H. Hosefall, Annapolis, P. S., boar and sow; H. A. Ballard, Burford, brood sow."

STOCK GOSSIP.

In writing to advertisers please mention the Farmer's Advocate.

Messrs. Prouse & Williamson, of Ingersoll, having dissolved partnership, Mr. Prouse will sell by auction, on February 16th, a large number of choice Clydesdales, Hackneys, other stock and farm implements. See advertisement in another column. Send for catalogue giving full particulars.

In another column will be found an advertisement of Mr. J. R. Martin's annual combination sale, to be held at the Exchange Hotel, Cayuga, on Thursday, 25th February, at which time will be offered Shorthorns, Herefords, Leicester sheep, Berkshire pigs, Thoroughbred, Trotting, Roadster and Draught horses.

Mr. R. S. Stephenson, Ancaster, Ont., the well-known breeder of Holsteins, in a letter dated December 14th, writes:—"The cut of my bull which appeared in your September number has proved a great advertisement. I have had a great many enquiries lately. Kindly express an electro of my bull to Hamilton. I have been requested by two different papers to allow them to use it."

The Wyton Stock Breeders' Association writes:—"It is with pleasure we are enabled to report the satisfactory manner in which our herd have so far wintered, being in fine, healthy and strong condition, and although a number of them have been milking from ten to eleven months they are giving good results at the pail.

Our young stock of both sexes—calves of last spring—are doing well and have exceeded our expectations, more particularly in their size, and for symmetry and markings are equal if not surpassing those of our former raising.

A large percentage of our spring calves of last year, as mentioned above, were sired by the bulls herein named, and will be offered for sale at our semi-annual on the 25th of March next, and on account of the extra fine crops obtained by the farmers this season and the prospects already looming up for the future, we constantly being received for catalogues, we look forward to a good attendance at the coming sale at London on the date above named.

We have commenced the season of 1892 with three better calves, two of which were sired by our imported bull "Moosehartog," No. 408, D. F. H. B., which heads the herd, and whose heifers have turned out No. 1. milkers; the remaining one sired by our three-year-old "Heron Milburn," No. 8717 H. F. H. B., which in his class took first prize on three years old and upwards, as well as diploma for bull of any age, at the last Western Fair held at London, and taking into consideration the high qualities of the dams of the calves, we flatter ourselves that we have the foundation of three extra fine cows.

We have received a copy of the Xmas number of Clark's Horse Review, Chicago, Ill. It is claimed to be the finest number of a journal devoted to horses ever published. It is handsomely and profusely illustrated, having life-like portraits of all the famous light stallions and crack trotters and pacers of the last decade, and in addition to the fine \$30 prize articles on Care and Management of Stallions, Brood Mares, Colts and Campaigners, there is a vast fund of pleasant and useful reading.

W. S. Hawkshaw, of Glanworth, Ont., writes us that amongst his recent sales he has sold to Mr. Herbert Puxley, of Westbourn, Man., a grand two-shear ram bred by Mr. F. Bach, of Onibury, Salop, Sir Woolstaples that did so much for his flock, this flock having won first and second prize at the Royal Show, England, for quality of wool 1889. I have also sold Mr. Elder, of Virden, a few choice pair of ewes in lamb to my imported stock ram, also got by Mr. Bach's Woolstaple. Mr. ewes are commencing to drop their lambs already. Having a large flock on hand parties wanting sheep can have their pick.

Messrs. Tazewell & Hector, Port Credit, Ont., have sold a number of horned ewes since our last issue, among which were a selected lot of two-year-olds to R. H. Harding, Thorndale, Ont., and a similar lot to H. H. Spencer, Brooklin, Ont. All these ewes are in lamb to Messrs. Tazewell & Hector's noted prize-winning ram, a grand animal, no doubt the best individual and sire of his kind in America to-day. The ewes were all bred by Mr. Chick, of Dorset, England, whose advertisement regularly appears in the Advocate. Mr. Harding is one of the most promising and enterprising among the young live stockmen of Canada. His herd of Chester Whites is becoming well known, as it deserves to be. Mr. H. H. Spencer is long known as one of the oldest sheep and swine breeders in Canada. His Clydesdales and Isabella Shorthorns are also well known. Mr. Spencer was among the first to import Devon cattle and Southdown, Shropshire and Hampshire sheep to America's shores. Probably he was the first importer of several of these breeds to Canada. For many years Mr. Spencer has been desirous of importing some Horned Dorsets, the good qualities of which he has known and appreciated since his boyhood. Large flocks are kept in the section of England where he comes from. Even before coming to Canada John Spencer had reared many fine specimens of this ancient breed, although Southdowns were his favorites. Mr. H. H. Spencer has now a very fine flock of Dorsets, with which he expresses himself more than pleased.

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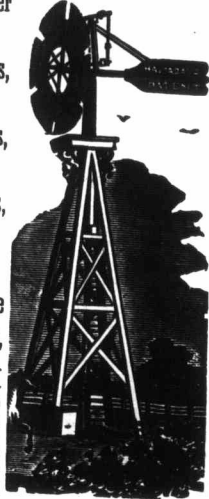
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CURES all nervous and chronic troubles—Indigestion, Rheumatism, Sciatica, Liver and Kidney troubles, Female complaints, Varicocle, Nervous Debility, Sexual Weakness, etc. Sure cures and no drugs. Can be used with any truss, and helps to cure ruptures permanently. Book and all particulars free by mentioning ADVOCATE.

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BRANDON, - MANITOBA.

A large number of choice improved farms for sale on easy terms in the fertile districts of Brandon, Souris and Pipestone. All information, advice and assistance cheerfully given to intending settlers.

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TO PARTIES NEEDING PURE-BRED STOCK.

J. Y. ORMSBY, V. S., (late of Ormsby & Chapman), writes:—"I am now in England, and I am prepared to purchase Pure-Bred Stock on commission for parties in Canada and the U. S. Satisfaction guaranteed. I expect to return by the end of March, and will accompany all stock bought myself.

"My intimate acquaintance with the Breeders in Europe enables me to purchase fine stock at the lowest possible figures."

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Ballinamore House,

Kettimagh, County Mayo,

313-E-OM Swinford, Ireland. 304-y-OM

FARMERS, READ THIS

IT WILL PAY YOU!

To send to 35 Colborne street, Toronto, for a catalogue of the goods supplied to farmers by the Grange Wholesale Supply Company.

IT WILL PAY YOU!

When you get their catalogue to make out a list of the goods you are in need of, and get your friends to join with you and send direct to them for anything you may want.

We would specially recommend you to try our

BOOTS AND SHOES!

Any goods not to your satisfaction may be returned at once at our expense.

This Company was organized and is solely owned and controlled by farmers. All profits above legitimate expenses go to lowering prices. Therefore, co-operate with us; the more we sell the cheaper we can sell.

GRANGE WHOLESALE SUPPLY CO. (Ltd.),

TORONTO, - ONT.

R. Y. MANNING, Manager. 379-f-OM

\$500 A YEAR
FOR 20 YEARS.

FOR

23

CENTS

A

WEEK.

The plans of insurance operated by the Manufacturers' Life are universally admitted to be not only the most popular but also the most liberal and comprehensive now offered to the public. For a premium not very much larger than is charged for a \$5,000 policy, where the entire insurance is to be paid in one sum down, this Company will give a policy of \$10,000, payable in twenty annual instalments of \$500 each. That's the instalment plan. By insuring on the ten-twenty plan a man may carry \$1,000 for the insignificant sum of twenty three cents a week!

No other company in the world can give cheaper insurance than this.

THE MANUFACTURERS' LIFE INSURANCE CO.,

COR. YONGE & COLBORNE STS., TORONTO.

Dr. A. Wilford Hall's Health Pamphlet.

Health without medicine. This is no fraud, but a practical thing which, in use, is giving health to hundreds of thousands. "Microcosm" extra sent free, giving particulars.

C. C. POMEROY, General Agent,

49½ King St., W. Toronto.

THE LENOX SPRAYER
BEAT THIS IF YOU CAN!
22 Quarts FOR GARDEN, FIELD, GRAPE AND SMALL FRUIT CULTURE.
SEND \$4.00 AND GET ONE.
ONE MAN DOES the work of 12, and need not stoop down either.



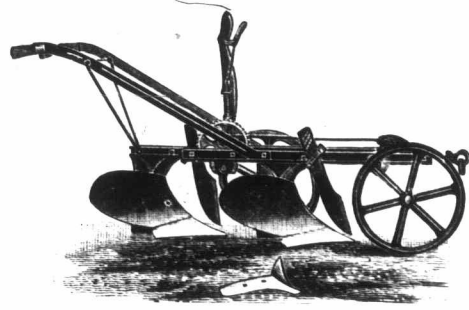
FOR POTATO BUGS

Spray as fast as you walk. No waste whatever. Spray stops by releasing the pressure of the thumb. We know you will have one. Show it to your neighbor and he wants one. No machinery to get out of order. Simple as your milk can. Has an Agitator on the left side to stir the liquid. Costs less than all others. Never rusts. Never out of order. Adjustable to a man or boy. To spray trees and vines turn nozzle up. With 2 nozzles, bulbs and tubes for both hands \$1.50 extra, though one works fast enough. We recommend it to be the best and cheapest one on the market. Impossible to describe here. You better send for a free illustrated circular. We want a good agent in your town. Have you a horse and buggy? Twelve orders a day as easy as you eat your breakfast.

THE LENOX SPRAYER CO.
 20 West St., Pittsfield, Mass.

314-a-0

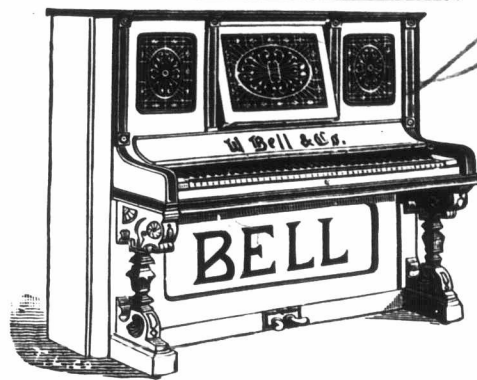
THE BEST THING YET IN PLOWS.



Our Big 5 is a Two-Furrow Plow, made of fluted steel frame and steel axes. The mould-boards are the best American cast steel, making it the best cleaning, easiest running, and most durable plow in Canada. We guarantee the frame to stand three horses, and any farm boy can handle it. Price, only \$20. Liberal discount for cash.

Be Sure and See It Before Buying.

WM. DICK, Manufacturer.
 314-c-0 Albion P. O.



Pianos, Reed Organs & Church Pipe Organs

THE STANDARD INSTRUMENTS OF THE WORLD.
 Send for Catalogue.

BELL ORGAN AND PIANO CO., Guelph, Ont.
 309-v-0

STOCK GOSSIP.

In writing to advertisers please mention the Farmer's Advocate.

Holsteins will be sold at auction at Fernwood Stock Place, Burlington, Ont., March 3rd. See the advertisement.

E. D. Smith, Winona, Ont., has made a change in his advertisement. Read what he says. Write Mr. Smith; he will supply you with good goods true to name.

D. Alexander, Bridgen, Ont., is out with a change of ad. This time he offers a fine lot of Shorthorn bulls and heifers of the thick fleshy stamp. He says his prices are reasonable. Write him.

Peter Toles & Son, Mount Brydges, Ont., advertise for sale in this issue Scotch Shorthorns of milking families. We invite those requiring young bulls and heifers to correspond with these gentlemen.

The celebrated Shorthorn breeders, J. & W. B. Watt, Salem, Ont., in this issue offer fourteen young Shorthorn bulls of good quality, also some cows and heifers. See their advertisement. Write them for particulars.

Stallions, Clydesdales, Shires and Thoroughbreds are advertised in this issue by H. George & Sons, Cranpton, Ont. These gentlemen are known to be honorable. Customers can rely on their recommendations. See their adv.

There will be sold at the Western Hotel, London, Ont., on March 24th, a choice lot of Holsteins of various ages, the property of the Wyton Stock Breeders' Association. All stock offered is guaranteed. See their adv.

In a recent letter Mr. Robert Beith, Bowmanville, Ont., stated that their Clydesdales and Hackneys were doing very well. All their imported Hackney mares are in foal to Jubilee Chief. The yearlings are doing exceedingly well. Mr. Beith seems very well pleased with his Hackneys.

Mr. Jno. A. McGillivray, Q. C. Uxbridge, Ont., has the foundation well laid for the establishment of a large flock of Dorsets. His sheep are looking healthy and in good condition. He has some very nice ewes and also a fine lot of lambs that will soon be fit to wean, at reasonable prices. This flock has done well in sales as well as in the show ring the past fall.

Mr. J. T. Hector, of Springfield-on-the-Credit, is running the whole of the old flock of Dorsets alone now, as Mr. Tazewell is giving up his farm for other pursuits. Mr. Hector has on hand a choice lot of imported sheep for disposal, and also a fine lot of lambs that will soon be fit to wean, at reasonable prices. This flock has done well in sales as well as in the show ring the past fall.

Mr. James H. Esdon, of Curry Hill, Ont., in a recent letter, says: "My Clydesdales are doing well, and will come out this spring in fine form. I will give more value to purchasers in six weeks less time, on the same food, than any other individual or firm." Write or call, and secure first choice. See his adv. in this issue. The horses he is offering for sale are of good quality and breeding, and will be sold at a great price.

Messrs. Smith Bros., Churchville, Ont., write: "Our stock is doing remarkably well. Anna B. 2nd gave 760 3/4 lbs of milk during the first 14 days of 1892; Erie Belle 2nd, 749 1/2 lbs.; Corolla Ykema, 733 lbs.; Jongste Aaght, 673 1/2 lbs.; Belle of Orchardside 2nd, 691 lbs.; Cheeta calved 10th August last, 564 lbs.; Marian, 726 1/2 lbs. The seven head thus make an average of a trifle less than 50 lbs. per day (or 5 gallons.) The calves from these cows were sired by our Mink's Mercedes Baron. We have the finest lot of calves we have ever had."

Mr. Joseph Stratford, Brantford, offers for sale at prices to suit the times, hundreds of thoroughbred medium Yorkshire and Chester White young pigs both sexes. He claims for both of the above, that they can be sent into heavy weight in six weeks less time, on the same food, than any other breed of pigs on the market, owing to their shortness of body and peculiar build, while the medium Yorkshire is said to be the most delicate eating pork raised. He also advised the arrival of a number of Dorset and Shropshire lambs, dropped since the new year.

In reporting the flock of D. S. Hamner & Sons, in connection with the plate pages which were issued last month, we made Mr. Hamner say, "the success of our sheep is largely due to the attention of my son James H." This clause should have read, "the success of our sheep is largely due to the attention of my sons James and Herbert, who will in future have the chief management, etc." Like their father, these young men are capable and practical. Each well understands the science of sheep breeding and both are enthusiastic in their chosen calling. We wish them the success they so richly deserve.

Mr. James S. Smith, Maple Lodge, writes: "Our stock of all kinds are doing remarkably well. Thirteen young calves have arrived to date—fine, robust, thrifty fellows. The offering of Shorthorns at our sale this spring will be exceptionally good, decidedly the best lot we have ever offered at public sale. Fourteen of the number are the get of Conqueror, our grand Cruickshank stock bull, and a more uniformly good sire we have never seen, and crossed on our heifers by the old Duke of Colonus, gives very satisfactory results. Several from Cruickshank families will be offered also." See his sale advertisement in this issue.

We have before us the catalogue of the combination sale of Stallions, Road horses, high-class Hunters and Carriage pairs, conducted by Mr. Douglas H. Grand, February, 10th, 11th and 12th, at the Western Fair Grounds, London. Amongst the gems to be offered are the imported Hackney stallion, Firefly (1779), the royally-bred trotting stallion, Arcadia Wilkes (6666), a son of the mighty Wilkes family. Confederate (Chief 433) is ably represented in his standard San Adrino (4999), Old Clear Girl (859) has sons and daughters and grand sons. In the list of imported French Coach horses are these—Gustave (221), French Lyon and Herod. The cart or heavy draught horses are represented by the imported shire stallions, Chief (194), Active (152), Puckham Bay (225), Pedro, Luwhill Prince, Capt. Howell (597). Amongst the road horses to be sold are, Splendour 242 1/2, by Billy Stanton; Happy Lucy 239 1/4, trial 2:35, by Honest Walter, a pacing son of Tom Jefferson 2:31 1/2. Joseph R. is a son of Capt. Jack 2:24 3/4; it is said this young horse can pace in 2:30. About 200 head will be offered and will include brood mares, colts, fillies, saddle horses, matched pairs, heavy work horses. Catalogues can be had by applying to Mr. Grand, London.

Notices.

Thos. Betts advertises Illinois and Missouri farms for sale. See his advertisement in this issue.

W. A. Freeman, Hamilton, has made a change in his advertisement. Read the testimonials concerning his fertilizers.

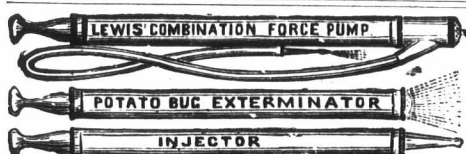
Mr. Thomas W. Bowman, Peterborough, Ont., advertises nursery stock. See his advertisement, and write him if you want what he advertises.

Wm. Dick, Albion, Ont., advertises a two-furrow plow, which he guarantees to give perfect satisfaction. Write him for particulars. The price is low.

Stanley Mills & Company, Hamilton, Ont., are out with a change of adv. They offer sap buckets and other maple sugar making appliances also pruning saws, pruning knives and pruning shears, spraying pumps and cross-cut saws. Read what they say about their barn plans. They are well worth ten times what they ask for them.

Examine Your Horse!

For all kinds of lameness, bunches, bony tumors, inflammation, colic, sore throat, and in fact, in every case where an application or blister is needed, use Gombault's Caustic Balsam, as no other preparation ever made equals it for prompt, reliable results, safety and economy. Price \$1.50. Sold by druggists. **THE LAWRENCE-WILLIAMS CO., Sole Importers, Cleveland, O.**



FARMERS MUST COME TO IT!
SPRAYING FRUIT TREES.

ONCE AN EXPERIMENT! NOW A NECESSITY!
 Essential to the growing of profitable crops.
 Good yields of perfect fruits.

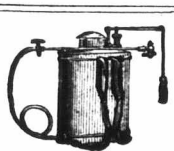
LEWIS' GREAT \$6.50 SPRAYING OUTFIT

EXPRESS PAID. BEST AND CHEAPEST SPRAYING OUTFIT.
 Will Thoroughly Spray a Ten-Acre Orchard per Day.
 Spraying Pump, Agricultural Syringe and Veterinary Syringe Combined.
 Makes Three Machines, as shown in cut. Made of Polished Brass. Parts interchangeable. Each Machine Complete in itself. Just what is needed by every Farmer, Fruit Grower, Gardener, Nurseryman, Florist, Stockman, etc.

Another New Improvement Just Added is LEWIS' PATENT GRADUATING SPRAY ATTACHMENT for Fruit Trees. Can change from solid stream to spray instantly while pumping. Everything screws together and can be taken apart readily and cleaned. Will throw fine or coarse spray or solid stream, as desired. Impossible to clog nozzle.

A Valuable Illustrated Book on "Our Insect Foes and How to Destroy Them," given to each purchaser. GOODS GUARANTEED AS REPRESENTED, OR MONEY REFUNDED.
 To INTRODUCE, I will deliver one of the above-described Spraying Outfits and Illustrated Books to any express station in Canada for \$6.50, express paid. Send for Illustrated and Descriptive Catalogue.

W. H. VANTASSEL, Sole Agent for Canada.
 P.O. Box 113, Belleville, Ont.



SPRAY YOUR FRUIT TREES AND VINES

Wormy Fruit and Leaf Blight of Apples, Pears, Cherries, GRAPES AND POTATO ROT, Plum Curculio prevented by using **EXCELSIOR SPRAYING**. PERFECT FRUIT ALWAYS SELLS AT GOOD PRICES. Catalogue showing all injurious insects to Fruits mailed free. Large stock of Fruit Trees, Vines, and Berry Plants at Bottom Prices. Address **W.M. STAHL, Quincy, Ill.**

Mr. Adam Beck, London, Ont., is advertising for 40 well-bred saddle horses and 30 high-stepping harness horses. Parties having stock of this class to sell should write Mr. Beck, who will pay good prices for suitable horses. See his advertisement.

The second Provincial Spring Stallion Show will be held in Toronto, March 9 and 10. See the advertisement in this issue. Send to Mr. Henry Wade, Toronto, for a copy of the prize list. Prizes are offered for Clydesdales, Shires, Suffolk Punches, Standard-bred horses, Hackneys, Carriage and Coach horses, and Thoroughbreds.

G. Ballachey, Brantford, advertises Improved Yorkshires.

Mr. James Graham, Port Perry, whose auction was advertised in the December issue, wrote under date of January 16th as follows:—"Our sale came off on a very wet day. We sold 24 head of young things; only 5 cows were offered. They made an average of \$80. We have all our best cattle yet. They are in very good shape. This has been a very fine winter here. Up to the present we have not had any sleighing, and only enough now to scratch along."

F. W. Stone, Guelph, Ont., advertises in this issue 30 Hereford Bulls.

Levi Pike, of Leunst Hill, Ont., reports the following sales: 1 boar, Berwick Weldrick, Langstaff, Ont.; 1 boar, John Weldrick, Newtonbrook, Ont.; 1 boar, James Devins, Woodbridge, Ont.; 1 sow, Nathan Day, Powles' Corners, Ont.; 1 boar and sow, J. A. Kowale, St. Catharines, Ont.; 1 boar, W. T. Taylor, Pontypool, Ont. In conclusion, he writes—"My stock is doing well. In conjunction with Yorkshires I am breeding Berkshires and Suffolk pigs; am booking orders for spring pigs.

Shorthorn bulls fit for service are advertised by S. B. Gorwill, Ballymote, Ont. Write him for particulars.

H. Bollert, of the Maple Grove Stock Farm, Cassel, Ont., writes—"My Holsteins are doing very well this winter. Some excellent calves were dropped lately—all heifers. The stock bull Colanthus Abbecker is developing into a grand animal of the true dairy type, and if all goes well, will take a lot of heading next fall. The demand for high class stock is very good, and sales are very satisfactory, but I am too busy at present to report them. Thank our friends and patrons for their patronage to the late firm, and hope they will extend the same to me now. I will say that only the highest class of Holsteins will be imported and bred by me at Maple Grove."

C. S. Gillespie, Campbellford, Ont., advertises for sale the Hambletonian stallion W. E. Gladstone. See his advertisement.

Messrs. Thomas Douglas & Sons, of Maple Bank Stock Farm, Strathroy, have sold their fine roan yearling bull Roy Vincent—13423. He has gone to head Mr. Peter Toll's herd of Shorthorns. He is sired by Imp. Mariner—27299—dam Fashion Duchess—9087—winner of 1st prize at West Middlesex Fall Show. Roy Vincent is a dark roan, thick, blocky bull, and tipped the beam at 1,720 lbs. at 23 months old. He won 2nd prize at the Western Fair, and 1st in his class and medal for best bull of any age in the West Middlesex Fall Fair, 1891. We shall be much surprised if he does not give a good account of himself in the future.

In this issue L. L. Dorsey, Middleton, Ky., offers for sale some of his notes. One very nice mare was sold to him some time ago and found his horses fine and stylish—just such as take well in Canada. A full review of his stud will appear in an early number.

James Hunter has just returned from Dakota, where his brother Robert settled years ago, and where he died 1st of December, 1891. Mr. Hunter is very pleased with Dakota, and says his brother had a fine lot of Clydes on his farm near Carrington, Foster Co., and a lot of Grade Shorthorns, also a herd in Montana. Mr. Hunter has taken charge of the estate. His herd at Alma, Ont., now numbers 66 head of pure-bred Shorthorns, among which are 14 fine young bulls and a number of good females, which he offers for sale at right prices. He also has 14 pure-bred Clydesdales, including Master Lyndock (imp). See his ad. in this issue.

Mr. Wm. Linton, Aurora, proposes selling by auction in March next 15 to 20 imported Shorthorn cows and heifers, and twelve bulls and bull calves. The quality and breeding of Mr. Linton's cattle is too well known to need any words of commendation from us.

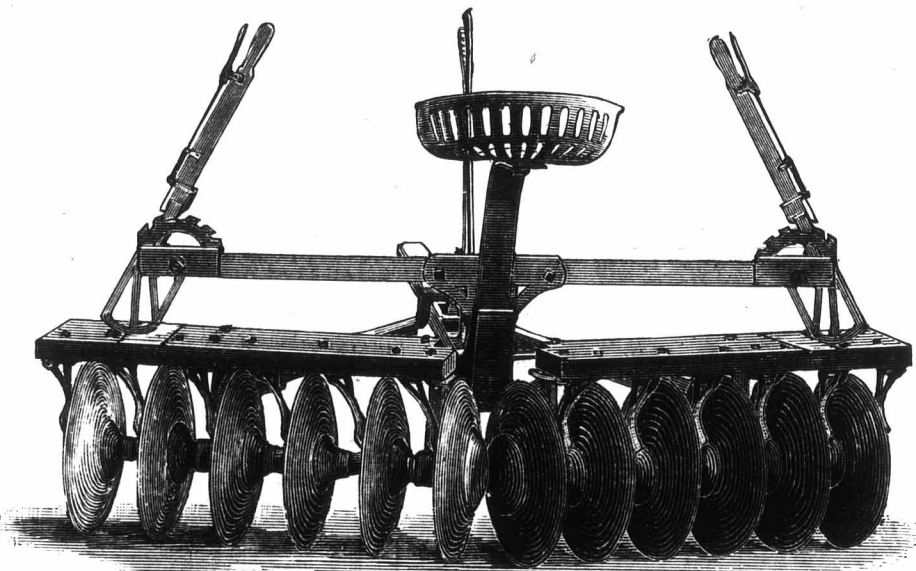
The following prizes were won by Mr. Robert Ness, Howick, P. Q., at Ottawa and Montreal Exhibitions, 1891:—At Montreal—1st, Prince of Eastfield, aged Clydesdales; 1st, Barocco, three-year-olds; 1st, Lifeguard, two-year-olds, and sweepstakes with Lifeguard; 1st and diploma, French Norman Coachers, as three-year-olds (the diploma for best of any age); 1st, English Coachers, in Coaching Class under 16.2. At Ottawa—1st, Prince of Eastfield, aged; 2nd, Barocco, three-year-olds; 1st, Lifeguard, 2-year-olds; 1st and diploma, French Coachers; 2nd, English Coachers, as Carriage. In a recent letter he writes—"My stock of horses are wintering well and in the best of health. We are receiving a good many enquiries with a view to purchasing."

H. H. Spencer, Brooklyn, Ont., offers in this issue a three-year-old Clydesdale stallion, which weighs 1,900 lbs. He has a finely formed body; his action is splendid, as good as many Hackneys. He is well bred, and should prove a good sire.

Messrs. Smith Bros., Hay, Ont., report that since their return from London and Toronto Shows their cattle have gone into winter quarters in a most satisfactory condition. They now have a number of thickly-fleshed young bulls by Prince Albert that are now ready for sale. The young calves that have come to date are exceedingly promising. Among the sales are two heifers—one a Matilda, by Prince Albert, and Rose of Maple Lodge, bred by Jas. S. Smith, Maple Lodge. The above have gone to Mr. Colquhoun, of Exeter. They also report that their herd now numbers over thirty head, among which are included such well-known "trick-shank" females as Village Blossoms, heading which is the dam of the celebrated bull Young Abbotsburn, that created such a sensation in the show rings of the West the last two seasons. The Queen of Beauty and Duchess of Glaston families have also a goodly number of representations in the herd.

Mr. J. C. Edwards, M. P., Rockland, Ont., sends us the following concerning his fine herd of Shorthorns:—"The Pine Grove herd of Shorthorns went into their comfortable winter quarters in good, thriving condition, and are gaining in flesh rapidly on a ration composed principally of pulped roots and straw, sprinkled with a very small quantity of bran and oil-cake. With an abundance of roots and the best of ensilage, we naturally look for our stock to come out in the spring in fine shape. With our show contingent, numbering 15 head, at the Montreal and Ottawa Exhibitions we were remarkably successful, gaining 19 first prizes, 1 second, 43 thirds, 4 diplomas and gold medal for the best herd at the Central Canada Fair. Cows calves up to date number 10, bull calves largely predominating, with as many more due to calve between now and spring. We have recently selected to use on the young things of our herd the dark roan bull calf Champion of Canada, bred by that veteran importer and breeder, Jas. I. Davidson, Balsam; got by Hospodar (51499); dam Rosamond, by Royal Bampton (1536); E. dam Ros bull, by Sir Christopher (2286); E. G. dam Bloom 1st, by Diplomat (1781), &c. Among recent sales are 3 bull calves to the New Brunswick Government, two of which were 1st and 3rd prize-winners at the Montreal Exhibition; 2 bull calves to the Chambly Agricultural Society, Que.; 1 bull calf, 1st as a yearling at Montreal, to W. S. Ward, Birehton, Que.; 1 bull calf to Chas. Robinson, Lacolle, Que.; 1 heifer calf to Damas Parizeau, Montreal, and 2 heifer calves to J. B. Masten, Lacolle, Que. The demand for good young bulls has been good. We still have left a few good ones fit for service, also some choice yearling heifers and heifer calves that we will dispose of at reasonable figures."

- - - ALWAYS - - -
THE BEST, BUT BETTER THAN EVER FOR 1892!



"NEW MODEL" DISC HARROW, No. 50, IS IN IT!

OUR No. 50 IS THE BEST FOR THE FOLLOWING REASONS:

- 1—It is the only disc harrow that can be made RIGID or FLEXIBLE at the will of the driver.
- 2—It is the only disc harrow that will cultivate to the bottom of a furrow, and also work over a ridge.
- 3—It is the only disc harrow that can be made to work level.
- 4—It is the only disc harrow so made that the driver can allow one disc gang to raise and pass over obstructions.
- 5—It is the only disc harrow that draws from the axle, and consequently the lightest draught harrow.
- 6—It is the only disc harrow made with bumpers that takes all friction off of journal boxes.
- 7—It is the only disc harrow in which the weight of the driver is equally distributed.
- 8—It is the only disc harrow that can be put together or taken apart without hammer or wrench.
- 9—It is the only disc harrow that has patent automatic self-acting cleaners, that will keep the discs clean in all kinds of soil without any attention from the driver.
- 10—It is the only disc harrow with seat so arranged that there is no weight on the horses' necks.
- 11—It is the only disc harrow in which all the faults of other disc harrows are entirely overcome.

Everybody that sees it likes it. Farmers will regret it if they place their orders without first seeing this harrow. Agents and dealers will make a great mistake if they do not secure the sale of this harrow. Write at once for Descriptive Circulars. Territory is being taken up very rapidly. Address—

J. F. MILLAR & SON
MORRISBURG, ONTARIO.

We also manufacture Stevens' Patent All-Steel Arch-Frame Spring-Tooth Harrows, Warrior Mowers, Steel Plows, Land Rollers, Etc. 314-a

SECTIONAL VIEW OF WHITE SELF-CONTAINED RETURN TUBE BOILER,
SHOWING DRY PIPE.



This style of boiler is used with all our threshing engines, enabling our customers to produce abundance of steam with long, rough, cheap wood. We utilize water space surrounding and at back end of fire box in connection with our improved internal straw burner.

Manufactured only by **GEORGE WHITE & SONS, London, Ont.**

MANITOBA THE GREAT GRAIN AND CATTLE PROVINCE HAS WITHIN ITS BORDERS HOMES FOR ALL!

Manitoba is making rapid progress, as shown by the fact that in four years the area under crop has more than doubled.

In 1887 there was under crop 663,764 acres.
In 1891 there was under crop 1,349,781 acres.

Increase, - - - - 686,017 acres.

These figures are more eloquent than words, and indicate clearly the wonderful development taking place. NOT A BOOM, but certain and healthy growth

HORSES, CATTLE AND SHEEP

Thrive wonderfully on the nutritious grasses of the prairie, and MIXED FARMING is now engaged in all over the Province. There are still

FREE HOMESTEADS in some parts of Manitoba.

CHEAP RAILROAD LANDS—\$3.00 to \$10.00 per acre. Ten years to pay for them.

IMPROVED FARMS for sale or leasing, from private individuals and corporations, at low prices, and on easy terms.

NOW IS THE TIME to obtain a home in this wonderfully fertile Province. Population is moving in rapidly, and land is annually increasing in value. In all parts of Manitoba there are now

GOOD MARKETS, RAILROADS, CHURCHES & SCHOOLS,
AND MOST OF THE COMFORTS OF AN OLD SETTLED COUNTRY.

Investment of Capital. There are very good openings in many parts for the investment of capital in manufactures and other commercial enterprises.

For the latest information, new books, maps, etc., (all free) write to

HON. THOS. GREENWAY,

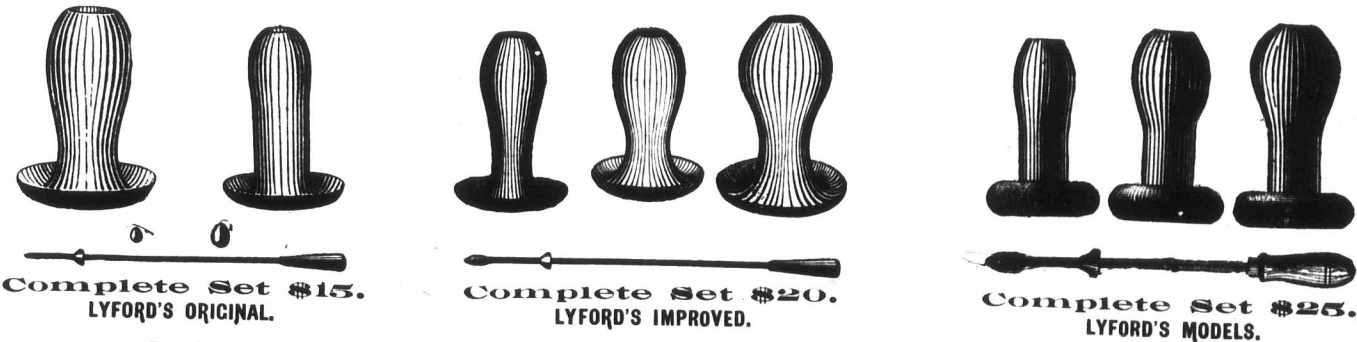
Minister of Agriculture and Immigration,
WINNIPEG, MANITOBA.

Or to

THE MANITOBA IMMIGRATION AGENCY,

No. 30 York Street, TORONTO.

311-f-0



IMPREGNATORS AND DILATORS FOR BARREN MARES.

Book of forty pages on Barren Mares and Sterility of Stallions with treatment; containing five colored plates of Generative Organs and two on surgical devices, sent post-paid \$1. Goods will not be sent unless money accompanies order. For pamphlets and particulars address

313-c-0M

C. C. LYFORD, Minneapolis, Minn.

LAND FOR EVERYBODY.

FREE GRANTS OF GOVERNMENT LAND.

CHEAP RAILWAY LANDS FOR SALE ON EASY TERMS.

GOOD SOIL!

PURE WATER!

AMPLE FUEL!

The construction of the Calgary & Edmonton Railway, and the Qu'Appelle, Long Lake and Saskatchewan Ry. has opened up for settlement two new districts of magnificent farming land, viz., that between the North and South Saskatchewan Rivers, and that between Calgary and Red Deer. Full information concerning these districts, maps, pamphlets, etc., free. Apply to

OSLER, HAMMOND & NANTON,

LAND OFFICE, 381 Main Street, WINNIPEG.

Calgary and Edmonton Railway, Qu'Appelle, Long Lake and Saskatchewan Railway Company.

309-y-0M

ADVERTISE IN THE ADVOCATE.

SAP BUCKETS!

Perhaps a little early, but none too early in the season for the wise ones to get their supplies ready for making maple syrup. This year we offer a better sap bucket than ever before—a heavy, tinplate bucket, holding eight quarts, with wire around the top and properly soldered. Its great superiority lies in the quality of tinplate. The price is \$10 per 100 pails, put on board the cars at Hamilton free. The quality of tinplate cannot be described in an advertisement. These buckets must be seen to be judged. Try a sample 100. We have large quantities, and can ship at a moment's notice. In connection with buckets we offer the well-known patent American sap spile or spout. This is a small iron spile driven tightly into a 1/4-inch auger hole in the maple tree. The sap bucket hangs on this spile. On no account can a bucket upset when hung on one of these spiles. A sudden thaw has no effect on the equilibrium of the bucket, as it does not touch the ground. The spiles so simplify the work of collecting sap that all should have them. Price of spiles, \$1 per 100. A sample spile will be mailed free to any who request it. Half-inch auger bit, by mail, 25 cents.

BY MAIL, we prepaying the postage, we can send you the following seasonable articles:—Pruning saw, 50c.; Pruning knife (folding), 50c.; pruning knife (stiff blade), 40c.; pruning scissors, 60c.; x-cut saw drag-tooth gauge, 10c.

OR BY EXPRESS, buyers paying express charges, long tree pruner, 6 feet, 80c.; 8 feet, 90c.; 10 feet, \$1; heavy tree-pruning shears (3 feet long), \$1.35. For \$2 we offer the best fruit-tree sprinkler ever made. It throws a spray or single stream over any ordinary fruit tree. Price of our famous "Stanley Blade" lance-tooth saws, 5 feet, \$2.50; 5 1/2 feet, \$2.75; 6 feet, \$3; patent handles, 25c. per pair extra.

BARN PLANS—For \$1 we will mail you full working plan, drawn to a scale, of a first-class modern farm barn. The size of plan is 24x36 inches. The drawing is by a first-class architect of large experience, and the plan shows all the very latest improvements in bank-barn building, gives the working details of every part, shows size of all timbers, gives front view, end views, back view, cross sections, floor plans of stables, root house, silo, threshing floor, mows, etc., and is complete in every particular. These plans should be owned by every farmer, mechanic and amateur architect in Canada. Mailed in cardboard cover, postage paid to any P.O. in Canada, on receipt of \$1. Send for catalogue of our goods.

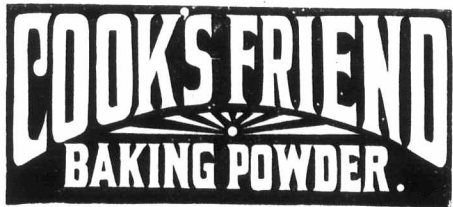
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Herbageum has the reputation of being the premier Animal Spice. It secures pure and invigorating blood; it strengthens digestion and helps assimilation. Cows yield more, purer, and richer milk from the same food. Fresh "whey" or skim milk fed with Herbageum raises calves and pigs as well as pure milk. Horses out of condition are rapidly restored to vigor and efficiency, and are protected from "Epizoo," Colts and calves fed Herbageum will improve all winter. Fed to one half of a litter of pigs they will grow much faster than the others. Hens will lay in winter as well as in summer. Small feeds make it cheap to the feeder. Thousands of business men from sea to sea report their customers testify that it pays to feed Herbageum. Enquire for it of General Merchants, Druggists, Grocers and feed stores. They have it or can order it for you. **BEAVER MFG. CO.,** 312-c-OM Galt, Ontario.

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If you want thoroughly good and healthy Baking Powder, into which no injurious ingredient is ever permitted to enter.

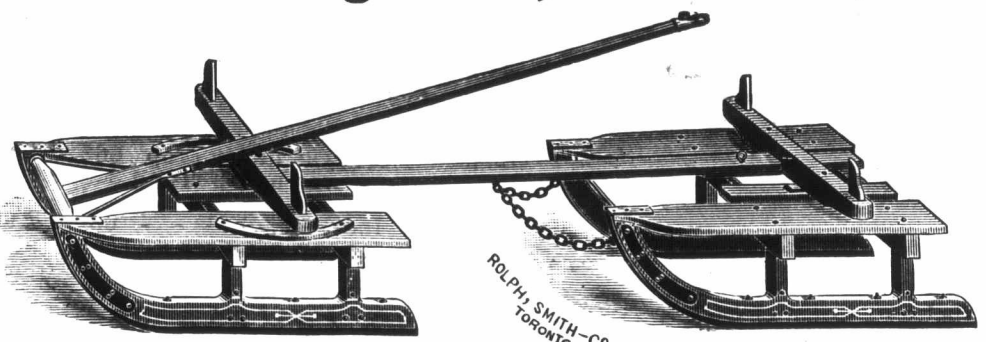
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Any size of arm or width of tire. The Studebaker Arm and Truss Rod used on all Wagons. We purchase them from the South Bend factory, and we have not had a broken arm reported to us this season. Write for prices.

WE WON'T BE UNDERSOLD.

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It is Cheaper than Shingles.
Water Proof and Fire Proof.

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RAPIDLY TAKING THE PLACE OF SHINGLES.

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HAMILTON MICA ROOFING CO.

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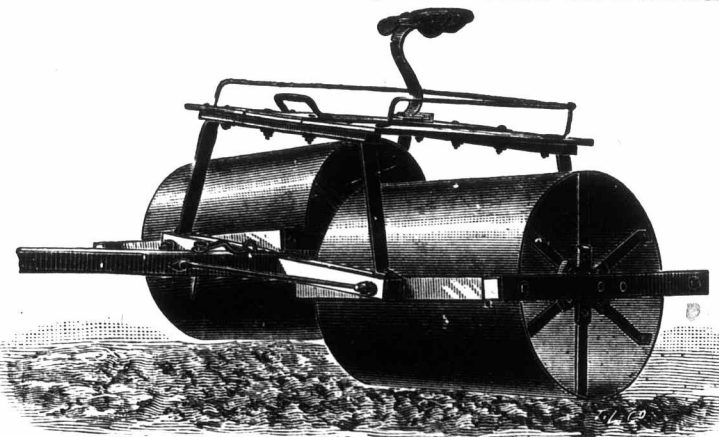
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Its points of advantage are too many to enumerate. Some of them are:



The bearings are the only wearing parts and are guaranteed to last from ten to fifteen years, and can be replaced at a nominal cost.

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