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THE FARMER'S ADVOCATE

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

VOL. XXXVI. WINNIPEG. JANUARY 21, 1901. MANITOBA. No 518

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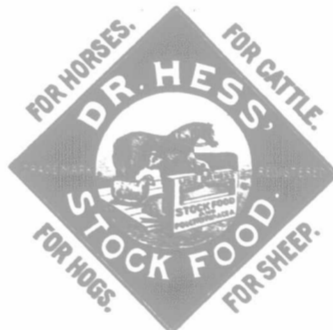
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VOL. XXXVI.

WINNIPEG, MAN., AND LONDON, ONT., JANUARY 21, 1901.

No. 518

The Call for a Railway Commission.

The communication from the vigorous pen of Mr. John McMillan, for many years representative of the south riding of Huron County, Ont., in the Dominion Parliament, which appears elsewhere in this issue, we commend to the careful study of our readers and all interested in the problem of freight rates. Both as a parliamentarian and an extensive shipper over Canadian railways, both east and west, and as an exporter to Great Britain, he has had special opportunities for acquiring first-hand information upon the subject of transportation, which he has supplemented by a careful study into what has been accomplished elsewhere in the effort to regulate freight rates in the interests of the people. He makes out probably the best case we have yet seen for an efficient railway commission in Canada: first by presenting evidence to show the imperative need for such a remedy, and, in the next place, by indicating that there is good ground to believe that the means proposed will be to a very large extent effective. The time has certainly come when measures must be taken on behalf of the people of Canada, who have contributed so enormously toward the construction of railways, to prevent them from being discriminated against in favor of foreign shippers and foreign consumers, as has been and is still being done, for example, in favor of Western States produce. These discriminations have become in reality a heavy and intolerable tax upon the Canadian agriculturist, and for this reason we gladly give space to Mr. McMillan's able and informing letter. We should be glad to hear from others upon this important question, as it will assuredly demand attention at the forthcoming session of the new Canadian Parliament.

The Horse Breeding Industry.

The horse-breeding business of the present day is rapidly adjusting itself to new conditions. The surplus stock of a few years ago is fairly well worked off, and those who are now breeding and rearing horses are recognizing more than ever before that animals for special lines of usefulness are the only ones it will pay to produce. The search for remounts that occurred throughout the horse-breeding sections of Canada last year revealed the fact that it is only of the lighter class that there is a supply in excess of the demand. The little road stock, of no particular character, from trotting, pacing or running sires, have not been picked up for export because they filled no particular field of usefulness, but for sound, active stock, of suitable weight and activity for the army, good prices have been realized. In fact, it is being felt that we are on the verge of a shortage of suitable army horses, and to meet this it has been recommended to establish a Government ranch and remount depot in our Canadian Northwest, organized and operated by the Remount Department of the British Army, the British and Canadian Governments being asked to co-operate to put it into operation. This scheme has been mooted as a result of Lord Wolseley's repeated remark that the mounted infantry force must be greatly increased in order to keep pace with the requirements of modern warfare.

Such a recommendation indicates that there is a broad field for horse-breeding being developed. The stamp of horse needed for military purposes is much after the type of the English hunter, with short legs, compact form, good shoulders, back,

ribs and loins. Good weights are also necessary, and the more breeding the better. Horses of this class will pay to raise, and will sell for their full value for years to come. The plainer ones, of moderate quality, will not bring as much as the better class having higher degrees of staying power, such as strength, speed and endurance.

Besides the useful road horse, the high-class harness horse and the jumper, all of which are in demand, and will be selected from among the remount stock raised, there is the draft horse that is safe to produce and is always a seller if sound. Weight and soundness are of chief importance, and when these are combined with quality and good fitting we have a high-priced horse. It was only a few weeks ago that five geldings and one mare from Waterloo Co., Ont., sold in Chicago for three thousand dollars. These were winners in a keen international competition; but this sale goes to show that it pays to produce the best. A few years ago they would have brought little more than half the amount, as all horse values have risen. For instance, during the year ending June 30th, 1897, there were 813,670 horses sold in Ontario for \$2,700,479, whereas in the twelve months preceding June 30th, 1899, 615,524 horses brought \$3,204,006—198,146 horses less, while the total value was \$503,527 more, or a difference of about \$20 per head—an extraordinary advance in prices in two years. Nor is this advance likely to cease at an early date, as the material from which to rear good horses is not at command. This is true especially of mares, while in many sections there is a dearth of first-rate sires. It is true that many draft stallions are being imported, but the low service fee that can be collected from the average farmer who rears one or two foals does not warrant importers in bringing many of the best class of horses. Some are blemished, others have outstanding weak points, and again there are among them unsure foal-getters, so that with our best efforts we cannot hope to soon have on hand an overproduction of really good horses. It therefore behooves every horse-breeder to make the very best use of his material on hand in order to get the most out of it. The foals and young horses should be well fed and cared for, the in-foal mare should be suitably nourished and given the most healthful conditions possible, and the stallion owner should winter his horse so as to have him in best vigor by the early spring months. A certain amount of roughing it is as important as good food and comfortable quarters, while the question of ventilation, and, in fact, all sanitation, should be duly attended to. Since the best methods of breeding and rearing first-class horse stock is too little understood, we invite correspondence from horsemen who have had success in producing vigorous foals and rearing them up to be good mature horses.

The Work of a Forestry Association.

In view of the series of meetings about to be held throughout Manitoba and the West, under the direction of Mr. Stewart, head of the new Canadian Forestry Association, the following extracts of the twenty-fifth annual meeting of the Minnesota Forestry Association, furnished us by the Secretary, Mr. Geo. W. Strand, will be read with interest.

After the business session, a joint meeting was held with the Horticultural Society, Pres. J. H. Cross taking the chair. A number of interesting papers were presented, but lack of time did not permit a discussion on them.

President Cross, in his opening remarks, outlined the work of the Association, past and present, and its relation to the various other forestry divisions now carried on by the State. "Its province is to be enthusiastic and even radical by nature. It must be continued as the organized popular power back of advanced forestry move-

ment. As such, it must keep the people informed, prod them when they become indifferent, and appeal to them in order to awaken an earnest interest, which will react in the law-making power."

"A Lumberman's View of the Forestry Situation" was ably given by Col. W. P. Allen, of St. Paul. Among the facts brought out, he stated that the lumberman has little to apologize for, as he has done his share towards the building up of the country and the advancement of civilization. The barriers in the way of the rapid inauguration of a rational forestry system in this country will be mainly owing to the large area to be protected and difficulty of obtaining funds to meet same. Also in inducing the Government to attempt a general system of forest management. Forest areas that are left untouched are reasonably safe from destructive fires, and the Government should withdraw all its timber lands from the market. Private parties cannot hold same to advantage, whereas the Government can, and should, for the benefit of future generations, thereby regulating the sale and use of timber. Our conditions differ much from those of Germany, but their spirit is correct, and we hope to learn much by studying their methods.

Prof. S. B. Green, who spent some months the past season studying "Forestry Conditions of Germany" and other places, gave a very instructive talk on the above topic. It was not without considerable self-sacrifice that this system was established, for at one time Germany's forests suffered abuse nearly as much as ours. The value of timber, system of protection and taxation were touched upon. Although we cannot expect to adopt these methods, we can obtain many good suggestions from this source to base upon. A notable fact was, that good roads and good forests accompanied each other. Lands not suited for agricultural purposes are planted to forests. Our native jack pine is looked upon by them as one of their most valuable trees for the sandy plains, and seed of same commands a good price. It is a characteristic of the Germans not to lay out money in land unless it pays, and their foresight in the forest plantations is no exception to this rule.

Dr. Leo M. Crofts, of Minneapolis, brought out many facts in his talk on the "Wisdom of the National Park Movement" to emphasize its necessity. Aside from the practical value such a park would be as a forest reserve and the protection of our water supply, no other region presents as many points in its favor on the aesthetic side. Its diversity, beauty and accessibility as a health resort commends itself, and for these reasons something must be done at once if it is to be preserved as such.

Conditions have changed much since the time of the Association's organization, and now, instead of the main issue being the encouragement of prairie planting, it is merging into that great question which demands the best of statesmanship to handle—that of the protection and reforestation of our native timber tracts. Although much good can yet be done in all of these lines, the latter will be pre-eminent in the assertion of its rights.

After the lapse of a quarter of a century since its organization, those interested in the solution of the forestry problems have some reason to feel encouraged by its recent outlook.

The general agitation of these matters and growth of sentiment in their favor would seem to indicate that we have come to that point where the people see the necessity and should demand that forestry receive its due consideration and place. Our legislative bodies must devote more time to their consideration—they must view them fairly and with increasing favor.

The past year has brought out many facts to substantiate these statements, making a year indicative of much coming good to the forestry problems which confront Minnesota.

Chief Veterinary Inspector.

REPLY TO "ENQUIRER."—The Chief Veterinary Inspector for Canada is Dr. Duncan McEachran, Montreal, an attache of the Dominion Department of Agriculture.

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The Need for an Efficient Canadian Railway Commission.

To the Editor FARMER'S ADVOCATE:

Having given a good deal of consideration to the question of the Government of the Dominion of Canada appointing a railway and canal commission, for the purpose of regulating the carrying trade of the Dominion, I will contribute my quota to the discussion. It may be said that the Railway Committee of the Privy Council has the power, now, to regulate the business as far as preventing excessive rates from being imposed or to prevent the railways from discriminating against either localities or individuals is concerned. Clause 16, sub-section 9, of the Railway Act states that no tolls shall be levied or taken until approved by the Governor-in-Council, nor until after two weekly publications in the *Canada Gazette* of the by-law establishing such tolls, and of the order-in-council approving thereof.

Notwithstanding this clause of the Railway Act, we know that grossly extravagant rates are charged, barefaced discrimination is daily practised by our railway corporations without submitting their tariff of rates to the Railway Committee of the Privy Council, and one of the grievances which Canadians suffer under is the higher rates paid upon farm produce shipped from Canada than is charged for American produce over the same railways.

According to a circular issued by the Freight Association of the United States, and a circular issued by the Canadian Joint Freight Association, I will give a few statements of the cost of carrying goods of as near the same class as possible.

In Canada, freight is divided into ten classes, while in the United States there are only six classes of freight. The American rates quoted only apply to railways east of the Mississippi river. West of the river the classification is different. The statements are for 100 pounds for a number of miles:

Per 100 lbs.	For miles.	In the United States.	In Canada.
100	10	21 cents	28 cents
100	20	17 "	24 "
100	30	14 "	21 "
100	40	12 "	18 "
100	50	10 "	16 "
100	60	9 "	15 "
100	70	8 "	14 "
100	80	7 "	13 "
100	90	6 "	12 "
100	100	5 "	11 "

As to discriminations against different points:

Two years ago any one shipping live stock from Chicago to St. John could get a rate of 38 cents per 100 lbs., while the same rate was charged from London (in Ontario) to the same point. A farmer of my acquaintance shipped a carload of cattle from the County of Huron to North Bay, a distance of 190 miles, and paid \$190 freight. The same farmer shipped another carload from the same station in Ontario to 100 miles west of Chicago, a greater distance by about 250 miles, and paid only \$60 freight.

In shipping apples to the British market, I paid 5 cents per barrel more from Seaforth than was paid from either Wingham or Ingersoll. This amounted to \$9 per car. There are two railways at both Wingham and Ingersoll, and only one at Seaforth. I showed in the House of Commons in Canada on the 3rd of May, 1890, the following cases of discrimination by Canadian railways: From Owen Sound to Toronto, the rate on Canadian oats was 3½ cents per bushel, while the rate on American oats, including elevator and handling, was only 2½ cents, both carried over the same line of road. The grain rate from Chicago to Peterboro, by Owen Sound, is 6½ cents, while from Chatham to Peterboro the Canadian farmer must pay 9½ cents. American corn from Owen Sound to Ottawa was 6½ cents, while Canadian corn from Chatham to Ottawa was 10½ cents. At Teeswater, American corn is delivered from Owen Sound for 4½ cents per bushel, while the rate on Canadian corn from Chatham is 7½ cents. The rate on American corn from Owen Sound to Peterboro is 4½ cents per bushel—a strong contrast to the rate of 9½ cents charged between Chatham and Peterboro. These are discriminations that a railway commission could deal with.

In the fall of 1888 the railway companies enforced heavier rates upon oil coming from the United States into Canada. Here are some of the old rates as compared with some of the new ones enforced:

	Old Rate Per 100 lbs.	New Rate Per 100 lbs.
From Toronto to Brampton.....	14 cents	22½ cents
" " Southampton.....	20 "	30½ "
" " Port Hope.....	20 "	28½ "
" " Orangeville.....	17 "	27½ "
" " Peterboro.....	23 "	34 "
" " Warton.....	24 "	40½ "
" " Brockville.....	25 "	47 "

Here are increases in some instances of over 50%, and yet I will guarantee that the railway companies did not lay their increased rates before the Railway Committee of the Privy Council, as the Railway Act requires should be done.

These increases in the carrying rates on coal oil would have become general all over Canada had it not been that one or two independent railway companies would not join the combine.

Here are rates that were charged by the railways after the change took place. On coal oil, from Hamilton, in barrels less than car lots:

	On Canadian oil.	On American oil.
Hamilton to Ingersoll.....	18 cents	27 cents
" " Woodstock.....	17 "	25½ "
" " Berlin.....	18 "	27 "
" " Harrisburg.....	11 "	21 "
" " Copetown.....	9 "	19½ "
" " Dunville.....	15 "	24½ "
" " Beeton.....	20 "	28½ "
" " Cookstown.....	21 "	30 "

The Canadian oil belonged entirely to the Standard Oil Co., at whose dictation our Canadian railway companies raised the carrying rates upon oil, and the statement was made at Ottawa that the railway companies had to hand over the increased rates to the Standard Oil Co. The American oil belonged to a few independent oil companies that were sending oil from the United States to Canada.

One of my sons went to Prince Albert, N. W. T., bought three carloads of cattle and shipped them to Montreal. He paid \$197 freight per car. While in Prince Albert he sold a carload of apples to go from Seaforth to Prince Albert, thirty miles of a shorter haul than from Prince Albert to Montreal, and yet the freight on the car of apples was \$518. I might go on and repeat a number of other instances of extravagant charge by the railways, but I will only mention a few instances as brought up at the late meeting of the Fruit Growers' Association at Brantford.

A Mr. Bunting, of St. Catharines, a fruit-grower, is reported to have said: "Speaking of express rates, these rates are altogether too high; the rate from Niagara to Montreal is 80 cents per 100 lbs. This figures out to \$160 per car. During the height of the fruit season, four or five cars is shipped by express daily from our station to Montreal. Even four cars at the rate quoted would figure up to \$640."

Mr. Alex. McNeil is reported to have said: "We are discriminated against both as fruit-growers and Canadians. As fruit-growers, the C. P. R. will bring wheat from Manitoba to the east for from \$10 to \$50 per car. The cars which bring the wheat from Manitoba east are very largely hauled back empty, but when we ask for one of those cars for the purpose of shipping our grapes to the prairies, we are told that the charge per car is nearly \$100. The grapes are really easier handled than the wheat; they are loaded and unloaded more quickly than the grain; their carriage does not invite so much risk as is involved in the case of wheat, and still we are charged double the price for the grape car that is paid for the wheat car."

"I live, as you know, close to the City of Detroit. I can put grapes on board a car at Detroit and ship them to Chicago, a distance of 175 miles, for 19 cents per cwt., but if I put them on board at Windsor and ship to London, Ontario, a distance of about 100 miles, the rate is 32 cents per cwt."

Mr. A. Boulton, the big Prince Edward County fruit packer, is reported to have said: "If you drop freight off at Halifax it will cost you 4 cents more per cwt. than it would cost had you sent it on to Liverpool." Just here it is reported that Hudson Usher a short time ago said: "It cost more to ship a barrel of cement from Queenston to Winnipeg than from Liverpool to Winnipeg." In a newspaper of Dec. 26th last, it is reported that the G. T. R. is actually charging less for hauling grain and flour from Chicago to Portland than from Ontario points.

As to the carrying rates charged in the United States, I am fully convinced that they are lower than in Canada, and that it is in a great measure owing to the influence of railway commissions. Mr. Sifton, in a speech a little over a year ago, is reported to have said that it cost the farmers of Canada at least ten per cent. more than it cost the farmers of the United States to get their produce to the seaboard.

The following is taken from a pamphlet on changes on rates charged by railroads in the United States:

In 1871 the rate per ton per mile in cents was 1.884 cts.

In 1878 the rate per ton per mile in cents was 1.296 cts.

In 1885 it was 1.011 cts.; in 1890, 0.941 cts.; in 1897 it was 0.800 cts.

A reduction in 26 years of 57% on the freight rates in the United States.

On the Michigan Central the rates charged per ton per mile in 1874 was 1.728 cts.; in 1897 it was reduced to 0.615 cts., a reduction of 66% in 23 years.

Cattle rates from Chicago to New York in 1883 were .40 cts per 100 lbs.; cattle rates from Chicago to New York in 1897 were .28 cts. per 100 lbs., a reduction of 30% in 14 years.

The following is taken from a pamphlet termed "Railway Nationalization," giving the average receipts per ton per mile from 1882 to 1896. I will give three periods: The average freight rates per ton per mile charged in the United States in cents and fractions of cents in 1882 was 1.24 cts.; in 1889 it was 0.97 cts.; in 1896 it was 0.80 cts. This shows a reduction of 34% in 14 years.

The above quotations show that great reductions have taken place in American railway freight rates, whereas, comparatively, there has been almost no reduction in Canadian freight rates, with the exception obtained from the C. P. R. by the Dominion Government through the arrangement made for the building of the Crow's Nest Pass Railway.

As to the benefit of railway commissions in the United States (the Illinois Railway Commission), Frederick Clark says: In 1880 there were 47 formal complaints, 25 for extortion, 13 for unjust discrimination, 6 for both, and 3 for other reasons. All these were settled by the commissioners. When the railways were decided against, they promptly responded to the decision of the commission. Such was the effect of the decision of the United States Supreme Court, which, this same year, affirmed the right of the Legislature of a State to regulate rates of freight and fare by means of its commission. In 1884 the number of cases was reduced to three for unjust discrimination. In 1895 there was no record of any complaint. The bulk of the traffic was interstate, and the question was raised, "Had a State the right to regulate traffic in the absence of federal legislation?" and the Federal Court decided that the State had not the right to regulate interstate traffic in the absence of Federal legislation.

The question was then asked, "What were the results which the Illinois Commission had accomplished?" Answer—It has been largely instrumental in reducing railway rates throughout the State. The railways were even benefited, as they gained in revenue from anti-discriminating clauses more than they lost from the prohibition of the greater charges in the shorter hauls.

Then it became necessary for Congress to appoint an Interstate Commission, and as there were over 30 States that had appointed commissions, a difficulty arose with the Interstate Commission in legislating not to interfere with the legislation in any of the States. If the Federal Government of the United States had full control of all the railways, as the Dominion Government in Canada has, there would not have been the same trouble in getting satisfactory results, as proven by the reports of the Illinois State Commission.

It has been said that the Railway Commission in Britain has not given satisfaction, and that the people of Britain are disappointed. The first bill appointing a railway commission in England was passed in 1873, and did not prove very satisfactory. The law of 1873 was amended by a bill passed in 1888, and again by another bill in 1894. In 1896 what is called the "Light Railway Act" was passed. I will give two or three cases settled:

A railway corporation charged a manufacturing firm (which had a siding) 13½d. for every ton of freight shunted. They considered the charge exorbitant and applied to the railway commission, who reduced the charge from 13½d. to 9d. per ton. This is a sample of the action of the commission.

In 1898, out of 103 cases taken before the commission, 23 were settled without being tried, and in 1899, out of 111 cases, 11 were settled without being tried.

In England it has been found that the checking and control of railway building is more effective than volumes of law regulations. No railway in

England can be built until the railway commission is fully satisfied that the road is a necessity.

One great evil that a railway commission in the United States has to contend with is too many roads. There are 21 competing lines between Chicago and New York, ranging from 912 to 1,376 miles in length.

As a result of too many competing lines from Chicago to New York, out of \$1,250,000 paid by passengers between New York and Chicago in 1898, the enormous sum of \$250,000 was spent on competing offices on Broadway alone, which shows the great waste of money and also the impossibility of a railway commission dealing efficiently with the fares charged, because each agent is said to be instructed to keep trade at all hazards.

There are 28 fast freight lines on the roads, with 20 offices in Chicago to fight for tonnage regardless of rates.

The above shows the necessity of a thorough investigation whether any new road to be built is an actual necessity to accommodate the trade of the country. Where existing lines are capable of doing all the business, it is a loss to have any more lines of railway.

Now, Mr. Editor, it has been contended on the floor of the House of Commons that the powers of the Railway Committee of the Privy Council, under the Railway Act, are very defective, and that should the Government appoint a railway commission with no greater powers than are possessed by the Railway Committee, the commission would not be a success. This being the case, it shows the necessity of the Government taking action at the earliest possible moment and passing a bill for the appointment of a railway commission, and it is certainly within the power of Parliament to give the commission full power to deal with all the different phases of the difficulties under which the people of Canada suffer.

One great reason for the failure of railway commissions in the United States has been the incompetence of many of the State commissioners, and their not having power to enforce the rates and classifications they arrived at; and also the books of the different railway companies not being kept on a uniform system. Railway commissions, to be effective, must be empowered to have the books of all the railways under their jurisdiction kept on a uniform system, and must have power to call for and examine the books of the different companies. They should have power to classify and to make schedules of rates, and, when the railways have had a fair opportunity to be heard, the decision of the commissioners should be considered as conclusive and binding upon all courts.

In 1890 we had in Canada 17,250 miles of railway in operation in the whole Dominion. The country has contributed over \$200,000,000 towards the building of our railroads, and yet we have no voice in regulating the rates that are charged, either directly or indirectly. I see, by the *Mail and Empire* newspaper, that what they term "chilled steel" agreements have been entered into lately to keep up railway rates. It is too bad, that after the people of Canada have contributed, through the Dominion and Provincial Governments and the municipalities, more than one-fourth of the actual cost of the railways, that even the Government is not consulted: neither are the passenger and freight rates submitted to the Railway Committee of the Privy Council.

The railway rates as arranged—especially for local rates—are sometimes higher than the goods could be hauled by team and lumber wagon, as evidenced by a Toronto firm that kept several teams of horses on the road from Toronto to Hamilton, and is reported to have saved 3 cents per 100 lbs. doing the work, rather than sending the goods by rail. It is reported in the *Globe* of Jan. 14th, 1901, that the C. P. R. charged \$6.00 per ton for carrying ore 50 miles. The statement is also made that merchants have transported goods from Winnipeg to Minnedosa, a distance of 125 miles, the cost of the men and teams being less than the railway charges.

While the local rates are based on the cost of hauling by team, the rate across the continent is adjusted according to the cost of vessel transportation around Cape Horn.

I see it is stated that the Minister of Railways has notified the secretary of the Manufacturers' Association that no change will be made in the freight rates until they are notified. But there is no word of consulting the farmers, who, in my opinion, are greater sufferers from extravagant charges and unjust discriminations by railway corporations than any other class in the commun-

ity. Heavy freight rates on either farm produce or animals and their products reduce the prices to the farmer; and exorbitant carrying rates charged on implements or goods of any description increase the cost to the farmer.

There are, in my opinion, only two ways of remedying the evils under which we suffer from the railway corporations:

1st. Government ownership of railways, which, I think, is out of the question at the present time.

2nd.—The appointment of an impartial and efficient railway commission having sufficient authority to deal with the evils now known to exist.

Let the Government appoint a commission of thoroughly competent, independent men, who will be independent of all railway corporations and free from Government influence, excepting in so far as sending in regular reports and receiving suggestions from the Railway Committee of the Privy Council is concerned.

JOHN McMILLAN.

Huron Co., Ont.

London Smithfield Show.

The English correspondent of the *Live Stock Journal*, Chicago, writes of the championship awards in the cattle classes at the above-named show in December last as follows:

The Smithfield Club show may be said to be the final court of appeal to which the owners of nearly the whole of the prizewinners at the other fat-stock shows send their animals, in the hope—vain though it may have been this year—that decisions of some considerable value may be obtained as to the relative merits of the respective winners at the various preceding shows. Unfortunately, the result is chaos. At Norwich we had for cham-

Our Scottish Letter.

A GLANCE BACKWARD.

This letter is a week or more behind time, but possibly it will not be regarded as altogether out of date. The old year and the old century are slowly dying, and ere this reaches the reader the last sands of the nineteenth century will have run out. Men had a hard fight about a twelve-month ago settling when the end of the century really came, but all tongues are hushed now, for with the first dawning of 1901 the twentieth century has certainly begun. It is no exaggeration to say that greater industrial agricultural progress was made during the nineteenth century than during the whole of the centuries preceding it in the history of this sad old world. At the beginning of the century our fathers were plowing land, sowing grain, reaping, threshing and grinding; making butter and cheese; working horses and cattle and breeding all kinds of live stock very much as all these operations were being carried on by their remote ancestors when Abraham and Lot grazed their flocks on the fertile plains of Siddim. The patriarchs would not be more astonished at the agricultural changes of the nineteenth century than would be Robert Bakewell himself, and certainly in the department of the application of mechanical ingenuity to agricultural affairs the progress has been immense.

The nineteenth century was born out of a century unsatisfactory in many respects, but not least in its ceaseless wars and almost interminable bloodshed. The nations were travailing in birth—they knew not what they bore, and least of all did the actors in the great drama of the eighteenth-century revolutions suppose that they were paving the way for a century whose greatest victories would be won in the realm of peace. The brain and

not the sword has been the dominating factor in the drama of the dying century, and the triumph of mind and heart over the materialistic is the resonant note in the swan-song of the era that fades into the past eternity. The question for the opening day is, which weapon shall dominate the years to come? Shall the twentieth century repeat the sad story of the eighteenth, or shall it witness the arrival of the time when swords and spears and the warrior's weapons shall give place to the implements of husbandry? If the omens of the dying year are to be the guide for the coming century, the lover of peace may tremble, for the nations are armed and arming, and the ancient empires of the old world are threatening to become the battlefield of the new. On the great plains of China there may yet be waged a conflict between the

powers of Europe and America, before which all previous wars have been but as the play of children. Yet, amidst it all, agriculture must flourish, men must be fed, seedtime and harvest will endure, and herds and flocks will yield their increase.

The great Smithfield show of this year, like all the agricultural events held in the capital which are dependent on what is called "society," had on it this year a kind of damper, and there was an absence of the eclat which usually attends the event. Not even the presence of H. R. H. the Prince of Wales, who does his best for all agricultural functions, could redeem the event from flatness. Society is in mourning, and cannot attend cattle shows. The closing year has been a disastrous one for the great English shows in this respect. The Royal made a loss on its York show of £3,400, and the Yorkshire Agricultural Society, which persisted in holding a show of its own in the county, although the Royal was there, has made a loss of £3,000 also, so that in Yorkshire alone the enormous sum of nearly £6,500 was lost on two great agricultural shows in 1900. Had but one been held, it is reasonable to suppose that it would have been a success. The holding of the county event has been an expensive experiment not likely to be repeated. But to return to Smithfield. Apart from the absence of "society," the show of 1900 was a very satisfactory event. The exhibition of stock was excellent, but trade was woefully slow, for which the abnormally mild weather was no doubt partly responsible. The championship for beef went to a Hereford, and a wonderful animal he is. No one challenged his right to win, and yet, at the same time, it cannot be said that the supreme honor went to the animal whose flesh would draw the highest price per pound in the market. The reserve was a beautiful cross-bred heifer bred by Mr. John Ross, Meikle Tarrel, Scotland, got by the Shorthorn bull, Ringleader, bred at Collynie, and out of a black Polled cow. She is a beauty in symmetry and levelness of flesh. Her beef



HIGHLAND CATTLE ON THEIR NATIVE HEATH.

would certainly sell for more money per pound than that of the Hereford.

In the sheep section the championship went to Suffolk wethers, a pen of great sheep very hard fed and deserving their position. Whether they, again, would sell for most per pound may be doubted also. In the championship for the Longwool sheep, an absurd decision was given: the trophy went to the cheapest mutton in the show—that of the Lincolns. The great sheep of the Lincoln pens are, as a breed, as valuable as any in England. This, however, is for export and crossing purposes, and at a fat-stock show that should not count. The mutton for which the butcher will pay the biggest price should win the day, and what that is is indisputable. The Blackface or Cheviot mutton commands the highest price in the London market. The carcass competition, or, as you express it, the block test, was extremely interesting. First prize in the wether hogg class went to a very fine piece of mutton from an old Norfolk Horned wether. This was a beautiful piece of meat, and it was interesting to compare it and the meat of the Suffolk, which has been created by crossing the Norfolk Horned with the Southdown. The championship for mutton in the block test went to a Devon Longwool lamb, an old English breed of sheep which gives good mutton, and the other first-prize winners were a Blackface mountain wether hogg, a cross Southdown-Suffolk lamb, which made the highest price in the auction, and the Norfolk Horned wether hogg.

The beef championship was awarded to a cross between the Aberdeen-Angus and the Hereford, and the other first prizes went to pure-bred Aberdeen-Angus beasts. The best example of baby beef in the show was the champion A.-A. He was 22 months 3 weeks 4 days old, and weighed 13 cwt. 3 qr. 7 lb. He was also breed champion at Edinburgh, and his feeder, Mr. George Bruce, Tochineal, Cullen, deserved credit for putting such an example of early maturity on the market. A notable fact about A.-A. cattle has come to light in Glasgow. A feeder in one of the States where these cattle are found sent a lot to Chicago Stock Yards, but was offered such a bad price that he shipped them to Glasgow. They cleared £3 a head here over the Chicago price after paying all expenses, and the feeder is continuing to ship very fine cattle of the same class to this city.

All hands are delighted to hear of the success of the Clydesdale geldings at the Chicago Horse Show, and it is hoped that it will give a fillip to the Clydesdale business in the United States. The horses which did so well are owned by Messrs. Peter Walker & Son, 105 Duke St., Liverpool, England, but the whole expense and risk of exhibiting them at Chicago was borne by Messrs. A. & W. Montgomery, Castle Douglas, from whom they were originally purchased by Messrs. Walker & Son. Both parties deserve the best thanks of breeders on both sides of the Atlantic for their enterprise.

Bacon Pigs.

Mr. George Valder contributes an article to the *Agricultural Gazette*, of New South Wales, in the course of which he says: "At one time the demand was for fat bacon, and store pigs were kept in lean condition until they were ten, twelve or even fifteen months old, then fed heavily with fattening foods until they reached a weight of 200 pounds to 300 pounds, and then were killed for bacon. The sides of bacon made from pigs fed in this manner generally showed a layer of fat of 6 inches to 7 inches in thickness.

"But now the taste has quite changed, and in breeding and feeding baconers we must aim at producing flesh rather than fat. The pig required by the bacon-curers must have great length between the hams and shoulders, the ribs should be long and deep, flank of good thickness, small in the head, light in the shoulders, hams square, deep and well covered down to the hocks; and, when dressed, the sides should show an even width of fat along the back of from 1 inch to 1½ inches. The meat must be streaky, not thin and poor, but firm, lean, fine in texture, and well flavored. Instead of pigs of the old small breeds of twelve to fifteen months old, the breeder now finds that the seven to eight months' pig of the large modern breeds pays best for market purposes.

"For the English market, preference is given to the Large Yorkshire, the Tamworth, and the Large Black, or crosses of the Tamworth with the Berkshire and Yorkshire. In this Colony, either the pure Berkshire or the Berkshire-Yorkshire seem to be the favorites with the curers. The pure Tamworth is not much liked, but the cross of this breed with either the Berkshire or Yorkshire is rapidly coming to the front, and at the present time Tamworth boars for crossing are greatly in demand. Some curers favor the Poland-China, but most of the pigs of this breed that I have seen show too large a proportion of fat for our requirements. Of the Yorkshires, the middle breed is most in demand here; but in England and Canada the large breed is considered to be by far the best baconer.

"The reason why the long sides are so much in request is that the 'middles' always bring a much higher price than either the 'ham end' or 'fore end.' And of course, the longer the side, the greater the proportion of middle."

Fertile or Infertile Eggs, Which?

To the Editor FARMER'S ADVOCATE:

I have seen and heard a great deal of discussion in reference to the keeping qualities of fertile or infertile eggs. Now, as the proof of the pudding is in the eating, I made up my mind that the best way to prove the right and wrong of the matter would be to put the theory to the test. Now was my chance—I had a hen wanting to sit. I took three infertile eggs, and with ten fertile eggs placed them under the hen. For fear there might be a mistake, I took care and marked the three eggs. After the hen had set the allotted time, I found the fertile eggs had turned to ten chicks, the infertile still remaining eggs. I examined them carefully by the aid of a lamp, and found them as clear as the day they were placed under the hen. Not satisfied with the test, I reset the hen and placed under her the same three eggs, and they remained under her for three weeks longer. At the end of six weeks I examined them, and found them as clear as the first day I put them under the hen. Still I was not satisfied. The eggs were carried to the house, and the goodwife was requested to cook them, with the request to be careful to break them in a dish before putting in pan to cook, as they had been under a hen. Soon breakfast was called. What about those three eggs? One had a streak of blood through it, the other two were all right. Well! Whew!! My resolution nearly failed me. I must confess, Mr. Editor, to a sickly feeling in the pit of my stomach. Well, men have died in the search for truth, and no scientific research has been made without a sacrifice. After fortifying myself with such thoughts as the above, and with a determination to do or die, I closed my eyes and bolted the first mouthful of egg that had been under a hen for six weeks. I must confess that though the thought was unpalatable, and the egg was eaten with the expectation of losing it and breakfast, I found it (the egg) was as pleasant as any fresh-laid egg I had ever eaten, so I ate the other without any further squeamishness. I would like to know if any of the ADVOCATE'S readers have ever tried a fertile egg in the same way and could say that it tasted fresh. We know the results, from sad experience, of handling fertile eggs that have been under a hen for three weeks when it failed to turn to a chick. It is not necessary to stop and cook or taste them, the smell is enough.

One thing I am convinced of is that infertile eggs will keep when fertile will not. We do not pack eggs in the summer and fall, as we endeavor to have our hens lay all winter, but if I did I would separate my hens from the male birds and pack only infertile eggs.

Eastern Assiniboia.

J. B. POWELL.

Cows -- Good and Bad.

Dairy farmers frequently commit the mistake of supposing that so long as the cow is a good milker it is of very little consequence to them how her milk is disposed of. As illustrative of the fallacy of reasoning in this way, a very suggestive case is cited by Mr. E. Matthews, in the course of an article which he contributed to the "Agricultural Handbook and Diary" for 1901. Mr. Matthews in this instance selects for his purpose two Shorthorn cows which were entered for the milk and butter tests brought of in connection with the last Tring show. One of these cows gave 47 lbs. of milk, and this milk, upon being converted into butter, produced 1 lb. 6 ozs.—or at the rate of 1 lb. to every 33 lbs. of milk. The other cow gave 44 lbs. 14 ozs. of milk, which made 2 lbs. 12 ozs. of butter, thus showing a butter ratio of 1 lb. to a little over 16 lbs. of milk. Estimating the value of the milk at 7d. per gallon, the butter 1s. 3d. per lb., and the separated milk at 1d. per gallon, the amounts obtainable from the disposal of the produce of these cows would work out as under:—

No. 1 — 47 lbs. of milk — gallons at 7d.	s. d.
1 lb. 6 ozs. butter at 1s. 3d.	2 9
4 gallons of separated milk at 1d.	4
Showing the loss per day by converting the milk into butter of 1	0 8
No. 2 — 44 lbs. 14 ozs. of milk — 4½ gallons at 7d.	s. d.
2 lbs. 12 ozs. of butter at 1s. 3d.	3 5
4 gallons of separated milk at 1d.	4
Showing a gain by converting the milk into butter of 1	1 4

—Farmer's Gazette.

Live Institute Meetings.

Experimental Farm Superintendent Bedford writes us, under recent date, as follows:— "I have just returned from another trip among the Institutes. Bradwardine meeting was, as usual, well attended and full of interest. It is not necessary to have a question drawer at their meetings. They kept firing them in until long after the regular closing hour. I also spoke at the Oak Lake meeting. I have a large number of applications for addresses, but will have to stay at home for a while, as we are shipping our exhibits for Glasgow and also preparing grain to be distributed from Ottawa."

Some Facts Concerning the Cheese Industry.

EXPORTS OF CHEESE FROM THE UNITED STATES AND CANADA.

Year.	Ratio U. S. to Canada.	United States. Pounds.	Canada. Pounds.
1870	10:1	60,000,000	6,000,000
1880	—	127,000,000	10,000,000
1890	1:1	95,000,000	91,250,000
1895	—	60,000,000	116,000,000
1898	1:3	16,000,000	150,000,000

The exports of cheese from the United States have fallen off, for several reasons, the principal one of which was that our manufacturers endeavored to make a cheap cheese, and after a time a spurious one known as "filled cheese." The effect of the manufacture of filled cheese was most degrading, doing immense harm to both foreign and home demand. Wisconsin took up the matter, and passed a law prohibiting the manufacture of filled cheese. The United States followed this example in spirit by placing a tax of two cents per pound on all filled cheese, thus practically prohibiting its manufacture.

While many American cheesemakers were studying to produce cheap cheese or filled cheese, the Canadian cheesemakers continued to educate themselves, and allowed nothing but pure goods to be made. In Canada there are many dairy schools, supported by the Provincial Governments, and many traveling dairy instructors are employed. The little Province of Quebec, for example, spends twice as much money annually on dairy instruction as does the State of Wisconsin. She not only supports a dairy school, at larger expense than does Wisconsin, but employs summer traveling teachers to give instruction in the factories. Where Wisconsin employs two traveling cheese instructors in the summer time (through the State Dairy-men's Association), Quebec employs twenty-eight traveling cheese instructors doing similar work. The Dominion Government also pays a bonus to factories and storage houses equipped according to Government specifications.

While America's cheese exports have fallen from a maximum of over \$10,000,000 annually to less than \$4,000,000, Canada's exports have gradually increased until they now amount to over \$16,000,000 annually.

Because of the demands of the great cities for fresh milk, the manufacture of cheese is falling off in the State of New York, which was once the great producer of that article. Wisconsin has now the opportunity of taking up the business as New York drops it and greatly extending it. There is almost no limit to the amount of cheese which can be produced in our State if we will but direct our attention to the production of goods desired by the consumers. Wisconsin now manufactures about \$6,000,000 worth of cheese annually. We could easily double or quadruple the production. American Swiss cheese is largely made in Green County and the district round about. Something like 10,000,000 pounds of Swiss cheese is annually shipped from Green County. Brick cheese is largely made in Dodge County. In the other portions of the State, notably the lake-shore region north of Milwaukee, the Cheddar variety of cheese prevails.

Northern Wisconsin is destined to be the great cheese district of the United States, if the industry be properly fostered. The mild summer temperature, the abundant cool waters and the presence of grasses and clovers everywhere on lands when cleared of forests offer a combination for the production of cheese which is not equalled elsewhere in our whole country.

Dairying is one of the safest and most abiding of all agricultural industries, and every good citizen interested in the upbuilding of our commonwealth should use his influence at all times in its behalf.—*Wisconsin Experiment Station.*

Can Pigs be Finished Too Young?

There is a medium in everything. This would appear to apply as well to the feeding of young pigs for bacon production as to most other matters. In some experiments which have been in progress in Canada during the past season it has been found that in order to obtain the finest quality of bacon, not only must certain foods be used, but the animals producing it must be allowed to reach a certain stage of maturity before they are slaughtered. If, through the use of specially suitable food rations, the animals are forced in growth at such a rate that they become fit for slaughtering at a particularly early age—say five or six months—it has been found that the quality of the bacon produced is somewhat soft in texture and in other ways defective in some of the points usually regarded as essential to a high-class cure. No definite conclusions can yet be drawn from the experiments which are being carried out on this subject, but so far, the results go to show that it may be found advisable to deprecate the production of baconers at an age of from six to seven months instead of the nine or ten months which has heretofore been the common practice. Here at home the aim of breeders always is to have their pigs in fit condition for the bacon curer at the age of between seven and eight months, and we have never heard any complaints on the score of "softness" because of marketing the pigs at such an age.—*Agricultural Gazette, Ireland.*

The Winnipeg Grain Exchange.

A RESUME OF THE WESTERN GRAIN TRADE.

The thirteenth annual meeting of the Winnipeg Grain Exchange was held on January 9th. The retiring President, William Martin, and Vice-President C. A. Young were re-elected, as was also the Secretary-Treasurer, C. N. Bell.

To the Council of the Exchange were elected G. R. Crowe, John Love, Thomas Thompson, G. V. Hastings, W. L. Parrish, E. O'Reilly, Fred Philipps, T. B. Baker, Robert Muir, C. Tilt.

Arbitration Committee—R. Muir, E. O'Reilly, C. Tilt, W. L. Parrish, G. R. Crowe, C. A. Young, and S. Spink.

Appeal Board—S. P. Clark, Thomas Thompson, F. Philipps, N. Bawlf, F. W. Thompson, T. T. W. Brady, C. N. Bell.

The President, Mr. William Martin, who is also president of the Northern Elevator Co. and proprietor of Hope Farm, St. Jean, where, in addition to grain-growing on an extensive scale, he maintains at a high standard of quality one of the largest herds of pure-bred Galloway cattle in Canada, delivered a most interesting and instructive address, reviewing the past history of the grain trade of Western Canada, and forecasting the future. This address will prove of interest and value to every farmer, and therefore we take pleasure in reproducing it.

PRESIDENT'S ADDRESS.

Looking back over the records of the Exchange, I find that none of my predecessors have neglected to observe this rule, and I therefore must consider it my bounden duty to victimize you in my turn. At this time, however, we have special reason to take note of bygone events, for not only are we at the beginning of a new year, but we are entering on a new century. The opening of the twentieth century will give, in all walks of life, a stimulus to fresh effort, and in this young country we may in the near future expect to see changes that will dim into insignificance the developments of the past.

The Winnipeg Grain Exchange, the medium of trade for the chief productions of a country large enough to be an empire, may well anticipate early in this new century a rise to importance second to none in Canada, but lest with growing greatness it may come to forget its more inconspicuous days, I would take advantage of this occasion, when we are standing, as it were, on the watershed of time, to refer shortly to some of the conditions in the early history of the trade before mentioning more recent events of the past year.

It is just twelve years since our first president (now His Honor the Lieutenant-Governor of Manitoba) gave the first annual address in the old Exchange offices in the City Hall basement. The incorporation of the Exchange took place in November, 1887, starting with a membership of ten, with an entrance fee of \$15, but at the end of the first official year, fourteen months after organization, the membership had reached one hundred, nearly as many as we now have, with the fee of \$100. Out of these first 100 members, only thirty-seven remain on our lists to-day, and the change in this respect only corresponds to the many changes through which we have passed in other ways. Members who have joined us since we have settled down in our present comfortable buildings, can hardly realize the condition of the trade when we had our offices all over town, and had to wend our way to the old basement office, there to manufacture gossip while we waited for the hourly market quotations upon which we depended to tell us how the outside world was going. We did not even dream in those days of private wires and continuous market quotations, and to emphasize the change in this respect, I think a good many of the old members would have thought such things almost bordering on the wicked. It would have been hard to explain to our members in those early days how selling wind in Chicago could have anything to do with handling Manitoba wheat. It would be almost as difficult to convince the trade here to-day that our crop could be handled without the elaborate system that hinges the fluctuations of value of Manitoba wheat upon the unceasing changes in Chicago.

From the conditions as they are now, it seems a far cry to the time when the Ontario miller was supreme as the price maker for our wheat, and yet it is only a few years since we looked to Toronto as the great market for our crop. That Toronto was master of the situation is very plainly shown by the fact that during the first year of the Exchange, no standards were made for Manitoba wheat, because those recommended by the Winnipeg Grain Exchange and Board of Trade did not meet with the approval of the Toronto representatives. We, however, have changed all that. We still have Eastern representatives on our Standards Board, but they are in a minority, and I do not think that any of these gentlemen will consider me lacking in respect for them when I say that I think the time has now come when the West knows enough about the management of its own product to do all the work required in making such crop standards as are necessary.

HIGHEST WHEAT YIELD IN AMERICA.

Comparing the crop area of the Province in the first year of the Exchange history with that of the past year, the difference is very marked, though I am sorry to say a corresponding difference is not found in the crop itself. In 1887 there were sown in wheat 432,131 acres, and the yield that year was

12,350,000 bushels—the banner yield of the Province.

Last year the acreage seeded to wheat was nearly 1,800,000, and I regret to say the yield is closely pressed by 1887. Thus we have between the first year in which we record these crop statistics and the last a meeting of two extremes, but we have in between a splendid average, an average, in fact, which it is no exaggeration to say is the highest average wheat yield on the American continent. Manitoba has twice since 1887 raised wheat crops from a largely increased acreage that almost equal the great yield of thirty bushels an acre in that year; and if the law of nature holds good this year, we will raise a wheat crop that will astonish ourselves. There ought to be in wheat in Manitoba this spring over 2,000,000 acres, and in the Territories, 400,000 acres more, so that a fifty-million crop is no flight of fancy.

The misfortune that seemed to attend the labors of our farmers last year may not have been an unmixed evil. The drought that stunted all growth may have been but a protest of nature against a too lavish drain on her resources which compelled a compulsory fallowing of the soil, but the rain which followed, while it seemed to increase the farmers' burdens, has certainly put the soil into most magnificent condition for a crop next season, and I think we will see another record broken in the crop returns of 1901.

HANDLING THE CROP.

Corresponding with the advances made in the production of the great staple of the country, has been the improvement in the methods in all ways of handling it. I need not speak of the elevator system; that has been referred to so often, and even by its opponents in such flattering terms, as being the best in the world, that I will pass it over. From the handling of the crop from the farmer's wagon through the elevator to the track, it is a natural step to mention the improvement in the railroad freight equipment, and there has been as much improvement in the style of wheat car and facility of freight movement as there has been in the increased luxury in passenger travel.

But it is when we leave the railroad and get down to Lake Superior that we mark the greatest advance in methods of moving the crop. We look now in vain for the old wooden schooner that used to carry from Fort William what we called a cargo. Twenty thousand bushels formed quite a good-sized vessel load not so many years ago, but its memory even is now forgotten in these days when steamers that carry a quarter of a million bushels can be loaded at our lake port.

In connection with shipping, I may note a change that affects us more as Canadians than as Manitobans. I refer to the rise and decline of Buffalo as the great lake terminal to which our shipments were consigned. A few years ago it seemed as if Buffalo and New York would be the successors of Toronto as the markets that commanded our grain trade, and for one or two years they did certainly occupy first place. The alarm, however, with which Eastern Canada saw the harvest of the Northwest being diverted to the Buffalo route stirred up our railway companies, and resulted in such a lively bid for this traffic, which they felt naturally belonged to them, that the past two years have seen the Georgian Bay and Canadian Atlantic ports get a lion's share of our trade.

The Government, too, has been liberal in its efforts to secure for Canada the full advantage of the great waterways with which nature has endowed our country, and the deepening of our canal system to a point that will favor free passage to vessels drawing 16 feet will do much to secure to Montreal the full advantage to which its situation as guardian of the greatest waterway on the continent entitles it.

The improvement of the Montreal and other all-Canadian routes is of as much interest to us in the West as to those who are more closely associated with the Eastern seaports, and we can appreciate the efforts of successive governments to establish and properly equip Canadian terminals from which our grain can be shipped all the year round. Much has been done for Montreal and St. John, and now we see the ancient port of Quebec rousing itself to partake in the handling of the fruits of the young West. I am glad to see that active steps are now being taken to form a Canadian Lloyd's, which will remove the greatest barrier to successful grain shipment by the St. Lawrence route. It is hard for us here to understand why marine insurance companies should so long have discriminated by increased premiums against that route, but it is to be hoped that the St. Lawrence Lloyd's will now be able to put our grain shipments in that respect on an equal footing with those from American ports, and then there can be no doubt but the natural advantages in other ways will secure a trade that will establish Canadian rivals to the greatest seaports of the United States.

The question of transportation bids fair to continue to be the most important one in the coming years. We have seen in the past twelve years the cost of carrying wheat from the prairie to the seaboard reduced nearly 50 per cent. A reduction of nearly 33 per cent. on the present rates in railroad freights to the lake ports alone is promised us in the near future as almost a certainty, and this, with a further reduction, owing to the continued improvement in lake carriers and the further enlargement of our canal system, will bring us nearer the European markets than would have lately been

thought possible even by those who dreamed that prosperity for Manitoba would be reached only by way of Hudson's Bay.

THE GRAIN ACT.

In the affairs that more closely concern the Winnipeg Grain Exchange and the Manitoba grain trade, the past year has been the milestone of most important events. This room was the scene early in the year of the closing stages of the investigation by a royal commission into the methods under which the grain trade was conducted. The lamented death of the head of that commission, Judge Senkler, was a shock not only to his older friends, but to those of us whose brief acquaintance with him had led us to admire the impartiality which he displayed in the conduct of the investigation. He died, I may say, almost at his post, a victim to his too conscientious discharge of his labors. The result of the royal commission has been the Grain Act, which now regulates the trade. It was a tribute to the importance of the grain trade, and to the growth of our Exchange, that the principles under which we have worked for these past years should have been codified in the grain bill and marked by the approval of the Government. For, after all, there is nothing very new in the Act. I find in the first Council's report, twelve years ago, a recommendation for the adoption of one of its principal features, the appointment of Government weighmasters at Fort William, and many other of its provisions are simply the results worked out by the trade through years of experience. While some of the provisions of the Act bear somewhat severely on the trade, grain dealers generally have accepted the situation and have endeavored loyally to work in strict accord with both the letter and the spirit of the law. For the first time they have a tribunal to appeal to, where they may have vicious and ignorant charges of dishonesty and ill-treatment investigated by an impartial Government official, sworn to properly perform his duty without fear or favor.

FEWER GRADES.

Another important matter that occurred during the year was the recommendation made by the Standards Board and this Exchange to have a reduction made in the number of grades for the classification of our wheat. We have altogether too many grades at present, and I believe an arrangement of those to correspond with the number and specifications of Duluth grades would largely benefit the farmers and simplify the handling of our crop. I trust that the recommendations as forwarded to the Minister of Inland Revenue will meet with the approval of the Government, and that the next crop may pass out of the country under a classification more befitting the requirements of the twentieth century.

The change of the headquarters of the Manitoba inspection division from Fort William to Winnipeg, in the second year of its existence, has proved most satisfactory to the trade, and none, I think, would wish a reversion to the old system. One further improvement in connection with this would be the making of Winnipeg an order point or terminal division in the handling of our wheat. This would be of great benefit to Winnipeg, as it would be the means of creating a sample market here similar to that of Minneapolis, and it is to be hoped that the Exchange will keep this in view, now that the Canadian Pacific Railway Co. propose to greatly enlarge their yards here, which will enable them more easily to give this concession to the trade.

The wheat crop of the past year, though small in quantity, and in spite of the unprecedented difficulties under which it was grown and harvested, seems to have been able to retain the reputation of Manitoba wheat for producing the first quality of flour, as we have the almost unanimous testimony of millers that it has made a flour equal to that obtained from the best quality of the previous season's No. 1 hard.

USE ONLY SEED OF BEST QUALITY.

At the same time, we cannot ignore the fact that a great deal of the crop was badly damaged, and it will be of the utmost importance for the farmers to see that what they have retained for seed is of the best quality. It is a great deal cheaper to spend 50 cents more per acre and get good seed, than to economize on this and run chances of spoiling next season's crop. The reputation of Manitoba hard wheat as the best in the world is so great that other provinces and other countries are now attempting to get a supply by cheaper methods than buying from the original producer. Ontario and British Columbia have both tried to meet the demand for Manitoba Red Fyfe wheat by growing it themselves, and now I see that the farmers of New South Wales have been following the same lead. They may take the seed, but they cannot take the soil and the climate. Manitoba and the Northwest stand alone in their monopoly of the production of this king of cereals.

OTHER GRAINS.

The high price of flax this past season will tend to make a larger acreage of this seed sown than usual. We fortunately have a wider market for this crop now than in former years, and while the recent very high prices may not prevail another year, farmers are certain to obtain a satisfactory return until our production of flax reaches much larger figures than it has done in recent years. It is a paying crop to grow in this country and well suited to our climate.

The production of barley has fallen off very

much of recent years, but I think farmers would find it worth while to devote more attention to this grain than they have been doing. For really high-grade barley there is a good demand, and it is one of the easiest of all our crops to grow.

EDMONTON PRODUCES FINEST OATS IN CANADA.

For the production of oats, we have long looked to the territory of the M. & N.-W. railway, but the new settlements in the Edmonton district bid fair to become the finest oat producers of the Northwest, while the quality is something never before attained anywhere in Canada.

It is a question of great importance to farmers in Manitoba to obtain a change of seed oats if they are to continue to grow this crop successfully, and nowhere can better oats be got than from the district just mentioned.

In regard to the building of railroads, the past year has not been so fruitful as some of the previous ones, yet the extension of the Pipestone branch of the Canadian Pacific, and the Swan River branch of the Canadian Northern, not to mention the territory opened up by the latter road to the east of us, are sufficient to show us that railroad enterprise is not asleep in regard to the requirements of the country. It is less than twenty years ago since I, then a visitor to Canada, was told in Ontario that the Northwest was a country of blizzards, unfit for settlement by white men. It then possessed only a single line of railway, and that an extension of a foreign corporation; to-day we see it a network of lines, with three great systems competing for its traffic. We have seen regions opened up to successful settlement that even by those who thought they knew the country were considered unfit for cultivation, and now we know that districts like those of Edmonton and Dauphin, situated as yet in the farthest north, are second to none in the Northwest as number one grain producers.

Seeing what has been done, and what remains to do, we cannot longer regard with indifference the belief so eloquently expressed by the late Consul Taylor, that the great wheat-growing area of the continent lies north of the 49th parallel.

Cost of Feeding Light vs. Heavy Milkers.

At a milking trial held in connection with one of the recent summer shows in England the cow which was awarded the first prize produced over 6 gallons of milk in the day, and her milk was so rich in quality that it produced over 4 pounds of butter. At the same show there were on exhibition other cows of the same breed and practically the same size and weight which produced only 2 to 3 gallons of milk and barely 1 pound of butter. It would be a mistake to suppose that the feeding of one of the last named would cost as much as the six-gallon cow, because, as a rule, the better milker a cow is the more food will she consume. It is only natural that a cow yielding 6 gallons of milk should require a much more liberal food ration than one producing less than half that quantity. The difference in the cost of feeding the cows in question would not, however, be anything like so marked as their relative milk yields would suggest. In practice it is found that cows producing only 1½ gallons to 2 gallons—that is, 6 to 8 quarts—per day cost as much to keep as those yielding double that quantity. It is only when calculations of this kind are gone into that the difference between good and bad milkers can be properly estimated. At least occasional tests should be made of the milk which all the cows in a herd are producing, and a similar test should be made of the food which they are consuming, and if it is found, as it is to be feared will be only too frequently the case, that the animals are not giving a sufficient return for the cost of the food which they are disposing of, they should be got rid of at the first opportunity, and their places filled by others capable of giving a better return for the food. — *Farmer's Gazette.*

Manitoba Dairy Association.

The annual meeting of the Manitoba Dairy Association will be held February 22nd. The Friday immediately following the live-stock conventions. Prof. J. W. Robertson will deliver an address on the "Progress of Dairying in Canada." J. A. Ruddick will speak on dairying in New Zealand, and cheese and butter making in Manitoba.

The President of the Association, Mr. William Grassick, will speak on "The Management of Creameries on the Cream-gathering Plan." Mr. Moran, Cheese Instructor in the Government Dairy School, will read a paper on "Cheesemaking in Eastern Manitoba," and there will be addresses from Mr. C. Marker, of Calgary, and W. J. Mitchell, of Regina, Superintendents of Government Creameries in the Territories; Mr. C. A. Murray, Dairy Superintendent of Manitoba, and Mr. S. A. Bedford, of the Experimental Farm, Brandon.

Institute Meetings.

A series of Institute meetings is announced for the end of January and first half of February. The speakers are being sent in pairs, and are as follows: — A. P. Stevenson and K. J. Ring, S. A. Bedford and J. J. Brown, Wm. Kitson and S. J. Thompson (P. V. S.), R. G. O'Malley and Dr. M. Young, Andrew Graham and S. Benson, Jas. Glennie, B. Waugh, Dairy Superintendent Murray, J. D. Moran and F. Latta.

The Annual Meeting of the Minnesota Horticultural Society.

[Contributed for the FARMER'S ADVOCATE by A. P. Stevenson, Nelson, the representative from Manitoba.]

The 34th annual meeting of the Minnesota Horticultural Society opened on the 4th of Dec., 1900, in Minneapolis. The meeting goes on record as one of the most profitable in the history of the Association. When President Pendergast called the meeting to order, ninety-two members took their seats. The President made the address of welcome, but it was remarked that this had already been done by those who had so beautifully decorated the room with evergreens, and made the platform a bank of palms.

The following delegates, representing other societies, were present: C. L. Watrons, Iowa; Prof. E. S. Goff, Wisconsin; A. P. Stevenson, Western Horticultural Society, Man; Prof. C. B. Waldron, North Dakota, and Prof. N. E. Hansen, South Dakota.

But a brief review can be given of the many excellent papers read. In a paper on subsoiling as a preparation for fruit-growing, D. Secor said that drainage was needed, so that water should not stand on surface. Deep plowing should be the rule, in order to retain moisture. If ground were dry in fall, there would be great danger of root-killing. Mr. Yahnke claimed subsoiling was not necessary on very light or very heavy soil; said late fall was the best time to subsoil.

In treating "Winter protection for small fruit," G. D. Taylor said that the long winters in this latitude were the greatest enemies of small fruit, yet many farmers attempt to raise small fruit without proper protection in winter. He advised a mulching of straw.

A paper which brought out much discussion was that on "Propagating new varieties of tree fruits from seed," by C. G. Patten, Charles City, Iowa. Mr. Patten showed that the horticulturist has peculiar difficulties in propagating new varieties of tree fruits, but he considered that new varieties could be produced only by selecting parent plants that are distinct variations. Prof. N. E. Hansen, of South Dakota Agricultural College, read a paper on "Plant Breeding," and gave an account of the experiments he has made with 15,000 or 20,000 plants in breeding new varieties. He said excess of food produces variations. This principle has been tested by Mr. Hansen with excellent results. He also spoke strongly in favor of "Pyrus Baccata" as a hardy stock on which to grow the apple, especially for extreme locations. Grown on this stock, future orchard trees would certainly be dwarfed, but this would be a benefit in Northwest prairie regions.

"Growing evergreen trees from seed" was the subject of a paper by C. Wedge, of Albert Lea. He said to raise evergreen trees from seed is one of the most difficult tasks of the horticulturist. Except cedar, all seeds should be sown in spring in airy location. Sow broadcast, cover to depth of half an inch by sifting on fine sandy soil. The great enemy to evergreen-growing from seed is damping off; no remedy known yet for this fungous trouble. Mrs. Henry F. Brown, who was to have read a paper on "The National Flower," was not able to be present, but a letter from her was read. She suggested maize as the national emblem. Several suggestions were made, and the discussion was waxing warm, when a venerable member in a front seat remarked that he reckoned a certain local miller's "Best" was about the best flour made. An illustrated address by Prof. Green on "My impressions in Europe" was highly appreciated. Mr. Green spent the past summer in Europe, and the illustrations shown were largely from photographs taken by himself.

During the year just past, three of the oldest members of the Association had died: J. H. Stevens, A. G. Wilcox, and Peter Gideon. It was, however, to the memory of the latter that the most affecting tributes were paid. Mr. Gideon was the originator of the Wealthy apple, now conceded to be the most toothsome of Minnesota large fruits. During the earlier years of his life, Mr. Gideon received little credit for his work, and it was not till some time before he died that his work was recognized. To perpetuate his memory, a resolution was introduced providing for the printing of a pamphlet containing his picture, a color sketch of the apple he originated, together with an account of his life and labors.

The Secretary's report showed the Society to be in a prosperous condition. The total receipts have amounted to \$2,586.18, and the disbursements to \$1,763.71, leaving a balance of \$782.44. The election of officers resulted in nearly all of the old officers being returned to office, W. W. Pendergast being again chosen president. A good feature of the meetings was the freedom with which those present discussed and criticized the points brought out by the speakers. The majority of the critics were practical men, and the questions were discussed from every conceivable point. From the great abundance of good things heard I glean the following: The most hardy of all large apples in the States is the "Hibernal." That the Transcendent crab-tree has yielded more fruit for the people of Minnesota than any other tree planted. That the "Wealthy" apple leads all other varieties in price and favor on the market in Minnesota. That the roots of Whitney's No. 20 are the hardiest of all large crabs or hybrids. That cottonwood trees are not a success for wind-breaks. That apple trees must be grown on hardier stocks, especially for Minne-

sota and Dakota planting. That all newly planted trees are benefited by mulching.

The exhibit of fruit was the best in the Society's history. It was composed largely of Minnesota seedlings, with a fair sprinkling of Russian varieties. The Wealthy bulked largely in the various exhibits; it is certainly the leading variety in Minnesota, but a number of other seedlings shown, such as the "Thompson Seedlings" and "Northwest Greening," are a close second. The show of grapes was good. The Concord appeared to be the leading variety.

For the first time in its history, the Society indulged in a banquet. It was deemed best at this time, when the most successful gathering of all was being held, to unite a social feature with the deliberations of the Society. The experiment was a success. Nearly all the members in attendance gathered at the banquet table, and a pleasant and profitable evening was spent. A. P. STEVENSON.

Apple Growing in Upper Red River Valley.

Professor Hoverstad, who is in charge of the Dakota Experiment Station at Crookston, in discussing the prospects of apple-growing in the Red River Valley, at a recent meeting of the Minnesota State Horticultural Society, said (as reported in the *Minnesota Horticulturist*): — "My experience in apple-tree growing in the Red River Valley is very limited, and I have had very few results as yet, excepting dead trees. There was a number of trees planted at the Experiment Station in Crookston in 1896 and some in 1897, and of those planted in 1896 there are none alive except a Hibernal. Out of the other trees I think I have left one of the Duchess and one of the Wealthy, and those are killed back badly and are not at all promising. The only tree that looks really well is a Patten's Greening. We planted three in 1897; one of them is dead, but the other two look exceptionally well, and this fall they are the best looking trees we have on the ground. They are in an exposed place, and receive no protection whatever. We have some low-growing green ash and cottonwoods on the south side, but on the north side there is no protection, and they are growing where there is a good deal of alkali in the soil, and where cottonwoods would not grow at all. Down on Mr. Solem's place he has done a great deal of work in growing apple trees, and the Arctic is the one most promising with him. So far, the orchard is not old enough to come into bearing, but the trees look very well and have stood the winter in good shape. Last winter, according to the reports of people who spent the winter there, they had a temperature of fifty degrees below. Now, if those trees could stand that amount of frost, it would certainly seem that they were perfectly hardy. However, there was one thing in their favor, we had a great deal of rain during the fall, so that the ground was very wet when it froze up, and that may have helped some, so the test was, perhaps, not so severe as if the soil had been dry. There are so many things to try that we cannot go into apple-growing at the present time. The Hyslop and Transcendent have been recommended. We planted six last year, and they all died."

Further on in the discussion, Mr. Hoverstad, in describing the location and soil of the farm, said: — "The land north and east, about twenty sections, used to be under water, and that water ran right across the Experiment Farm. The old farmers told me in former years they could have run a steamboat right across the present location of the farm. In the spring of '97 the whole farm was under water. It was all one lake, so that we are laboring under the disadvantages on that farm of having very poor drainage. The soil is a very heavy clay soil without any sand, and in some places there is a good deal of gumbo, and here and there over the farm there is a good deal of alkali; consequently we have a great deal to contend with in attempting to grow fruit."

Mr. Dartt, Owatonna, Minn., said: — "My theory is that orchards are killed out by drought, by drying out in summer and freezing dry in winter, and the main thing to have an orchard in good condition is to have moisture. I believe that good cultivation is the best thing in the world to retain moisture in the ground. If any doubt that, let them go into an orchard that is seeded down in dry weather and see if the grass has not pumped the moisture all out of the ground. If you look at an orchard that is well cultivated you will find more moisture; it holds it better. Another point: manuring makes the soil hold moisture better. Poor land is a great deal more likely to dry out, and the orchard needs the manure to help hold the moisture, so I would advise thorough cultivation. I would cultivate pretty much during the whole season, then I would mulch."

Another speaker gave his experience as follows: — "I do not want the trunk higher than two feet before it branches out. When farmers buy trees they want a tree with a nice high trunk—they want them so they can run a horse through the orchard. That is the worst thing for Minnesota. If a man sends me such trees, he must either take them back or have a lawsuit on his hands. I do not want to plant a tree older than two years. I have some Duchess trees on my place that are some twenty-eight years old; they take twenty feet of room on each side, and if you want to get the fruit you have got to crawl under, and those trees have not a bit of dead wood on them. My other trees are not quite as low as that, but wherever there is a tree with a high trunk it is sun-scalded."

Calf Feeding.

"The Rearing of Heifer Calves for the Dairy" was the subject of an address given at a recent meeting of the Northumberland Dairy Farmers' Society by Principal Lawrence, of the County Council School at Newton Rigg. The report of the address published in an Old Country exchange makes interesting reading. We reproduce what is applicable to calf feeding here as in England. As every one knows, upon the feeding of the calf its future usefulness depends in very large measure, whether it be as beef steer or dairy cow, and the cheapest way to feed the calf is to produce the most valuable animal. It is not so much the average farmer grudges as the time and attention required to have the calf make the most out of the food consumed.

Mr. Lawrence, in four years, had bred 86 calves, with the loss of but one. His experience, therefore, should be valuable. He said:—

"It was of the utmost importance to keep the different calves separate from each other until they were two months old, as many losses occurred among young calves through being allowed to run together and to suck each other. At Newton Rigg, a calf was taken to a pen away from the cowhouse as soon it was born, got a good rub down with straw, and was well bedded and covered with the same material. In the course of half an hour or so the calf was fed with about a pint of its mother's first milk at blood heat. No medicine was given, the first milk containing all that is necessary both for feeding and as an aperient. Afterwards the following rules of feeding were observed:

First week.—Its own mother's milk warm three times a day, commencing with about a pint and a half at a time, and increasing to two quarts on the fourth day.

Second week.—Two quarts of warm new milk, not necessarily its own mother's, three times a day.

Third week.—Two quarts of warm milk, half new and half skim or separated, three times a day, with a half pint of linseed soup to each quart of skim milk.

Fourth week.—Same as third, with a handful of sweet meadow hay to nibble at.

Fifth week.—Two and a half quarts of warm skim milk three times a day, a half-pint of linseed soup to each quart, and a little sweet meadow hay after morning and evening meals: to be continued, with gradually increasing quantities of hay, till the end of the eighth week.

Ninth week.—Omit the linseed soup, and after the midday milk give a single handful of broken linseed cake and a little pulped swedes; grass instead of swedes in summer; hay as before.

Twelfth week.—Omit midday milk, and give three-quarters pound of mixed linseed cake and crushed oats, and half a gallon of pulped swedes (grass in summer) at midday, continuing morning and evening skim milk and hay as before.

If necessary, milk may be entirely discontinued at five months old, and one pound a day of mixed linseed cake and crushed oats may be given to each calf, with increasing quantities of hay and roots, sliced or whole: but if skim milk be plentiful, it cannot be put to better use than giving the calves one or two drinks of it each day up to the age of eight or nine months.

To prepare linseed soup, put two pints of linseed to soak over night in four gallons of water, boil and stir the next day for half an hour, and five minutes before the boiling is finished add half a pound of flour (previously mixed with enough water to prevent it being lumpy) to counteract the laxative tendency of the linseed.

Side by side with linseed soup, cod-liver oil has been tried as a substitute for the removed cream, and it has answered admirably—quite as well as the boiled linseed. Where the cow's first milk is not available for newly-born calves, ordinary new milk may be made to closely resemble it by adding the white of an egg and a teaspoonful of castor oil previously whipped in a little warm water to about two quarts of the milk.

Fairplay Creamery's Creditable Work for 1900.

The annual statement of the Fairplay Creamery, Pilot Mound, Manitoba, which is one of the most successful in the Province, is certainly a most creditable one. The assets amount to \$3,136.51; liabilities, \$125.00. Total proceeds, \$17,891.14, of which \$13,412.62 was paid to patrons for cream. During the season there were 92,276 pounds of butter manufactured, which was sold at an average of 19.39 cts. per pound; the average cost for manufacturing being 1.65 cts. per pound. A comparative statement for each year since the creamery was established shows a steady increase in the output, an increase in the price obtained, and a yearly decrease in the cost of manufacturing. In detail it is as follows:

Year.	Lbs. Butter made.	Value of Butter.	Cost of Manufg.	Average Price.
1896	38,370	\$ 6,215.00	1.87	16.95
1897	49,831	8,736.72	3.00	17.55
1898	59,116	10,842.85	4.75	18.20
1899	68,313	12,548.88	4.67	18.36
1900	92,276	17,891.14	1.65	19.39

Scour in Pigs.

Scour in young pigs is of very common occurrence, and is frequently responsible for the loss of a large number of suckers or weanlings. The disorder arises from a variety of causes, but in the majority of cases it is traceable to some irregularity in the milk yielded by the sow by which the youngsters are being suckled. Whenever a bad attack of scour occurs among young pigs, one of the first things to be done is to change the food which is being given to the dam, and then to administer to the latter a dose of Epsom salts to which a little sulphur and a pinch of nitrate of potash is added. It is always much better to treat the youngsters through their dams in this manner than to dose them with medicine directly. In the case of larger animals—save when scour occurs shortly after weaning—the food should be changed and one or two tablespoonfuls of the following mixture should be given daily: prepared chalk, one ounce; powdered catechu, one-half ounce; powdered opium, one-half dram, dissolved in half a pint of peppermint water.

Abortion—Carbolic Acid Treatment.

Since writing the article, "Carbolic Acid to Prevent Milk Fever," a portion of which you quote on page 661, December issue, and in which I incidentally mention that carbolic acid is good to prevent abortion, I have had letters from breeders in New York and Ohio, as well as several in Ontario, to which I have replied, but still they come, and no doubt "there are others." This must be my reason for writing upon this subject, because I cannot say that I have had any great experience with abortion (happily). Probably this is due to following the advice of others, because it is a case where "prevention is better than cure." Some years ago one William Watson (now deceased) wrote several articles, giving his experience with and cure for abortion in several herds he had had under his charge. From my scrapbook I quote his own words: "The dose is 15 drops diluted crystallized carbolic to 1 gill of water. This proportion was found most effectual in every case. We treated every cow according to her condition. Those slightly affected were drenched once a day, those in a medium state, twice a day; and those suffering most, three times a day. At first all were drenched from a common quart bottle, to make sure of every one receiving her proper dose. Later, some received their carbolic acid in slop, but many would not taste the slop, consequently those had to be drenched. At the end of every week we ceased drenching for a couple of days or so to study the effect of the medicine. The mildest cases were completely dried up by the end of two weeks and the cows returned to the pasture. In all cases there was a marked change for the better, yet drenching and slopping was renewed, and continued till the discharge ceased. By the end of another week others were cured and transferred to the pasture, and so on, till within four or five weeks every cow was released from quarantine." This is a description of a very severe case of abortion in a large beef herd, in which all of the cows seem to have aborted or been affected. My advise is, on the first appearance to treat her as described and also give a few doses of carbolic acid to all other cows that have been in the same herd that are carrying their calf between their fifth and eighth month. To wait until a cow shows signs of distress is often too late, and it is a very difficult matter to tell long before, but if a cow or heifer is dry, and commences to spring udder before she should do so, it is a suspicious sign. Giving any cow a few doses of carbolic acid will do no harm, no matter how long she may be bred, and it may do a world of good. I consider a dose of carbolic acid to be 20 to 30 drops, depending upon the size of animal and how often given, whether twice or thrice a day. I have had several twin calves, and a few with trouble at calving, owing to the calf being so large. In these cases the cow retained the after-birth, and I do not now ever attempt to remove it by hand, but simply give a few doses of carbolic acid in whatever feed they like best. Of course, the carbolic acid must be diluted in a cup or more of water; then given internally. It will search out all germs, and when the germs are removed and the system purified, then nature gets a chance. My idea is to prevent disease by keeping down the germ of disease. About all trouble in the human or bovine race is due to some germ: so that in cases of abortion, etc., we must use some disinfectant: carbolic acid, creolin, etc., or similar things under a different name. Use these internally *judiciously*, and externally *liberally*. A cheaper disinfectant, such as "West's Fluid" or other advertised germicides, should be used, as directed on their bottles, around the gutters and mangers of cattle stables. If trouble were feared while the cattle were in pasture, I have mixed diluted creolin with the salt given young heifers in pasture, in such proportion that they could not get an overdose of the medicine, because they would not eat enough of salt to harm them, and if some will not eat any, but only smell it, often it will do some good. It is better to prevent than to cure. That is the principle I want to go on.

Oxford Co., Ont.

GEORGE RICE.

The Feeding and Breeding of Prize-taking Steers.

BY D. E. SMITH.

Those who had an opportunity to inspect the dressed carcasses of beef at the Fat Stock Exposition, held the first week of last December, in Chicago, must have been favorably impressed with the high quality of the product. It may be of interest and profit to inquire what breed and what feed produced such excellent results? Therefore, I will give the breed and feeding of the six prizewinners in the dressed-carcass class. I have to thank the owners of these animals for their kindness in giving me the information.

In the yearling class, the first prize for best dressed carcass was awarded to "Sam," owned by M. T. Bunker, Tipton, Ia. Mr. Bunker informs me that "Sam" was a high-grade Shorthorn steer. His sire was a pure-bred Shorthorn bull and his dam a grade of the same breed. He ran out with several other calves until last May, when he was put on full feed on grass, and 100 days before the Chicago show was given a full ration of cracked corn and oats.

The second prize went to "Uncle John," owned by G. S. Redhead, Des Moines, Ia. He was a pure-bred Hereford. During the winter he received rough feed in an open feed lot. From June on he was stabled during the day, and ran out to pasture at night. His regular grain ration was corn, oats and bran, to which was added Maltose Stock Food.

The third prize was taken by "Budge," owned by George Leigh, Aurora, Ill. He was a grade Hereford. His sire was a pure-bred Hereford bull and his dam a grade cow. "Budge" ran out all winter, with only an open shed for shelter, and on pasture until the 1st of July, when he was put in a box stall and fed barley meal, corn and oats, ground, with a greater proportion of meal and oats than corn.

In the 2-year-old class, the first prize for best dressed carcass was given to "Jerry," owned by W. J. Miller, Metz, Ia. He was a pure-bred Polled Angus steer. He ran out to pasture, and was fed ear corn and Globe Stock Food.

The second prize was awarded to "Senator," owned by the Michigan Agricultural College. I wrote them, asking for information about the feeding and breeding of "Senator," but received no answer.

The third prize went to "Prospect," owned by G. P. Henry, Goodenow, Ill. He was a thoroughbred Hereford of excellent breeding. His ration was two parts of ground corn to one part of ground oats and one part bran, with green corn and sorghum in season. In winter, beets were added, and enough oil cake for good digestion. He ran out to pasture, except in the hot weather, when he was inside during the day and out nights.

I also asked each of these gentlemen to account for the carcasses being so beautifully marbled and such an evenness of lean and fat. The reasons they assigned were: (1) Selection of a steer of the very best quality, (2) an evenly-balanced ration, fed regularly, and (3) exercise. This seems to me to sum up the whole matter. It is certainly necessary to have a steer of the best quality in order to produce a first-class carcass, and this can only be obtained by the most careful selection and intelligent breeding. No doubt a thoroughbred male crossed on good grade cows will bring satisfactory results if these all are of the beef breeds, but not if otherwise. It is surely a mistake to mix beef and dairy breeds, with the hope of obtaining first-class beef animals. The dairy interests in Canada are very important, and it is proper that they should be encouraged, but there is also room for the beef industry as well, although it has not received the attention and encouragement that it merits. In the West the beef industry has enriched many farmers, and it is ever on the increase. During 1900, Chicago sent to Great Britain 243,000 head of cattle, and the money for these went to the States near Chicago. These were worth from sixteen to seventeen million dollars. Ontario has many advantages similar to the States near Chicago, and should produce a greater number of export beef animals than she does. It is with pleasure I note the good work being done by the Fat Stock Show at Guelph, but there are other places as well that need similar encouragement. It seems to me that Eastern Ontario should have a similar show, and why should not the Maritime Provinces and the Northwest also? For choice, ripe steers, there is no place that brings a higher price than the British market, and Canadian steers could be sent there with a good profit.

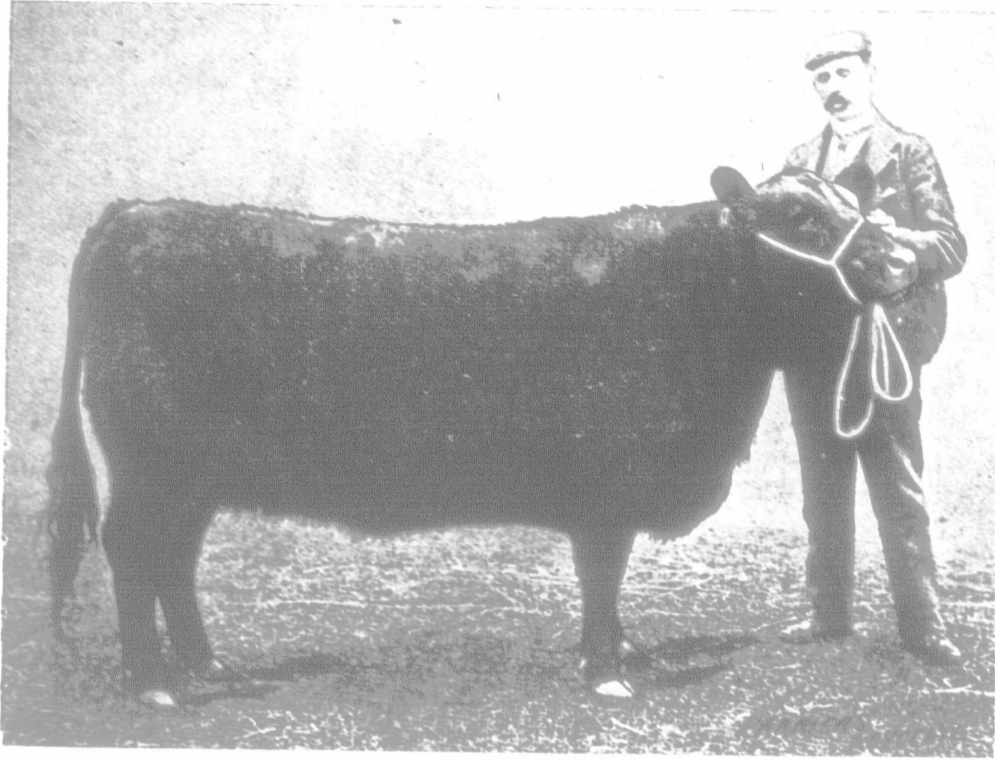
Secondly.—An evenly-balanced ration. I have no hesitation in saying that a great quantity of food is wasted, on account of the foods being composed too much of one ingredient. More study should be given to the composition of our food stuffs if we ever hope to reach any degree of success in feeding. Corn, for example, is very strong in one ingredient—carbohydrates—and yet many persons feed it almost alone. It could be greatly improved by adding ground oats or bran or clover hay, as these each contain an ingredient in which corn is deficient. The rations as given in the foregoing tests contained mixtures that were evidently well balanced, as the results show. However, I was best pleased with the ration given to "Prospect." It was not only evenly balanced, but contained those ingredients that keep an animal's system in a healthy state. The stomachs of steers

were made large, so as to hold a large quantity of food; therefore, we should give them a mixture that has considerable coarse food in it, and make it open and porous, if we wish to obtain the best results.

Horses in Paris and at the Exposition.

BY ROBT. HAMILTON.

At the great horse show held in Paris last August, at which there were over 1,800 horses of all breeds, the whole were divided into three classes, viz., *Sang*, *Demi-sang* and *Trait*: that is to say, Blood, Half-blood, and Draft. The blood horses consisted chiefly of English Thoroughbreds and Arabs. If I remember rightly, the Barbs and some other Eastern races were classed with the half-blooded horses. If one could judge from their pedigrees, most of the blood horses, except the



AQUILEGIA.

Aberdeen-Angus heifer: first prize, Birmingham and Smithfield Shows, 1900.
PROPERTY OF EARL OF STRATHMORE, GLAMIS CASTLE.

Arabs, were of English ancestry, and their wonderful similarity to the English horses alongside of them rendered this still more apparent. Blood will tell. They all looked well and showed their breeding. The *Demi-sang*, or Half-blooded class, included all horses, of whatever name, that had any Thoroughbred in their make-up, and they were the most numerous represented in that grand show. There were Hunters, Coach horses, English, French and German Hackneys, Cleveland Bays, besides some Russian and other national races. It is not necessary for me to say anything of the English races, that are so well known; the Russians, that are not so well known, may be mentioned here, especially the Orloffs. The Orloff *trotter*, as he is called, seems to be as thoroughly fixed in type as the Hamiltonian or United States Standard-bred horse, but is not at all like that famous race. Here resembles much more nearly our old French-Canadian breed, the old St. Lawrence, for instance. He is not as aristocratic looking as the Standard-bred, but has the air of a more serviceable animal—a more useful general-purpose horse. As they stood in their stalls, and there was quite a number of them, they looked like horses that might do a good day's work in the field and also carry their owner swiftly to church or market. They were jet black, about 15½ hands high, and might weigh up to 1,200 pounds; I think not over that weight. If I say that they are blocky horses, I would not have anyone to infer that I think them coarse: they were not. They were highly respectable looking animals. As compared with the Standard-bred, they were shorter in the head and neck, though the apparent shortness might be due to their general somewhat stouter build: the eye was fiery, perhaps rather fierce, though it was not so sweet and gentle as in the Standard-bred, and there was a good breadth between the eyes. In body, the Orloff is rounder than the Standard-bred and it is steeper in the rump, and his legs are not as fine and they are perhaps a hair's-breadth shorter. Anyone who remembers the best specimens of the Canadian trotter of the Province of Quebec of forty years ago will be able to form a good general idea of the Orloff horse. The race or breed seems to be thoroughly fixed. All the specimens exhibited conformed to one type in size, form and character. It seems strange that no one of our many enthusiastic and enlightened horse-breeders and farmers has thought of introducing these fine animals. A few years ago there was a general feeling of regret that our old French race had been allowed to disappear. It might be almost reproduced in the Orloff trotter. Without having seen him on the road, I believe that he would resemble our old Canadian pony in action. In the stall he lifts up his head and snokes his mane and tail round disdainfully and stamps his feet in his impatience. He would be more rapid and less graceful in action than the Standard-bred,

who would probably beat him in speed and be easily beaten in endurance. The Orloff horse has retained the high spirit of his blooded ancestors, and has acquired the added speed that blood gives, whilst retaining the strong, blocky build of his maternal ancestry, features that make him a most desirable horse. There was another Russian breed of half-blooded horses of about the same size and with many of the characteristics of the Orloff horse, and gray in color. The French cavalry horse, of which there was a large exhibit, is much larger than the pure Thoroughbred, and is, I believe, largely raised in the national breeding establishments, or Haras, as the French call them, and appear to be all that could be desired for the purpose. They are of good size, from 15½ to 16 hands in height, bright bay or chestnut, rarely gray or black, and full of fire and energy. This class of horses is said to have immensely improved since the Franco-Prussian war. I might say here in passing that the Arabs seemed to be of the purest blood, and were beautiful and perhaps also very delicate. They were small and mostly gray, that peculiar gray which has innumerable little brownish spots mingled with it. When they were in repose, their eyes were gazelle-like and pensive, but when they were in the ring and feeling the spur, they blazed.

The horse that is most frequently seen in the Paris streets is the *Percheron*. I cannot recall having seen many draft horses that were not gray. They were almost always of good size and weight, and occasionally very large and heavy, and, strange to say, they were almost always stallions. Very few of the teamsters in charge could give any reason for their being stallions; i. e., why stallions were used in that way. They did not seem to have ever given the matter any thought, but when their attention was drawn to the subject, they thought stallions might be more courageous and hardier. However that may be, they appeared to be generally very docile and willing. I rarely saw one of them balk, and in different places under heavy loads they almost always seemed to lay their shoulders to the load with good will, and if they failed at first, tried again slowly and stubbornly until they got started. Strange as it may seem, Paris streets and Paris regulations were not at all in the horse's favor. Many of the streets were paved with wooden blocks or smooth cement, and when these were wet it was very hard on the heavily-laden draft horses. I believe it was a municipal regulation for the horses to be smooth shod. At all events, a close observation of their feet seemed to show that the shoes were quite smooth; i. e., without toes or calks.

The omnibus horses—there were many thousands of them—while mostly grays and of good size, were lighter than those used for heavy draft. They were yoked three abreast; in heavy teaming they went at length. On one occasion I saw twelve horses in line, and heard of fifteen yoked in the same way. Six in line was an everyday sight. The commonest vehicle used for heavy draft was an enormous cart, with wheels of seven feet diameter and felloes of six inches thick in width and depth, and tires of an inch thickness. Yoked to these enormous vehicles were as many horses as the occasion seemed to demand, from two upward. These *Percheron* stallions seemed to be of a fairly good sort. Of course the old ones, that had been a long time at that heavy labor, were pretty shaggy, as might be expected, but the younger ones, those doing duty in the ordinary heavy express wagons of merchants and manufacturers, were often very handsome animals, in whom both owners and drivers took a good deal of pride. A procession I one day saw, of the horses and wagons of one of the large city establishments, could hardly have been beaten anywhere. The cab horses of Paris were a nondescript lot. Most of them seemed to be of no particular breeding, though there were many good horses amongst them. The cabs are owned by companies. There

are four or five of these companies, whose vehicles are all uniform in make, and their drivers too have a special uniform, so that the various companies are easily recognized by the Parisians.

The carriage horses of Paris are very much like the cavalry horses, and probably their breeding is the same. They are of good size, 15½ to 16 hands, with plenty of action, many of them like the Hackneys, high-steppers. I think they were not Hackneys, however, but were specially trained to this kind of work.

Of course, there were other kinds of horses, notably ponies, small and very small. These were used both for riding and driving.

I thought the French were very hard drivers, and often saw them abuse their horses. There was a large class that seemed to me to be very much worse in that respect than the worst of our own people. They did not seem to have any just notion of what ought to be expected of a horse.

The Feeding of Pigs.

In the course of a paper read before the Cirencester (England) Chamber of Agriculture, by Professor Blundell, Professor of Agriculture at the Royal Agricultural College, on "The Feeding of Farm Stock," he thus referred to the feeding of pigs: "I am of opinion that it is the pig, if properly managed, that will do the most towards paying the rent. The number of pigs a farmer can keep will only be limited by the premises he has in which he can fatten them. The average life of a bacon pig of the size now required is thirty weeks, while that of a teg (yearling sheep) will be sixty weeks, and a bullock will be 130 weeks; consequently, the capital invested in the pig department can be turned over more frequently than with other stock. It cannot be too much impressed upon us that pigs, especially at the growing stage, are very susceptible to the extremes of heat and cold, far more so than is the case with sheep or cattle. The best food at our disposal for making prime quality bacon is undoubtedly barley meal, especially when it can be mixed with skim milk or whey. When wheat is cheap enough it may be mixed with the barley in the proportion of one of wheat to three of barley. Bean meal is admirable for mixing, but is usually too high in price for the purpose of making meat for the butcher. Weight for weight, there is no food for pigs productive of so much live weight as maize (Indian corn), but that, unless reduced to a small proportion mixed with barley, has the great drawback of making the bacon soft and too fat, and then you come down to the quality of the low-priced American bacon so largely imported, and which has been almost exclusively fed on maize. Wheat and rice meal have not the same objection, but these also should always be mixed with barley. In early life, when pigs are running out at grass, nothing is cheaper or more adapted for them in the growing stage than whole, sound maize or peas. I have found one pound per day, at a cost of one half-penny, sufficient, provided they have had a good grass run and a few mangels or tares. They should be put up to fatten when they are about nineteen to twenty weeks old, and will weigh 100 lbs. live weight. They should be kept clean, and not too many in one sty, six or eight at most, fed regularly three times a day, and never have more given to them than they will clear up. If well bred and fed with suitable food, they will increase from 10 to 11 pounds per week, and at thirty weeks old should



PEN OF SHROPSHIRE LAMBS.

Winners of first prize and breed cup, Smithfield, 1900.
SHOWN BY MR. PHILIP L. MILLS, RUDDINGTON HALL, NOTTINGHAM.

weigh 2 cwt. live weight, and will return from 75 to 78 per cent. carcass to live weight, which is much better than the bullock, which gives 57 to 60 per cent., or the sheep, which gives only 50 to 52 per cent. For that increase the pig will require about 5 pounds to 5½ pounds of dry food per day. No other animal on the farm will give such a good and quick return for the outlay.

WILLIAM HUNTER, Underwood, Ont.:—"The Christmas number of the FARMER'S ADVOCATE received, and I tell you it's a daisy, even to the color of its cover. I think that our ADVOCATE (I call it our) shows as much advancement in its line as anything in the 19th century. I have taken the FARMER'S ADVOCATE ever since the days of the old *Genesee Farmer*, and I do not see how you can make it any better."

Annual Meeting of the Canadian Jersey Breeders' Association.

The seventh annual meeting of the Canadian Jersey Breeders' Association was held in the Walker House, Toronto, Dec. 28th, 1900. The attendance was the largest in the history of the Association, and the enthusiasm and interest manifested bespeaks for this body an influence for good among the dairymen of the Dominion.

The president, Mr. George Davies, Todmorden, in his opening address expressed pleasure in seeing such a large number present. The prospects for the Jersey breed were never better. The judging at the large exhibitions had of late tended to the establishment of a fixed type, and breeders now had a guide in their work. The demand of well-to-do people for milk and cream rich in butter-fat has caused many farmers to secure Jerseys so as to meet the increasing demand.

On motion of W. E. H. Massey, seconded by J. H. Smith, the secretary was instructed to write the Industrial Fair Board to provide a pavilion at the cattle ring for the accommodation of those interested in the judging of cattle, and that the co-operation of other cattle associations be secured.

Much dissatisfaction was expressed with the manner of conducting the dairy tests, and the regulations governing the same, at exhibitions and at the Provincial Winter Fair. The Jersey breeders present felt that the true value of a dairy cow is the net profit in a year's work, not what she can do in two days or seven days. Mr. V. E. Fuller stated that the best regulations governing a dairy test for a short period were those of the Tring Agricultural Society of England. The secretary was therefore instructed to secure a copy of these regulations for the next meeting, and Messrs. Clark and Rolph were appointed representatives of the Jersey Breeders' Association on the Board of the Dominion Cattle Breeders' Association.

Mr. W. E. H. Massey introduced the subject of improving the quality of the milk supplied our large towns and cities. He contended that milk should be graded and paid for according to the percentage of butter-fat. It is an injustice to the farmer who feeds his cows good wholesome food, keeps his stable in first-class sanitary condition, and produces milk testing 5% butter-fat, to be paid the same price per cwt. as the farmer who keeps his cows in a filthy condition and produces milk testing barely 3 or 3.25% butter-fat. Mr. Massey quoted prices paid for milk supplied some of the largest cities in United States. The largest firms in New York, Chicago, Baltimore, Pittsburg, Detroit, Cincinnati, handle no milk testing less than 4% butter-fat, for which they pay \$1 per cwt.; 5% milk, \$1.25 per cwt.; 6% milk, \$1.50 per cwt. The 1,000 cans of milk supplied Toronto annually averages barely 3.1%, and for which \$1.40 per cwt. is paid. Mr. Massey gave two reasons for this: the poor class of dairy cattle and the unscientific care and method of feeding. He urged the members present to agitate for the payment of milk according to quality, and be ready to meet the increased demand for cows rich in butter-fat.

In the afternoon the members were the guests of Mr. W. E. H. Massey, at Dentonia Park Farm, where a very pleasant and instructive time was spent in inspecting the herds of high-class Jerseys and Ayrshires, and the method of handling the milk from the time it leaves the cow until bottled for delivery to the city customers. Everything in and around the buildings shows signs of being run on scientific principles, not for recreation only, but in order to make it a financial success. Every farmer who can find it convenient should pay a visit to Dentonia, as lessons can be learned there which can be put in practice on any ordinary farm. While in the special car on the way back to the city, a hearty vote of thanks was tendered Mr. Massey, on behalf of the Association, for the very enjoyable outing. Impromptu speeches were made by Messrs. Duncan, Reid, Davies, and others, all expressing pleasure with the visit to Dentonia, and thus a very successful meeting was brought to a close by wishing each other a very Happy New Year.

Officers for 1901.—President, Capt. Rolph, Markham; Vice-President, R. J. Fleming, Toronto; Sec.-Treas., R. Reid, Berlin. Executive Committee—Messrs. D. O. Bull, Geo. Davies, H. G. Clark, W. E. H. Massey, and D. Duncan. Representatives: On Toronto Fair Board—B. H. Bull and D. Duncan; Western Fair Board—John O'Brien and W. G. Laidlaw; Ottawa Fair Board—J. Conroy and W. W. Wright. The following were recommended as judges: Toronto, R. Reid, Berlin (J. C. Snell, London, as reserve); London, H. G. Clark, Norval; Ottawa, David Duncan, Don; Winnipeg, R. Reid.

IMPOSSIBLE TO SUGGEST IMPROVEMENT.

SIR.—We received the Christmas number, and are greatly pleased with it. I thought the 1889 number was very fine, but this one is so far ahead of all the former ones that I do not think it possible that any suggestions for improvement can be made. Considering what great value the *Advocate* gives its readers in return for their subscription, I thought that it was only doing my duty to show it to some of my neighbors and see if they would not avail themselves of this benefit also. Enclosed you will find a list of those who have subscribed for 1901. Kindly forward the *Advocate* and Christmas number to their addresses. I wish you all the compliments of the season and a very prosperous year.
GEO. W. A. REBURN.
Standard Co., Que

Domestic Science Session at Guelph.

In conjunction with the Experimental Union meeting, at Guelph Agricultural College, a ladies' session was held on the afternoon of Dec. 11th. Dr. James Mills presided, and welcomed quite a large audience. The speakers were Miss Laura Rose, O. A. C.; Miss B. Maddock, Guelph, and Prof. Ellen H. Richards, Boston, Mass. Mrs. Hoodless, of Hamilton, and Dr. Robertson, of Milton, were also present, and took part in the discussion.

Dress, Its Health, Influence, and Beauty—was the subject dealt with by Miss Rose. The chief consideration in dress is health, shape and fit, rather than ornaments and buttons. The sense of being well and fittingly dressed sets one mentally at ease, giving confidence in oneself. The dress should be suspended from the shoulders, rather than from the hips. Short skirts in walking or in the kitchen are altogether appropriate, whereas long skirts, except, perhaps, in the drawingroom, are a menace to society. House clothes should be chosen for their washing qualities, and be entirely innocent of frills and furbelows.

Domestic Science.—Miss Maddock, in opening, referred to the fact that this was the first session ever held at Guelph, College to consider domestic science. The tendency of the rural population to gravitate towards the centers of population was touched upon, and the speaker pleaded for the making of the home life pleasant to the brother as well as the sister, and said a good word for the younger brother, which will cause the latter to rise up in his place and call her blessed. There should be no special advantage given the boy over the girl, nor *vice versa*. The mothers and sisters were urged to get out of the old ruts and to do everything possible to strengthen the family tie, so that boys and girls alike might look upon the home life as the pleasantest period of life.

Housekeeping in the Twentieth Century.—Prof. Richards, under this heading, dwelt on the necessity of study being given to the housekeeping problem. She reverted to the early days of this century and brought out clearly the active productive life of the Anglo-Saxon household and the major share which the women folk had in directing and managing it. The piles of linen, the barrels of beef, the boxes of candles, the strings of dried apples, the closets of preserves, the roots and herbs for dye pot and medicine chest, all required skill of hand, steadiness of eye, foresight, judgment, planning, and tended to develop a strong personality. The boys, as well as the girls, helped their mother in her manufacturing, but, with the evolution of the factory and the shop, the boys and men took over the main part of the old household work, the women were given their ease, stagnation of mind followed lack of occupation, women became "ladies," little girls were made to be seen, service became "common" and ignorant as the mistress lost her hold in knowledge of her materials. The energetic girls, feeling the loss that had come on them, went into their brothers' occupations, which proved a safety valve, to some extent, on the social machine.

Mrs. Richards admitted that housekeeping was somewhat of a treadmill: it was drudgery, because it was not creative, thoughtful work. It was in a transition stage, and was undeniably unsatisfactory and unsatisfying. But that need not be in the next century, if the young women would take another step and fit themselves, not only for teachers of Latin and mathematics, but for practical employers of labor and purchasers of material. To abolish friction and unnecessary work in the household machinery, to train the labor to skillful, systematic results, were worthy aims. The greatest need in the education of the 20th century housekeeper, continued Mrs. Richards, was in values—of textiles, of wood, of food. No one would study these, however, until the place of the home in the social life was re-settled, until the new product of the home was seen in the character and ability, which was for the world's service, of greater value than could be obtained in any other way.

"Can the child be taught those elements of manly and womanly duty, self-control, self-sacrifice, self-restraint from a present good for the sake of a future greater good, anywhere else as well as in the family circle? Is there any other bond which will hold wayward fancies and still wild longings as firmly as the home bond? If not, then at all hazards there must be a house and home and a housekeeper whose spirit prevades the walls, the furniture, the food, the servants, the air. We are only beginning to understand the subtle influence which affects us. The food prepared by an angry cook—does it agree with us?"

"To have the new ideal house and home, we must have the real new woman with scientific knowledge and training in the use of power."

"Scientific housekeeping is what is good for us—a systematic division of the income between the different departments of expenditure; a careful balancing of the claims of each side of our nature. It is only possible in perfection in the house which the new architect shall build for us."

AT THE HEAD.

WALTER JAMES ROSSER, MAN.:—"The Christmas number is a magnificent specimen of agricultural journalism. Ahead of any paper pertaining to farming I have yet seen. The William Weld Company have much to be proud of."

Honey as a Daily Food.

Some farmers are in the habit of selling off all the best of anything raised, letting the family worry along with the leavings. It is pleasant to believe that in many cases honey forms an exception: that the farmer with two or three colonies of bees does not think of selling any of his honey, but leaves it all in the hands of the good wife, to do with when and how she will. Very wise indeed is such a farmer. Indeed, if he is wise enough, he will have honey on the table daily, even though he should be obliged to buy it.

It is good for the health to use honey. It is the product of pure air, sunshine and flowers. What could be more healthful. Many a poor mortal is today living a life of lingering torture or cruel self-denial, to whom the doctors have forbidden the use of all sugar and all foods abounding in starch. And the trouble came about from over-indulgence in sugar. This nation has a wonderfully sweet tooth. It is said that the average man, woman and child of the American Continent consumes more than a pound of sugar every week of life? Some more than that, some less: more than a pound a week is the average. Before that sugar can be worked into flesh and blood, it must be changed from cane sugar to grape sugar. When too much of this work is thrown upon the stomach, there comes trouble, sour stomach, headache, and all the varied ills that come from bad digestion. The stomach turns over the job to the kidneys, and when the kidneys have more than they can do, having no one else to turn to for help, they break down with disease.

The use of honey satisfies this craving for sweet without the dangers that attend the use of sugar. The sugar in honey is already grape sugar, all ready for assimilation. Give a child the choice between sugar and honey, and see which it will take. For too many children, bread and honey is a treat, a luxury, instead of being an article of daily food. The old man or woman of eighty, as well as the child, finds the daily use of honey both pleasant and healthful.

The average family of five persons would be considered as using a good deal of honey to use fifty pounds in a year. Many do not use ten. But the average of sugar for such a family is about 300 pounds a year. If half of that, or even 100 pounds, were replaced by honey, it would be for the betterment of the health of the family, and it is by no means an expensive luxury, the price seldom exceeding ten cents a pound, and so small a quantity satisfies, a little goes a long way. It should make part of one meal at least each day, and to our mind that should be the breakfast meal.

The Testing of the Vitality of Seed at the Central Experimental Farm.

The past season has in certain localities been unfavorable for the perfect maturing of grain. In some districts it has been injured by rain during harvest or from being stacked before fully dry, thus causing it to sprout or heat, while in other localities it has suffered more or less from early autumn frost. When exposed to either of these conditions, cereals are apt to lose a portion of their vitality or to have it so weakened as to produce when sown an unsatisfactory growth. The character of the crop is greatly influenced by the quality of the seed used, and to obtain the best results it should have its germinating power unimpaired, so that when placed in the soil the young plants may make a prompt and vigorous start. Hence it is very important that farmers should ascertain whether the grain they are holding for seed possesses the vitality necessary to produce a good crop.

By instruction of the Honorable Minister of Agriculture, provision has been made whereby the vitality of seed can be ascertained without cost to the individual, and any farmer in the Dominion, who may have any varieties which he desires to have tested, can get the information he seeks by forwarding to Dr. Wm. Saunders, Director of the Experimental Farms, Ottawa, samples of such grain or seeds. Samples may be sent free through the mail, and an ounce or two is sufficient for the purpose. About two weeks are required to complete a test. It is hoped that all who desire to avail themselves of the provision offered will send in their samples early so that the work may be completed in good season.

Cheese and Butter Makers' Union.

The first annual meeting of the Cheese and Butter Makers' Association is to be held in Winnipeg during the week of the bonspiel, on February 20th, 21st and 22nd, concurrent with the annual meetings of the live stock associations.

One day will be entirely devoted to the French-speaking members, the proceedings all being in French. The president, Mr. S. M. Barre, will deliver an inaugural address, and will also speak on the subject of Sugar Beet Factories. Cheesemaking will be dealt with by C. C. Macdonald, W. D. Shunk, J. H. Ross, A. E. Hunter, and W. M. Cluff. The Babcock Tester, and Paying for Milk According to Test, will form the subject of an address by J. W. Mitchell, Superintendent of Government Creameries, Assiniboia and Saskatchewan.

Prof. Robertson and several others have been invited to contribute addresses, but at this writing have not been heard from.

Those Government Auction Sales.

To the Editor FARMER'S ADVOCATE:

SIR,—The sales soon to be held of pure-bred cattle, the scheme being hatched in the Government incubator, deserves a little attention from those who are in the business of breeding pure-bred cattle. First, I think it is outside of anybody's business but those who are engaged in it. A few well-paid men, who seem to have time to hatch schemes of this kind, can do a good deal to overthrow established and sound business principles, and by doing so gain the sympathy of a few who are in the business, but, in truth, should never have been in it, and who cannot conduct it on lines of an intelligent industry. Besides, the very men they pretend to assist in having these sales, namely, "the small breeders," we unhesitatingly say are the plague spot of the whole business, and have in many cases neither the intelligence nor discernment to supply what is needed in our country. Also, the parties who are likely to purchase at those sales are a class who do not care what they get if you can only convince them they are getting a bargain. We have often had experience of the proximity of the so-called small breeder, who, they say, is not able to advertise. He can advertise it well by a bountiful flow of language that costs little, and, I must say, his language must have had some marked effect on the men who are now started out to assist him so manfully. Not long ago a party came to our place for a young bull. We asked him \$150 for a good one. "Take off the \$100," said he, "and I will buy him. I have the offer of one for \$25, twelve months old and registered." Is it not clear to any one of ordinary intellect that such a breeder in a district is detrimental to the interests of buyer and seller? You can't satisfy the greed of many; the real worth of the article they have neither the desire nor the intelligence to know. In this case we went to see the \$25 animal and found it was dear enough. Why so much complaint all over of the poor quality of our cattle? We all know it is chiefly poor sires, produced by men that know nothing of the principles that govern in the reproduction of pure-bred animals. Our Department of Agriculture has erred mightily in thus taking by the hand men that can't hoe their own row in an intelligent and business method. The writer must be classed among the small breeders, but we scorn to be led or fed by methods so much at variance with true principles which underlie sound business, more especially when so many have invested large sums to benefit their fellow men, derive some pleasure and a fairly respectable return for the capital and intelligence devoted to it.

I hope and ask every breeder who has his own welfare and the welfare of our country at heart to stay away from those sales. Boycott them stringently in this respect, and show those men that they can't run other men's business, and all because a few can't make money at a business they know nothing of. As a business community we have stood too much interference with our interests in the matter of condemning and destroying valuable animals, simply because those men were infested with a fad that our stock required their oversight, with—as Mr. Dryden puts it—"a squirt gun and sealed ounce bottles" in their possession. Away with them, every one! We want fair play for ourselves and our stock in the 20th century. I am a small breeder, but larger than the kind needing assistance. Yours truly, D. ALEXANDER.

Lambton Co., Ont.

[NOTE.—If more of the breeders who agree with Mr. Alexander's sentiments in regard to this matter—and we know they are many—had had the courage of their convictions, and had spoken out manfully at the proper time in protest, instead of allowing the breeders' associations to be drawn into a tacit consent to countenance this political scheme, it would have been well for all concerned. The FARMER'S ADVOCATE took a firm stand against it from the first, and has not changed its opinion as to the folly of the step, but fully believes that the birth of this child of the Government will prove an abortion, and that the post-mortem report will fully justify our position in regard to it.]

Poultry Associations.

The Winnipeg Association, at its annual meeting held on January 7th, elected the following officers for the ensuing year: President, Geo. Wood; Vice-President, W. Rutherford; Secretary, Geo. Harcourt. Committee—T. Reid, J. Aldritt, J. H. Dawson, S. B. Blackhall, C. H. Wise and J. E. Costello.

The Brandon Association held its annual meeting on January 9th, when Mr. Anderson was elected President; A. Shether, Vice-President, and D. Sheriff, Secretary-Treasurer.

NONE TO EQUAL YOUR PUBLICATION.

The William Weld Co., Limited:

GENTLEMEN,—Enclosed please find my renewal subscription for ADVOCATE, 1901. I really must congratulate you on your Christmas number. It should do you good, for I know of no agricultural paper that puts out its equal; in fact, among the American farm papers I see none to equal, in my opinion, your publication for giving good practical instruction from practical men. If farmers would but read this paper for information, they could not fail to find much that would help them in their profession, the same as business men find in their trade journals. I wish you immense success.

Buffalo, N. Y.

GEORGE SLADE.

Eastern Ontario Dairymen in Convention.

The twenty-fourth annual convention of the Eastern Ontario Dairy Association was held in Smith's Falls, on Jan. 9th, 10th and 11th. It was formally opened by His Excellency the Earl of Minto and the Countess of Minto, who were pleased to honor the occasion by their presence. To an address presented by Pres. Derbyshire, His Excellency replied fittingly, setting forth the important relation dairying holds to successful agriculture in Canada. Among other things, he pointed out that Canada had increased her output of cheese during the last ten years by over \$10,000,000, while the export of butter has grown during the same period from \$340,131 worth in 1890 to \$5,122,156 in 1900.

President's Address.—The President, Mr. Daniel Derbyshire, Brockville, in an admirable and comprehensive address covering the salient features and needs of the dairy industry, and pointing out that this was a favorable opportunity, at the commencement of the century, to resolve to do better in all lines of dairy operation. With the present opportunities for education and instruction, there will be no excuse for any factory employing an ordinary maker, nor for having anything but a strictly up-to-date factory, suitable for making the finest class of goods.

The exports of cheese from May 1st to Nov. 1st, 1900, was 2,077,000 boxes, with 323,000 boxes on hand, worth in all \$2,500,000 more than in 1899. The exports of butter will be \$2,000,000 less than in 1899. Our butter and cheese for 1900 will bring the sum of \$25,000,000—\$20,000,000 for cheese and \$5,000,000 for butter. By intelligent effort, the export of cheese and butter for 1901 can be increased by \$5,000,000.

One of the duties of the dairy associations for the present year must be the securing of better transportation facilities—quicker carriage, clean, well-ventilated cars, and cheaper freight rates. Occasions were cited where coal cars had been used to carry cheese, reducing its value two cents per pound. These things must be remedied this year. Mr. Derbyshire called for more perfect co-operation among patrons, makers, and all concerned, in order that we take another step in advance of all other competitors in every part of the world.

Hand Separators.—Prof. H. H. Dean, of Guelph Dairy School, delivered an interesting address on the plans and uses of the hand separator. The two essential parts of the separator are the bowl and the gearing. A bowl twelve inches in diameter, running at the rate of seven thousand revolutions per minute, exerted a pressure of twenty-one tons on every square inch of surface. It was therefore important that it be made of the finest quality of seamless steel, and that it be carefully run at not too high a speed. The chief requirements of a first-class separator are: 1st, ease of running; 2nd, that it will skim 350 to 500 pounds per hour; 3rd, ability to skim closely; 4th, must give smooth cream; 5th, ease of cleaning bowl, etc.; 6th, wearing parts must be durable and easily replaced; and, 7th, that it cost not more than \$100. The advantages of a hand separator were pointed out, as well as their evils, in the development of the dairy industry.

The advantages of the hand separator are to the private dairy farmer who needs the skim milk in the rearing of stock. As a cleanser of milk, it has a wonderful effect. The inside of the separator bowl reveals this after milk has been run through. It enables the private dairyman to get more and better butter than by the gravity system of creaming. It gives a better quality of skim milk. Patrons of Guelph Dairy School are enabled to receive good skim milk by all the whole milk being pasteurized before being separated at the School, and after separation it is quickly cooled by a Lister cooler. Milk thus treated keeps sweet a long time, even in hot weather. The hand separator is particularly useful in cream-gathering creameries.

Among the evils of the hand separator, it was pointed out that creameries supplied by patrons skimming their own milk could not make a uniform quality of butter, especially where cream is gathered only once or twice a week. In all creamery practice, the hand separator is a disadvantage. It tends to make patrons careless with cream and perhaps to neglect to wash the separator well after each skimming. The proper method for creamery patrons is to have all the milk hauled to the creamery and skimmed there.

Facts Which Bear on Profitable Dairying.—Dr. Wm. Saunders, Director of the Dominion Experimental Farms, addressed the convention on this broad subject. Two essentials in profitable dairying are high-producing cows and cheaply-produced suitable feed for them. Such crops should be grown as do not deplete unduly the fertility of our soils. Speaking of maintaining fertility of farms, upon which continued success depends, the value of humus and means of supplying it were gone into. Humus retains moisture, and this is all-important, because plants take in all their food in liquid form. Good mechanical condition of soil is also necessary, in order that the rootlets may easily ramify. Plant rootlets, in their search for food, exude an acidulated moisture that dissolves plant food to be taken up later. The industrious farmer, that works his land well, thus gains a great advantage over those who are careless and lazy. It was shown that dairying is not exhaustive to the soil, especially butter dairying.

Referring to the best fodders to grow, the most suitable varieties of corn for the silo were indicated.

For six years, Red Cob Ensilage, Giant Prolific, Thoroughbred White Flint, and Selected Leaming—each gave a yield of some twenty-four tons of whole crop per acre. These are dent corns, and do not mature as early as Longfellow and Angel of Midnight, which gave twenty-two tons per acre. These latter were preferred.

In preserving fertility, barnyard manure should be preserved from fermenting or leaching, and, if practicable, applied in the fresh state. Artificial fertilizers are useful only as adjuncts to yard manure, since they provide no humus. The plowing down of clover was also highly recommended.

Co-operation.—Mr. H. S. Foster, President of Bedford District Dairy Association, spoke strongly in favor of co-operation between dairy associations and dairy farmers. Only in this way can equitable freight rates be secured from the railway companies. It was shown that the present rates charged are not uniform, and therefore are unjust to many districts. He also considered much could be saved and better results obtained if factory equipments were all purchased co-operatively.

Winter Cheese a Menace to the Trade.—Mr. Arthur Hodgson, Montreal, representing the dairy produce exporters, spoke emphatically against the practice of making cheese in November and later months. The little gain made just at the time will be lost many fold at the opening season next spring. It was estimated that some 80,000 boxes of cheese were made in Ontario in November. These cannot be as good as summer cheese, and will seriously injure our reputation, and also store up a surplus that will be in the way next spring. He also spoke against making fodder cheese in April. He advised dairymen everywhere to turn their attention to buttermaking during the cold months.

Evolution of Canadian Dairying.—Prof. H. H. Dean traced the growth of dairying in Canada. The process is one of education, largely through experience, observation, reading, etc. The dairy farmer is slow to improve, but he is in a complex situation. It has become necessary in some sections in times of drought to feed and stable cows in two or three summer months the same as in winter. Silage and bran must be used by the progressive dairyman. The average record for twenty-two cows in the College herd is 7,000 pounds of milk per year, for 1900. Apples, rape and turnip tops were experimented with. Cows fed Virginia Cattle Food gave good flavored milk when fed rape and turnip tops.

The buttermaker must read, study and think in order to advance. By heating milk to 185 degrees for separating, the best butter was made, having good flavor and good keeping quality. Pasteurization is therefore a great advantage in winter dairying. Pasteurization destroys cream rising by gravity.

Moisture in butter was experimented with. The more salt used, the less moisture is held. Working also expels moisture. The overrun in buttermaking ranges from ten to fifteen per cent., as found in Guelph Dairy School.

The cheesemaker is steadily improving. Curing at a temperature between 60 and 65 degrees saves one pound on 100 pounds of medium-sized cheese, also improves the quality. Washing curds between 90 and 110 degrees improves flavor of bad-flavored curds, causing loss of one pound of cheese in every 1,000 pounds of milk. Higher temperature gave better cheese, but caused greater loss. Between 90 and 100 is the best temperature to wash at. Milk aeration has been found to give no increase in yield of cheese and no improvement in quality when milk is good to commence with. It is generally harmful to aerate in the barnyard. If patrons will cool milk below 50 degrees, and the maker uses cultures wisely, he can prevent gas in curds.

Development of Modern Agriculture.—Prof. C. C. James, Deputy Minister of Agriculture for Ontario, said seventy-five years ago homes were being cut out of the forest. The products then were timber, ashes, grain and furs, from which a livelihood was gained. Fifty years ago live stock commenced to come in from Britain, and raised the status of agriculture. Twenty-five years ago co-operative dairying had its commencement. Also has come great development of the fruit industry. The great points now needed are: 1st, development of butter industry; 2nd, development of great bacon industry; 3rd, development of poultry industry; 4th, development of fruit industry; 5th, development of pure-bred stock. The first four to be assisted by Government and by the people for themselves. Government should distribute helpful information, such as aiding conventions, speakers, reports, etc. The individuals should take advantage of these things and thus help themselves.

It was thus pointed out that if towns would bonus creameries or other farmers' industries instead of factories, a more permanent advantage would be gained to that town. The growing interest in agriculture was dilated upon. The work of Prof. Pasteur was instanced as one of the most important and interesting features of not only the medical profession, but that of agriculture as well. The souring of milk, the curing of cheese, the prevention of many deadly diseases, etc., were understood through the studious efforts and discoveries of this scientist. Such men as these have evolved new grains, fruits, etc. Many illustrations were presented to prove this statement that agriculture is full of peculiar interest and increasing

importance, and upon this the future development of this country mainly depends.

Experimental Agriculture Conducted by the Dominion Government.—Dr. William Saunders dealt with the establishment and conduct of the Dominion Experimental Farms, with which readers of the FARMER'S ADVOCATE are already familiar.

Prof. Hart, Kingston, gave a talk on general dairying. Among other things, he remarked that cheap production must be considered. To this end the feeding of silage was recommended. Bad flavors from silage feeding come from inhaled odors from the silo, rather than from the silage eaten. The closing of many creameries the past autumn was attributed to the fact that they are cheaply equipped, and therefore unsatisfactory. The floor should be of cement. A really first-class wooden floor kept oiled will wear out in about five years. Machinery runs better on a firm cement floor. For walls, have masonry up at least to window sills. This should be lined with cement. The machinery should be the best obtainable, as it economizes the product and the labor. At Kingston Dairy School the milk is pasteurized at very high temperature, even nearly up to the boiling point, and no cooked taste is observable. Better results are thus obtained with the butter, also with the skimmed milk; butter has a better keeping quality. In ripening the cream, it is cooled down to 65 degrees, and starter added, then cooled down, after ripening, before churning. Losses in skim milk and buttermilk are less with pasteurized cream. Separating at high temperature increases the capacity of the machine and skims closer. Ripeness of the cream is determined by alkaline tablets.

In a discussion it was brought out that mottles in butter, so common in winter, can be prevented by careful distribution of salt, and by having the butter sufficiently moist to dissolve all the salt. R. M. Ballantyne, Montreal, recommended the washing of all curds, so as to have uniform products throughout the season.

Cheesemaking.—G. G. Pablo, of Kingston Dairy School, spoke on conditions necessary for the making of fine cheese. A good building, in which the temperature can be controlled, and suitably equipped, is necessary; good sweet milk from healthy cows fed on good food. Patrons must be clean, especially when milking the cows. A growing evil is that of shipping cheese too green—making cheese that will pass at a few days old. Such a practice will ruin our cheese trade. A soft, fine cheese is necessary, but it should not be ready to ship at less than two weeks old. The cheese hurriedly shipped will never make first-class cheese. An essential in good cheesemaking is pure water; therefore have no possibility of soakage into the well. He advised patrons strongly not to feed turnips, rape or other strong-flavored food. The milk belongs to patrons, and they should do all possible to produce it in best possible condition.

The manufacturers were advised to engage only first-class makers, and give them sufficient salary that they may engage enough first-class help of ability to make proper cheese.

Prof. Ruddick followed Mr. Pablo, and urged Canadians not to be satisfied with past achievements. Other countries have great natural advantages, and are putting forth strenuous efforts to produce the best possible product. Some of the defects of Canadian cheese were presented. An ideal cheese was described. Prominent defects are openness in cheese, due to lack of sufficient acid and firm pressing. High piling of curds is a common fault. A weak cheese possesses an extreme of openness, with an excess of moisture. Not clean in flavor is common, due to filthy stables, bad food and water, and unclean cows. Off-flavored cheese is due to wrong temperature in curing. Acidic cheese are those slightly sour, due to overripeness of milk and unwise use of starters. Fruity flavor is becoming more common, and is considered due to bacterial origin; occurs throughout the whole season, but more common in fall. Pasty cheese is due to too much moisture left in curd. It should have been heated higher.

Flavor is the most important quality in cheese. All conditions in milk and manipulation must be high-class to obtain it. Ill-fitting, too light, damp boxes were strongly condemned, as they cause serious losses every year, especially from some districts.

Mr. Alexander, Montreal, a cheese exporter, complained that he could not always bring back enough money from England to come out even. He stated that Canadian cheese have gone back during the last five years. Too much cheese is shipped out far too green. Mr. Alexander stated that he had representations of every stink in Canada in the cheese in his storehouse. He urged the doing away with small factories and with the making of late fall, winter and spring cheese.

Mr. Arthur Hodgson pointed out that cheese is not finally disposed of till two or three months old, so that all cheese should be made with that fact in mind. Much ground has been lost by too fast ripening, that will do permanent damage. The last season has been the worst for our reputation, inasmuch as too meaty, moist cheese has been turned out. Too much whey has been sold. Many instances were cited of deliberate attempts at deception in making and shipping cheese. All cheese of a factory should be uniform in weight, etc. Bad boxing was bitterly complained of.

Hon. John Dryden, in his accustomed interesting manner, addressed a most attentive audience. He urged the earnest co-operation of the patron, the maker, the exporter and the Government in doing the best work. He deplored the fact that

the men who most need the instruction will not come to these meetings. The education must be carried to these men. The farmers must be shown a more excellent way in order that they may do better. The \$2,000 fines this year is a serious matter, indicating a wrong appreciation of a present apparent gain. He urged the taking of the next convention to Ontario County, that the farmers there may get the advantage of such valuable conventions as this. The man who hopes to get along must have integrity of character.

Curing Cheese.—Mr. Ruddick dealt with this subject. Three cheese that were made and cured in an experiment were exhibited on the platform. They were made in an ordinary factory and cured in varying temperatures, one in proper curing room, a second in a less perfect curing room, and the third in a poor room, such as too many factories have. A committee from the Montreal Cheese and Butter Association reported on these cheese, as follows: Those cured in best room were worth 10 cents per pound, the next grade 9 cents, and the lot made in the poor room were worth only 9 cents per pound. These were made in summer months. The matter of shrinkage is important. In room No. 1, where temperature went no higher than 65 degrees, the shrinkage in from three to five weeks was 2.53 per cent., while in the room at 85 degrees it was 3.95 per cent., while in the poor room, where the temperature ran up to 91 degrees, the shrinkage was 4.14 per cent., so that loss occurs in quality and quantity by curing cheese under poor conditions.

The Dairy Outlook.—Prof. Robertson, in a comprehensive speech, expressed the belief that one hundred years hence we will have a population in Canada of 65,000,000 people, and their position and happiness would largely depend on the Canadian people during the next twenty years. It is a fact that there are increasing difficulties requiring more knowledge and care. Knowledge and ability are both necessary to success, and not always found in the same man. Progress will not come through pap feeding. Every man is as lazy as he can afford to be, so that to have to exert ourselves is our salvation.

Intelligence, practical ability and co-operation have enabled us to increase enormously in the output of our cheese, butter and bacon during the last ten years. In 1896, the export of six chief food products from Canada amounted to \$37,000,000 worth, compared with the exports of the same lines in 1900 of \$69,000,000 worth. A thorough understanding of why we do things aids materially in making the best of every effort put forth. This is exemplified by the effects of best crop rotation. Clover, corn and a cereal crop in succession helps each one, and gives three big important crops for dairying. It is well to understand the reason for the advantages found in this rotation. Two bottles of peas were shown from crops selected for three years, one bottle from largest peas produced from the third year's selection and the other from the smallest peas selected three years in succession. The difference is that each of the large peas weighed twice as much as the small ones. Both lots started from the same pod three years ago. The same holds good in selecting all seed grains. The same principles applied to cattle give similar results.

The question of keeping dairy products was discussed. Milk four hours old, above 70 degrees, is liable to develop bad flavors. In butter, fermentation goes on at high temperature. It should be held at temperature below 34 degrees. The speaker sold June butter in December for 28 cents per pound. It had been kept in cold storage.

Referring to the curing in cheese, sub earth ducts were recommended instead of ice for the curing room. Those in conjunction with insulated curing rooms, double windows and doors, will give a temperature of 63 degrees in hot weather. This is like the English climate, in which the highest-priced cheese is cured.

The Dairy Cow.—Ex-Governor Hoard, of Wisconsin, talked of the importance of improving the class of cows kept, and deprecated the lack of intelligent interest in this feature of the dairy business. He illustrated, by figures from a cow census taken of the States of Iowa and Wisconsin, the folly of dairymen resisting the influence of a knowledge of the truth. According to this census, it was shown that 5,507 cows, managed by 667 farmers, in one year brought themselves in debt to the amount of \$25,000, the loss occurring from lack of information and of thoroughness in work, inferior cows, and wasteful methods in feeding and care.

Bacteriology in Relation to Cleanliness in Butter and Cheese Making. by Dr. Connell, of Queen's University: Bacteria are microscopic plants requiring favorable temperature, air and other conditions. All have some function in nature, as putrefaction, decomposition, etc. They also cause fermentations and many diseases. They grow only on substances suitable to them. Milk and its products supply suitable cultures for certain species. Cream-ripening and cheese-curing depend on bacteria. Abnormal condition of milk may be ascribed to abnormal species of bacteria. Filth is dangerous, since it contains dangerous bacteria. By cleanliness, the abnormal species can be excluded. Manure particles contain enormous quantities of bad bacteria. Road dust also contains the same bad species. A good lactic starter will largely overcome harmful species. The trouble can be best overcome by prevention in the form of strict cleanliness. Carrying home whey in the cans is not a cleanly habit. Flies can seed milk to a greater extent than is often supposed.

Cleanliness in the Dairy.—Mrs. Yuill referred to the need for education of farmers' wives and daughters. Milk cans should be washed, scalded and rinsed every time they are used. Have milk-stand away from swill barrel. In cleaning the cow's udder, do it with a brush and damp cloth. The use of tobacco while working with cows was strongly condemned. Strain milk through flannel cloth. She honored the cheesemaker and butter-maker who will send milk home. Butter should not be made on the farm at all, but the burden of thoroughly cleaning all the utensils belongs still to the farmers' wives and daughters. She recommended the patron who has milk sent home to be diligent in learning the cause of the trouble and rectifying it.

Change Your Methods.—Ex-Governor Hoard talked straight business under this heading to the patrons. The best cow will not do well in a cold stable and having ice water to drink. The cow must be treated according to her physical condition. The frugal, industrious, studious man will improve with every opportunity, while the man who would not change himself over to suit a cow—who would not furnish his mind—will fail to keep up in the race, but will go down and drop out.

By study of food prices and values, the cost of milk can be much reduced. This can be done by weeding out the poor cows and putting good ones in their places. A monthly test will greatly help to size up her value. The mother cow must have suitable care. Her system is relaxed, and she cannot stand exposure. These things must be studied and understood. There is money in a knowledge of foods and methods. The development of the heifer is important. She should have good dairy ancestry. Prevent the growth of fat. Breed her at 15 months old. Feed liberally of milk-producing food, to develop the udder. A cow trained to make tallow cannot make butter-fat profitably. If a cow yields a balanced milk abundantly, she must have a well-balanced food to do it with. Millet, flax and oats is a good combination crop to grow.

Use only a true dairy cow, give her the right sort of food, use skill in feeding, give attention to the production of the right sort of food, and the right care and handling of the cow. Produce milk at less cost. We must make milk by the acre, the cow, and the 100 pounds. We must learn to make as much profit with milk at 85 cents per cwt. as we use to at \$1 per 100 pounds. Modern ideas will do it. Good calculation and good energy will bring progress and profit.

Inspectors' Report.—Seven inspectors and instructors reported their season's work. They visited the factories asking for them in their respective districts, and even then could not get around as often as they should. Each one reported improved conditions in some portions of their fields, but still too many poor factories and curing rooms in others. Considerable time was spent in testing milk, and every inspector found tampered milk. For this cause, some \$4,000 in fines were collected from patrons for watering or skimming milk. At the end of this report there was a very spirited discussion, in which many took part. The general contention was that the inspection and instruction should be done by separate classes of men. It was held by several that the makers and patrons should know when to expect the instructor, that they may be prepared to get the most out of his visits. Paying for milk by Babcock test was urged and recommended as a means of stopping tampering with milk. Ex-Governor Hoard spoke on the use of the test. He said the farmers are not aware of the justice of the test method. He claimed that the cheesemaker thinks he has not the time to conduct the test, so that both patron and maker are against its use. In six months after the test method was applied to the Hoard creameries, the average butter-fat rose from 3.97 to 4.36 per cent. The use of the test in the cheese factory will stop tampering with milk and cause a general improvement in the cheese. The patron should receive the full value for his milk, and the maker should strive to get that for him.

Officers Elected for 1901.—President, D. Derbyshire, Brockville; First Vice-President, John McTavish, Vancamp; Second Vice-President, L. L. Gallagher, Wilton; Third Vice-President, John Echlon, Carleton Place. Directors—Division No. 1, Edward Kidd, North Gower; Division No. 2, William Eager, Morrisburg; Division No. 3, John R. Dargavel, Elgin; Division No. 4, James Whitton, Wellman's Corners; Division No. 5, T. B. Carlow, Warkworth; Division No. 6, Henry Wade, Toronto. Secretary, R. G. Murphy, Elgin. Treasurer, P. R. Daly, Foxboro. Auditors—Morden Bird, Stirling; F. W. Benton, Belleville. Official Stenographer, T. McGillicuddy, Toronto.

A VETERAN'S APPRECIATION.

KENNETH MCKENZIE, Burnside, Man., writes from Los Angeles, Cal., where he is spending the winter:—"I am delighted to receive the Christmas number of the FARMER'S ADVOCATE. It is so tastefully gotten up, with much useful information re stock-raising, agriculture, etc. Although not now actually engaged in farming, I take a deep interest therein, and would desire every farmer and ranchman in Manitoba and the Northwest Territories to read the FARMER'S ADVOCATE, as I consider it second to no other agricultural paper published in America. I have taken the ADVOCATE for about 30 years, and consider it always a good paper, and am glad to say that I find it keeping fully abreast of the times, and each year improving."
January 3rd, 1901.

Risk of Judging Cows by Their Looks.

The best looking cows are not always the best performers in the dairy. A striking illustration of this was afforded by the recent experience of a well-known Jersey breeder. This gentleman had for years made the dairy qualities of his cattle a subject of special study, and prided himself upon the fact that he possessed a thorough knowledge of the proportionate values of the various cows owned by him. With the intention of weeding out some of the worst members of the herd, he recently proceeded to single out several of them, but before finally deciding in the matter he had the milk of these cows analyzed, with the result that one of them, which he had priced among the very lowest, was found to be yielding at the rate of 16 pounds of butter per week, though her reputation prior to that only credited her with producing about half that quantity.

Fast vs. Slow Milking.

In a recent issue of the *Farmer's Gazette* reference was made to the relative merits of fast and slow milking. As bearing upon this subject, an experiment recently carried out with the object of determining to what extent the milk capacity of cows was influenced by quick or by slow milking will doubtless be of interest. Five cows were milked for the period of a month by two persons, one of whom did his milking in the usual way, while the other was informed of the fact that an experiment was in progress, and was requested to milk the cows as thoroughly as he could and in the shortest possible space of time. The two milkers were given the cows for periods of a fortnight each, with the result that in the case of the one who was unaware of the experiment the yield of milk of the five cows for the two weeks during which he milked them was 86 gallons, while the same cows in the charge of the man who was aware of the experiment, and who milked them as rapidly and completely as he could, amounted to 112 gallons in the fortnight. There was thus a gain of 26 gallons in favor of the man who adopted the more rapid and thorough system.

Dairying in the New Century.

We enter upon the new century with all the advancement of the past and an ever-increasing determination to still further improve our methods. In the competition some are leaving their fellows in the race, and the methods of these men are worthy of imitation. Among dairymen we find those who are making money and are satisfied with their lot, while others, equally strenuous in their efforts, have more or less to discourage them. We cannot hope to find out everything for ourselves; nor is it necessary, as successful men are invariably sufficiently broad-minded and unselfish to tell out the good things they have learned in their own experience. There are many such successful men keeping cows, and it is to them we address the following questions which an "Old Dairyman" has answered according to his own experience. Let many others who are doing a profitable dairy business send us answers to these questions for publication, that we may learn from one another. The questions answered by "Old Dairyman" are these:

1st. Kindly outline your method of improving your milking herd, having reference to breeding, selection and development of heifers; also testing cows and discarding the unprofitable ones?

2nd. How do you feed and care for your milking cows? Kindly refer to kind of feed, how prepared, how and when fed, method of stabling, watering, exercise, cleanliness, etc., which you find give you most satisfactory returns? (Health of cow included.)

3rd. What do you find to be the best use to make of skim milk? In case of calves and pigs, respectively, should it be fed sweet, sour, warm or cold, alone or mixed with other substances?

4th. What have you found the best substitute for the cream removed from the milk and the best method of feeding it?

5th. How long should dairy cows stand, and what do you find best to do to have them calve?

OLD DAIRYMAN'S ANSWER TO NO. 1.

I have no special method of improving my milking herd, but I do select the best of the best, and I do not breed from any cow that on any one year has produced less than 100 pounds of butter.

success of the business, I have made it a point to improve and increase the working capacity of my cows, weeding out the worst performers, turning them into beef and replacing them with purchased cows showing the indications of good workers at the pail, and by raising the heifer calves from my best milking cows, being careful to breed only from a bull whose dam was known to me to be a deep milker and descended from a heavy-milking family. I make it a rule to have the milk of any cows which do not give a fair quantity tested by use of the Babcock test, and unless the percentage of butter-fat is high enough to offset the lack in quantity, I plan to dispose of them as soon as a favorable opportunity offers. I breed my heifers to produce their first calf at about 2½ years old and milk them for nearly a whole year if they will hold out so long, breeding them to produce their second calves not sooner than one year from the date of their first. This, I find, tends to fix the habit of persistent milking for a long term.

(2) In winter I give, each day, one or two feeds of good hay (clover preferred), a liberal supply of a mixture of ensilage, pulped roots and chaff or cut straw, mixed and allowed to stand 12 hours before feeding. Feed this twice a day, with a moderate grain ration composed of a mixture of bran, ground oats and peas, corn or barley, in about equal quantities by weight; about one gallon of the mixture twice a day. Feed hay last thing at night. My stabling is a stone-wall basement, with concrete cement floor, and well lighted and ventilated. Cows are turned out once a day to drink at a trough, water being pumped by hand as required, and cows are allowed exercise in yard only during the time they are drinking, or a few minutes longer on fine

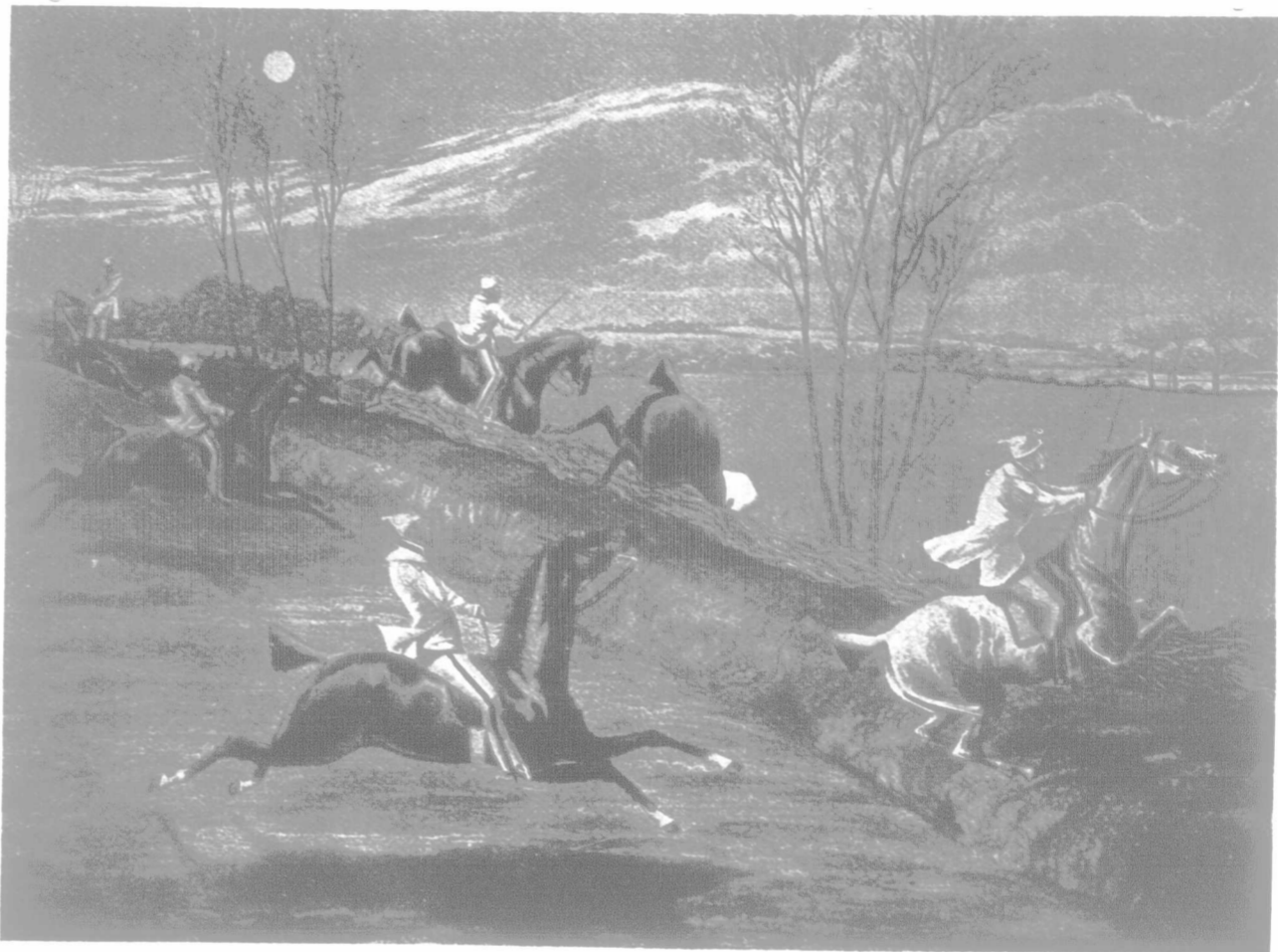
flaxseed may be fed to advantage with the milk if given in moderation. By eating dry feed, which is mixed with the saliva of the mouth, digestion is perfected and health and thrift is maintained. When calves get to be three months old and have learned to eat freely, if milk is scarce, or is needed for other purposes, warm water may be added and the quantity of milk reduced, and the calves will hardly miss it.

(5) As to how long a cow should go dry before calving, I think it depends a good deal on the cow. After the first year, if she is disposed to go dry three months before she is due to calve, let her go. She will do better work when she comes in again than if she had been milked longer. But if a cow continues to milk well up to within a month of the time she is due, and in an exceptional case, where she shows little or no tendency to go dry, I would milk her right up to calving rather than force her dry, as I have known not a few cases of cows milking steadily for years without going dry, and doing a much better year's work than many that were willing to quit work three or four months before calving. As a rule I prefer to let a cow dry about six weeks before she is due to calve again. I prefer to have most of my cows to calve in the fall, from October 1st to January 1st, as I feed my cows liberally during the winter months to make them do their best work while butter brings the best price and calves can be most advantageously fed. Then I find that when the cows go out to grass in spring they flush up in their milk and make a good record at the cheese factory while the pastures are fresh, and will keep it up pretty well through the summer if a supply of ensilage has been carried over to be fed to them

once or twice a day when pastures fail and flies worry the cows. If we have not ensilage, we find it pays to cut some green feed to carry to the cows during this period, or even to feed some bran and meal to keep up the milk flow, as when once allowed to shrink it costs more to bring them back to their former work, if, indeed, it can be done in that year. The fall calves will have grown and learned to feed so well before grass comes in the spring that they will do without milk and will be ready to find for themselves when the grass comes. Of course, we cannot always manage to have all the cows come fresh in the fall, and there is an advantage, especially in buttermaking, in having an odd cow come in fresh in the spring and summer months. It makes the butter churn quicker, and the fresh cows, giving a larger flow, help to keep the supply of milk up to a more uniform quantity. I think late spring and summer calves do better kept in a shed or box stall the first summer.

My methods may not be up-to-date in all particulars, as I have not all the latest improvements; but my wife makes good butter, and lots of people want it and are willing to pay a good price for it, a good deal better than the market price. I hope others will write of their ways of doing, as I think none of us are too old to learn, and we ought to be willing to tell what we know. OLD DAIRYMAN.

Calves which are reared by hand are more subject to digestive disorders than those which are allowed to run with their dams. This, however, is only to be expected. When suckled by their dams, calves lead what may be described as a natural method of living, as they are enabled to obtain their milk supplies in small quantities and at as frequent intervals as they feel disposed. On the other hand, when artificially fed, the periods between meals are much longer than under the natural system, and in addition to this the food is given very often at irregular hours and not always in the same quantity or at the same temperature. When the calf feeds off its dam, the milk which it imbibes is always of the natural blood heat, and the quantity taken is just as much as is necessary for immediate requirements, the calf knowing by instinct that when another supply is necessary, it has its dam's udder to resort to and procure it. It is different when the calf is fed by hand. Under this system the animal soon gets to know that the lapse of time between the hours of feeding is comparatively long, and it is therefore tempted to consume a larger quantity than may be good for it. The result is that digestive derangements of various kinds are created.



WHOOOP AND AWAY! THE FIRST STEEPLCHASE ON RECORD.

days, while stables are being cleaned out and feed placed in mangers.

(3) I feed the skim milk to calves as far as required and the balance to pigs. Feed the separated milk alone to calves while warm, or skim milk warmed to blood heat upon the stove or by the addition of hot water. If fed to young pigs in cold weather it is warmed in same manner and given as a drink, meal and shorts being fed dry in separate trough. In warm weather the meal and shorts mixed with the milk and the milk fed to pigs, sweet preferably, and to calves invariably sweet.

(4) I feed the calves for first three weeks whole milk fresh from the cow, in small quantity, three times a day for first two weeks, twice a day from that time, and for the fourth week a mixture of skim milk and new milk, with a slight increase in quantity. After fourth week all skim milk. By this time, if clover hay and a little bran and ground oats has been kept in reach, the calf will have learned to eat a little, and a small proportion of ground oil cake, nutted size, should be added to the dry meal and bran, of which the calf will eat sufficient to make up for the lack of fat in separated milk, and with the addition of some sliced roots fed regularly every day, will grow and thrive, which is all that is necessary in a dairy calf, since it is not wise to make them fat, and is indeed injurious as a preparation for the career of a dairy cow. I believe more calves are lost or spoiled by feeding too much milk or by feeding it when cold than by giving them too little, and I have little use for the feeding of porridge, and none for raw meal with milk, believing it is very often the cause of indigestion and scouring and the stunting of the calves. Boiled

Strikes a Popular Chord.

YOU "DO US PROUD."

W. J. MAYBERRY, Newdale, Man.:—"Your Christmas number is something every farmer should be proud of."

A PLEASURE.

J. H. KINNEAR, Souris, Man.:—"Enclosed you will find \$1.00 to pay my subscription for 1901. It is with pleasure I send my renewal."

ECLIPSES ALL PREVIOUS NUMBERS.

WILLIAM CHALMERS, Hayfield, Man.:—"Received Christmas number of ADVOCATE on time this year, and think it eclipses all former numbers."

WORTH DOUBLE THE COST.

W. UMBRICK, Virden, Man.:—"I am very pleased with the ADVOCATE. I would not be without it for double the price, and I recommend it as a good farmers' journal."

PERFECT.

A. H. SNYDER, Carstairs, Alta.:—"The Christmas number of the ADVOCATE received, and I am highly pleased with it. I think it is perfect. Your paper is the best I know of for the farmer."

GIVES PRACTICAL KNOWLEDGE.

COLLES & DEWINTON, Shoal Lake, Man.:—"We have been a subscriber to your paper for some years. We derive much benefit and practical knowledge from reading the FARMER'S ADVOCATE."

KNEW SIR TATTON.

RICHARD WRIGHT, Oak Lake:—"I received Christmas number, and am very much pleased with it. The contents are excellent, especially the article on 'Sir Tatton Sykes.' I knew the old gentleman in England."

NEW SUBSCRIBERS ROLLING IN.

FREDERICK CAMPBELL, Lacombe, Alta.:—"Enclosed find remittance for my renewal and two new subscribers. Send no premium in the meantime, as I purpose adding a few more subscribers to your admirable paper."

ILLUSTRATIONS A LESSON.

KENNETH McIVOR, Roslea Stock Farm, Virden, Man.:—"Kindly accept my best thanks for extra copy of your Christmas number. I might add that the effort is a credit to you. The illustrations alone are a lesson worth remembering and striving after by every admirer of live stock."

HANDSOME.

W. H. THOMPSON, Emerson, Man.:—"I am in receipt of the Christmas number of the FARMER'S ADVOCATE, and think it very handsome, the paper being of excellent quality and the engravings beautiful. I enclose you \$2.00 for two new subscribers, and hope to obtain some more."

TAKES FIRST PLACE.

R. H. HENDERSON, Rockton, Ont.:—"The FARMER'S ADVOCATE (either edition) is a very valuable agricultural journal, and I give it the first place among the agricultural papers and would not be without a copy. I wish you prosperity with your agricultural paper, as it has proved a great factor in the advancement of Canadian agriculture."

SHOULD BE IN EVERY FARMHOUSE.

WM. HEMBROFF, Russell, Man.:—"Enclosed find \$1.00 being my subscription for 1901. I have taken the FARMER'S ADVOCATE nearly ever since its Western edition started, and have got a good many pointers from it in that time. I think it should be in every farmhouse, and that every farmer would derive benefit from it, as none of us are too old to learn. Your Christmas number for 1900 is a splendid one. Wishing you success."

A PLEASANT SURPRISE.

JOHN CLAZEE, Whitewater, Man.:—"In renewing subscription to your valuable paper, with which I am well pleased, I must say the Christmas number was a very pleasant surprise to me, and I also enclosed you the name of a new subscriber, for which send me 'Canada's Columbian Victors,' and also the Christmas number, for which I sent you the post-office order. I was pleased to get the

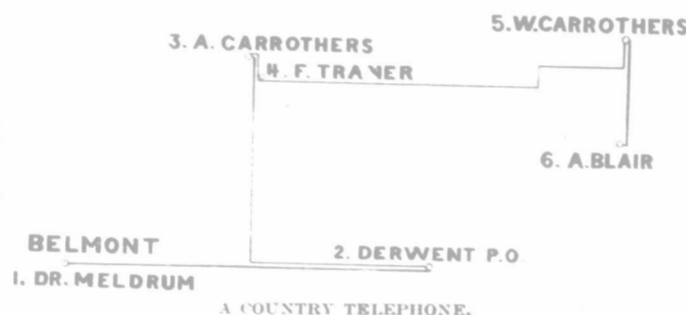
three color pictures. Wishing you a prosperous New Year."

BEST CHRISTMAS BOX.

R. J. TAYLOR, Hartney, Man.:—"I received the Christmas number last night, and consider it the best Christmas box I received. I would be pleased to endeavor to secure some new subscribers for you."

The Country Telephone.

It was thought by some that the inimitable Bengough, in his contribution to the Christmas FARMER'S ADVOCATE, had allowed his nimble fancy to get too far ahead of prospective facts in portraying the condition and methods of the 20th century farmer. While in every particular he may not have hit exactly upon the line of future achievement, yet in several cases he certainly did. In fact, in one or two instances he was only giving us the poet's vivid discernment of what has already been done. Indeed, Solomon was not literally so very far astray when he said there was no new thing under the sun. Take for example the thrifty housewife telephoning her order to the corner grocery, as Bengough depicted her. There are already plenty of country telephones in existence. Here and there we have the Bell telephone system extending its lines far out into the suburbs of cities and towns for the use of market gardeners, truck farmers and others having much dealing with townspeople. But quite independent of the general system, we find in many sections of the country small telephone lines in operation. These have often been established by country physicians for the convenience of their practice. In case of sudden illness or accident, or a bad turn in a patient's symptoms, half a dozen miles from the village, on a dark night, with highways as yet untouched by the good roads movement, how much simpler and more speedy to step to the instrument in the kitchen and ring up the doctor, who can thus reach the case in less than half the time ordinarily taken. Besides this, it can be utilized for sending many other messages by



those upon the line. In some cases these systems have been erected wholly at the expense of the physician: in others, the people supply and erect the poles, while the doctor furnishes the instruments, wire, etc., and completes the rest of the work.

The accompanying illustration shows in outline an eight (8) mile country telephone system recently completed from the office and drug store of Dr. J. A. Meldrum, at the village of Belmont, in the County of Middlesex, Ont. As will be seen, there are six instruments on the line, and the calls are made by rings corresponding with the numbers (one to six). When a call is made every instrument on the line will ring, but only the person will answer whose number is rung. The ordinary courtesy of not prying into other people's affairs is deemed sufficient safeguard in that respect. Otherwise, separate wires to each house would be required, and a more elaborate and costly system.

There being a call for information regarding the method and cost of establishing such lines as these, a few particulars will be of value to our readers. Depending upon the locality, good cedar posts about 20 feet long will cost from 25 to 50 cents each. These are put down four feet in the ground, 10 rods apart, or 32 posts to the mile. Then there will be the cost of hauling and putting them in. Porcelain insulators cost two cents each, and, in addition, small iron spikes or screws to fasten them to the posts or crosspieces. Glass insulators and blocks cost about six cents each. No. 12 galvanized iron wire will answer, and will require from 125 to 150 lbs. to the mile, costing from \$3.25 to \$3.50 per 100 lbs. Two men will put up a mile of wire per day. The instruments, which may be obtained from the Bell Telephone Company, cost \$12.50 each, besides which some insulated wire and window tubes for the houses will be required. From time to time the water in the batteries will need a little renewing. Care must be taken that the lines are kept perfectly insulated at all points.

We believe the tendency will be, where these small local telephones get in operation, that the people ere long will wish them connected with the general telephone system of the country, so as to be within call of business people and others in cities and towns.

S. P. FRENCH, JR., Vernon, B. C.:—"I look forward with eagerness to the arrival of your paper from issue to issue, and there are very few papers that I read with as much pleasure and profit."

Masculine Character in Dairy Bulls.

In a recent issue of the *Jersey Bulletin*, Mr. L. S. Hardin discusses the subject above named in an able article, in which he refers to a contribution to the same paper some months ago on the same subject by Mr. F. S. Peer, calling attention to the absurdity of making a scale of points for a cow fit a bull, in these words: "The following are some of the points required, and by which bulls as well as females are judged: 'Head small and lean; eyes full and placid; neck thin and rather long and not heavy at shoulders; barrel deep at flank; hips wide apart; disposition quiet.' It will be seen that in applying this scale of points to bulls the most effeminate bull in the class must necessarily be the winner."

The fad now prevailing about rudimentaries or embryo teats on bulls gets its share of disclaimer at his hands. Indeed, he can see no more in the rudimentary fad than in any other of the numerous marks and signs that sanguine but narrow natures find sticking out on cows and bulls, crying for tyros to come and read them. But it is stretching this superstition pretty far when we transfer a female's characteristics to a bull's form (or vice versa) in order to produce a given result.

If any one thinks this matter easily settled he should have been present when the old Solons, the master breeding minds of the American Jersey Cattle Club, wrestled with this mighty subject. I remember the final conclusion was that, as the purpose was to create a female, we had better select a female-looking bull to produce females. The idea was to get effeminate animals to produce female animals. I went home thoroughly imbued with this idea, and bought Living Storm, that looked more like a steer than a bull.

Records of performance were not kept in those days, and there is no telling what the result of his breeding was. I soon gave him up for an imported, bull-looking bull.

The result of this prevailing fad was the present scale of points of the American Jersey Cattle Club—a decree that no one has had the courage since to attack at the meetings of the Club. The old saw that "like produces like" was the father of the idea that prevailed in making up this scale of points of which the female occupies all the foreground, with a minute description, and the bull is dismissed with these words: "For bulls, omit points Nos. 11, 12 and 14, which refer to udder and milk veins."

Drummond, in his "Ascent of Man," tells us the object of sexes was to create variety in the species, for it is by departure from the type that evolution takes place. If the rule was absolute that like produces like, we could not make an improvement in the offspring. As Mr. Peer says, a manly man does not put whiskers on his daughter's face, but he does add to the manliness of his son's form; and the reverse of this rule would be pitiful with the breastless and hipless daughters of the effeminate father.

Under these grotesque conditions, what are we to do about the form of the bull? It is impossible to follow the A. J. C. C. scale of points without danger of destroying the constitution of the breed, fining it out to absolute imbecility. Let us hope the Club members can be induced to remodel the scale, and in the meantime take as our model these beautiful specimens that are being brought over from the Island of Jersey. They are certainly beautiful to look at, and with plenty of butter in their pedigrees they should suit the most skeptical, whether they possess any of the boasted signs or not. It is enough to know that nature made a bull bulky and a cow cowy.

The Next Canadian Census.

The next Canadian census (taken every ten years) is to be taken beginning on April 1st next, and will be completed in about two weeks. All persons living at midnight on March 31st will be counted. The country is divided into census districts corresponding with electoral districts and polling subdivisions. The work is under the general direction of Mr. Arch. Blue, formerly chief of the Ontario Bureau of Mines and the Ontario Bureau of Statistics, a most capable man for the position.

The fourth schedule calls for dates as to farm lands, fruits and plantations. Under this heading, the authorities will arrive at the acreage occupied, owned, leased or rented, improved, unimproved, in forest, in field crops, in pasture, in orchard, in vegetables and small fruits, in vineyard and nurseries, the number of non-bearing and bearing of apple, pear, peach, plum, cherry and other fruit trees, of grapevines and their yield, the yield of maple syrup, and number of plantations of forest and ornamental trees. A return of field products in the fifth schedule will embrace full statistics as to wheat, barley, oats, rye, corn, buckwheat, peas, beans, mixed grains, hay, potatoes and other roots, forage crops, flax, tobacco, hops, grass and clover seed, calling for area and production. The fifth schedule will elicit figures to show the number of live stock, including horses, cattle, sheep, fowl, bees, swine, the quantity of wool, homemade butter, eggs, and honey. It also calls for a table of pure-bred stock. Schedule seven is drawn up to secure a table of agricultural values, lands, buildings, rents, return from crops, value of live stock, farm implements, dairy produce, pure-bred stock, wool, eggs, honey, wax, the weeks of hired labor on farms, the payments of hired help.

Brooders and Brooding.

Having raised chickens by both natural and artificial means, I have settled definitely in my mind the fact that we can raise better poultry and more of it by the brooder than by the hen. I mean by this that we can raise not only a larger quantity, but a better quality. Brooder-raised chicks are superior in growth, development, shape and plumage to those raised by hens, and I can give many reasons why this is so, reasons which cannot help but be apparent to the unprejudiced poultryman. I consider an incubator superior to the hen for hatching, yet I think a good brooder superior to the hen, for raising chicks, in a greater degree.

Let me caution all against buying cheap brooders, for they prove very expensive in the end. Out of the many brooders made and advertised, there should be no trouble to select a good one. I do not advocate any particular make of brooder, yet I will try to give a few points which a brooder must contain to make it a success. I have no use whatever for an outdoor brooder, unless it is used indoors, and then why not use an indoor brooder, because it is cheaper, and there are some requirements in an outdoor brooder that are unnecessary and would only be obstructions if used indoors. During the month of March, when we ought to raise the bulk of our chicks, an outdoor brooder cannot be used at all; and in April and May there are some days when it is impossible for chicks to run outdoors. Imagine confining 50 to 100 chicks in a brooder three by four feet, for two or three whole days when the weather is stormy, and expecting them to do well. And during these days the feeding would have to be done in the brooder, which is absolutely a bad idea, for the brooder should only be used for supplying sufficient warmth for the chicks, and not a place for feeding them.

In a properly constructed brooder the floor should be built as near the ground as possible. It should be capable of supplying sufficient heat. The heat should be mainly top heat, with just sufficient bottom heat to keep the floor dry. The temperature under the hover should be 90° for the first week, and after that should be gradually reduced, but not too quickly. The chicks will tell you if you have the temperature incorrect, for if they are too cool they will huddle together, and if too warm they will crowd to the door with their mouths open, gasping. And if the door is open they will get out of the brooder altogether. But if the temperature is just right they will go around chirping, happy and content. Remember that overheating is just as injurious and will cause bowel trouble just as quickly as will a chilly atmosphere.

I have made a small house, 6x10 feet, with windows enough to admit sufficient light. In a corner of this house I place the brooder, and after the chicks are three days old I give them the run of the house. On fine days the chicks are allowed the run of the yard at the back of the house. In stormy weather the chicks are kept in the house. At the end of six or eight weeks the brooder is removed and roosts placed in the house, about a foot high. For food for the first two weeks, I use bread soaked in milk (squeezed as dry as possible), millet seed, cracked wheat, and rolled oats. Fine grit and water are kept before them all the time. After the second week I feed them a mash composed of bran, shorts, oatmeal and cornmeal damped and mixed into a crumbly (not sloppy) condition, wheat, oats, and cracked corn. Be careful not to overfeed. Small chicks will commence to scratch as soon as hungry, and they should be kept at it.

It is needless to say that attention to details is necessary to success. Clean the brooder frequently, and keep the surroundings in a sanitary condition. Get the chicks out on the ground as soon as possible, if but for a few minutes every day.

Perth Co.

PERRY F. DOUPE.

Fresh Eggs in Winter.

The farmer's wife who goes out to the henhouse and carries in her apron full of fresh eggs feels proud, and justly so, of her good management, for she has solved the question, "How can I make my hens lay in winter?"

We hear people say sometimes, "I don't know what is the matter with our hens—we feed them well, they have a warm house, and yet they won't lay." My friend, don't blame the poor hens, just blame yourself. There is some reason why they don't lay. Perhaps your henhouse is situated where the beautiful rays of the sun never penetrate. Or perhaps you think it is too much trouble to look after them right. But when eggs are from 20 to 24 cents a dozen in the market, it pays to take a little trouble.

What a treat is a fresh egg in winter, and what an amount of nourishment it contains! The invalid cannot afford to do without eggs, even though they are scarce and dear. If properly cooked they will agree with a very delicate stomach. A soft-boiled egg is very digestible. One way to cook an egg nicely is to pour boiling water into a tin dish, put in the egg, stand the vessel on the back of the stove, where it will not boil, for five minutes precisely. Then your egg is just delicious.

But to come back to the question, "How do you manage to make your hens lay in winter?" Well, it is not very hard if you just know how, and are not afraid of work. You must have patience, perseverance and grit. The hens must have all too, though not of the same quality. You must give them lime and ground bone to make shells for the eggs. Give them plenty of

clean water, and a dish of warm skim milk every morning. You must feed them regularly even if the weather is stormy. Buckwheat and wheat are good for them. You must have some ashes or road dust where they can gain access to it without going out in the cold, for them to take a bath in. They need some vegetables also. They are very fond of cabbage. Give them a sheaf of wheat occasionally; let them thresh it themselves. Watch how they enjoy it, how actively they go to work. Now, I want to give the women a little advice; the men need not read this, it is for women only. I suppose you have a quarter of beef, at least, hanging in your shed, and some more salted down in the barrel. Of course your husbands are good providers. Now, when you go out to get a piece to cook for dinner, don't be miserly. If there are six in the family altogether, cook enough for seven or eight; who knows but a stranger may drop in. Well, you cook your meat and sit down to your dinner, but the visitor fails to appear. Never mind, the meat won't be wasted, though there is some left. When you go to clear off the table, gather up every scrap of meat you can find; take a sharp knife and cut it up in small pieces. Now take it out to your feathered boarders, and it will do you good to see how they enjoy it. They will almost try to thank you for it, though their language is a little hard to understand. They just love meat. Some one may say, the men especially, that it is a waste to give meat to the hens, that it would be more economical to warm it up for the next day. I answer: It is not wasted, the hens will pay you for it in fresh eggs. Doesn't it seem as if our feathered boarders are a little fastidious or touchy? If we don't vary the bill of fare sometimes, if we don't give them their hash or mash—warm and well seasoned with pepper—if we don't keep their rooms warm, well lighted and very clean, what happens then? Why, they refuse to pay us. Our egg supply is cut off. If we want eggs we must give biddy a variety of food, a good large place for scratching or taking exercise in, and neither overfed nor underfed her.

MRS. ANNIE RODD.

Prince Edward Island.

Winter Production of Eggs.

SUMMER CONDITION THE SECRET OF SUCCESS.

Can hens be made to lay in cold weather? How often we hear this question asked. My answer is yes, if you surround biddy with everything you can to make it look like summer to her. Then laying is easy, and you will have hardly a day without eggs. In summer, insect life, green food, grit, sunshine, dusting and exercising places are all free as pure air. You have all seen hens trudge behind a plow waiting for worms or grubs to turn up for her. During winter all such supplies are replaced by pork or beef scraps, or livers, hearts and lungs bought from the butcher, cooked and chopped up, and fed once or twice a week. Raw meal is more laxative and requires closer watching. Milk and linseed meal are good substitutes for meat, but the latter when not laxative is very fattening. Sweet milk can hardly be overdone, though if it should form her exclusive diet, biddy's eggs would have pale and clouded interiors. Be "megum" in all things, as Josiah Allen's wife says.

[ED. NOTE.—Last winter the writer's flock was doing fairly well in turning out eggs, when someone recommended feeding skim milk. We took the advice, and in less than a week every hen had stopped laying. We were told by many poultry-keepers afterwards that they had learned the same lesson. Since that time we have fed milk sparingly if at all to laying hens. It is all right for the growing chicks.]

Every third day vegetables are boiled and fed warm. My usual combination is potatoes, with a few carrots and onions, a pepper pod and a slice of salt pork. My chicks think they are getting their beloved onions, but I know they are also getting carrots to help secure those golden yolks, just as popular and beautiful as golden butter. When cooked, the vegetables are skimmed out and mashed, have their liquor added, and the whole thickened with shorts or mixed meal. Clover chaff is fed dry or placed in a pail on top of my mixed meals, where it gets first benefit of my scalding water. Then the whole is allowed to steam a few minutes. It is surprising how green the chaff particles become, and what a strong odor of hay tea even such simple treatment yields without any trouble of boiling. Biddy needs grit as much as human beings do, only hers is of a different kind. My grit for chicks comes from the lake shore, the small gravel. Coal ashes with their clinkers rapidly disappear before my hens. To give our hens appetite, many substances not directly valuable may become indirectly so by creating a desire for something that is more essential. So much food goes to create animal heat, that it is much cheaper to provide some heat. This you can easily do by warming their grain in the oven. A soft, warm, easily-digested mess is given early in the morning, meal being the basis one day, vegetables the next, and meal with clover chaff and table scraps every third. Oats, barley and wheat ground together can be highly recommended as pudding material.

I know a man, rather well-to-do, but not posted on hens, who lost many one winter. Being asked what he fed, he replied "corn." "Do you warm it?" "No, but I shovel in lots to them." That is a good way to kill hens. Put plenty of straw on the floor for them to scratch in, and be sure to have plenty of

windows to let the sunshine in. If they are dirty and fly-specked, wash them. A neighbor once asked me, "What do you wash your henhouse windows for, anyway?" "To let in the light, of course."

The roosts are painted with kerosene or rubbed with onions. Dust or plaster should be scattered over droppings, which should be often removed, and sulphur occasionally shaken into the nests. When biddy surveys a vermin-infested house, we can imagine her saying, "Give me liberty or give me death." A request which must and will be answered one way or the other before long. Many times have I labored over the problem of keeping poultry and their quarters clean, till my mind and both arms ached. Such is the close connection of organs that activity of one helps activity of the other. A hen scratching around till dark is the one that will drop an egg next day. An eastern writer gave chopped straw as the main secret of winter egg production. This drew out some discussion on how he fed it, till he explained that the straw only covered the scattered grain and made the hens scratch for it. Leghorns closely resemble those wild fowls still found in Java, and yield, by unanimous assent, most eggs in a year.

If you will follow these few instructions you will not be without eggs in even the coldest weather. Your hens must be young, free from disease, and kept in a clean house. They will twitter and sing all day long. You feel like saying with Uncle Jacob, "De singin' of birds am sweet, but de cacklin' of hens on yer own roos' has a heap mo' expression."

FARMER'S WIFE.

What the Press Thinks of the Farmer's Advocate.

"It is a magnificent production."—*Clifford Express*.

"Read with delight and profit."—*Leamington News*.

"We congratulate the FARMER'S ADVOCATE upon its success."—*Toronto Star*.

"Nearly everything is embellished with beautiful engravings."—*Welland Tribune*.

"One cannot be surprised at the strong hold the FARMER'S ADVOCATE has upon the people everywhere."—*Charlottetown, P. E. I., Guardian*.

"J. W. Bengough, the inimitable, turns the X rays on the 20th century farmer and puts the whole country in good humor."—*Stratford Beacon*.

"The souvenir Christmas number of the FARMER'S ADVOCATE is one of the best all-round farm journals we have ever had the pleasure of perusing."—*Cremore Star*.

"We often hear of works of art! If the Christmas number of the FARMER'S ADVOCATE (Canada) doesn't come under this category, we are anxious to see the paper that does."—*Wool Markets and Sheep, Chicago*.

"Apart from its incomparable strength in regular issues as an agricultural paper, the Christmas issue goes to every regular subscriber of the FARMER'S ADVOCATE without extra charge."—*Newmarket Era*.

"The FARMER'S ADVOCATE Christmas number is a credit to that old, reliable and enterprising firm. It is beautifully gotten up and profusely illustrated with cuts of stock, farm scenes and prominent agriculturists in various parts of the Dominion and elsewhere."—*Markdale Standard*.

"The souvenir Christmas number of the FARMER'S ADVOCATE appropriately begins with a study in human progress, based on the history of the 19th and previous centuries, followed by contributions from many of the brightest minds on the continent, like principal Grant and Hon. J. W. Longley, recounting the greatest achievements of the past one hundred years and indicating the course of future success."—*Barrie Gazette*.

"The FARMER'S ADVOCATE has issued a Christmas number that, typographically and artistically, is a credit to the leading organ of the Canadian agricultural community. The character of the reading matter evidences painstaking work in its preparation, and the fine class of paper and the cuts which profusely illustrate the number show that expense has not been spared in putting it in the subscribers' hands in a most attractive form."—*Montreal Gazette*.

"The Wm. Weld Co. have issued a very handsome Christmas number of the FARMER'S ADVOCATE, that excellent farm journal published in London and Winnipeg. It is printed on fine book paper, and contains many portraits of eminent agriculturists in the Dominion, as well as views of well-known stock farms, groups of live stock, etc. The letterpress is also of exceptional interest and altogether the number is a credit to its enterprising publishers."—*Chronicle, Ingersoll*.

"The Christmas number of the FARMER'S ADVOCATE for a number of years past has been one of the best and most interesting numbers that reaches this office, and we feel certain that the thousands of readers of this excellent farm journal will agree with us that this year's Christmas issue beats all previous ones in many ways. It is full of interesting and instructive articles from the pens of some of the best writers and deepest thinkers on the continent, touching almost every subject, and the illustrations are particularly numerous and fine. There is no extra charge for this issue to regular subscribers of the FARMER'S ADVOCATE, and this issue alone is worth the full price of a year's subscription."—*Aylmer Express*.

Awards of Medals, etc., for Canadian Fruit at the Paris Exposition.

All our Provinces had a noble record of fruit exhibits at the Paris Exposition, and we shall await the full and complete report of the prizes awarded when the commission has completed its labors.

In the meantime, Mr. Robert Hamilton, of Grenville, Que., who was at Paris during a great part of the season, sends us an incomplete list of our awards from memory, explaining, at the same time, that he could give far more information only for the unfortunate loss of all his papers, photos, etc., on shipboard.

The following is Mr. Hamilton's list:

June 27—Awards for natural fruit—old apples—to Provinces and the Dominion—a gold medal to each: Dominion of Canada, British Columbia, Ontario, Quebec, Nova Scotia; a silver medal to New Brunswick; a bronze medal to Prince Edward Island.

July 11—Natural fruit disallowed on this occasion. Fruit, preserved, non-edible—a gold medal and grand prize to the Dominion of Canada; a gold medal to each: British Columbia, Ontario, Quebec, and Nova Scotia; a gold medal to the Northwest Territory of Canada; a gold medal to the Experimental Farms of Canada.

July 25—Natural fruit, 1899. Awards to Fruit Growers' Associations; a gold medal and grand prize to the Dominion of Canada; a gold medal each to British Columbia, Ontario, Quebec, Nova Scotia; a silver medal to New Brunswick and a bronze medal to Prince Edward Island.

Aug. 8—Natural fruit, old, 1899. Awards to local Fruit Growers' Associations: To Grimsby, Ont.; Burlington, Ont.; Montreal, Que.; L'Islet, Que.; Abbotsford, Que.; Nova Scotia, and British Columbia, a gold medal to each.

Aug. 22—Natural fruit, old, 1899. Awards to Provinces: A gold medal each to British Columbia, Ontario, Quebec, Nova Scotia, New Brunswick; a silver medal to Prince Edward Island.

Sept. 5—Natural fruit, old, 1899. A gold medal was again awarded to each of the Provinces—British Columbia, Ontario, Quebec, Nova Scotia, New Brunswick.

Sept. 22—Natural fruit, new (a few old). The fruit arrived late, but a committee of the jury made the awards on arrival of the fruit. A gold medal was awarded to Ontario, Quebec, Nova Scotia, and to Linus Woolverton; a silver medal was awarded to Robt. Brodie, St. Henri, Montreal, and to J. W. Bigelow, Wolfville, N.S.

Oct. 10—Natural fruit, new, 1900, and also of 1899. A gold medal was again awarded the Provinces—Ontario, Quebec, and Nova Scotia.

Oct. 31—New fruit, 1900. Other awards were made, but I had left before this date.

Dominion Regulation Re Importation of Nursery Stock.

By an Ottawa order-in-council, dated January 5, exemption from the operation of the San José Scale Act is granted to nursery stock from any country or State to which the Act referred to applies. Importations will be permitted to enter only at the customs ports of St. John, N. B.; St. John's, Que.; Niagara Falls and Windsor, and Winnipeg, between 15th March to 15th May in the spring, and 7th October to 7th December in the autumn of each year, and at Vancouver during the winter months only, from 15th October to 15th March. At the above-named ports the stock will be thoroughly fumigated with hydrocyanic acid gas by a competent Government officer. All shipments made in accordance with the above will be entirely at the risk of the shippers or consignees, the Government assuming no risk whatever. Packages must be addressed so as to enter Canada at one of the ports of entry mentioned, and the route by which they will be shipped must be clearly stated upon each package. Well matured and thoroughly dormant nursery stock may be safely treated, but that there is danger of serious injury to the trees if fumigated in the autumn before the buds are thoroughly dormant, or in the spring after the buds have begun to unfold, all the stock which, when received, is immature or too far advanced for safe treatment, will be refused entry and held at the risk of the shipper.

Why Cows Should be "Clean Stripped."

It is a well-established fact that careless stripping is one of the most fruitful causes of making cows go dry. Experiments have conclusively demonstrated that cows which are stripped quite dry at each milking, not only continue longer in milk, but produce a greater quantity of milk, with exactly the same feeding, than if the animals are carelessly stripped and a certain portion of the milk left behind at each milking. For this reason alone dairy farmers should always insist upon their cows being milked thoroughly dry. There is another reason, too, why complete stripping should be insisted on. It is a well-known fact that the last-drawn milk is considerably richer in butter-fat than what is known as the fore milk or that first withdrawn from the udder. So far as the presence of butter-fat is concerned, it has been well said that half a pint at the end is worth a quart at the beginning, because it has been repeatedly shown that the strippings contain from four to five and six times more butter-fat than that portion of the milk which is first drawn.

Distribution of Samples of Seed Grain and Potatoes.

During the past twelve years samples of those varieties of grain, etc., which have succeeded best on the several Experimental Farms have been distributed on application, in 3-lb. bags, free through the mail, to farmers in all parts of the Dominion. The object in view in this distribution has been to add to the productiveness and improve the quality of these important agricultural products throughout the country, by placing within reach of every farmer pure seed of the most vigorous and productive sorts. This work has met with much appreciation and a large measure of success.

Under instruction of the Hon. Minister of Agriculture, another distribution will be made this season. Owing to the very large number of applications annually received, it is not practicable to send more than one sample to each applicant; hence, if an individual receives a sample of oats, he cannot also receive one of wheat, barley or potatoes, and applications for more than one sample for one household cannot be entertained. These samples will be sent only to those who apply personally. Lists of names from societies or individuals cannot be considered. The distribution will consist, as heretofore, of samples of oats, spring wheat, barley, field peas, Indian corn, and potatoes.

Applications should be addressed to the Director of Experimental Farms, Ottawa, and may be sent any time before the 1st of March, 1901, after which date the lists will be closed, so that the samples asked for may all be sent out in good time for sowing. Parties writing will please mention the sort of sample they would prefer, naming two or three different varieties of their choice. Should the available stock of all the varieties named be exhausted, some other good sort will be sent instead.

The samples of grain will be sent early, but potatoes cannot be distributed until danger in transit by frost is over. No provision has been made for any general distribution of any other seeds than those named.

Letters may be sent to the Experimental Farm free of postage.
W. M. SAUNDERS,
Director Experimental Farms.
Ottawa, December 27th, 1900.

QUESTIONS AND ANSWERS.

Veterinary.

SIDEBONES IN MARES.

FARMER, Waterloo Co., Ont.:—"Mare seven years old appears slightly tender on front feet. About a year ago last spring I consulted a V. S., who said she had sidebones, and gave us a blister which only blistered her slightly. I do not think it helped her any. She has small, hard lumps on the sides of her feet about one inch above hoof. Seems more tender when travelling on the hard road. Is gradually getting worse. What can we do for her? Was first treatment right? Your Xmas number was a splendid number."

[If your mare really has sidebones there can practically be nothing done more than keeping the feet soft by poulticing. In sound horses you can feel at the heel on each side, just above the hoof, what are called the lateral cartilages. They can be felt under the skin, and are quite flexible. Sidebones consist in a conversion of these cartilages into bone, and then they can be felt more readily, but they are inflexible and generally enlarged so as to be noticeable to the sight. When once established, little can be done, as we cannot cause a conversion into cartilage again. The treatment adopted was correct. If the trouble be ringbone, appearing only on the sides, which is sometimes the case (and is sometimes wrongly called sidebones), it is probable firing and blistering by a veterinarian will effect a cure. Of course, the lameness can be removed, but the disease not cured, by an operation known as neurotony—removing the nerves. This can be performed only by an expert, and the after-results are often unsatisfactory.]
J. H. REED, V. S.]

WOUND IN FRONT OF HOCK.

J. S. K., Dundas Co., Ont.:—"I have a colt that got cut with barb wire, on July 4th, in front of the hock, and I cannot get it to heal, as I am like the story of the man and the ass: I have tried everything that anybody told me, but I do not seem to succeed, as it still stays a raw sore. I have tried lime, Kendall's Spavin Cure, bluestone, electric oil, carbolic acid and lard, and some medicine I got from the vet. But none seem to do it any good, so I am applying to you."

[Wounds in this region are very hard to heal, as the flexion of the joint at each step causes the wound to open and close. No doubt by this time there are unhealthy granulations in your case—the sore has become chronic. But I think you can get it to heal by the following treatment, but it is probable there will be a narrow space across the joint in which the hair will not grow: Get ½ oz. butter of antimony, and with a feather apply a little to the raw surface once daily for 3 applications. After that, apply twice daily the following ointment: Boracic acid, 4 drams; vaseline, 2 ozs.; carbolic acid, 10 drops; *misc. well*. Keep the colt as quiet as possible, and feed light, easily-digested food, and if at any time the sore should appear to have what is known as proud flesh, the healing operations cease, apply a little butter of antimony again.]
J. H. REED, V. S.]

Miscellaneous.

DEHORNING—CHEESY BUTTER.

SUBSCRIBER, Assa.:—"Kindly let me know through your paper and oblige:

"1st. What is the best time of the year to dehorn cattle, also how young a beast can be dehorned without any injury to it, and can cattle be too old for dehorning?"

"2nd. What causes butter to taste cheesy? The butter is kept in the cellar."

[1. Cattle may be dehorned at almost any time. Of course, it is not wise to dehorn in very hot or very cold weather. Calves can be successfully dehorned, or rather the horn growth may be checked by the use of chemicals, such as caustic potash, or the little horn buttons may be cut out with a knife or small clippers made for the purpose. But we believe the objects of dehorning are best served by removing the horns after the animal has reached the age of two years. The operation may be performed with a saw or with clippers made for the purpose. Care should be taken, however, that when using clippers the horn be not crushed. In removing the horn, be careful to go deep, taking a little of the skin that adheres around the base of the horn along with it. We never heard of any injury through this operation on account of the age of the animal.

2. Probably the cream from which your butter was made had been kept too long and was overripe when churned.]

HOW TO MAKE CHEESE.

SUBSCRIBER, Ninga, Man.:—"Please inform me through your valuable paper how to make cheese?"

[It is impossible in a short article to teach anyone how to make cheese. Experience is absolutely necessary. If subscriber has kept his back numbers of the ADVOCATE (we supply a very strong, neat binder for 75 cents, or two new paid subscribers, which holds a year's issues very conveniently, and this makes an invaluable book of reference) he will find in July 20th issue, on page 383, some explicit directions on homemade cheesemaking that will be helpful. There are several books recently written that will prove helpful. They may be obtained through this office. Decker's "Cheesemaking" is highly recommended. Could subscriber make it convenient to take a course at the Government Dairy School, now in session in Winnipeg, he would doubtless find it to his advantage.]

NO NEED OF PRESERVATIVES.

E. C. T., B. C.:—"Kindly let me know if any preservative is allowable for milk, as I expect to ship a good deal this summer; in which case, how am I to preserve it for use after half a day's railway journey?"

[The use of preservatives in milk makes the milk less easily digested, and if it does not cause actual injury to the consumer, certainly the food value of the milk is decreased. Pure, clean milk, thoroughly cooled as quickly as possible after milking, and kept on ice till shipping, will require no preservatives to keep it in good condition for the length of time you specify. Insulated or jacketed cans would assist somewhat in preserving the milk at a low temperature.]

IS SMUTTY WHEAT SAFE FOR SEED?

J. S., Strathclair:—"The only wheat that I have for distribution next spring is somewhat tagged with smut. Do you consider it safe to use this for seed, provided I thoroughly treat it with bluestone?"

[Generally speaking, a careful and thorough treatment of smutty wheat with bluestone will completely destroy all spores of smut, but there is more or less risk in sowing even treated smutty seed. I always recommend that smutty seed be sold for what it will bring, and only clean seed, free of smut, be sown, and even this should be treated with bluestone.]
S. A. BEDFORD.]

BIG GAIN IN PIG FEEDING.

W. B., Wellington Co., Ont.:—"I would like to know how R. M., Lennox Co., fed those pigs that made such an unusual gain. I think it would be a great boon to us farmers to get the recipe. I hope he will make it public."

[In reference to the above, our genial friend, G. W. Clemons, St. George, Ont., writes:—"I see in your Jan. 5th issue that a subscriber claims to have pigs which gained 1.75 lbs. per day from birth, and notice your suggestion that he tell how they were fed. For my part, I would hazard the guess that they were fed on elephant's milk, as we all know the story of the baby who gained five pounds daily when fed on elephant's milk, but it was the elephant's baby."]

CAN THE WELL BE CEMENTED?

LESLIE G. TROUP, Welland Co., Ont.:—"Would you or some of your readers answer a question for me? I have a well dug twenty feet deep, four feet in diameter, stoned up loose, drilled ten feet in the rock. Could I cement it up, and get it tight, to keep the surface water out? The water rises one foot above the rock, and can be pumped out."

[We leave this question for our readers to answer. It is important from a sanitary standpoint, and we hope to receive clear descriptions of how to line a well so as to exclude surface water.]

POUNDS OF FOOD TO RAISE A HOG.

J. C. G.:—"How many bushels, and what kind of grain, would it require to raise and fatten a hog, commencing when weaned, about eight weeks old, and finishing it off at about 180 lbs. This hog is to be raised in the cheapest and most improved manner?"

[So much depends on the thrift of pigs, the comfort of their quarters and the wisdom with which they are handled and fed in order that they may make the best of their food, it is impossible to answer this question in a manner to correspond with the practice of every good feeder. A hog may go a little wrong in his digestion and cease to gain, or may even lose weight. All the food he consumes at that time, and for a period following, gives his owner no returns. Again, we find some hog-raisers getting gains as high as 1.75 pounds per day from birth till the hogs weigh nearly 200 pounds each. Some time ago, Mr. Wm. Rennie conducted an experiment, at Guelph Agricultural College Farm, to learn the cost of producing pork. He fed 24 pigs from weaning time up to about 200 pounds each, at a cost of food per pig as follows: Roots, 34 pounds; middlings, 45 pounds; bran, 100 pounds; mixed chop, 61 pounds; skim milk, 137 pounds; ground flax, 14 pounds. This is the result of one experiment carefully carried out. Repeated experiments have proved that under favorable circumstances it requires about 4 1/2 pounds of mixed grain, such as middlings, corn, barley and peas, for each pound of gain made in thrifty pigs during the first six months. Eight pounds of mangels give results about equal to 1 pound of grain. Skim milk, too, saves grain where fed in conjunction with grain; for instance, 100 pounds of corn gives an increase of 10 pounds of gain, and 100 pounds of skim milk gave a gain of 5 pounds of weight. When the corn and milk were fed together, 100 pounds of each produced 19 pounds live weight. The cost of pork production is an intricate problem that will bear much investigation.]

CANADIAN AUTHORS.

STUDENT, Perth, Ont.:—"Being greatly interested in Frank Lawson's article in your Christmas number, upon 'Canadians who Have Added Luster to 19th Century Literature,' I desire to follow up the subject still further, and would be glad if you would indicate a few of the principal volumes which these writers have published."

[The Canadian poets mentioned in Mr. Lawson's article, such as Chas. G. D. Roberts, Frederick Geo. Scott, Bliss Carman, D. C. Scott, Archibald Lampman, W. W. Campbell, Dr. W. H. Drummond, Jean Blewett, E. Pauline Johnston, Ethelwyn Wetherald, Chas. Sangster, J. W. Bengough, have each published one or more volumes under various titles. Among the prose writings are: Grant Allen—"Physiological Ethics," "The Evolutionist at Large," "Anglo-Saxon Britain," "Charles Darwin," "What's Bred in the Bone," "This Mortal Coil." Robert Barr—"In a Steamer Chair," "The Face and the Mask," "In the Midst of Alarms," "The Mutable Many." W. A. Fraser—"Mooswa of the Boundaries." C. W. Gordon—"Black Rock," "The Sky Pilot." Haliburton—"Sam Slick." Wm. Kingsford—"History of Canada." Wm. Kirby—"The Golden Dog," "Annals of Niagara." D'Arcy McGee—"History of Ireland." Gilbert Parker—"The Seats of the Mighty," "Pierre and His People," "The Chief Factor," "Battle of the Strong," "An Adventurer of the North." Chas. G. D. Roberts—"History of Canada," "The Forge in the Forest," "A Sister of Evangeline," "Heart of the Ancient Wood." Ernest Seton Thompson—"The Biography of a Grizzly," "The Trail of the Sandhill Stag," "Wild Animals I Have Known." Goldwin Smith—"England and America," "The Irish Question," "William Cowper," "Political History of England." Sir John W. Dawson—"The Origin of the World," "Story of Earth and Man," "The Dawn of Life." Catherine Parr Trail—"Backwoods of Canada." "Pearls and Pebbles." Dr. Daniel Wilson—"Life of Chatterton," "Caliban." Dr. Wilhroch—"The Catacombs of Rome," "History of Canada," "Barbara Heck," "Our Own Country."]

CONVEYING WATER BY SIPHON.

J. L. Grey Co.:—"What size piping is required and what is the best kind to convey water about twenty rods, from well to barn, the water to be raised 11 feet up out of the well and then have a gradual fall of 12 feet 6 inches to barn? What is the best system of conveying water out of a well with that much of a raise, without pumping. I intend to have the piping run through a 3-inch tile, 3 feet underground."

[I should judge that the size and kind of pipe best suited to this purpose would be 1-inch or 1 1/2-inch galvanized iron, the size depending on the quantity of water required. The only system for conveying water, in these circumstances, without pumping, is that of the siphon. The pipe should extend as far into the water in the well as possible without danger of sucking up sediment; it must be air-tight throughout its whole length, and the end at the barn should be kept as low as possible, the difference of a foot and a half being a small motive force to run a siphon. To start the siphon, it would be necessary to fill the pipe by some means. The easiest way, perhaps, would be to attach a pump to the pipe at the barn end, and draw the water from the well through the pipe. When once filled, it will continue to run, if the above conditions are observed.] J. B. REXFORDS, Ontario Agricultural College.

PRUNING GRAPEVINES—NEGLECTED LINE FENCING.

X. Y. Z., Norfolk Co., Ont.:—"1. What time of year is best to trim grapevines?"

"2. What is to be done where neighbor keeps neglecting to fix his share of line fence, and stock break in year after year?"

[1. Grapevines may be pruned at any time during the winter. From November to late in February is a good time to prune. The sap flows very freely from cuts made in spring and early summer, causing what is termed as "bleeding" from the wood. The vine is cut off an inch or two beyond the last bud which it is desired to leave, in order to avoid injury to the bud from the drying out of the end of the cane.

2. It is open to the injured party to take advantage of the provisions of the Line Fences Act (Revised Statutes of Ontario, 1897, chapter 284), and so compel his negligent neighbor to keep up and repair his portion of the fence. The Revised Statute respecting Pounds (R. S. O., 97, c. 272) also provides appropriate, although only temporary, relief in such cases. In addition to the proceedings above suggested, or in lieu thereof, the party complaining may take legal proceedings against the neighbor as for trespass and obtain damages and an injunction requiring him to do the necessary repairs as required by the Line Fences Act; and it is probable that a letter to him calling upon him to do such repairs forthwith, and warning him that in case of further default on his part such action would be taken, would have the desired effect.]

MANGELS FOR COWS—WHOLE OATS FOR STEERS?

JOHN DOUGHTY, Norfolk Co., Ont.:—"1. How many pounds of mangels should be given to milking cows per day, and at what time of day is the best to give the same—morning, noon or night?"

"2. Is it as profitable to feed whole oats to fatten steers as to chop them? We feed whole oats morning and night and chop at noon."

[1. About forty pounds of mangels in two feeds, morning and evening, is good feeding for a mature cow in milk.

2. While we have never made a test of feeding whole oats to fattening cattle, nor heard reports of such a test, we feel confident that it will pay well to have the oats ground. In fact, cattle make rather slow gains on oats alone for grain, and do much better on a mixture of corn, peas, barley or oil cake with the oats, half and half, all ground rather finely and fed on ensilage, cut hay or pulped roots, or a mixture of these.]

SAWDUST ON LAND.

WILLIAM HALLIDAY, Lanark Co., Ont.:—"I am using sawdust (mixed hardwood, pine and hemlock) for bedding cattle, and putting it on the land direct from the stables. Some of my neighbors tell me it will injure the soil. Kindly give me your opinion on the subject through the ADVOCATE, and oblige?"

[There is no manurial value in sawdust, and it physically injures the water-holding power of the soil. An application of sawdust to heavy, tenacious clay may do it good by making it more open in texture, but this same effect on loam or light soil would do harm, inasmuch as it would cause it to dry out badly. However, the limited quantity that would go on the land in the case mentioned would not, in our opinion, have any noticeable injurious effect.]

ANALYSIS OF SOILS.

F. R., Brant Co., Ont.:—"I have often thought, in looking over experiments and their results in using various fertilizers, that they can not be of very much guide unless an analysis of the soil be made first, for perhaps on a different soil, differing in composition from that upon which the experiments were carried out, entirely different results might be produced. Perhaps you might be able to give a little light on the subject. Is there any inexpensive way by which an intelligent farmer could get a rough idea of the amount of the three chief plant foods in his soil, so that he might add that which was lacking, and not throw away hard-earned money by applying what was then already in sufficient quantity. The price of fertilizers is so great that for ordinary farmers it is hardly possible to make any profit by their use, unless they be applied with the greatest care."

[About the only practical method of arriving at a knowledge of the requirements of soil is to make a test by applying to plots upon which similar crops are growing, nitrate of soda, superphosphate, muriate of potash, and a mixture of the three. In this way a fairly accurate judgment can be arrived at as to the needs of the soil in question. Even a chemical analysis of soil is an unsatisfactory guide as to what manures are most needed, because much of the elements shown to exist by the analysis is in a condition that plants cannot feed upon it.]

FOR CRIBBING HORSES.

C. O., Grey Co., writes:—"A simpler cure than that in your last issue is as follows: Take sheepskin and tack it on the manger and all parts where a horse can get his teeth to. He will not touch sheepskin, and will thus be entirely cured in a short time. My neighbor cured his horse by this simple method. It is probably the cheapest and easiest way of effecting a cure."

GRAIN MIXTURE FOR GREEN CROP.

H. B., Leeds Co., Ont.:—"I have about four acres of thin land, beside my pasture. What can I sow on it to produce the most green feed? The pasture gets dry about July 1st. Is there such a thing as spring rye?"

[There is such a grain as spring rye, but it is not much grown. The most satisfactory crop to sow in spring for green feed in July is oats and peas, two bushels of the former to one of the latter per acre. It is well to sow at three or four intervals, ten days apart, so as to prolong the season for cutting the food green. Lucerne should do well on this soil if it has an open subsoil. It should be sown alone in spring, about eighteen pounds per acre, on clean land. The crop would not yield much the first season, though on rich land it may be cut once the first year, but the second and following years two or more cuttings should be produced, and it holds in the land for several years. We would recommend a trial on a small area.]

DURHAMS AND SHORTHORNS AGAIN—MISSED HIS FARMER'S ADVOCATE.

GEO. McTAVISH, Ontario Co., Ont.:—"1. Are the Shorthorn and Durham cattle the same, and can they both be registered by Hy. Wade in the same herdbook at Toronto? 2. Having profited so much by reading the FARMER'S ADVOCATE, I wish to have the past year's copies bound, but lack one issue: can I obtain it?"

[1. Yes. See answer to similar question, page 21, Jan. 5th issue. Hy. Wade is the Registrar for Shorthorn cattle. 2. Advise us the date of the missing number. For months past, owing to the demand for extra copies by new subscribers, the supply of most issues has been completely exhausted. We would advise our readers not to delay in writing us if any issue of the paper does not reach them through the mails in good time, otherwise it may not be possible to secure same.]

Chatty Stock Letter from Chicago.

[BY OUR OWN CORRESPONDENT.]

A good many cattle being marketed at present are of the short-fed kind—been on feed 90 to 100 days. Some of them are selling for less than they cost when taken out, being poor cattle poorly handled. Others, again, are being bought by countrymen and sent back to be finished. Most of these short-fed cattle, however, are too inferior to bother with in a feed lot. Steers of the dairy breeds, and "crooked," unthrifty young cattle, do not pay to finish out even if they occasionally pay for being short-fed. A man from Atlanta says the long-fed cattle are all gone from his country, and the supply of fat steers for the immediate market rather scarce.

Veal calves are selling 50c. higher than a while ago, mostly at \$6.25. This seems high, especially when dressed calves are selling at 9c. on South Water street. A year ago veal calves were selling at \$8 to \$8.50, with veal "on the street" at 13c. and "skins at 12c. Now skins are only 11c., which makes a lot of difference.

Ripe fat cattle are scarce, and are going to sell higher. Mark the prediction. It takes no prophet or son of a prophet to see this. People who made them too heavy a year ago are making the opposite mistake now. 'Twas ever thus.

The cattle good enough for exporters are getting decidedly scarce. The best cattle are selling at \$6 to \$6.15, against \$6.50 to \$6.60 a year ago.

Best heavy hogs are selling at \$5.40, against \$4.60 a year ago, and best light at \$5.25, against \$4.15 a year ago. Hogs that sold at the top of the market one day recently averaged 24 lbs., and on another day 30 lbs. A short month ago buyers were giving a premium for the medium weights, and now there is a decided preference for the big ones. The average weight of last week's hogs was only 27 lbs., a falling off of 20 lbs. from last autumn, when 300 to 600 lb. hogs were very plentiful.

The hog receipts lately did not respond to the advancing prices. In about a week there was an upturn of 10c. on prices, with no big run of hogs as a consequence. One day, when 47,500 arrived quite unexpectedly, the market opened 10c. lower, but finally closed strong. The supply, considering the big advance lately made and the inducements offered the country to ship hogs, was not large. Had the run contained a decent proportion of good heavy hogs it would have been different, but it was a fair run of light butcher weights.

Packers have no stocks of provisions, and are really not in condition to see hog prices go up, but the consumptive demand for fresh meat is so strong that the competition for hogs on this account forces the prices upward.

The sheep situation is not entirely satisfactory, but prices are by no means low. Some prime Mexican yearlings, averaging 77 to 78 lbs., sold at \$3.15 to \$3.25, with heavy yearlings, suitable to export, \$4.55. The light ones sell so well because they can be handled as lamb meat. Prime lambs sold up to \$5.55, against \$6.25 a year ago.

A lot of 25,000 Western sheep, 130 to 140 lbs., is being delivered in Chicago, 5,000 a month to go to England, at a cost of \$5 per 100 lbs. here.

The Export Trade.

The Imperial Government prohibiting animals from the Argentine entering any of the markets of Great Britain, due to foot and mouth disease prevailing among them, caused a stoppage of that trade. Mr. A. Thompson, who has for the last three years been engaged in the trade, thinks it is killed for good, and with every probability of the same embargo being placed on the American cattle, whilst the authorities are only waiting a favorable time to place an embargo on all live cattle entering Great Britain. This has caused values to increase on all cattle sent from Canada. The price went up in the early part of the season to \$5.50 per cwt., but the decline set in rapidly and prices fell to about the lowest point. Shippers lost all they made on their early shipments, and the season closed the most unprofitable on record for Ontario. With regard to the export of cattle from the Northwest, which shows an increase of over 15,000 head, Messrs. Gordon & Ironsides shipped about 10,000 head of ranch cattle, but the price fell off toward the latter part of the season. Had it not been for the Northwest cattle, Canada export trade would have shown a great decrease. The number shipped from Montreal to all ports for the year 1900 was: cattle, 92,591; sheep, 34,888; horses, 2,882. This does not include the horses sent by Great Britain to South Africa, which amount to 3,000 all told.

The export of eggs had a very successful season, but while Canada has done well, there is still room to double the output when it is considered that Great Britain takes 60,315,980 dozen. Canada only contributed the small number of 243,392 boxes. The Ontario shippers, Messrs. Gunn Bros., of Front street, Montreal, shipped over 55,000 boxes to Liverpool, Glasgow and Manchester, heading the entire list for Canadian eggs.

Philip D. Armour, the multi-millionaire, head of the great Chicago packing house of Armour & Co., died Jan. 10th, 1901, after nearly two years' illness.



A DECLARATION OF INDEPENDENCE.

BY SOPHIE BRONSON TITTERINGTON.

It's a good many years since the Britishers found out that the folks on this side of the water meant business when they set up for themselves. Other folks since then has had to declare independence, and fight for it, too. I've got a story to tell about that line.

It all come through them turkeys. The question wuz about partnership. What air partners? Kin a man an' a woman be partners, when the woman is partner only when she's got somethin' worth sharin', while the man is partner the hull livin' time? That wuz the pint that bothered me. It don't bother me now, though.

The way of it wuz this: Me an' Elnathan Jacobs hev bin married a leetle over twenty-five year. We didn't hev an acre to start on, but we rented a farm, an' by hard work, airly an' late, we got a bit ahead every year, till we bought a farm fur ourselves. Elnathan wuz stiddy an' industrious, while I wuz willin' to work, an' willin' to pinch, an' did my full share of it. Them wuz happy days, in spite of tiredness an' poverty.

Elnathan, he got so in the habit of sayin' and pinchin', he didn't seem to think we could do any other way, leastwise in the house, even when we wuz puttin' money in the bank every season. He could buy farm machinery, an' fine stock, but there the spendin' stopped. We wimmen folks could do without, when conveniences wuz talked about.

But I started out to tell about them turkeys. You see, when we begun, the eggs an' chickens an' butter went to the store fur groceries an' clothes. That wuz all we had to buy 'em with, an' I wuz glad to do that way. As we got forehanded, I felt as if I ort to hev the chicken an' egg money, seein' as how I tuk all the care of the chickens. Malviny she's our darter, an' a mighty purty, clever one, if I do say it as orn't to—wanted leetle fixin's, such as other girls had. The young fellers liked to shine up to her, an' I didn't blame 'em a mite, but she wuz that proud-spirited she wouldn't ax 'em into our parlor, it wuz so bare an' old-fashioned.

"I wouldn't care, ma," she said, "ef pa wuz poor, an' couldn't afford anythin' better. But everybody knows he is makin' money, an' I'm ashamed to hev folks see such a lookin' room."

"Why, Malviny," says I, more to comfort her than anythin' else, fur I wuz a good deal of her way of thinkin', "the parlor carpet wuz new two year ago, an' it's real bright an' cheerful lookin'." It's got some of your Grandma Jacobs' dresses in it, a strip of your Great-aunt Jane's apron, an' a scrap of my weddin' dress. I should think you'd put considerable store by it.

"Pshaw, ma!" she spoke up, "I don't think much of puttin' the relics of our ancestors' clothes under foot to be walked on. There's some sense in puttin' 'em into a quilt, but not into a rag-carpet. They're all right in their place, an' real homelike, but not in the parlor."

Now this made me feel powerful bad. I telled Elnathan about it that night, an' begged him to let me buy a store carpet fur the parlor.

"Foolish pride! foolish pride!" he said. "That carpet is nice enough fur anybody. I want to buy that quarter-section of Baker, an' won't have no money to spend on gimcracks. Malviny will be glad enough if I can leave her an' Jim each a nice farm."

I knowed it wuz no use to say any more, but I did a mighty lot of thinkin'. If Malviny could hev a pleasant home an' nice company while she wuz young an' lively, I would do more fur her than a farm when the bloom an' joy she missed out of her life had made her old, an' soured, an' lonesome.

Then another thing happened. We went to church in Jacobs-ville when it wuzn't too cold, or too warm, or the horses hadn't been workin' too hard. The wimmen had a sewin' society, an' I hed bin to it one' or twict, an' liked it very much. But one day, in the fall, the parson's wife, she said to me, says she:

"Sister Jacobs, some of us has bin a talkin', an' wishin' we could hev the Society out at your place, some time. We love to go into the country one' in a while."

I wuz struck all in a heap. This wuz wuss an' more of it, I could jest see that parlor, so different from the other parlors which I hed been to. There it wuz, in my mind's eye, with the rag-carpet on the floor, the wooden cheers, an' the old wooden rocker we kept in there to help fill up, an' because it wuz so hard an' straight we didn't like to set in it.

"Sister Taylor," says I, "I ain't jest fixed fur the Society yet. Wait a while, an' I shall be very glad to hev ye all come."

"All right," she said, in a pleased sort of way, an' begun talkin' about somethin' else.

Now, as I told you afore, I hed lived with Elnathan Jacobs fur twenty-five year, an' in all that time I hadn't once fairly made up my mind. I wuz his mind that wuz allers made up, so to speak. But now I wuz that riz up, I determined that things hed got to be different. That parlor wuz goin' to hev a new carpet, an' new furniture, an' lace curtains, like what I hed seen at Society. There was goin' to be a new set of dishes, too, an' whatever wuz needed to make a table look nice. Elnathan wuz a good provider in the eatin' line, 'cause his own stummock wuz very dear to him. I knowed if I hed the dishes, I could set as good a table fur the Society as they'd find anywheres.

I rode my high horse of determination home, though I purty nigh tumbled off in wonderin' how I wuz goin' to carry out all my fine plans. But I grit my teeth an' went to do it, foot an' said to myself, "Sary Ann Jacobs, you've got to do it, or die. You've passed your word to the parson's wife, an' Malviny's frettin' her soul out, an' that's got to be stopped. Jim's our boy—we've only got the two children—an' he's good to his mother. He's eighteen year old, an' his pa's kept him at work, an' give' him mighty little money. You'll git all the more in the end," he telled him, as if that wuz much comfort to a lively lad! So Jim couldn't help me much, but it wuz a comfort to talk it over with him, an' he wuz right in fur doin' all he could.

"See here, ma," he says, "I wuz over to Mis' Haines this mornin', an' her hired girl has gone off an' left her. She's weakly, you know, an' she says to me, 'Jim, if I could only git your mother to bake my bread, I b'lieve I could manage.' You've got too much to do now, ma, but it would be a chance to earn somethin'."

"I'll do it," I said. "You git up the old mare, an' I'll go right over. Malviny kin git supper."

Mis' Haines wuz orful glad to hear that I would make her bread. Fur my bread is known all over Hawkins County, an' facts is not boastin'. In makin' the bargain, I wuz keep-

"Now, Mis' Haines," I says, "I want you to furnish the flour. I'll make the bread biseuit jest as you want them, but it will be out of your flour, not mine."

She looked a leetle surprised, but she agreed to it, an' to the ax I axed her. You see, I wuzn't goin' to hev any partner-

ship mixed up in this dicker. If we hed furnished the flour, Elnathan would hev wanted his pay, an' my share would hev bin small. Well, it worked fust-rate. I made Mis' Haines' bread all winter, an' by spring hed quite a good many dollars hid away in an old chippy pitcher on the north-east corner of my front-parlor shelf. Elnathan would ax once in a while if Mis' Haines wuz paid up fur my work, but all the answer he got wuz jest we hed fixed that between us.

I knowed that bread-makin' alone wouldn't airn near enough money to get half what I needed. Before this, I hed tried time an' time agin to coax Elnathan to buy good stock to improve our poultry. Our old hens were small an' runty, a poor lookin' lot. But he never would spend a cent fur anythin' better, although he paid fifty dollars fur jest one pig. He sed a hen wuz a hen, an' you couldn't make nothin' else out of her. He didn't seem to see the same reason would apply to a pig or a cow. He said eggs sold fur the same whether they wuz small ones or big ones, an' one kind of hen laid jest as well as another. Wimmen folks wuz allers easy imposed upon. Fowls wuz bragged up to sell high, when they wuzn't worth any more than common stock. If the hens wuz small, set more eggs, an' fry more of 'em at a time.

I knowed he wuz wrong, fur Mis' Haines wuz tellyn' me of how much money her darter Sally, who married an' went near a big town, wuz makin' out of her poultry. She hed two kinds, Mis' Haines said—one small kind, they jest shelled out the eggs in the winter, when they wuz high, an' a big kind to sell fur market. She kept 'em apart all the time. Then her turkeys wuz profitable too. She made two hundred dollars jest on turkeys the fall I begun makin' bread fur Mis' Haines. They wuz a big kind, an' she made lots by sellin' eggs at high prices fur other folks to set.

Turkeys! They wuz what I would hev. In the spring I would send fur settin's of eggs from Sally Haines. I didn't ask Elnathan, fur, mind you, this wuzn't no partnership affair.

Through Mis' Haines, who went to Sally's visitin', I got a lot of eggs; not jest turkey eggs alone, but of big chickens too. I took jest as good care as common of the farm fowls—the partnership ones—yes, more than common, an' it seemed as if they never done so well. There wuz plenty of eggs fur the grocery bill an' lots an' lots of chickens.

The hens that sot on my fine eggs, that I paid my bread money fur, did well too. I hed them out in the orchard, 'way off from the rest. Elnathan didn't know a thing about it till he saw the little turkeys runnin' around. Then he didn't object, 'cause he thought they would bring in more partnership money. I didn't say nothin' to the contrary fur the time, fur I didn't want an argument lastin' all summer. One, short an' meanin', wuz enough.

I hed good luck all the season, an' the turkeys an' chickens in the orchard wuz somethin' to be proud of. Thanksgivin' time I hed a lot of turkeys an' big roosters to sell. Elnathan wanted to take them to town fur me, but I telled him I would take them myself. Then he said:

"I'll go with you, Sary Ann, 'cause I want the money fur the next payment on Baker's land."

"Where's the cattle an' hogs you was goin' to sell?" I axed.

"Oh, I'm not quite ready to sell, an' when I am, that kin go in the bank toward what I am layin' by fur a rainy day."

The time hed come. The clock of Destiny hed struck, an' I struck too. I wuz calm outside, fur I wuz battlin' fur duty an' justice—duty to Malviny, an' my own rights to my own airin's.

As I said, I wuz calm outside, but inside I wuz worked up to the pint that I felt I could be eloquent an' convincin'. Leastways, I wuz determined that afore I got through Elnathan Jacobs should be convinced that the wife of his buzzom meant business.

He wuz a settin' in his rookin' cheer, with the hen-feather cushion in it he likes so well, while I towered over him in my consciousness of right.

"Elnathan," says I, "them turkeys an' chickens in the orchard are mine. You ain't got a lean-to on 'em at all. Did you make the bread that airned the money that bought the eggs? Wuz it your back that ached a kneadin' it, when you wuz all wore out with your own home work? Wuz it your hands that turned it out of the oven, light, an' white, an' sweet-smellin'? No, sir! I did it all myself, an' whatever comes from that work is a goin' down into my pocket!"

Elnathan hedn't never seen me so cantankerous. In a soft tone, coaxin' like, he said:

"Why, Sary Ann, ain't this farm our'n? Ain't your name onto the deed as well as mine? Didn't we airn it together?"

"Yes," I said in a tone that made him scringe, "we did airn it together. It wuz my hard work along with your hard work that bought it. But you allers talk of 'my farm,' 'my cattle,' 'my hogs.' If I ax you fur a cent over what will keep us barely decent, or make home pleasant and convenient, you say you can't afford to give it to me. But you kin afford machines fur makin' your part of the work easy, you kin afford fine cattle an' hogs. You say this house is mine as well as your'n. The money the crops and stock brings is mine as well as your'n, but you keep back my share. Partnerships means both sides. Where is the cow and the six hogs my father gave me on our weddin' day? The calves an' pigs hev never brought me a cent to use as I please. You claimed them all, an' the money went where you chose to hev it go."

Elnathan opened his mouth in surprise. I couldn't help thinkin' of how the Britishers must hev felt at the Declaration of Independence. I knew very well how the colonies felt. But mine wuz jest bein' declared, an' I proceeded to go on.

"This house—mine an' yours—this house is mine as well as your'n. The chickens will do part of the fixin' up. When you sell your cattle an' hogs, the price of the best steer an' six hogs is comin' to me. After this, I will hev a share in the profits or know the reason why."

I stood there, calm as an iceberg, an' determined as an iron wedge. My eye pierced Elnathan, fur he wriggled uneasily. My marble look impressed him, as I meant it should.

"Hain't I bin a good wife? I went on. "Hain't I done my share? Look at these hands, as rough, an' brown, an' horny. A woman works more hours in a day than a man. Hasn't she a right to a fair share of what she airns?"

I wuz gettin' sorry fur Elnathan. He looked as if an airtquake hed skaired him an' shuk him all to pieces. But I dassent give in till I hed won the battle. I waited a minute or two, an' then axed in solemn tones:

"Elnathan Jacobs, air them turkeys an' chickens mine—or your'n?"

It wuz powerful hard fur him to give up. But my eye wuz on him, an' the hole it made in his feelin's kept gittin' bigger an' bigger. I stood silent, lettin' the idee work in his mind. The stillness worried him, fur he wriggled wuss than ever, an' the clock ticked so loud it seemed to be sayin': "Mine—your'n! Mine—your'n!"

At last he stopped wrigglin', an' a pleasant look stole into his face. He got up out of his cheer, an' come up to me an' said so soft-like that it sounded like the Elnathan that courted me twenty-five year ago.

"They ain't your'n, Sary Ann, they ain't mine; they're our'n. The farm, an' the house, an' the cattle, an' the hogs, an' the money in the bank—they're all our'n. You shall hev a check-book, Sary Ann, an' draw what you want any time. I kin trust you. An' if you will believe it, he up an' kissed me!"

I'm goin' to hev the Sewin' Society next week. Malviny has company in the parlor every Sunday night, an' it looks as if Frank Haines would claim her one of these days. The old clock ticks away, but it doesn't say "Mine—your'n" any more. It says in a softer way, "All—our'n!" I think it's lots better than to hev things mine an' his'n.

Perry Patettic (in the road)—W'y don't you go in? De dog's all right. Don't you see him wagg'n his tail? Wayworn Watson (at the gate)—Yes, and he's growlin' at the same time. I dunno which end to believe.

A Canadian Girl in Dresden.

DEAR NELL,—

It seems a long time since I said good-by to you all at the Toronto station, and now that I am settled in the third étage of Frau Bohn's family pension, I shall fulfill my promise of telling you something about my journey and the life here. In the first place, Dresden is simply lovely, and I wish there was a whole year, instead of six months, to be spent in it, and two months have already slipped past.

The voyage was pleasant, but uneventful, from which you may infer that there were no nice men on board. The women passengers as a whole were "more interesting than strictly beautiful," and they were all very nice to one another—a fact which may be explained by the absence of men. There was only one really disagreeable person on board, a girlish old thing, of about fifty summers, who made the captain's life a burden with her veiled attentions. She always spoke of herself as "mercifully spared," as if matrimony were a pestilence. I heard the captain mutter something about a "bilious wasp" one day when she had been particularly attentive.

We landed at Nordenham, and took a train there for Bremen. It was my first experience of Continental traveling, and the novelty quite compensated me for any discomforts. The engine and coaches are very small, and it seems to take a dozen men, with queer little shrill whistles, to start one train, and then it goes so slowly that the guard can walk along a narrow platform outside the coaches and collect tickets through the windows! The country between Bremen and Berlin is flat, and sparsely settled, but everything is neat and regular. Even the forests have been planted in row upon row, reminding me of our own nursery gardens. The fields were being plowed as we went along. The plow was drawn by oxen, and a woman following, smoothing the ground with a rake. In every field there were about three women to one man—stunted, thick-waisted, short-skirted, unattractive females. It was a damp, cold day, and the poor creatures all looked half frozen. As a contrast, let me tell you that every cow—pretty little Holsteins—wore a nice warm blanket. They treat the old "moolies" well over here, currying and combing them as carefully as the horses. Of course, there were windmills in plenty, and dear little thatched houses, with funny windows, that seemed to say: "Oh!" But the thatched roofs are becoming rare, because they cannot be insured against fire. The first thing that struck me in the German villages was their warmth of color. The red roofs, and the good strong blue they are not afraid of using, the gay costumes, and the rich green of the tree trunks, which seemed to be all covered with moss, made a much finer picture than a Canadian village of the same size.

We stopped at Berlin over night, and though nearly midnight when we arrived, we took a walk past the Imperial palaces and up the Linden strasse before going to the hotel, where everything was very comfortable, except the beds. They use no double beds, and the covering consists of a feather mattress, which is just long enough to reach from neck to ankle, and it is very hard to decide which end of one's anatomy can best stand a chill. Fortunately, in the Bohn "pension" they conform to Western ideas of comfort, and give us bedclothes of ample length.

Alice Young, the girl who shares the étage with me, is American, very pretty, as bright as a dollar, and well endowed with the national candor. She doesn't approve of my clothes, and said the only fit about them was the fit she got when she looked at them. When I explained that they were all homemade, she said the information was unnecessary. There is no use in being angry with Alice, so I agreed that if she would give me a few hints about dress I would undertake to improve her manners. Frau Bohn lent us her "mahsheen" (bicycle)—"A mahsheen so good, oh! so lofely, a mahsheen from Herr Singer!" she explained. It was probably Herr Singer's virgin essay in the mechanical line—my legs were stiff for days after using it.

We are having fine skating in the splendid outdoor rinks. The Germans skate beautifully, though their skates are something like a "dug-out" with a steel keel. The rinks have a band pavilion in the center, and waiting rooms and beer stalls at the corners, and everyone, even tiny children, drinks the lager.

Dresden is full of historical interest, and I spend days prowling about in the quaint old narrow streets; but it would take another letter to tell you of all the lovely places I have already seen. The city was very gay at Christmas, and for a week beforehand the great market-place was occupied by a fair. Peasants flocked in from the country, and I longed for a kodak or an artist's pencil to fix the quaint, absurd costumes in my memory. You could buy anything in that wonderful fair—boots, dolls, lace, pottery, hot cakes, beer—the ever-present beer—and live stock, and hundreds of Xmas trees, ranging in size from well-grown trees down to tiny bushes, all stuck into wooden pedestals, and looking very like the dear little stiff trees we used to have in our "Noah's arks."

The small boy of the establishment Alice says he looks as if he didn't know any more than the law allowed—is waiting to take this to the post. When I give it to him he will courtesy as if an invisible hand had struck his knees from behind.

Poor child! he has a chronic cold in the head, and that reminds me of a funny thing I learned about Dresden the other day: but I'll tell you of that again. Good-by, dear old girl.

Affectionately yours, FANNIE.

THE QUIET HOUR.

The Responsibility of Knowledge.

"To the giver shall be given:
If thou wouldst walk in light
Make other spirits bright:
Who seeking for himself alone ever entered Heaven?
In blessing we are blest,
In labor find our rest:
If we bend not to the world's work heart and hand and brain,
We have lived our life in vain."

Samaria had been besieged for three years, and the inhabitants were reduced to the lowest state of hunger and misery. One woman had even been driven to the horrible crime of killing her child for food. Our sympathy has been lately roused by the hardships endured in the besieged towns of South Africa, cut off from the rest of the world for a few months. Think of the awful suffering in Samaria after three years of starvation. The enormous price of provisions may be estimated from the fact that the head of an ass sold for eighty pieces of silver.

There were four miserable lepers at the gate who, rendered desperate by starvation, resolved to throw themselves on the enemy's mercy. They reasoned that to stay in the city meant certain death, while it was just possible that their lives might be spared by the Syrians. To their astonishment, they found the camp deserted. With eager haste they went into one tent and did eat and drink, and carried thence silver and gold, and raiment, and went and hid it. This was natural enough, for hunger is apt to make a man think only of himself; but they soon remembered that the knowledge of good news was a responsibility as well as a privilege. Then they said to one another, "We do not well; this day is a day of good tidings, and we hold our peace: if we tarry till morning light, some mischief will come upon us: now therefore come, that we may go and tell the king's household."

They knew that it was not only selfish, but actually criminal, to secure plenty of good food for themselves while their fellow-townsmen were left in the darkness of despair and famine. To wait until the morning, to be slow in spreading the good tidings that would turn misery into gladness, was a terrible sin. God's swift judgment was to be feared in such a case. He had led them into the camp of plenty, not for themselves alone, but that they might be His messengers to those who were ignorant that rich treasures were lying there—treasures for all who could take them.

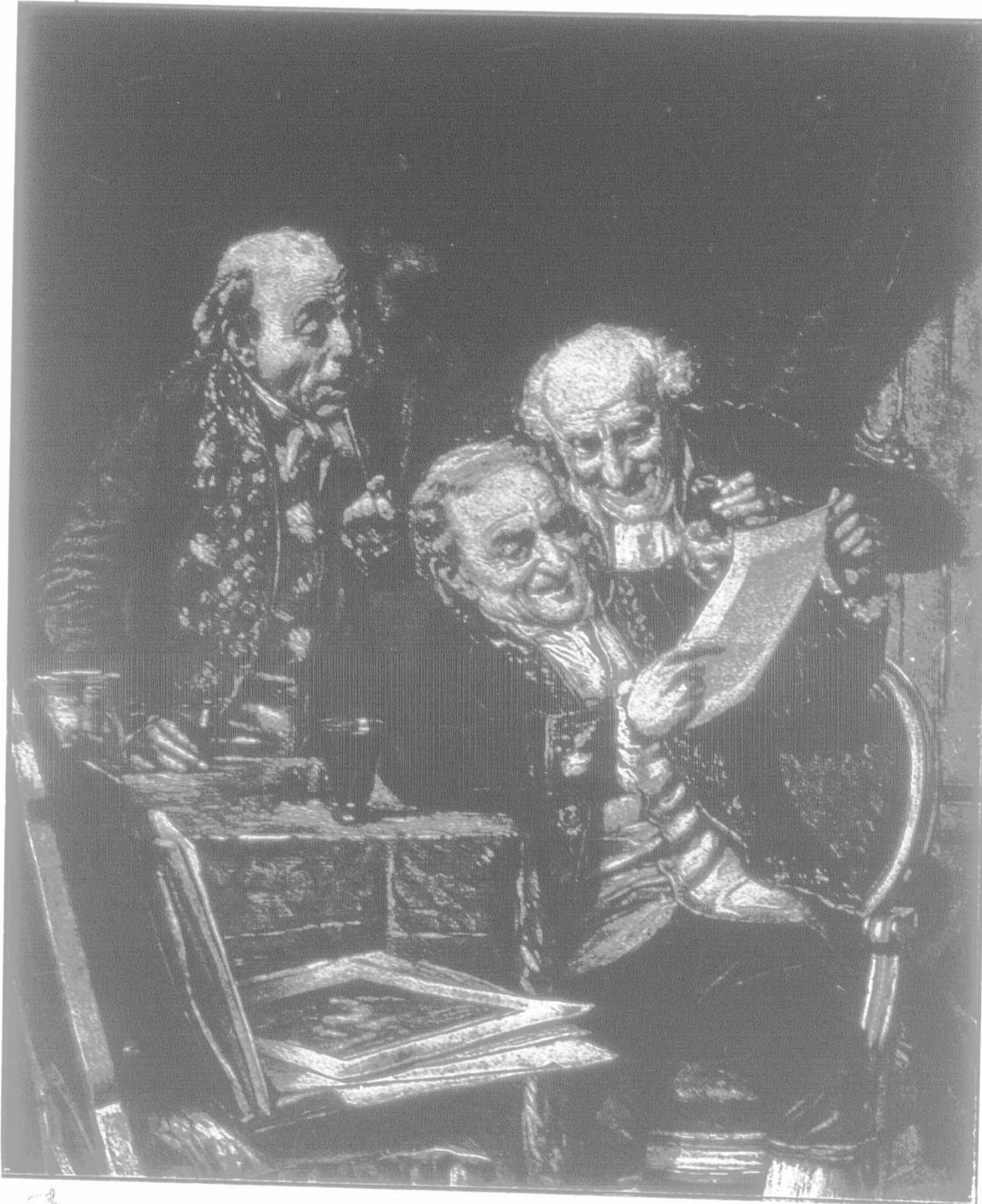
It seems to me that this old story is a wonderful parable. People talk so much about missionary work being of little or no use. Some even say that the heathen are better if left alone. They sit down comfortably, after making such remarks, feeling that the matter is settled, and that they are quite free from responsibility. They are thankful to know that a loving Father is watching over them. They can accept even pain and trouble as a blessing in disguise, knowing that He has sent it for their good. They can face the last great enemy fearlessly, knowing that death is only the gate of a fuller and more abundant life. They can even feel the thrill of the marvellous Life that for the nineteen centuries have inspired men to suffer and to die.

They rejoice in the good tidings and, so far, they resemble the four lepers, but how few seem to realize the responsibility of their knowledge. How few fear that punishment will follow if they leave others in the darkness of doubt and uncertainty without any real effort to enlighten them. We say that souls are of more consequence than bodies, but any of us would act as the lepers did, and eagerly proclaim to a starving city the good news that bodily food was to be had in plenty. Spiritual food is another thing. We don't really believe that the heathen suffer much for the want of it, or we couldn't be so indifferent. How could we face death calmly, for ourselves or our friends, if we knew absolutely nothing about the after life? God has given us the good news that He loves not only the human race, but also each individual man, woman and child. Will He not

call us to account if we fail to publish this good news? We have no more right to withhold it than those lepers had. Do we realize our responsibility as they did? Certainly the latter half of the nineteenth century was more fully awake to its duty in this respect than most of the ages preceding it. This new era of the world's history will probably show still greater activity: for the civilized world has awakened to the fact that "no man liveth to himself," and that God has made each, to a large extent, his "brother's keeper." But is the gift of a little money to a mission fund all that is required of us? Any kind of knowledge is a stewardship and we are bound to use it for the good of others. It is like seed grain—to hoard it up means to waste it. Every servant of God is bound to witness for Him. Missionary effort is not always preaching to savages: it is more often letting the light of a holy life glorify God before men.

It is a solemn thought with which to begin this century, that we are certain to influence the ages yet to come. We cannot help influencing others for good or evil, and surely that influence must go on through all eternity.

"Thou must be true thyself,
If thou the truth wouldst teach:
Thy soul must overflow if thou
Another's soul wouldst reach."



(From the original painting by P. C. Gilardi.)

"THREE CONNOISSEURS."

It needs the overflow of heart
To give the lips true speech.
Think truly, and thy thoughts
Shall the world's famine feed:
Speak truly, and each word of thine
Shall be a fruitful seed:
Live truly, and thy life shall be
A great and noble deed.

HOPE.

"Three Connoisseurs."

A picture of three elderly ladies surrounding a table, drinking tea, or engaged in any pastime in which they showed a zestful interest, would probably be entitled "Three Gossips." But the trio in our picture are gentlemen, and they are not drinking tea: they are connoisseurs. What they would be if they were not looking at pictures, it is not for us to say. They might, however, remain connoisseurs all the same, for they are very knowing old fellows. Evidently they have seen life in all its phases and tasted all of its pleasures, and have a rich fund to draw upon in the stories with which they enliven the hours which they pass over their wine and cigars, and cards and pictures. No doubt they are connoisseurs in all these things; and it would be quite rash to suppose that any one younger than themselves could give them any

points touching the amusements of an elegant and elderly leisure. Their present occupation recalls a scene in a French circulating library. A lady enters and intimates to the librarian her taste in reading. The appreciative librarian, understanding at once what is wanted, calls to the assistant: "Marie, a novel for a middle-aged lady." The works of fiction were spiced to suit the period of life. In the present picture we have a portfolio to suit elderly connoisseurs of the epicurean school.

Signor Gilardi excels in conversation and genre pictures, with accessories—and frequently with subjects—taken from an earlier century. In his costumes and other details he displays the knowledge of an antiquarian. Of his skill in composition and his mastery of expression our picture is a signal proof.

Ingle Nook Chats.

M. K.—Many thanks for your good wishes to myself and the "Nook"—success to the latter can only come through the united efforts of our many readers. Does it interest you to know that I understood the initials on the corner of your envelope, and use the same myself sometimes?

SHORRY, Assa.—Lucky boy you are to have a library of 400 vols. at your command. I hope you will continue to visit the Nook.

OUR COMPETITIONS.

At present writing (Jan. 5) only a few papers for contest V., "The Book I Like Best," have reached me, and as I should like to have the views of a large number of our readers on this subject, I shall extend the time to February 1, instead of January 21, as previously announced. I hope a great many little people will enter this contest.

Contest VI., "My Ideal—My Aim in Life," should bring some good essays from our more thoughtful readers. To give our mirth-loving guests an opportunity to have a little fun, I announce

CONTEST VII.—CONUNDRUMS.

Three prizes are offered for the best sets of five conundrums (original or selected, as the writer chooses), sent in on or before March 5th. Competitors to be divided into three classes as before, and one prize given in each class. We reserve the right to use any conundrums sent in. Hurrah! for some hearty laughs! "A merry heart goes all the day,—your sad one tires in a mile-o."

THE HOSTESS.

"Ingle Nook Chats,"
Pakenham, Ont.

Rules for the Children.

1. Shut every door after you, and without slamming it.
2. Don't make a practice of shouting, jumping or running in the house.
3. Never call to persons upstairs or in the next room; if you wish to speak to them, go quietly to where they are.
4. Always speak quietly and politely to everybody if you would have them do the same thing to you.
5. When told to do or not to do a thing by either parent, never ask why you should or should not do it.
6. Tell of your own faults and misdoings, not of those of your brothers and sisters.
7. Carefully clean the mud or snow off your boots before entering the house.
8. Be prompt at every meal hour.
9. Never sit down at the table or in the sitting-room with dirty hands or tumbled hair.
10. Never interrupt any conversation, but wait patiently your turn to speak.
11. Never reserve your good manners for company, but be equally polite at home and abroad.
12. Let your first, last, and best confidante be your mother. Have no secrets from her.

A lady, who advertised for a girl to do light house work, received a letter from an applicant, who said—"Her health demanded sea air, and she would like to know where the lighthouse was situated."

A minister spending a holiday in Shetland asked the landlady to give him eggs to breakfast. On her querying "How many?" he answered "Oh! maybe sixpence worth." To his surprise, eight eggs were set down to him, the landlady saying, apologetically—"The other ten are on boiling, and will be ready sune; my pan couldna haud them a' at ae time."

Spare the Innocents.

(A PLEA FOR OUR WOODS.)

In these days we hear much about the cruelty of wearing birds in our hats, and often one reads descriptions of how these poor little innocents are killed—even *tortured*—if all tales be true—in order to give the best possible results. For example, the feathers of the egret, if plucked whilst the victim is still alive, are more brilliant, but, of course, our "aigrettes" must look as well as possible! Although one may shudder in horror at reading of such atrocities, yet few seem to realize the wholesale slaughter which, under the name of "sport," goes on year in and year out. The wild buffalo of our country is well nigh extinct, and if "sport" (so called) goes on for many years longer, there will be an extinction of all the living creatures which used to be the characteristic dwellers in our woods.

Look at our beautiful, frisking little black and gray squirrels—with their twinkling glance and their bushy tails—watch them hopping—climbing—scrambling and "scuttering" affrightedly away, or, perhaps, warily eyeing you from some safe and lofty point. Why—oh! why should they die? Then, those richly plumaged birds we used to watch (for there are but few left). The scarlet, yellow and orange tinted orioles and other beauties, fluttering their gorgeous wings and casting a halo of flashing colors around as they flew in search of good quarters for their nests—often building them quite close to us, as though they knew they were safe in our love and protection. Alas! that their trust has been so abused. Have our hearts grown harder—our eyes and ears satiated with all these beauties of the forest? Surely not.

"Sport" is a fascinating—an exciting pastime; but do its followers clearly define the difference between "sport" and "destruction"?

To exterminate pests—enemies to the farmer—is often absolutely necessary. Take for example the rabbits of Australia, the gophers of our Northwest Territories, the destructive rice-birds, etc.—these and many others have to be fought off: but spare—in pity's name—our lovely forest pets—our own Canadian "birdies" and "beasties"—and don't let them die out. In the near future will there be no merry chatter—no sweet songs—no glossy, furry little scamperers—no fluttering, glorious plumage to remind us of God's beautiful gifts to our dear Canadian woods?

Unless a country's natural characteristics are absolutely harmful to progress, they should be preserved, and all who love their country should help towards this end, and so to the title—

SPARE THE INNOCENTS.

Recipes.

TRY.

Warming crackers in the oven before using.

Dipping sliced onions in milk before frying.
Rubbing tough meat with a cut lemon.
Steaming a stale loaf to freshen it.
Heat the dry coffee before pouring on the water.
Bacon for frying chicken and game.
Hard-boiled egg salad, made like potato salad.
The juice of an orange and some nutmeg in lemonade.

Lemon and orange peels to flavor sauces.

COFFEE CREAM.

Two teaspoons granulated gelatine, 1/4 cup cold water, 1/2 cup sugar, 1/2 cup strong coffee, 1 1/2 cups cream or 1 1/2 cups rich milk. Soak the gelatine in the cold water until soft. Then add the hot coffee and the sugar. When the gelatine is dissolved strain into an earthen or granite ware dish, place in ice water to cool. Stir occasionally. When it acquires the consistency of thick syrup, add the cream either plain or whipped. Stir until it becomes thick, not hard, then pour into a glass dish.

CORN-MEAL MUFFINS.

Cream one-third cup of butter, add one-fourth cup of sugar, a well-beaten egg and three-fourths cup of milk, alternately, with one cup and three-fourths of corn-meal flower sifted with three teaspoonfuls of baking powder and one-fourth teaspoonful of salt. Bake in a buttered pan about twenty-five minutes.

SHEPHERD'S PIE.

Cut the remains of cold beef or mutton into small pieces. Slice 1/2 onion for each 6 ozs. of meat: put meat and onion into a dish, in alternate layers, and pour over a seasoning of catsup, salt and pepper, and a little good gravy or stock. The pie dish should be full up to about half an inch of the top. Now mash some potatoes with a good bit of butter or dripping. Fill up the dish with these, level the top firmly with a knife, then score with the prongs

of a fork, and bake in a moderate oven for about forty-five minutes—less if a small pie. An egg beaten up and added to the potatoes is an improvement, and a little of it may be saved to brush over the top of the pie before putting it in the oven.

THE CHILDREN'S CORNER.

A Sleigh Ride.

"I wish we had a sleigh," cried Molly one day.
"So that I could go for a ride."
Said Harry and Dick, "Put on your things quick!
We'll give you a jolly good slide."

You will quite understand that it must have been grand
To ride on an overturned chair:
The boys were so kind they pushed from behind—
Oh, don't you wish you had been there!

They had only begun to enjoy the fun
When they came to a hole in the ice:
Quite unable to stop, they went in with a flop—
Such a bath is not very nice.

But they climbed on the chair, and old Rover was there
To help them with hearty goodwill:
Then home they all sped and were hurried to bed—
Let us hope there were none of them ill.

C. D.

Between Ourselves.

Well, children, you are probably anxious to hear the result of our last competition, but really I am almost overwhelmed with the number of stories sent in. It will take quite a long time to judge them properly. Four prizes will be given this time, as there are so many competitors. One thing that pleased me very much was that many of the stories were sent in by children only eight or nine years old. One little girl of eight, and her brother who is only seven, wrote out the stories they had chosen very neatly indeed. It is a great pleasure to find out I have so many small friends, and I only wish you could all win prizes; but of course when fifty or sixty are



A SLEIGH RIDE.

competing, that is impossible. I will let you know the result next month, but long before that time the winners will receive their prizes.

Two more volunteers have joined the Lookout Regiment, Dorothea Salter and Martha Kelleher. You are very welcome, girls. Jemie Matchet—with an eye to promotion—is acting at present as a recruiting sergeant. I wish you good luck, Sergeant Jemie! "Company A" in West Montrose was preparing to play Santa Claus when the last report came in to the War Office, and I feel sure their kind plans were as successful as they deserved to be.

And now, my dear children, what if you are busy.
Or have to mind baby the whole blessed day,
Don't say, "What a bother," and look cross and sulky;
But try to be jolly, light-hearted and gay.
Be watchful for chances to help one another,
And seek the bright lining to every dark cloud—
A true "Lookout" soldier should always be cheerful—
If duties are tiresome don't grumble out loud.

I once heard of a boy who stepped into an office and asked for a situation. As he already had work, he was asked why he wished to change. His answer was, "Oh, I want an easier place." They didn't engage him. No one wants to employ a boy or girl who is anxious to do as little as possible, and is afraid of working a moment longer than he is paid for. Don't shirk all the hard bits of work, or you will soon find that you are not wanted. If you are bound to have an easy place, you had better go to bed and stay there. The world has no use for loafers, they are only in the way.

Cousin DOROTHY.

During a discussion at a meeting of the Trinity College Historic Society upon the slight consideration attached to life by uncivilized nations, a speaker mentioned the extraordinary circumstances that in China, if a man were condemned to die, he could easily hire another man to die for him, "and," the debater went on, "I believe many poor fellows get their living by thus substituting."

Tit for Tat.

Said a young and tactless husband
To his inexperienced wife:
"If you should give up leading
Such a fashionable life,
And devote more time to cooking—
How to mix and when to bake—
Then perhaps you might make pastry
Such as mother used to make."

And the wife, resenting, answered
(For the worm will turn, you know):
"If you would give up horses
And a score of clubs or so,
To devote more time to business—
When to buy and what to stake—
Then perhaps you might make money
Such as father used to make."

Whistle an' Sing.

Wad ye hae a cheerfu' heart, my lad?
Then whistle yer troubles awa'!
There's naer than double o' needless trouble
That maun be whistled awa'.

Wad ye hae a bonnie face, my lass?
Then sing yer froons awa'!
There's mony a froon that bears ye doon,
That maun be sang awa'.

Then whistle an' sing, my lad, my lass,
Whateer yer trials maun be:
A heart bowed doon, or a face wi' a frown,
Is a pitifu' sight tae see!

For ilka ane hae his troubles, my dear,
Wi' nae time tae waste on yer ain',
But a bonnie smile will yer care beguile,
An' lichten anither's pain.

A Transformation.

"My brother Will, he used to be
The nicest kind of girl:
He wore a little dress like me,
And had his hair in curl.
We played with dolls and tea-set then,
And every kind of toy:
But all those good old times are gone—
Will turned into a boy."

Mamma has made him little suits,
With pockets in the pants,
She cut off all his yellow curls
And sent them to my aunts;
And Will, he was so pleased, I believe
He almost jumped for joy:
But I must own I didn't like
Will turned into a boy.

And now he plays with horrid tops
I don't know how to spin,
And marbles that I try to shoot,
But never hit or win:
And leap-frog—I can't give a "back"
Like Charley, Frank or Roy—
Oh, no one knows how bad I feel,
Since Will has turned a boy!

I have to wear frocks just the same,
And now they're mostly white:
I have to sit and just be good,
While Will can climb and fight.
But I must keep my dresses nice,
And wear my hair in curl,
And worst—oh! worstest thing of all—
I have to stay a girl!

Good Health.

For simple hoarseness, take a fresh egg, beat it, and thicken with pulverized sugar. Eat freely of it, and the hoarseness will soon be greatly relieved.

Those who suffer from a sensitive skin, subject to frequent irritation and roughness, should never wash in hard water.

Boiled water will often prove of benefit to delicate complexions.

When the ankle has been severely sprained, immerse it immediately in hot water, keeping it there for fifteen or twenty minutes. After it has been taken out of the water, keep it bandaged with cloths wrung out of hot water.

Isn't it queer that some people care more for what they eat than for how they feel?

Another strange thing is that when people know that re-breathed air is an active poison, many have a horror of pure air in their homes, and especially in their bedrooms.

Also queer, that while all people have a horror of disease, they are so long in finding out that the only sure way of avoiding disease is by keeping every organ in the body perfectly well.

So queer that while we are so deathly afraid of germs, microbes, bacteria, etc., we live in such a way that our bodies become deficient in resisting power to these same germs, and when they are present, expect in some miraculous manner to have them expelled.

Queer that while we all want so much to enjoy life, with all its comforts, pleasures, and happiness, we are so apt to forget that upon health these all depend, that

Health is the vital principle of bliss,
And exercise of health.

Apply the following to the hands and face after bathing: To one ounce of glycerine add one-fourth ounce of liquid camphor, one quarter ounce of extract of white rose, and four ounces of rosewater. Shake thoroughly before using. This preparation is good for almost any complexion trouble, but is particularly good for chapped skin.

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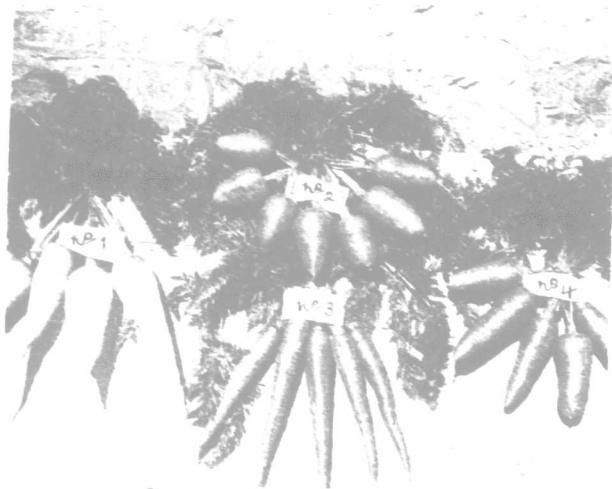
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ECONOMY OF PRODUCTION is the best motto for 1901. If you have 10 or 12 cows and are financially in a position to buy a Cream Separator, without becoming a slave to these who own your means of production, you should have one. Drop me a p. c., and get full particulars of a Cream Separator in which you will get full value for your money in good material, workmanship and perfect separation.

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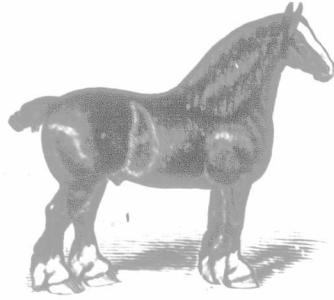
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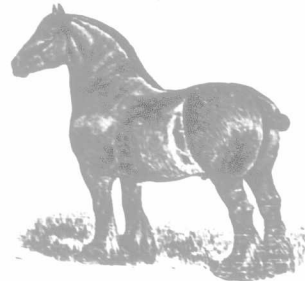
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Everything for sale, except my stock bulls, Lord Stanley 2nd and Golden Measure (imported), and the Clydesdale stallion, Prince Charles (imported). Come and see the stock.

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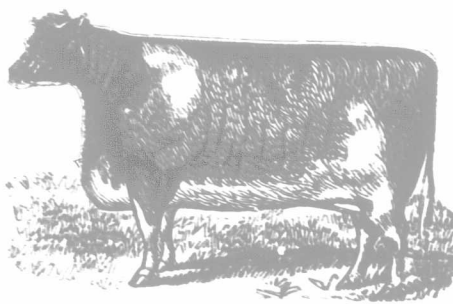
Young Man Wanted

To learn the blacksmith and machinist business, in one of the best and most comfortable shops in the Province. Must be a good strong fellow of good habits. Apply to

J. SULLIVAN, EMERSON, MAN.

Young Man WANTED ON A Ranch !!!

Must have experience in cattle feeding. Steady and good worker. Small herd Shorthorns kept on ranch. Position by year, and good salary to right man. Apply, stating experience and salary, to Farmer's Advocate, Wpg.



PIONEER HERD OF SHORTHORNS

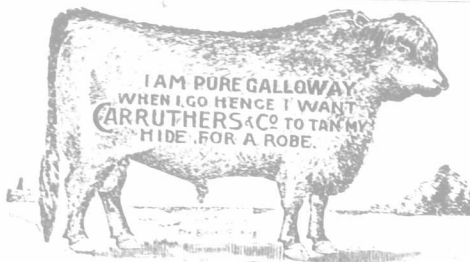
Won the gold medal at the last Winnipeg Industrial Exhibition; also first for bull and two of his get, first for cow and two of her progeny, and numerous prizes for individuals. They were bred right here, and I can usually show a few generations of their ancestors, and am always pleased to show them.

WALTER LYNCH, Westbourne, Man. P. O., Railway and Telegraph.

SHORTHORNS & COTSWOLDS.

The proper kind bred and kept on our farm. Good stock for sale at easy prices. Rams for sale, and fine yearling bull still here. Also bull calves.

D. HYSOP & SON, Box 492, Killarney, Man.



"What a Wise Old Chap!" He has left his hide in good hands. Send for our circular in reference to custom tanning. We send samples of work with circular.

CARRUTHERS & CO., TANNERS.

and dealers in hides, wool, sheepskins, furs, tallow, etc. 9th Street, Brandon, Man.

D. FRASER & SONS, EMERSON, MAN.

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

KENDALL'S SPAVIN CURE



The old reliable remedy for Spavins, Ringbones, Splints, Curbs and all forms of Lameness. It cures without a blister because it does not blister.

North P. A. tagnet, Ont., Feb. 10, '98. Dr. B. J. Kendall Co. Dear Sirs:—Will you please give me a remedy for heaves. I have a mare that is afflicted. It is a pleasure in stating that I have cured a turb of four years' standing with your Kendall's Blister, by using it only once and then applying your Spavin Cure. As long as I have horses, I will not be without Kendall's Spavin Cure and Kendall's Blister in my stable. Very truly yours,

ADOLPHUS GATHER. Price \$1. Six for \$5. As a liniment for family use it has no equal. Ask your druggist for Kendall's Spavin Cure, also "A Treatise on the Horse," the book free, or address

DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.

FOREST HOME FARM SHORTHORNS



Cows and heifers, prizewinners at Winnipeg and Brandon Fairs, and others equally good. Yorkshire pigs—a few choice ones of both sexes. B. P. Rock Cockerels—large, strong, well-marked birds. First orders received get the choice.

Carman, C. P. R. Roland, N. P. R. ANDREW GRAHAM, Pomeroy, Man.

MAPLE GROVE STOCK FARM.

IV yearling SHORTHORN BULLS, by a son of Indian Warrior. Also a few choice heifers. Lord Stanley 25 29217= at head of herd.

BARRED PLYMOUTH ROCK COCKERELS from prizewinning strains.

WALTER JAMES, ROSSER, MANITOBA. 15 miles west of Winnipeg, on main line C.P.R.

Shorthorns

2 young bulls—one by Imported Knuckle Duster, one by Lord Loosie 22nd.

Yorkshires

10 choice boars ready for service. Also some young sows. All from prizewinning stock.

JAMES BRAY, Longburn, Man.

SHORTHORNS, YORKSHIRES AND TAMWORTHS.

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

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

Choice Shorthorns for Sale.

From one of the oldest established herds in Ontario. THREE HEIFERS and ONE YEARLING BULL. Winners of prizes at both Winnipeg and Brandon shows. Address:

ROBT. MURRAY, or JAMES DOUGLAS, Lyleton, Man. Caledonia, Ont.

THREE BULLS

Fit for service, the best I ever offered, for sale. Also some fine two-year-old and year-old heifers.

GEORGE RANKIN, Hamiota, Man.

WILD AND IMPROVED LANDS FOR SALE.

Several good farms at present for sale, or rent, in the celebrated Edmonton district. All improved. Terms reasonable. Apply for information to O. C. PEDERSON, Box 185, Strathcona, Alta.

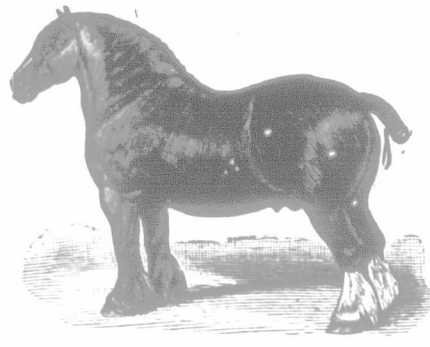
JERSEY BULLS

2 high-class Jersey Bulls for sale. Also farm lands.

H. R. KEYES, Midway, Man.

CLYDESDALE STALLIONS FOR SALE.

Third consignment will arrive about January 1st, 1901.



A High-class Lot, of Good Size and Quality, and of Most Fashionable Breeding.

Parties desirous of securing high-class horses will do well to see these or write us before purchasing.

Dalgety Bros., 463 King St., LONDON, ONT.

"Post" Fountain Pen.

SOMETHING THAT EVERY MAN, WOMAN, BOY AND GIRL NEEDS.

It is a wonderful tribute

to the greatest invention in fountain-pen construction of the age.

THE PRICE OF THIS POST IS \$3.00. IT CANNOT BE PURCHASED UNDER THIS PRICE ANYWHERE.

The patentee has a hard-and-fast agreement with the trade and agents that \$3 shall be the lowest retail price. By a special agreement we are in a position to make

A Great Offer:

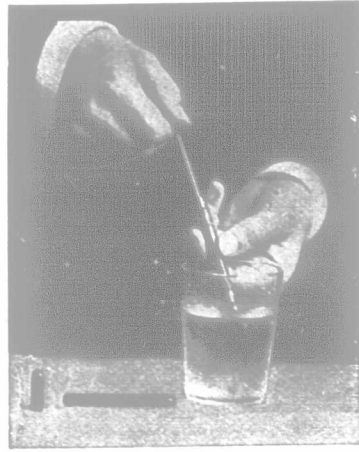
We will send one of these pens to anyone who sends us three new subscribers, accompanied by \$3.00 in cash.



General Lew Wallace, the author of the greatest book of the age, "Ben Hur," also "Prince of India," "Commodus," etc., says in a letter in his own handwriting: "The fountain pen, Post, was received, and I have taken the liberty of trying it thoroughly. Please accept the excuse for failure to acknowledge sooner. I have tried every pen of the kind on the market, and now unhesitatingly give the preference to the Post. It not only feeds itself with less care, but has the immeasurable advantage of re-supply without inking the fingers. I do all my work with it."

Lew Wallace.

To show our confidence in this pen, we will send you one on trial for a week upon receipt of \$1.00, which, if not entirely satisfactory, you can return to us and we will refund you the \$1.00 paid us. If satisfactory, you must send us the names and addresses of the three new subscribers and \$2.00 additional cash.



The only self-filling and self-cleaning pen, manufactured in the world. To fill the pen, put the nib in ink and draw the piston up. To clean, put the nib in water and draw the piston rod backwards and forwards a few times.



A, Barrel; B, Nozzle; C, Pen; D, Feed; E, Plunger; F, Rod.

The world's greatest singing evangelist, who has thrilled thousands and tens of thousands, now raises his voice in praise of the Post Fountain Pen.

Mr. Sankey sends the following characteristic letter: "I have used the Post pen for some time, and have had great satisfaction with its use. It never fails or gets cranky. One can at least have clean hands by using the Post, whatever the heart may be."

Tras. Sankey.

ADDRESS—

THE Wm. Weld Co., LTD., WINNIPEG, MAN.

THE BIG FOUR.

GREAT PREMIUM PICTURE OFFER.

For obtaining new subscribers to the "Farmer's Advocate" at \$1.00 per year.

"Canada's Ideal"—Admitted by judges, breeders and artists to be the most magnificent engraving of high-class modern Shorthorns ever issued in any country. 24 x 36 inches. Twelve animals.

"Canada's Pride"—Nine celebrated draft horses.

"Canada's Glory"—Eleven celebrated light horses.

"Canada's Columbian Victors"—13 celebrated Ayrshire cattle.

Your choice of any one of the above for ONE new subscriber, or all four beautiful pictures for only three new subscribers.

Our Self-Binder, HANDY, DURABLE and ATTRACTIVE.

Made to contain the 24 issues of the year. We will forward this Binder, postpaid, to anyone sending us the names of two NEW subscribers and \$2.00.

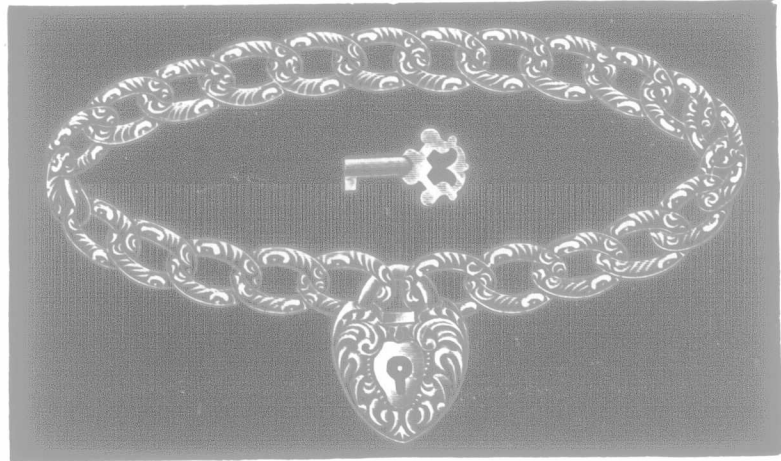
Bagster's NEW COMPREHENSIVE Teacher's Bible,

Containing the Old and New Testaments, according to the authorized version, together with new and revised helps to Bible study—a new Concordance and an indexed Bible Atlas, with SIXTEEN FULL-PAGE ILLUSTRATIONS, PRINTED IN GOLD AND COLOR.

HOW TO OBTAIN IT—

Would retail at from \$3 to \$4. We will send (carefully packed, post prepaid) this Bible to anyone sending us the names of TWO NEW SUBSCRIBERS to the FARMER'S ADVOCATE at \$1.00 each.

Handsome Curb-link Silver Bracelet with Padlock and Key.



For 2 new subscribers. For each additional new subscriber, two Sterling Silver Friendship Hearts.

Write for a sample copy of the Farmer's Advocate, and begin to work for these premiums right away. In every case cash must accompany the new names.

The William Weld Co., Ltd., Winnipeg.

NOTICE.

A Business Education.—No matter what particular calling a young man or woman chooses to follow, whether it be agricultural, commercial or professional, it is certainly of the greatest assistance to them to have a training in the ordinary principles of business, such as are given at a well-equipped business college. The Winnipeg Business College is a thoroughly up-to-date and well-equipped institution, and it will repay any intelligent young man or woman to spend two or three months during the winter, when they can be best spared from the farm, at this college. Each student receives individual attention from the instructors, so that any previous neglect in his or her education does not occasion any uncomfortable comparisons with others who have enjoyed greater educational privileges. We can heartily recommend this institution. A glance at the sixty students enrolled since November 5 shows that many of the best families in the city patronize this college. A good percentage of those in attendance are from the country.

DR. BARNARDO'S HOME.

The managers of these institutions invite applications from farmers and others for boys and youths, who are being sent out periodically, after careful training in English homes. The older boys remain for a period of one year at the Farm Home at Russell, during which time they receive practical instruction in general farm work before being placed in situations. Boys from eleven to thirteen are placed from the distributing home in Winnipeg. Applications for younger boys should be addressed to the Resident Superintendent, 115 Pacific Avenue, Winnipeg, or P. O. Box 970; and for older boys, possessing experience in farm work, to Manager, Dr. Barnardo's Farm Home, Barnardo, Man.

IT'S A WINNER.

So is our Ideal Flax note-paper and envelopes

120 sheets of paper with 100 envelopes, mailed for 60 cts.

This is only one of the many snaps we offer. We carry a full stock of office, school, municipal supplies. Write us for catalogue. Our store is "value."



The FORD STATIONERY CO., One door north of P. O.

POPLAR GROVE HEREFORDS.

Champion herd of Western Canada.

Best beef cattle in the world. Sturdy young bulls for sale. Also cows and heifers. Nearly 100 head to select from. A few choice Light Brahma cockerels for sale.

J. E. MARPLES, Deleau, Manitoba.



LAKE VIEW RANCH

Herefords and Galloways

Young bulls for sale. For prices write

J. P. D. Van Veen, FILE HILLS P.O., N.-W. T.

Roxey Stock Farm,

BRANDON, MAN.

J. A. S. MACMILLAN,

IMPORTER AND BREEDER OF PURE-BRED

Clydesdales, Shires, Hackneys.

STALLIONS AND MARES.

Shorthorn Cattle



Shropshire Sheep

INSPECTION INVITED.

CORRESPONDENCE SOLICITED. **Prices Right.**

FULL PARTICULARS ON APPLICATION.

APPLY P. O. BOX 403.

LEICESTERS!

Young rams and ewes for sale. Write or call on

A. D. GAMLEY,

Box 193. BRANDON, MANITOBA.

MAPLE GROVE FARM.

High-class Shropshires, Rams and Ewe Lambs for Sale.

My sheep are stock bred by John Campbell and Hamner & Sons, the noted Ontario breeders. Won all first prizes with my Shrops at Winnipeg this year.

D. E. CORBETT, SWAN LAKE, MAN.

YORKSHIRES.

Farmers who keep pigs might just as well keep good ones. Once purchased, they are easier kept and give better returns than poor animals. Now is the time to improve your stock. Seven choice young boars and some fine sows for sale. Address:

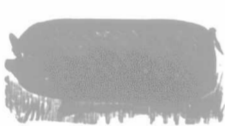
KING BROS., WAWANESA, MAN.

TWIN GROVE FARM.

We lead, others follow, in Yorkshire pigs, which are the best that have come into the Province. Entire stock for sale at a very low rate.

J. S. LITTLE, Proprietor, Oak Lake, Man.

Hensall Farm Berkshires



Good of all ages FOR SALE by

Elder Bros.,

Hensall Farm, Virden, Man.

BUFF LEGHORNS.

THE best layers known, I have them! If you can beat me either for laying or showing, come along! My layers are my show birds. Also W. Wyandottes and Fancy Pigeons. Stock and eggs in season. Correspondence solicited.

WALTER JOHNSON, MARYLAND ST., SOUTH, WINNIPEG.



Owned by H.A. Chadwick, St. James, Man.

As I have decided to go into the breeding of Plymouth Rocks exclusively, I will sell at reasonable prices my entire stock of prizewinning Brahmas, Langshans, Partridge Cochins and Bantams. My birds are too well known as prizewinners to require any further reference.

As I have decided to go into the breeding of Fox Terriers and pedigree Collie pups for sale.

H. A. CHADWICK, St. James, Man.

Will sell large young birds (also) and trained for first class Plymouth Rocks, but only for high-class birds as the birds I offer are of good ones.

Unparalleled Subscription Offer

TO WEEKLY FREE PRESS

Subscribers

"The Paper of the West for the People of the West."

COMMENCING November 1st, 1900, arrangements have been made to present, every two weeks, to every subscriber to the Weekly Free Press, Winnipeg, a fine reproduction printed on art paper, suitable for framing. The pictures will be specially-made half-tones of the highest quality, well worthy of preservation, and calculated to adorn the home. They will include late portraits, specially taken for this series, of the leading men in the public life of Canada, beginning with Sir Wilfrid Laurier and Sir Charles Tupper.

With these portraits, which will constitute a valuable gallery of the most eminent Canadians of the times, there will be interspersed half-tone reproductions from Art Works, showing Manitoban and Western views, pictures depicting typical scenes in Canadian life, military pictures and general views, the whole forming a most desirable collection of the highest interest and value.

Whether used for framing or kept as a portfolio of 30 attractive Art Works—for that will be the number received in the course of about a year—these pictures will be well worth having. The presentation every fortnight, of these pictures, will be but one respect in which the Free Press will commend itself during the coming year as better than ever before.

With new presses, new machinery, new type and improved facilities, it will continue to strive to deserve the reputation it has earned, of being "the paper of the West for the people of the West."

By ordering at once, new subscribers will obtain the Weekly Free Press to 1st January, 1902, and all the pictures, for \$1.00 only.

Walter Johnston, of Maryland St., South, Winnipeg, Man., advertises Buff Leghorns and White Wyandottes in this issue. Mr. Johnston advises us that he has been for many years a successful exhibitor of Leghorns. His foundation stock is composed of birds purchased from the pens of Mr. A. D. Herold, Dillsburg, Pa., U. S. A., and prizewinning females two years in succession at the Toronto Industrial.

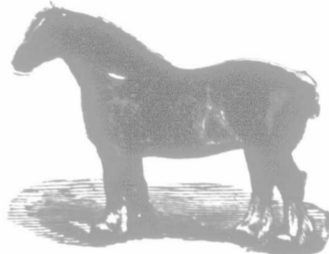
Messrs. J. H. & E. Patrick, importers and breeders of Lincoln sheep, Ilderton, Ont., in ordering a change of their advertisement, report a good season's business in meeting the demand for Lincolns. The ranchmen of the West have taken them in carloads, and single animals or small lots have gone to many States and Provinces. The Lincolns are rapidly growing in popularity.

The farm dairy course of the Manitoba Dairy School opened on January 7th, with the following staff: Superintendent, C. A. Murray; F. Lutley, instructor in buttermaking; J. D. Moran, instructor in cheesemaking; and J. R. Nesbitt, milk testing. Six hand cream separators have been placed in the school by the respective agents, for the benefit of the students, that they may thoroughly understand all details connected with the running and care of hand separators. These include the Melotte, De Laval, Mikado, National, Alexandra, and the United States. There is also a turbine De Laval. About a dozen students are taking the home dairy course.

THORNCLIFFE Stock Farm

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

"LYON MACGREGOR."



Stallions and Colts

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

Terms reasonable. A visit to Thorncliffe will well repay you

ROBT. DAVIES,

Thorncliffe Stock Farm, TORONTO.

BLACK MINORCAS.

Young stock for sale—some beauties. Satisfaction guaranteed.

A. M. ROBERTSON, CALEDONIA, ONT.

FORT ROUGE POULTRY YARDS

HAS FOR SALE Golden Wyandottes, Indian Games, Langshans, Pekin ducks, Belgian hares. Seven varieties of pigeons. Also, White Wyandottes, Barred Rocks. Two breeding pens of Black Minorcas for sale, very cheap. FOR PRICE AND PARTICULARS WRITE—

S. LING & CO., WINNIPEG, MAN.

CANADIAN PACIFIC RY.

THE QUICKEST AND BEST ROUTE

East and West

TORONTO, MONTREAL, VANCOUVER, SEATTLE.

Tourist Cars

BOSTON, TORONTO, MONTREAL, VANCOUVER, AND SEATTLE.

CALIFORNIA

For full particulars apply to the nearest C. P. R. Agent, or write WM. STITT, C. E. McPHERSON, Winnipeg.

Make Life Miserable

IT'S THE LITTLE THINGS THAT DO SO.

How frequently you hear people complain of "only a slight case of piles," often claiming that the trouble is merely temporary, induced by costiveness or sedentary habits.

It may be some satisfaction to console yourself in this way, but it is much better to check the trouble at once. You can't do it too soon.

In time these little rectal tumors will grow from the size of a grape seed until a knot of them results as large as pigeons' eggs.

These become inflamed and tender to the touch, and cause itching, stinging and throbbing pain.

Thus the disease continues from bad to worse until the patient can bear the annoyance no longer.

The Pyramid Pile Cure is a perfectly safe and certain cure for piles in any of these stages. It goes to the very source of the trouble and drives out all inflammation, causing the tumors to subside and the membranes to resume their normal healthy condition.

Piles lead to too many complications to trifle with every remedy that comes along. People have found it pays to use a standard remedy like the Pyramid Pile Cure, which for ten years has been tested in thousands of cases.

Physicians use the Pyramid Pile Cure in preference to surgical operations, because they know it contains no cocaine, morphine or poisonous drug, and because it is no longer an experiment.

The Pyramid Pile Cure is in suppository form to be used at night, and causes no detention from business, is painless, and costs but 50 cents at any drug store in the United States and Canada.

Shorthorn Bulls

TWO excellent young bulls: one 2 yrs. in May, and one 1 yr. in Mar. Bred straight from high-class Scotch-bred bulls and Scotch-topped cows, of good milking families. Write for prices, or come and see for yourself.

GEO. MILLER, Markham, Ont.



A Lump Jaw Certainty...

There's no use wasting words. Fleming's Lump Jaw Cure does positively cure. It has been used for years all over the continent. It is used and endorsed by leading stockmen everywhere. Our guarantee is positive and definite; the remedy must cure, or you get your money back.

Fleming Bros., Farnhamville, Iowa, June 11th, 1900.

Messrs.—I got our druggist to send for a bottle of your Lump Jaw Cure. I applied it twice to one case, that had not been opened. That case is now well. I applied it three times to a case that had been opened, and that looked like a big red wart, which is now well. These were not on the bone, but on the neck just back of the jaw. I think your cure a heroic remedy. Yours truly,

W. W. WILES, Price \$2 per bottle, or three bottles for \$5. If not sold by your druggist, we send by mail prepaid. Let us send you our Illustrated Pamphlet FREE to readers of this paper.

FLEMING BROS., Chemists Room J. 58 Bay Street, TORONTO, Ont.

NO SPAVINS

The worst possible Spavin can be cured in 45 minutes. Curbs, Splints and Ringbones just as quick. Not painful and never has failed. Detailed information about this new method sent free to horse owners.

Write to-day. Ask for Pamphlet No. 1. FLEMING BROS., 58 Bay St., Toronto, Ont.

UP WITH THE TIMES.

Progressive Cheese and Butter makers use WINDSOR SALT, because they know it produces a better article, which brings the highest price.

THE Windsor Salt Co., Limited, WINDSOR, - ONT.

The stockmen and ranchers in North-eastern Assiniboia, in the Yorkton country, are organizing a stock growers' association, upon similar lines as that of the Western Stock growers' Association. A meeting to complete organization, etc., is to be held in Yorkton on January 28th, at 2 p.m.

Our Farmer's Library

A RECENT bulletin prepared by Prof. J. B. Reynolds, of the Ontario Agricultural College, gives a list of meritorious books on Agriculture, Live Stock, Dairying, and Fruit Growing, from which we have made a selection and added a few others. How to obtain, see below:

SOIL AND CROP.

- THE FERTILITY OF THE LAND.—*Roberts*. 372 pages. \$1.25.
- A BOOK ON SILAGE.—*Woll*. 185 pages. \$1.00.
- SOILS AND CROPS.—*Morrow & Hunt*. \$1.00.
- FORAGE CROPS.—*Thos. Shaw*. \$1.00.
- SOILING, ENSILAGE, AND BARN CONSTRUCTION.—*F. S. Peer*. 247 pages. \$1.00.

LIVE STOCK.

- VETERINARY ELEMENTS.—*A. G. Hopkins, B. Agr., D. V. M.* \$1.00. A practical book for stockmen and agricultural students.
- THE STUDY OF BREEDS (CATTLE, SHEEP, AND SWINE).—*Prof. Shaw*. 400 pages; 60 engravings. \$1.50.
- HORSE BREEDING.—*Sanders*. 422 pages. \$1.50.
- LIGHT HORSES—BREEDS AND MANAGEMENT. 226 pages. \$1.00.
- HEAVY HORSES—BREEDS AND MANAGEMENT. 219 pages. \$1.00.
- CATTLE—BREEDS AND MANAGEMENT. 270 pages. \$1.00.
- SHEEP—BREEDS AND MANAGEMENT. 232 pages. \$1.00.
- CATTLE BREEDING.—*Warfield*. 386 pages. \$2.00.
- THE DOMESTIC SHEEP.—*Stewart*. 371 pages. \$1.75.
- THE SHEEP.—*Rushworth*. 496 pages. \$1.50.
- PIGS—BREEDS AND MANAGEMENT.—*Sanders Spencer*. 175 pages. \$1.00.
- FEEDS AND FEEDING.—*Henry*. 600 pages. \$2.00.
- PONIES—PAST AND PRESENT. 50 cents.

Vinton Series.

GENERAL AGRICULTURE.

- AGRICULTURE.—*C. C. James*. 200 pages. 30 cents.
- FIRST PRINCIPLES OF AGRICULTURE.—*Voorhees*. 207 pages. \$1.00.
- AGRICULTURE.—*Storer*. 1,375 pages, in three volumes. \$6.00.
- CHEMISTRY OF THE FARM.—*Warington*. 183 pages. 90 cents.
- FARMYARD MANURE.—*Aikman*. 65 pages. 50 cents.
- BARN BUILDING.—*Sanders*. 280 pages. \$2.00.
- IRRIGATION AND DRAINAGE.—*King*. 502 pages. \$1.50.
- IRRIGATION FOR THE FARM GARDEN AND ORCHARD.—*Henry Stewart*. \$1.00.
- SUCCESSFUL FARMING.—*Rennie*. 300 pages. \$1.50, postpaid.

DAIRYING.

- AMERICAN DAIRYING.—*H. B. Gurler*. 252 pages. \$1.00.
- THE BOOK OF THE DAIRY.—*Fleischmann*. 330 pages. \$2.75.
- MILK AND ITS PRODUCTS.—*Wing*. 230 pages. \$1.00.
- TESTING MILK AND ITS PRODUCTS.—*Farrington & Woll*. 255 pages. \$1.00.
- DAIRYING FOR PROFIT.—*Mrs. E. M. Jones*. 50 cents.

POULTRY.

- ARTIFICIAL INCUBATING AND BROODING.—*Cypher*. 146 pages. 50 cents.
- PRACTICAL POULTRY-KEEPER.—*Wright*. \$2.00.

APIARY.

- THE HONEYBEE.—*Langstroth*. 521 pages. \$1.50.

FRUIT, FLOWERS, AND VEGETABLES.

- VEGETABLE GARDENING.—*Green*. 224 pages. \$1.25.
- FLOWERS AND HOW TO GROW THEM.—*Rexford*. 175 pages. 50 cents.
- THE PRINCIPLES OF FRUIT-GROWING.—*Bailey*. 514 pages. \$1.25.
- BUSH FRUITS.—*Card*. 537 pages. \$1.50.
- HORTICULTURIST'S RULE BOOK.—*Bailey*. 312 pages. 75 cents.
- SPRAYING OF PLANTS.—*Lodeman*. 399 pages. \$1.00.
- THE NURSERY BOOK.—*Bailey*. 365 pages; 152 illustrations. \$1.00.
- AMATEUR FRUIT-GROWING.—*Samuel B. Green*. 5x7 inches; 134 pages, with numerous fly leaves for notes; bound in cloth, and illustrated. 50 cents.

PLANT AND ANIMAL LIFE.

- THE STORY OF THE PLANTS.—*Grant Allen*. 213 pages. 40 cents.
- THE STUDY OF ANIMAL LIFE.—*J. A. Thomson*. 375 pages. \$1.75.
- INSECTS INJURIOUS TO FRUITS.—*Saunders*. 436 pages. \$2.00.

HOW TO OBTAIN THESE BOOKS:

We will furnish present subscribers any of the above books for cash or as premiums for obtaining new yearly subscribers to the FARMER'S ADVOCATE at \$1.00 each, according to the following scale:

Books valued at from	\$0.30 to \$0.65,	for 1 new subscriber.
"	.90 to 1.25,	for 2 "
"	1.50 to 1.75,	for 3 "
"	2.00 to 2.50,	for 4 "
"	2.75	for 5 "
"	6.00	for 12 "

We can furnish any of the above books at the regular retail price, which is given opposite the title of the book. By a careful study of the above list, any farmer can choose a select list of books suited to his needs, and for a small outlay in cash, or effort in obtaining new subscribers for the ADVOCATE, secure the nucleus of a useful library.

Cash to accompany names in every case. \$1.00 pays each new subscription from now to end of 1901.

The WILLIAM WELD CO., Ltd., WINNIPEG, MAN.

Want a Good Watch?

WE have succeeded in procuring from one of the most reliable jewelers in Canada a complete list of Gents' and Ladies' Watches of sufficient variety to suit every one, and have no hesitation in recommending them to our readers as premiums worthy of an effort to secure. These are not by any means the same class of goods as are hawked around fair grounds, but first-class in every particular, and we assure you that you will be pleased with whatever of the above premiums you may obtain. Let us hear from you at an early date with a good list of new subscribers accompanied by the cash, and take your choice.

Gents' Watches.

No.	Description	New Subscribers.
No. 1.	Yankee Nickel Watch	2
No. 2.	Trump Nickel Watch	4
No. 3.	Trump Gun Metal Watch	5
No. 4.	No. 14 Silver Watch	8
No. 5.	7 Jeweled Gent's Elgin in 3 oz. Nickel Case	10
No. 6.	7 Jeweled Gent's Elgin in Gun Metal Case	11
No. 7.	7 Jeweled Gent's Elgin in Sterling Silver Case	14
No. 8.	7 Jeweled Gent's Elgin in 20-year Filled Case	18
No. 9.	7 Jeweled Gent's Elgin in 25-year Filled Case	21
No. 10.	15 Jeweled Gent's Elgin in 3 oz. Nickel Case	15
No. 11.	15 Jeweled Gent's Elgin in Gun Metal Case	15
No. 12.	15 Jeweled Gent's Elgin in Sterling Silver Case	18
No. 13.	15 Jeweled Gent's Elgin in 20-year Filled Case	21
No. 14.	15 Jeweled Gent's Elgin in 25-year Filled Case	25

Ladies' Watches.

No.	Description	New Subscribers.
No. 15.	Gun Metal Swiss Chatelaine	4
No. 16.	Sterling Silver Swiss Chatelaine	5
No. 17.	Nickel American O. F. large size	5
No. 18.	Gun Metal American O. F. large size	5
No. 19.	Nickel, small size	9
No. 20.	Gun Metal, small size	10
No. 21.	Sterling Silver, small size	10
No. 22.	7 Jeweled Elgin in 20-year Filled Hunting Case	20
No. 23.	7 Jeweled Elgin in 25-year Filled Hunting Case	22
No. 24.	15 Jeweled Elgin in 20-year Filled Hunting Case	23
No. 25.	15 Jeweled Elgin in 25-year Filled Hunting Case	25

Description of Watches.

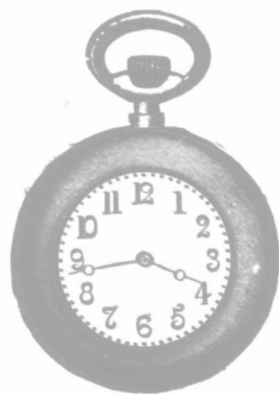
The accompanying cuts fairly well represent all the Ladies' and Gents' Watches, and a description of each as numbered is as follows:

No. 1. American Nickel Key-wind Boy's Watch that is absolutely guaranteed to keep good time and give satisfaction.

No. 2. Gent's Nickel American O. F. Watch; stem wind, and push-in stem and turn to set hands. This is a very strong, reliable Watch.

No. 3. Same as No. 2, excepting that it has Gun Metal case instead of Nickel case.

No. 4. Is a smaller-sized Gent's Watch, has sterling silver case, O. F. Screw Back and Bezel; stem wind, and push-in stem and turn to set hands. This is the lowest-priced and most reliable Boy's or small Gent's Silver Watch that is on the market.



No. 5. Is fitted with 7-Jeweled Nickel, first-quality Elgin movement. The case is a 3-oz. O. F. Nickel case; stem wind and set; screw back and bezel case.

No. 6. Same movement in Gun Metal or Black Steel screw back and bezel case.

No. 7. Same movement with Sterling Silver O. F. screw back and bezel case.

No. 8. Same movement in 20-year guaranteed Gold Filled O. F. screw back and bezel case.

No. 9. Same movement in 25-year guaranteed Gold Filled O. F. screw back and bezel case.

Nos. 10, 11, 12, 13 and 14 are fitted in the same style of cases as Nos. 5, 6, 7, 8 and 9; the difference is in the movement, and the movement is 15-Jeweled Nickel, first-quality Elgin movement.

No. 15. Is a small-sized Swiss O. F. Gun Metal Chatelaine Watch.

No. 16. Is the same, only with Sterling Silver case, which can be had nicely engraved.

Nos. 17 and 18 are a good-quality American Watch, O. F. stem wind, and push-in stem and turn to set hands. These are a little larger than the usual Ladies' Watches, and are smaller than the usual Boys' Watches, though can be used for either Boys, Girls or Young Ladies.

Nos. 19, 20 and 21 are small sized; in fact, are the exact size of cut. These are American Watches, O. F. stem wind, and push-in stem and turn to set hands, and are first-class timekeepers. Will give perfect satisfaction.

If a nice leather wrist case is desired with these watches, send two extra subscribers.

Nos. 22, 23, 24 and 25 are similar to the accompanying cut. These are regular Ladies' Hunting Watches. Nos. 22 and 24 are fitted in 20-year guaranteed Gold Filled cases, nicely ornamented, or to be had in plain or plain engine turned, and the same applies to Nos. 23 and 25, excepting that they are fitted in 25-year guaranteed Gold Filled cases, and 14k Gold Filled; 22 and 23 are fitted with 7-Jeweled Nickel, first-quality Elgin movements. Nos. 24 and 25 are fitted with 15-Jeweled Nickel, first-quality Elgin movements.

When making your choice of Watch as premium, be sure to mention its number as given in premium list, also whether Lady's or Gent's.

THE WILLIAM WELD CO., LTD., WINNIPEG, MAN.



Hereford Breeders Meet.

The Hereford Breeders' Association held their 19th annual meeting in Guelph on Dec. 12th. Among those present were Messrs. Philp and McKellar, Brandon, Man.; Alf. Stone, Guelph; W. W. Hammell, Beeton; A. S. Hunter, Durham; H. Reid, Mimosa; W. W. Black, Amherst, N. S.; J. A. McDiarmid, Stayner; Henry Wade, Toronto.

In the absence of the president, Mr. W. H. Hunter, on motion, Mr. A. S. Hunter, Durham, took the chair.

Mr. H. Wade, secretary, read the minutes of the last annual meeting and presented the financial statement, which showed a balance on hand of \$111.50.

Moved by Mr. W. H. Hammell, Beeton, seconded by Mr. A. Stone, Guelph. That in the opinion of this Association the cattle breeding industry is seriously menaced by the tubercular test as applied to cattle purchased for importation or sold for export; that the test is misleading and of no real value in detecting the disease; therefore we respectfully ask the Hon. the Minister of Agriculture for the Dominion of Canada to discontinue the use of the test in such cases so far as within his power. Carried.

Moved by Mr. W. Reid, seconded by Mr. W. H. Hammell. That this Association is of the opinion that the existing regulations as to the Northwest Territories should be amended, and that the amended regulations should make it obligatory for all parties running cattle on the ranges to have a range of 20 acres per head for every animal run; that the annual rental of 2c. per acre be materially reduced; that all animals run on ranges should be subject to an annual tax of 50c. per head, where the owner of the brand is not a leaseholder; that home-steads be not granted in ranging districts; that any American cattle fit for shipment, found on Canadian ranges, be shipped to Canadian markets, and the duty and annual tax be held and deducted from the prices obtained; that leaseholders be given liberal privileges of purchasing blocks of land within their lease-holds; that the breeders of cattle on the ranges should be encouraged by wolf bounties; that a sufficient part of the revenue derived from the ranging industry be applied to the establishing fire-guards; that the running of scrub bulls be limited. Carried.

A resolution of condolence was passed. It says: We have had the misfortune to lose our President, Mr. Walter McDonald, Toronto, who has dealt largely in Hereford cattle. He was elected President at the last annual meeting. His loss has been severely felt by both his family and the Hereford world at large. His courteous manner and upright business capacity has endeared him to all of us.

Officers elected: President, W. H. Hunter, The Maples; Vice-Pres. for Ontario, Alf. Stone, Guelph; Vice-Pres. for Quebec, H. D. Smith, Compton, Quebec; for Manitoba, A. E. Philp, Brandon; Maritime Provinces, W. W. Black, Amherst, N. S.; Directors—A. Rawlings, Forest; A. S. Hunter, Durham; A. H. O'Neill, Southgate; Mossom Boyd, Bobcaygeon; J. A. McDiarmid, Stayner; W. H. Hammell, Beeton; H. Reid, Mimosa; Asa Warwick, Kainswick.

OAKLAWN FARM

AS ALWAYS, VASTLY IN THE LEAD. PERCHERONS, FRENCH COACHERS, SHIRES.

ON HAND, HOME-BRED AND IMPORTED 270 STALLIONS, 235 MARES. The greatest collection of stallions ever brought together. Our two large, recent importations for this year included the Principal Prize Winners at the WORLD'S EXPOSITION, PARIS, and at the Government Shows at Amiens and Montagne, and the Tops, first choice, purchased from the leading studs of France and England.

The superiority of the Oaklawn Percherons was also shown at the INTERNATIONAL LIVE-STOCK EXPOSITION at Chicago, December, 1900, pronounced by press and public the greatest live stock exhibition ever seen, where Oaklawn's exhibit was awarded Three 1st Prizes, three 2d Prizes, three 3d Prizes, two 4th Prizes and two 5th Prizes in the three stallion classes: Championship, stallion, any age; Championship, mare, any age; 1st and 2d Prizes for collections; \$100 Gold Medal best group, five stallions; \$100 Gold Medal, best group, three mares.

Catalog on application. Prices reasonable. DUNHAM, FLETCHER & COLEMAN, WAYNE, DU PAGE CO., ILLINOIS.

Trees! Trees! Trees!

We have a full line of Fruit and Ornamental Trees for spring 1901, at lowest possible prices. Headquarters for packing dealers' orders. Farmers wishing to buy first-class stock absolutely first hand and without paying commission to agents, should write to us at once for a catalogue and price list.

Don't wait until the last minute, as you will be disappointed. Place orders early and secure the varieties you want. Correspondence solicited. Winona Nursery Co., WINONA, ONT.

PLEASE MENTION FARMER'S ADVOCATE.

Points of Excellence.

A FEW REASONS WHICH ARE RAPIDLY MAKING A NEW CATARRH CURE FAMOUS.

Stuart's Catarrh Tablets, the new Catarrh cure, has the following advantages over other catarrh remedies:

First: These tablets contain no cocaine, morphine or any other injurious drug, and are as safe and beneficial for children as for adults; this is an important point when it is recalled that many catarrh remedies do contain these very objectionable ingredients.

Next: Being in tablet form, this remedy does not deteriorate with age, or on exposure to the air, as liquid preparations invariably do.

Next: The tablet form not only preserves the medicinal properties, but it is so far more convenient to carry and to use at any time that it is only a question of time when the tablet will entirely supersede liquid medicines, as it has already done in the medical department of the United States Army.

Next: No secret is made of the composition of Stuart's Catarrh Tablets; they contain the active principle of Eucalyptus bark, red gum, bloodroot and Hydrastin, all harmless antiseptics, which, however, are death to catarrhal germs wherever found, because they eliminate them from the blood.

Next: You cannot cure catarrh by local applications to the nose or throat, because these are simply local symptoms and such treatment can not possibly reach the real seat of catarrhal disease, which is the blood; for this reason, inhalers, douches, sprays and powders never really cure catarrh, but simply give temporary relief, while a dose of plain salt and water will do just as well.

Catarrh must be driven out of the system, out of the blood, by an internal remedy, because an internal remedy is the only kind which can be assimilated into the blood.

Stuart's Catarrh Tablets do this better than the old form of treatment, because they contain every safe specific known to modern science in the antiseptic treatment of the disease.

Next: The use of inhalers and spraying apparatus, besides being ineffective and disappointing, is expensive, while a complete treatment of Stuart's Catarrh Tablets can be had at any drug store in the United States and Canada for 50 cents.—Adv't.

9 CORDS IN 10 HOURS



BY ONE MAN WITH THE FOLDING SAWING MACHINE. It saves time and space by cutting 9 cords in 10 hours. It is portable and can be used on any kind of timber on any ground. One man can saw more with it than 2 in any other way. Main Office at Essex Center, Ontario. No duty to pay. Write Main Office for literature showing latest IMPROVEMENTS, and testimonials from thousands of satisfied users.

FOLDING SAWING MACHINE CO., 55-57-59 No. Jefferson St., CHICAGO, ILL.

Glover Leaf Lodge HERD OF Shorthorns

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

J. A. S. Macmillan, Brandon, has returned from an extended visit to several of the largest horse-breeding establishments in the States. He selected a large draft of Clyde-dales from the celebrated Meadow Lawn stud of N. P. Clark, St. Cloud, Minn.

Wm. Stothers, Graburn, Assa., reports that his Shorthorn herd is in fine thrift this winter. He has several young bulls of great promise, and has three bull calves dropped this winter. He wants a good man by the year, one used to feeding cattle, and offers good wages for suitable man.

In a letter to this office, Jas. Glennie, of Hazelrigg Farm, Longburn, writes: "I see by the report of the dairy test at Guelph, that Daisy Teake's Queen is still champion of the Dominion for the past year. Her two days' record at Brandon Fair is slightly ahead of the cow that won at Toronto, and also ahead of the one that won at Guelph." He adds: "She is now past the 12,000 pounds mark since May 1st last."

J. S. Little, Twin Grove Stock Farm, Oak Lake, advertises in this issue his entire stock of York-shire swine for sale. In sending in copy, he writes: "I imported the hog that has been at the head of my herd for the past two years, from A. W. Ross, Douglas, Ont. He is sired by Paddy 513, who has won first and sweepstakes at Toronto, Ottawa, and London. He has proved himself a good stock-getter, litters coming large and healthy. The sows are from J. E. Brethour, Burford, Ont., and have produced excellent stock. The sows are to farrow end of February and in March."

At the International Live Stock Exposition in Chicago, N. P. Clark won in Shorthorn heifer calves under six months old; 2nd prize on Fashion of Meadow Lawn, and 3th on Lyndale Queen 1th, both sired by Jubilee Knight, the bull purchased for service in the Meadow Lawn herd, from J. G. Washington, of Nings, Manitoba. Another daughter of Jubilee Knight, from Mr. Clark's herd, Oxford of Lyndale 6th, was sold at the auction sale held in connection with the Exposition, for \$500.

Walter James, Maple Grove Stock Farm, Rosser, writes under recent date: "I have sold two young bulls recently, one about six months old, sired by Rosser Lad, out of Lucy of Hereford 2nd, to A. Neilson, Stony Mountain. The other, a yearling sired by Rosser Lad, out of Lena Arkwright, to George Laing, Stonewall. I have also sold something like 45 Barred Plymouth Rock chickens and pullets to different parties. I believe the Barred Plymouth Rocks are hard to beat for winter layers. Last winter we made \$12 a month out of eggs, at 2c. a dozen. This winter so far we are getting about 12 dozen a week, and selling them at 3c. I have been too busy to send you than this. The stock are doing very well considering the hay and straw are not up to the mark."

GOSSIP.

Messrs. W. G. Pettit & Son, Freeman, Ont., report the following sales in December to Mr. E. W. Bowen, Delhi, Ind.: The (imp.) 3-yr-old cow, Blossom, of the celebrated Cruick-shank Orange Blossom family, by Star of Morning, a bull whose reputation as a sire is well known to the whole Shorthorn world. Cinderella 2nd (imp.), of the Uppermill Road Lady family. This young cow is a grand breeder. We are retaining her bull calf of this year, imported with her, for use in our own herd. He is by Scottish Prince, of the popular Princess Royal family. Daisy 2nd (imp.), by Prince Horace, a beautiful roan yearling of the low-down, thick kind. She should make a good one. Mr. Bowen also selected four beautiful red home-bred heifers, all coming 3 years old and carrying their first calves to (imp.) Blue Ribbon. To Mr. Manson Campbell, Chatlham, Ont.: The 11-month (imp.) bull, Scottish Clansman, bred by Alex. Watson, North Ancharon, Aberdeenshire, Scotland, and got by Clan Alpine, a pure Cruickshank, and acknowledged to be one of the best sires in Scotland; dam Madge, of the popular Matilda family. To A. H. H. Baird, Elmside, Que.: One red bull calf 12 months old. To Thos. Robertson, Marshville, Ont.: Red bull calf 12 months old. Our herd now numbers 108 head, and we have 30 cows (mostly imported) yet to calve in the next few months. We can spare a few more and still have some left.

John A. Turner, of Balgreggan Ranch, Millarville, Alta., while on his way to make further selections of Clydesdale horses from among the leading studs of Ontario, called at our office. He reports the sale of the two-year-old Clydesdale stallion, Sonsie Lad (241), to Mr. D. H. Andrews, manager of the Canada Land and Ranch Company, at Crane Lake. Sonsie Lad is individually a big, powerful, well-proportioned colt, standing 17 hands, and weighing when shipped about 1,550. He has withal abundance of quality, and his breeding is of the choicest, being by Grandeur, the stock horse in D. & O. Sorby's celebrated stud, and many times a prizewinner; out of Sonsie Lass, first prize and sweepstakes winner at London in '99; granddam Sonsie, 1st and champion mare at the Royal Aberdeen Show in Scotland; great-granddam Sunbeam, full sister to the champion stud two years in succession at the Highland Society Show. Mr. Turner also reports further sales, including two prizewinning fillies, to William Porter, of Bredenburg, Assa.; Balgreggan Princess, by the old sweepstakes horse, Balgreggan Hero, out of Rosy Blyth, by Perfection; Independence Girl, by Gold, a son of Grandeur, dam by Balgreggan Hero. To A. & G. Mutch, Lummen, Assa.: The yearling stallion, Balgreggan Hero, by Balgreggan Hero, out of Lady Seymour, imported in dam; and Victoria's Triumph, by Toffy 2nd, out of the prizewinning mare, Victoria; the mare, Rosy Blyth, by Perfection, by Prince Henry, by Prince of Wales. This mare is in foal to Sonsie Lad; and also a yearling filly by Brooklyn Boy, by Tamahill; and in addition to these registered Clydesdales, 23 head of well-bred Clydesdale grades. Mr. Turner reports weather conditions very favorable in the Calgary district, and all classes of stock doing well.

CATALOGUE FREE.

INCUBATORS

A. J. MORGAN, MFR., LONDON, ONT.

YOUNG SHORTHORNS FOR SALE

Our present offering includes several choice young bulls fit for service, sired by "Scotland Yet," and out of Warfar (imp.) dams; also bull calves, from Blue Ribbon (imp.), and out of Royal George cows. Inspection and correspondence solicited.

A. & D. BROWN, M. O. RAILWAY, IONA, ONTARIO.

320-ACRE FARM FOR SALE.

South half Sec. 6, Tp. 16, R. 29, W.

200 acres thoroughly fenced and subdivided with three wires; 150 acres under cultivation; 60 acres summer-fallowed the past season, and 15 acres of fall plowing, ready for wheat in the spring. The farm has been worked on the 3-year rotation system, summer-fallowing one third every year, and land in first-class state of cultivation, yielding from 40 to 45 bushels wheat per acre. There is quite a large portion in virgin prairie, with bluff of good young poplar on it. Frame house, lathed and plastered twice, making two dead-air spaces, and well-finished in every respect. Main part, 20 x 30 ft., containing dining-room, kitchen, pantry, and hall, downstairs; 4 bedrooms and linen cupboard upstairs; and a lean-to on north side, 10 x 20 ft. There is a good stone cellar, with brick partition, under house. House cost \$1,200, not counting labor of drawing and stonemasonry, etc., and finishing. Stable, 26 x 40 ft., concrete; hay loft above, and frame implement shed, 15 x 10 ft., on north side. Henhouse, frame; pigpen, frame; page-fence yard. Granary, 22 x 31 ft. All shingle-roof buildings; one frame stable, 22 x 15 ft., with sod roof. There is also a never-failing well. Seed and feed can be bought by purchaser at market prices. Situation: 17 miles from Moonson; 3 miles from church and school. The N. W. C. R. R., whose present terminus is 25 miles east, is expected, during the coming summer, to run within 3 miles of the farm. This is undoubtedly one of the best opportunities of obtaining a grand homestead at a moderate price.

For further particulars apply to G. P. COLLYER, London, Ont.

IN WRITING PLEASE MENTION FARMER'S ADVOCATE.

HORSEMEN! THE ONLY GENUINE IS GOMBAULT'S CAUSTIC BALSAM.

The genuine without the signature of The Lawrence-Williams Co. Sole Importers & Proprietors for the U.S. & CANADA. CLEVELAND, O. The Safest, Best BLISTERS ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Hives from Horses and Cattle, SUPPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or bluish. Every bottle is warranted to give satisfaction. Price \$1.50 per bottle. Sold by Druggists, of sent by Express, charges paid, with full directions for its use. Send for free descriptive circulars. THE LAWRENCE-WILLIAMS CO., Toronto, Ont.

NEW IMPORTATION

CLYDESDALES

By the champion winners, Baron's Pride, McGregor, Flashwood, Prince Alexander, Prince of Carriachan, etc. Shires, Suffolks, Percherons and Hackneys. By the leading sires of the day, all combining size, color, quality and action. Fourteen first prizes and six second prizes won at the recent State Fairs of Illinois, Iowa, and Wisconsin, in the very hottest competition. Inspection cordially invited.

ALEX. GALBRAITH, Janesville, Wis.

FOR SALE.

CLYDESDALE stallions, mares and fillies, representing the best blood in Scotland—Prince of Wales, Darnly, Macgregor and Lord Lyon—including the great sweepstakes winner, The Marquis (1182), a grandson of Prince of Wales and Macgregor; also the first-prize 3-year-old at Ottawa this season.

THOS. GOOD, Richmond P. O., Ont. R. R. Station, Stittsville, C.P.R.

Rosedale Stock Farm.

CLYDE AND SHIRE HORSES. SCOTCH SHORTHORNS. LEICESTER SHEEP. Six choice Shorthorn bulls, Scotch and Scotch topped, from 11 to 13 months (red and roan), good quality. Prices right. My motto, "The best is none too good." J. M. GARDHOUSE, Highfield P. O. Malton Sta., G.T.R. om Weston Sta., C.P.R.



90 HEAD Herefords. High-quality, Early-maturing. Prizewinners. Young bulls, cows, heifers.

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

H. D. SMITH, COMPTON, QUE.

HEREFORDS FOR SALE.

THE HERD of upwards of 90 head of registered animals contains the blood of the best English herds, with imported True Briton and Likely Lad at the head. Stock of both sexes and all ages for sale. Correspondence or a personal visit invited.

A. S. HUNTER, DURHAM, ONT.

JOHN DRYDEN, BROOKLIN, ONTARIO.

OFFERS SIX YOUNG SHORTHORN BULLS, ready for service, at reasonable prices. Strong, active, masculine. GOOD QUALITY AND CHOICE BREEDING.

SHORTHORNS FOR SALE, or will exchange my 1-year-old stock bull, Obuelo 24380, having 4 excellent Scotch-top crosses on a Crimson Flower dam, for one equally well bred. Young bulls and heifers and Shropshires for sale. GEO. RAIKES, BARRIE, ONT.

Pure Scotch Shorthorns for Sale. Two bulls and fifteen months old, and three two-year-old and two one-year-old heifers. All right. Good ones. Meadowvale station, C. P. R. S. J. PEARSON & SON, Meadowvale, Ont.

IN WRITING PLEASE MENTION FARMER'S ADVOCATE.

TROUT CREEK HERD OF SHORTHORNS.

Since our Chicago sale we have imported sixty-two head, including some Royal winners; they were pronounced in Scotland superior to past importations. We try to import the best, believing that this is one of the ways to assist in improving the breed on this side of the water. Being thoroughly convinced, also, that a bull of the right sort is even more than half the herd, we have decided to keep the following choice ones:

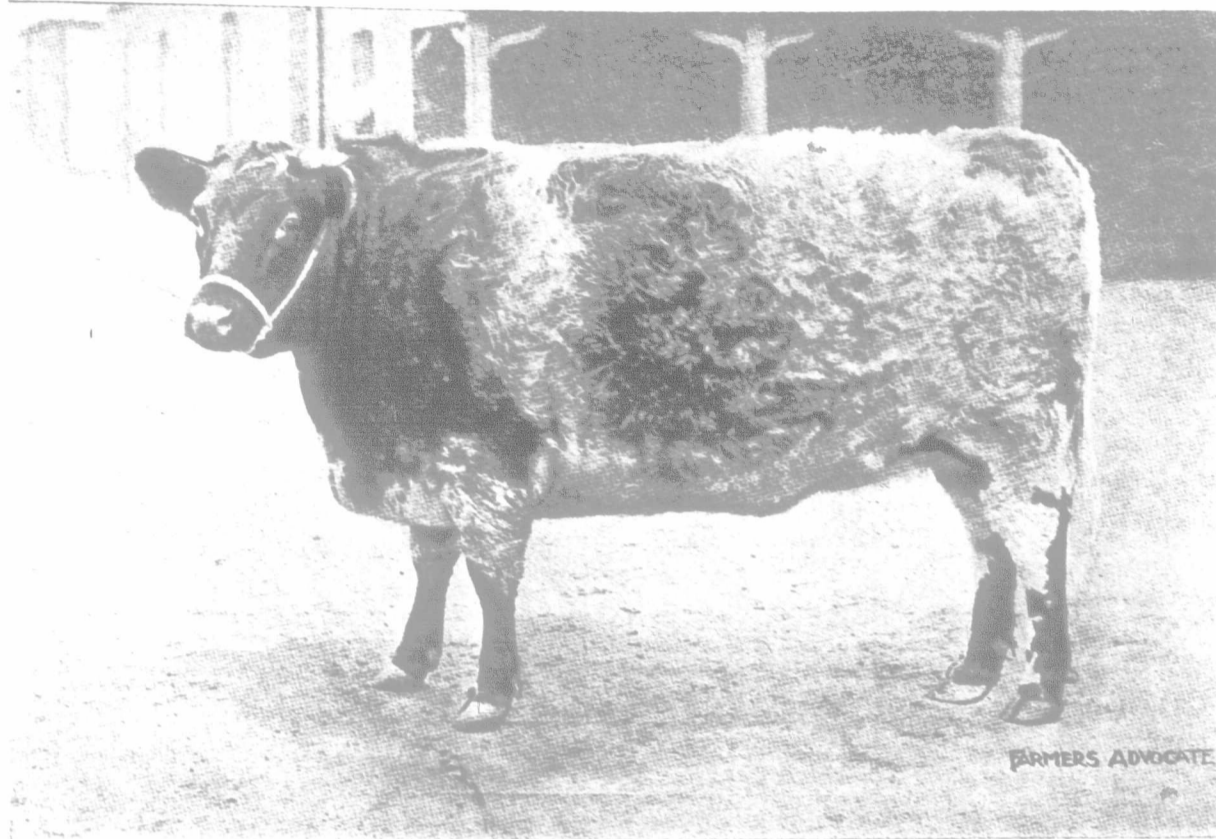
Imp. Lord Banff,

Bred by A. Watson; of the Campbell Bessie family.

Imp. Consul,

Bred by J. D. Fletcher; of the Campbell Claret family. Consul was awarded first at Edinburgh, first and champion at Provincial Union, first and champion at Creiff, and second at the Highland. His sire, Watchword, bred by Wm. Duthie, was first at the Highland in 1895 and 1896, and got by Scottish Archer. Watchfire, by Watchword, was first at the Highland, 1897. Consul is the highest-priced bull imported to Canada.

Hamilton is a city of over 20,000 inhabitants, located on main line of Grand Trunk Railway, between Chicago and Buffalo; also connected by Canadian Pacific Railway and Michigan Central Railway branch lines.



CICELY.

Bred by Her Majesty the Queen; undefeated in her class and many times champion; imported by W. D. Flatt.

Imp. Silver Mist,

Bred by Wm. Duthie; of the famous Missie family. He had many friends for first choice at Messrs. Marr and Duthie's sale. Mr. Beck, representing the Prince of Wales, made next to last bid.

Imp. Wanderer's Last,

Bred by W. S. Marr; also of the Missie family. Is the last calf got by that renowned Cruickshank bull, Wanderer. Mr. Marr considers this youngster very promising.

We keep in our herd a choice lot of both imported and Canadian cattle, of both sexes, from which to make selections. Personal inspection invited. Parties desiring to see the herd will be met on arrival of trains at Hamilton if notice is given. Visitors always welcome.

W. D. FLATT,

378 Hess St. South.

HAMILTON, ONT.

Jas. Smith, Manager.

SHORTHORNS

140
HEAD

SCOTCH
IMPORTED

140
HEAD

NINETY of the females are either in calf or have calves at foot. The majority of the calves are imported in dam.

Some of the families represented in the herd are as follows:

AUGUSTAS
CLARAS
NECTARS
GOLDIES
JENNY LIND
VICTORIAS
MATILDAS

BESSIES
CROCUS
ROSEBUDS
BRAWITH BUD
LANCASTERS
MAYFLOWERS
AMARANTHS

BUTTERFLY
CLIPPERS
EMMAS
BROADHOOKS
MCDORAS
MINAS
VILLAGE MAIDS

BEAUTY
MISS RAMSDEN
FLORAS
RAGLANS
LUSTRES
GEM OF THE VALE



IMP. FASHION'S FAVORITE.

FIVE EXTRA GOOD IMPORTED BULLS and A NUMBER OF VERY PROMISING BULL CALVES, imported in dam, FOR SALE

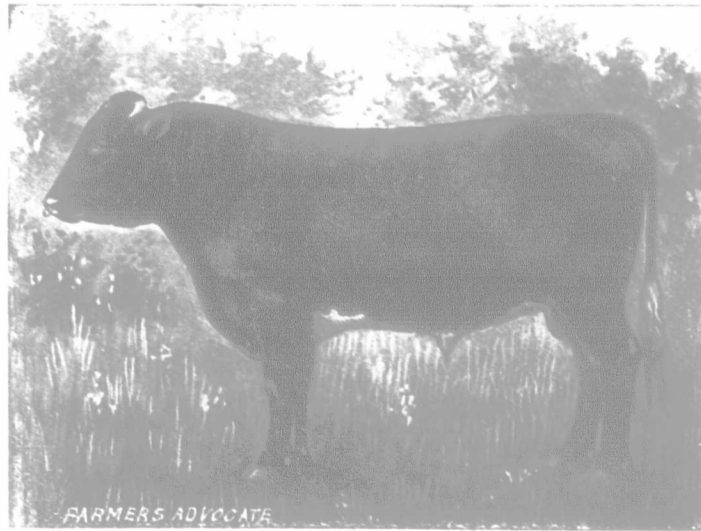
HERD headed by the IMPORTED BULLS, Golden Drop Victor and Prince Bosquet.

CATALOGUE
FREE.

If interested, come and see us,
or write—



IMP. CLAN McKAY.



IMP. PALERMO.

H. CARGILL & SON,

CARGILL, ONTARIO, CANADA.

The Army of Health.

THE ARMY IN THE PHILIPPINES INSIGNIFICANT COMPARED WITH THIS ONE.

If all the people in the United States, Canada and Great Britain who make daily use of Stuart's Dyspepsia Tablets could be assembled together it would make an army that would outnumber our army of one hundred thousand by at least five to one.

Men and women who are broken down in health are only a part of the thousands who use this popular preparation; the greater number are people who are in fair health, but who know that the way to keep well is to keep the digestion perfect and use Stuart's Tablets as regularly as meal time comes to insure good digestion and proper assimilation of food.

Prevention is always better than cure, and disease can find no foothold if the digestion is kept in good working order by the daily use of Stuart's Dyspepsia Tablets.

Mr. Thomas Seale, Mayfield, Calif., says: "I have used and recommended Stuart's Tablets because there is nothing like them to keep the stomach right."

Miss Lelia Dively, 4627 Plummer St., Pittsburg, Pa., writes: "I wish everyone to know how grateful I am for Stuart's Dyspepsia Tablets. I suffered for a long time and did not know what ailed me. I lost flesh right along until one day I noticed an advertisement of these tablets and immediately bought a 50-cent box at the drug store. I am only on the second box and am gaining in flesh and color. I have at last found something that has reached my ailment."

From Mrs. Del. Eldred, Sun Prairie, Wis.: "I was taken dizzy very suddenly during the hot weather of the past summer. After ten days of constant dizziness I went to our local physician, who said my liver was torpid and I had overheated my blood; he doctored me for two weeks without much improvement. I finally thought of Stuart's Dyspepsia Tablets (which I had used long before for various bad feelings), and the first three tablets helped me. They are easily the best all round family medicine I ever used."

The army of people who take Stuart's Tablets are mostly people in good health, and who keep well by taking them regularly after meals. They contain no opiates, cocaine or any cathartic or injurious drugs, simply the natural peptones and digestives which every weak stomach lacks.

Stuart's Dyspepsia Tablets are sold by druggists everywhere in United States, Canada and Great Britain—Advt.

Ferry's SEEDS

Ferry's Seeds are known the country over as the most reliable seeds that can be bought. Don't save a nickel on cheap seeds and lose a dollar on the harvest. 1901 Seed Annual free. D. M. FERRY & CO., Windsor, Ont.

SPRINGHURST SHORTHORNS.

The herd is largely of Cruickshank and other Scotch sorts, and is headed by the Inverhumbery-bred bull, Knuckle Duster (imported) (72753). Herd has furnished the Fat Stock Show champion three times in the last five years.

Choice young stock (both sexes) FOR SALE. H. SMITH, - HAY, ONT. Exeter Station on G. T. R., half a mile from farm.

JAS. DORRANCE, SEAFORTH, ONTARIO, BREEDER OF

Shorthorn Cattle and Berkshire Pigs Young stock always for sale.

HAWTHORN HERD OF DEEP-MILKING SHORTHORNS.

We are offering 8 young bulls for sale, of first-class quality, and A1 breeding. Wm. Granger & Son, - London, Ont.

Shorthorn Bulls

Three fine roan bulls, about 15 months old, large and well formed, of strong blood breeding. Able and well enough bred for anything.

D. ALEXANDER, Bridgen, Ont.

SHORTHORNS FOR SALE

Young stock of both sexes—reds and roans. JOHN R. HARVIE, ORILLIA, ONT.

SHORTHORN CATTLE AND LINCOLN SHEEP.

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

J. T. GIBSON, DENFIELD, ONT.

PLEASE MENTION FARMER'S ADVOCATE.

GOSSIP.

OFFICIAL RECORDS OF HOLSTEIN-FRIESIAN COWS FOR NOVEMBER AND DECEMBER, 1901.

This class of records are made uniformly, under supervision of State Experiment Stations, at the homes of the owners of the cows. They are for seven consecutive days, and the fat is determined by the Babcock test. The equivalents of butter are calculated by the Superintendent of Advanced Registry from reports sent to him from these stations. Eight reports were received in November and eighteen in December. The largest record of butter-fat is 18.41 lbs., equivalent to 23 lbs. 0.8 oz. butter at 80 per cent., or 21 lbs. 8.2 ozs. at 85.7 per cent. fat to the pound. Summarized, these tests show the following results: Nine full-age cows, average 7 years 8 months 10 days, 32 days after calving, butter-fat 14.033, equivalent butter 20 per cent. fat 17 lbs. 8.6 ozs., equivalent 85.7 per cent. fat 16 lbs. 5.9 ozs.; five four-year-olds, average 4 years 5 months 14 days, 17 days after calving, butter-fat 12.938 lbs., equivalent butter 20 per cent. fat 16 lbs. 2.8 ozs., equivalent 85.7 per cent. fat 15 lbs. 1.5 ozs.; four three-year-olds, average 3 years 4 months 15 days, 25 days after calving, milk 349 lbs., butter-fat 11.678 lbs., equivalent butter 20 per cent. fat 14 lbs. 3.6 ozs., equivalent 85.7 per cent. fat 13 lbs. 10 ozs.; eight classed as two-year-olds, average 2 years 5 months 14 days, 11 days after calving, milk 273.1 lbs., butter-fat 8.674 lbs., equivalent butter 20 per cent. fat 10 lbs. 15.5 ozs., equivalent 85.7 per cent. fat 10 lbs. 1.9 ozs.

The cows by ages making best records are as follows:

Roxie Wayne 2207, age 9 years 8 months 21 days, 34 days from calving: Milk 399.9 lbs., butter-fat 18.41 lbs., butter 20 per cent. fat 23 lbs. 0.8 oz., butter 85.7 per cent. fat 21 lbs. 8.2 ozs.

Aaggie Cornucopia 3rd 34926, age 7 years 10 months 7 days, 20 days from calving: Milk 496.4 lbs., butter-fat 16.717 lbs., butter 20 per cent. fat 20 lbs. 14.3 ozs., butter 85.7 per cent. fat 19 lbs. 8 ozs.

Lady Flossy's Grace 2nd 984 W. H. B., age 7 years 2 months 27 days, 13 days from calving: Milk 453.9 lbs., butter-fat 15.905 lbs., butter 20 per cent. fat 19 lbs. 11.1 ozs., butter 85.7 per cent. fat 18 lbs. 8.9 ozs.

Jarie Pauline De Kol 2nd 4931, age 3 years 3 months 1 day, 20 days from calving: Milk 419.2 lbs., butter-fat 15.387 lbs., butter 20 per cent. fat 19 lbs. 3.7 ozs., butter 85.7 per cent. fat 17 lbs. 15.2 ozs.

Grace Amy Bobbet 4714, age 3 years 4 months 6 days, 15 days from calving: Milk 372.3 lbs., butter-fat 10.96 lbs., butter 20 per cent. fat 13 lbs. 2.1 ozs., butter 85.7 per cent. fat 12 lbs. 4.1 ozs.

Fricka 1th A 48872, age 3 years 10 months 9 days, 49 days from calving: Milk 300.1 lbs., butter-fat 10.506 lbs., butter 20 per cent. fat 13 lbs. 2.1 ozs., butter 85.7 per cent. fat 12 lbs. 4.1 ozs.

Belle Rose Duchess 4724, age 2 years 11 months 5 days, 28 days from calving: Milk 298 lbs., butter-fat 10.111 lbs., butter 20 per cent. fat 12 lbs. 10.2 ozs., butter 85.7 per cent. fat 11 lbs. 12.7 ozs.

Bena C. Koningen 46172, age 2 years 11 months 35 days from calving: Milk 330.3 lbs., butter-fat 9.783 lbs., butter 20 per cent. fat 12 lbs. 3.7 ozs., butter 85.7 per cent. fat 11 lbs. 6.6 ozs.

Manor De Kol's Clothilde Lass 43390, age 2 years 9 months 1 day, 91 days from calving: Milk 277.9 lbs., butter-fat 8.682 lbs., butter 20 per cent. fat 10 lbs. 13.2 ozs., butter 85.7 per cent. fat 10 lbs. 1.7 ozs.

Aahje Salo Reka 43337, age 1 year 11 months 13 days, 10 days from calving: Milk 265.6 lbs., butter-fat 8.339 lbs., butter 20 per cent. fat 10 lbs. 8 ozs., butter 85.7 per cent. fat 9 lbs. 12.8 ozs.

Kate Jacob 49112, age 2 years 3 months 8 days, 10 days from calving: Milk 262.6 lbs., butter-fat 8.328 lbs., butter 20 per cent. fat 10 lbs. 6.6 ozs., butter 85.7 per cent. fat 9 lbs. 11.5 ozs.

Ederly Frena 2nd 49454, age 2 years, 70 days from calving: Milk 245.3 lbs., butter-fat 7.847 lbs., butter 20 per cent. fat 9 lbs. 12.9 ozs., butter 85.7 per cent. fat 9 lbs. 2.5 ozs.

S. HOXIE, Supt. of Advanced Registry, Yorkville, N. Y., January 1st, 1901.

Frost & Wood's Extension. The enterprising firm of Messrs. Frost & Wood, of Smith's Falls, Ont., commenced extension of their commodious shops in 1899 by erecting a large warehouse, 66x110, four stories high. They have just now completed other extensive buildings—a new blacksmith shop, 75x110, with extension 50x75 for plow shop; one entirely new building, three stories, 60x100, ground floor for machine shop, second story for carpenter shop, and third floor for paint shop. An addition of 20x100 feet was also made to the moulding shop. This looks like being ready for the new century with its demands for high-class farm machinery.

Standard Sheep Dip

(OIL OF TAR.) Non-poisonous, cheap and effective. Destroys Scab, Lice, Ticks, Foot Rot, etc.

Write for Testimonials and Circulars.

Manufacturers: The West Chemical Company, TORONTO, ONT.

For Contagious Abortion use West's Fluid.

SHORTHORNS AND BERKSHIRES.

Young bulls at two to three months old; cows and heifers. Pure blood, various ages, either sex, and ready to ship. MAC CAMPBELL, Northwood, Ont.

The Breed THAT FIRST Hillhurst Famous

FIVE GRAND YOUNG SHORTHORN BULLS FOR SALE, 9 to 12 months old—registered; bred from milking strains; hardy and active, having been reared in a natural manner on pasture. Prices moderate. Special inducements to clubs. A choice lot of

SHROPSHIRE

Ram and Ewe Lambs, by imported rams of Mansell's and Harding's breeding. HAMPSHIRE, THE GOLDEN-FLESHED, Ram Lambs all sold. Next crop due January, 1901. Ready for service in August.

M. H. COCHRANE, HILLHURST STATION, COMPTON CO., P. Q.

117 miles from Montreal, on Portland Div. Grand Trunk Ry.; 12 miles from Lennoxville, C. P. R.



T. DOUGLAS & SONS, STRATHROY, ONT. BREEDERS OF..

Scotch Shorthorns

100 HEAD TO SELECT FROM. Offer for sale 20 young bulls, and cows and heifers of all ages, of the most approved breeding, bred to (imp.) Diamond Jubilee—2884—at head of herd. Farm one mile north of town, on

J. & W. B. Watt, SALEM, ONT., (Post and Telegraph Office.) Clydesdale horses, Scotch Shorthorn cattle, Leicester and Oxford sheep, Berkshire pigs.

Our SHORTHORN herd was founded over 30 years ago, and contains such triles as the Village Reds, Matchless, Missies, Mildreds, Stamfords and English Lady, upon which we have employed such bulls as Barmpton Hero 324, Young Abbotsburn 6236, Challenge 2333, Perfection 9100, Lord Lansdowne (imp.) 2712, Clan Stuart 14381, Canada 19536, Sittlyton Chief 17000, Royal Sailor (imp.) 18359, Royal George 28313, Royal Victor 34681 and Royal Wonder 34682, by Royal Sailor (imp.), and out of English Lady and Mildred dams, now head the herd, assisted by Roan Cloud 31317, by Lord Gloster 28855, and out of Melody 21992, a descendant of the Buckingham family. We are now offering young bulls, cows and heifers for sale, of Scotch type.

Farm 2 miles from Elora Station, G. T. R. and C. P. R., 15 miles north of Guelph.

W. G. Pettit & Son, FREEMAN, ONT. IMPORTERS AND BREEDERS OF

Scotch Shorthorns and Shropshire Sheep

OFFER FOR SALE: 20 Imp. bulls, 40 Imp. cows and heifers, 6 Home-bred bulls, 30 Choice Home-bred heifers—1, 2 and 3 years old, 25 Ewe lambs.

Burlington Junction Station, Telegraph and Telephone Offices, within half a mile of farm.

SPRINGBANK FARM.

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

Center Wellington Herd Scotch Shorthorns

was founded in 1892 on Marr-bred descendants, to which have been added the Mistletoe and Matchless tribes, with Lord Stanley 4th 22678 at the head. Young cows and heifers for sale. Farm 1 mile from town and 14 miles north of Guelph. Box 66. H. H. WEBSTER, Fergus, Ont.

Bonnie Burn Stock Farm

Forty rods north of Stouffville station, Ont., offers 5 Shorthorn bulls and some heifers, 30 Shropshire rams and ewes from Imp. and Canadian-bred sires, at reduced prices. D. H. RUSSELL, Stouffville, Ont.

Maple Lodge Stock Farm

ESTABLISHED 1854. SHORTHORNS—An excellent lot of young bulls, and a special value in young cows and heifers in calf to our imported Knuckle Duster.

LEICESTERS—Imported and home bred—the best. ALEX. W. SMITH, MAPLE LODGE P. O., ONT.

Shorthorns FOR SALE:

12 young bulls, 10 yearling heifers and heifer calves, 16 2-year-old heifers and young cows, several well advanced in calf to Precious Stone (imp.). Prices moderate. Write for particulars. G. A. BRODIE, Stouffville Station, Bethesda, Ont.

R. & S. NICHOLSON

SYLVAN P. O., PARKHILL STATION, IMPORTERS AND BREEDERS OF SHORTHORN CATTLE, OFFER FOR SALE

7 Imp. cows, 3 Imp. heifers, 7 Yearling heifers, 7 Yearling bulls, 9 Cows.

A QUICK, SHARP CUT

hurts much less than a bruise, crush or tear. Done with the DEHORNING KEYSTONE KNIFE. On the safest, quick, sharp cut. Cuts from four sides at once. Cannot crush bruise or tear. Most humane method of dehorning known. Took highest award World's Fair. Write for free circulars before buying. Owned and Manufactured by R. H. MCKENNA, V.S., Picton, Ont. THE LATE A. C. BROSIE'S PATENT.

High-class Shorthorns and Yorkshire Pigs.

One very superior bull, about 17 months old; three bulls about 5 months old, from imp. stock; cows and heifers due to calve this fall. Forty Yorkshire pigs, 2 months old, from imp. stock; imp. boar, 2 years old, and sows due to farrow soon. Write, or come and see us. JAS. McARTHUR, GOBLE'S, ONT. Goble's Station, G. T. R., 10 miles east of Woodstock, 2 miles from farm. Visitors met.

Shorthorns and Tamworths FOR SALE.

Our choice, dark red, 8-mos. bull. Also a few 4-mos. boars of extra quality, with Nimrod blood.

COLWELL BROS., Newcastle, Ont.

ARTHUR JOHNSTON

Greenwood, Ontario, Canada. HIGH-CLASS SCOTCH SHORTHORNS

(First Importation Made in 1874.)

(My recent importation of 30 head has just arrived home from quarantine. Herd now numbers over 120 head.)

OFFERS FOR SALE: 40 Imported Cows and Heifers, 40 Home-bred Cows and Heifers, 11 Imported Bulls and Bull Calves, 13 Home-bred Bulls and Bull Calves.

Railway stations—Pickering, on main line of Grand Trunk Railway, 22 miles east of Toronto, and Claremont, 23 miles east of Toronto, on the C. P. Railway. Catalogues on application.

PLEASE MENTION FARMER'S ADVOCATE



To produce the best results in fruit, vegetable or grain, the fertilizer used must contain enough Potash. For particulars see our pamphlets. We send them free.

GERMAN KALI WORKS,
93 Nassau St., New York.



"Making Fast Time"

We are making a great record. No other fence can compete successfully with the "Page." We now make our own wire and so get just the peculiar quality we need. Hence, we now furnish a still better fence than ever. Prices lower this year. Better look into it. Not room here for prices. We also manufacture lawn fences and gates. High in quality and low in price.

The PAGE WIRE FENCE CO. (Ltd.)
WALKERVILLE, ONT.

"D. ROSS, Box 553, Winnipeg, General Agent. Fence in Stock."

LITTLE'S PATENT FLUID
NON-POISONOUS SHEEP DIP AND CATTLE WASH

THE ORIGINAL
Non-Poisonous Fluid Dip

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

For sheep.

Kills ticks, maggot, cures scab; heals old sores, wounds, etc., and greatly increases and improves growth of wool.

Cattle, horses, pigs, etc.

Cleanses the skin from all insects, and makes the coat beautifully soft and glossy.

Prevents the attack of Warble Fly.

Heals saddle galls, sore shoulders, ulcers, etc. Keeps animals free from infection.

No danger, safe, cheap, and effective

Beware of imitations.

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

SOLD BY ALL DRUGGISTS.
SEND FOR PAMPHLET.

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

Maple Cliff Dairy and Stock Farm.

FOR SALE:

Ayrshires—6 yearling bulls, females any age.
Lincolns—40 boars and sows of different ages.
Berkshires—3 boars, a number of sows.

R. REID & CO., Hintonburg.

Farm 1 mile from Ottawa. Electric cars to farm.

GLEN ROUGE JERSEYS.

WILLIAM ROLPH, Markham, Ont., offers twelve Jersey Bulls and Heifers (pure St. Lambert), 1 of tested cows. Grand individuals. Prices right.

GOSSIP.

THE SYLVAN SHORTHORNS.

Messrs. R. & S. Nicholson, Sylvan, Ont., write, under date of January 5th: "Our eight head of imported Shorthorns arrived home from quarantine on the 21st of November last. They consist of the following animals: From Mr. John Marr, Cairnbrogie, *Butterfly 4th*, of A. Cruickshank's family of that name. She was two years old last March; sired by the W. S. Marr bull, Prince Horace; he by William of Orange, dam Princess Royal by Athabasca; and although she had a calf the month she was two years old, and is not fat, still she has an even covering of natural flesh of the right fiber, she is large and symmetrically formed. Her calf, a beautiful roan, sired by Mr. Duthie's Royal Standard, came out with her. Four crosses have been added to this pedigree since it left Amos Cruickshank's hands—two by bulls bred by W. S. Marr and two by Cruickshank bulls, and amongst the best they ever bred. There are no better bred Butterflies living. From the same gentleman we also secured the grand two-year-old heifer, *Marilla 2nd*, of the popular Miss Ramsden tribe; a solid red; sired by Prince Horace. She too had a heifer calf before she was two years old, sired by Golden Robin; he by Spicy Robin, dam by Athabasca. We did not see a better heifer and calf in Scotland than these. If fitted, they are good enough to go into any ring. We asked their late owner how the brigade of exporters that just preceded me came to miss them. The answer was that they wanted lower priced stock. From that veteran breeder, Mr. A. Crombie, Woodend, New Macher, we purchased the following: *Sunflower 17th*, a red three-year-old. She is due to drop her third calf two months before she is four years old, and although her growth has been somewhat retarded, and she is not in high flesh, still she shows qualities of a high order. She is a beautiful cow, full of Shorthorn character. She was sired by Coldstream (by Cumberland, dam Cyclamen by Roan Gauntlet). She is from the same cow as the noted bull, Denmark, a bull that made Mr. A. Stell's (Nether Angustown) herd, after which he went to Ruddington Hall, where he was equally successful. *Daisy 6th*, one year old, a Diamond, sired by Prince of Cushine, as good a bull as Mr. Crombie ever used. Her dam was by Coldstream. *Lancaster Rose*, a yearling, sired by Czarowitz, a straight Cruickshank; dam Lancaster Fame, by the W. S. Marr bull, Melampus. She is as well-bred a Lancaster as exists. With one exception, these were the best yearlings we saw in Scotland. Mr. Crombie had refused some tempting offers for them, but refused to sell. They were just what we wanted, so we bought them. *Augusta Bruce*, bred at Inverquhony; dam Augusta 30th, by Clear the Way; a full sister to the noted bulls, Bendigo and Beaulieu. Her sire is Luxury, a Rosewood, bred by Mr. J. Bruce. He is a full brother of the white steer that won the championship at the London 'Smithfield' in 1899, and nearly a full brother to the noted Silver Plate, now chief stock bull at Bapton Manor. We have seen it stated that the Augusta family have won more prizes at the 'Smithfield' than any other. In Mr. Bruce's sale catalogue of 1899 we find an appended list of prizes won by animals from his herd. Along with the champion of '99, ten are credited to the Rosewoods and eight to the Augustas. The excellencies of both are centered in this superb heifer. In fact, we doubt if there is a female living that can boast of such a concentration of prize-winning blood. Exclusive of the calves, they are all in calf to high-class bulls bred by Marr and Duthie. The imported heifers, *Estelle 3rd* and *Pineapple 4th*, have produced to the service of Blue Ribbon (imp.) (71077) (Shepherd's), the former a red heifer, the latter a red bull. If these calves are a sample of Blue Ribbon's stock, his owner (Mr. D. Birrell, Greenwood) has a first-class stock bull, for they are extra good ones. The yearling heifers advertised for sale in this issue are the best all-round lot we ever had. The yearling bulls are equally good, being robust, large and natural fleshers. The whole herd (over eighty head) never was so good as it is now. Any animal in the herd is for sale, but not the whole herd, as we are not going out of business, and if we sold all we would have to pay higher prices than we are willing to sell for. We will sell at the lowest possible margin. The stock-loving public are cordially invited to inspect this herd, irrespective of whether they wish to buy or not. Parties will be met at station by appointment."

SPRING GROVE STOCK FARM

Shorthorn Cattle and Lincoln Sheep. Herd prize and sweepstake at Toronto Industrial Exhibition, 1897 and 1898. Herd headed by *Topsman* = 17847 =, champion at Winnipeg, Toronto, London and Ottawa, 1899. High-class Shorthorns of all ages for sale. Also prizewinning Lincolns. Apply on



T. E. ROBSON, Ilderton, Ont.

STEAMSHIP Tickets

If you are going to the Old Country, or sending for your friends, apply to our nearest railway ticket agent, who can supply outward and prepaid tickets at lowest rates.

Steamers leave Portland, Maine, every Saturday; St. John, every Wednesday; New York, every Wednesday and Saturday.

W. P. F. CUMMINGS,

General Agent, C. P. R. Offices,

WINNIPEG.

W. C. Edwards AND COMPANY.
IMPORTERS AND BREEDERS

Laurentian Stock and Dairy Farm,
NORTH NATION MILLS, P. Q.

Pine Grove Stock Farm,
ROCKLAND, ONTARIO.

Ayrshires, Jerseys, Shropshires, Berkshires

Our excellent aged herd of Ayrshires is headed by our noted imported bull Cyclone. Tam Glen heads the young herd, and Fawn's Son 2nd of St. Anne's heads the Jerseys. The young stock are all from time-tried dams.

A. E. SCHRYER, Manager.

Scotch Shorthorns and Shropshires.

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

JOS. W. BARNETT, Manager.

We can be reached either by steamboat, the C. P. R., or C. A. R.; the C. A. R. making connection with the G. T. R. at Coteau Junction. Rockland is our station on all lines. 7-1-y-om-

Ayrshires, Guernseys, Shropshires, Yorkshires for immediate sale.



SOME fine Ayrshire bull calves. A few Shropshire ram lambs. A few choice Yorkshire pigs.

Kindly note that Mr. T. D. McCallum has no further connection with this farm, either directly or indirectly. All correspondence should be addressed to



ISALEIGH GRANGE FARM, Danville, Quebec.
J. N. GREENSHIELDS, Prop.

Rapids Farm Ayrshires.

REINFORCED BY A RECENT IMPORTATION of 20 cows, 2 bulls, and a number of calves, selected from noted Scotch herds, and including the male and female champions at leading Scottish shows this year. Representatives of this herd won the first herd prize at the exhibitions at—

Toronto, London, and Ottawa, in 1900.

Come and see or write for prices.

Young Bulls and Heifers for Sale, bred from High-class Imported Stock.

Robert Hunter, Manager

for W. W. Ogilvie Co., Lachine Rapids, Quebec.

A MODEL SILO

BUILT WITH 86 BARRELS OF

THOROLD CEMENT.



Barn of A. C. Pettit. Silo built with Battle's Thorold Cement. Dimensions 30 feet high and 12 feet in diameter. Driving-house floor 26 x 36 feet.

Burlington, Ont., December 12, 1900.

ESTATE OF JOHN BATTLE, Manufacturers of Thorold Cement, Thorold, Ont.:

GENTLEMEN:—Enclosed you will find a picture of my silo, built by your man, Mr. Ward Hagar. It is one of the most durable and looks the best of any make in our part of the country. I used 86 barrels of your cement to build the silo and lay a driving-house floor 26 x 36 feet, which is as hard as stone. Size of my silo, 30 feet high and 12 feet in diameter. I would advise all parties intending to build silos to get your man, Mr. Hagar, and construct them with your Thorold Cement.

Yours truly, A. C. PETTIT,

Importer and breeder of Scotch Shorthorn cattle.

Estate of JOHN BATTLE, Thorold, Ont.

HOLSTEINS

FOR SALE.
I AM now offering 4 royally-bred Holstein bulls: Regulator Dekol, Pompos Dekol, Jessie 3rd's Iuka Dekol, DeDicker's Dekol. All from heavy-milking dams, closely related to Dekol 2nd and Netherland Hengerveld, the greatest of Holstein cows.
J. A. CASKEY,
Madoc, Ont.

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

Maple Glen Stock Farm.
The home of officially tested, Advanced Registry, dairy test and showing-winning herd of **SYLVIA HOLSTEINS**. A grandson Sylvia now for sale. Price is in keeping with breeding and performances.
C. J. GILROY & SON,
Brockville, on C.P.R. or G.T.R. Glen Buell, Ont.

Riverside Holsteins.
6 BULLS, from 2 to 18 months old, sired by our famous stock bull, Victor Dekol Pieterje. Some are from imported or officially-tested dams. Also a few heifers for sale.
M. RICHARDSON & SON,
Haldimand Co., on Caledonia, Ont.

Maple Hill Holstein-Friesians
SPECIAL OFFERING:
Four bull calves, born in August and September, sired by the great bulls, Count Mink Mercedes and Daisy Teake's King, and out of prizewinning and producing dams. They are show calves, about the best I ever bred. One yearling bull, the first-prize calf at Toronto, 1900. Also a nice yearling heifer—a bargain.
HARRISBURG STN., G.T.R. G. W. CLEMONS,
GALT STN., C.P.R. ST. GEORGE P.O., ONT.

SHOW AYRSHIRES FOR SALE.
As we are not going to show any cattle at the fairs this year, we will sell the imported prizewinning bull, Napoleon of Auchenbrain, champion and head of first-prize herd at Toronto, 1898. Also first-class 2-year-old bull and three choice bull calves of last fall. These are all fit for the showing, as we kept them for that purpose. For prices and particulars come and see, or write. **James Boden, Mgr.,** St. Anne de Bellevue, Quebec.
Farm close to St. Anne Station, Quebec.
G.T.R. & C.P.R., 20 miles west of Montreal.

Ayrshire Bulls: Write to **J. YULL & SONS,** Carleton Place, for special prices on Ayrshire bulls from 14 years to 6 months. Four over 15 months, fit for service, from special milking stock. Sired by prize bull, Jock of Burnside—1684—, also females of all ages. Shropshire sheep of all ages; a number of fine ram lambs. Berkshire pigs of either sex, of the best bacon type.
B. F. ROCKS.

FOR SALE.
6 YEARLING JERSEY BULLS, sired by Brampton's Monarch (imp.), and from tested cows; also registered and high-grade springer.
B. H. BULL & SON, BRAMPTON, ONT.

Catalogue Printing our Specialty.
Many of the best Catalogues in Canada are produced by us. Latest type faces, designs, ornaments, and modern machinery.—Best in America. Up-to-date covers designed by special artists without extra charge.
London Printing & Litho. Company, Ltd., LONDON, ONTARIO.

FAMOUS ALL OVER THE WORLD.
ALFRED MANSELL & CO., LIVE STOCK AGENTS AND EXPORTERS, SHREWSBURY.
BRITISH STOCK selected and shipped to all parts of the world. Write for prices to **ALFRED MANSELL & CO.,** Shrewsbury, England, or to our American representative, Robert Miller, Stouffville, Ont., Canada.

W. W. Chapman,
Secretary of the National Sheep Breeders' Association.
Secretary of the Kent or Romney Marsh Sheep Breeders' Association, and late Secretary of the Southdown Sheep Society.
Pedigree Live Stock Agent, Exporter and Shipper. All kinds of registered stock personally selected and exported on commission; quotations given, and all enquiries answered.
Address: **FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W.** Cables—Sheepcote, London.

PLEASE MENTION FARMER'S ADVOCATE.

GOSSIP.

In this issue of the FARMER'S ADVOCATE will be noted Mr. Robert Duff's (Myrtle, Ont.) change of advertisement, in which he offers the imported bull, Royal Member, so long at the head of the Cargill herd of Shorthorns. This will afford another excellent opportunity to obtain a splendid sire. Mr. Duff also has a few females carrying calves to him among his offerings. Note the change.

Champion, Breed Cups and Special Prizes at the Smithfield Show, 1900.

CATTLE.
Silver cup, value £50, for the best steer or ox.—John Wortley (Hereford steer, Lord Roberts); r. Capt. H. L. Townshend (cross-bred steer, Cock o' the North).
Best heifer.—W. E. Learner (cross-bred, Ladysmith); r. H. M. the Queen (Shorthorn, Cicely).
Champion plate, for best beast in the show.—John Wortley (Hereford steer, Lord Roberts); r. W. E. Learner (cross-bred, Ladysmith).
The Queen's Challenge Cup, value £150, for the best beast in the show, bred by the exhibitor, and gold medal to the holder but not final winner of the Cup.—H. M. the Queen (Shorthorn heifer, Cicely); r. Earl of Strathmore and Glamis (Aberdeen-Angus heifer, Aquilegia).

Breed Cups.
Best Hereford.—John Wortley (Lord Roberts); r. H. M. the Queen (steer).
Best Shorthorn.—H. M. the Queen (Cicely); r. Earl of Roseberry (Talisman).
Best Aberdeen-Angus.—George Bruce (Cock o' the North); r. Earl of Strathmore (Aquilegia).
Best Galloway.—Sir John Swinburne (Scottish Queen 3rd); r. Earl of Antrim (Sam 3rd of Minnow).
Best Cross-bred.—W. E. Learner (Ladysmith); r. Capt. H. L. Townshend (Cock o' the North).

SHEEP.
Champion plate, value £50, for the best pen of three Longwooled sheep or lambs.—John Pears (Lincolns); r. H. Dudding (Lincolns).
Champion plate, value £50, for best pen of three Shortwooled sheep or lambs.—Earl of Ellesmere (Suffolks); r. Duke of Richmond and Gordon (Southdowns).
The Prince of Wales' Challenge Cup, value £100, for the best pen of three sheep or lambs bred by the exhibitor.—Earl of Ellesmere (Suffolks); r. J. Pears (Lincolns).

Breed Cups.
Best pen of Leicesters.—E. F. Jordan, and r. Best pen of Border Leicesters.—Earl of Roseberry; r. J. Douglas Fletcher.
Best pen of Cotswolds.—F. Craddock, and r. Best pen of Lincolns.—J. Pears; r. H. Dudding.
Best pen of Southdowns.—Duke of Richmond and Gordon; r. W. Wright.
Best pen of Hampshire Downs.—Thomas Fowell Buxton, and r.
Best pen of Suffolks.—Earl of Ellesmere; r. H. E. Smith.
Best pen of Shropshires.—Philo L. Mills; r. P. L. Mills.
Best pen of Oxford Downs.—H. W. Stilgoe; r. Miss Alice de Rothschild.
Best pen of Dorsets or other pure Shortwools.—J. Toop; r. W. J. Horn.

PIGS.
Champion plate, value £20, for the best pen of two pigs.—R. Fowler (Berkshires); r. Earl of Roseberry (Large Whites).
Champion plate, value £5, for the best single pig.—Earl of Roseberry (Large White); r. N. Benjafield (Berkshires).
The Duke of York's Challenge Cup, value £50, for the best pen of two pigs, bred by the exhibitor.—R. Fowler (Berkshires); r. Earl of Roseberry (Large Whites).

Breed Cups.
Best pen of Small Whites.—Hon. D. P. Bouverie; r. A. Hiscock, Jr.
Best pen of Middle Whites.—Hon. D. P. Bouverie; r. N. Benjafield.
Best pen of Large Whites.—Lord Roseberry; r. A. Hiscock, Jr.
Best pen of Blacks.—N. Benjafield; r. G. Pettit.
Best pen of Berkshires.—R. Fowler; r. A. Hiscock, Jr.
Best pen of Tamworths.—D. W. Philip; r. G. Atkins.
Best pen of Cross-breds.—A. Hiscock, Jr.; r. A. Brown.

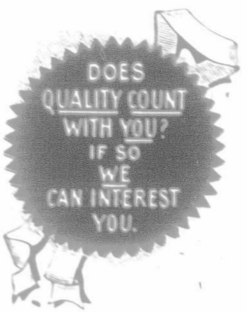
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FOR SALE:
A granddaughter of Louise of H, the great cow whose yield and cost of feed were published in F.A., 8 months old; a son of Bella of H, full sister in blood to Louise, 7 months old; a great-granddaughter of the famous cow, Massena (900 lbs. butter in one year), 19 months old, and in calf.
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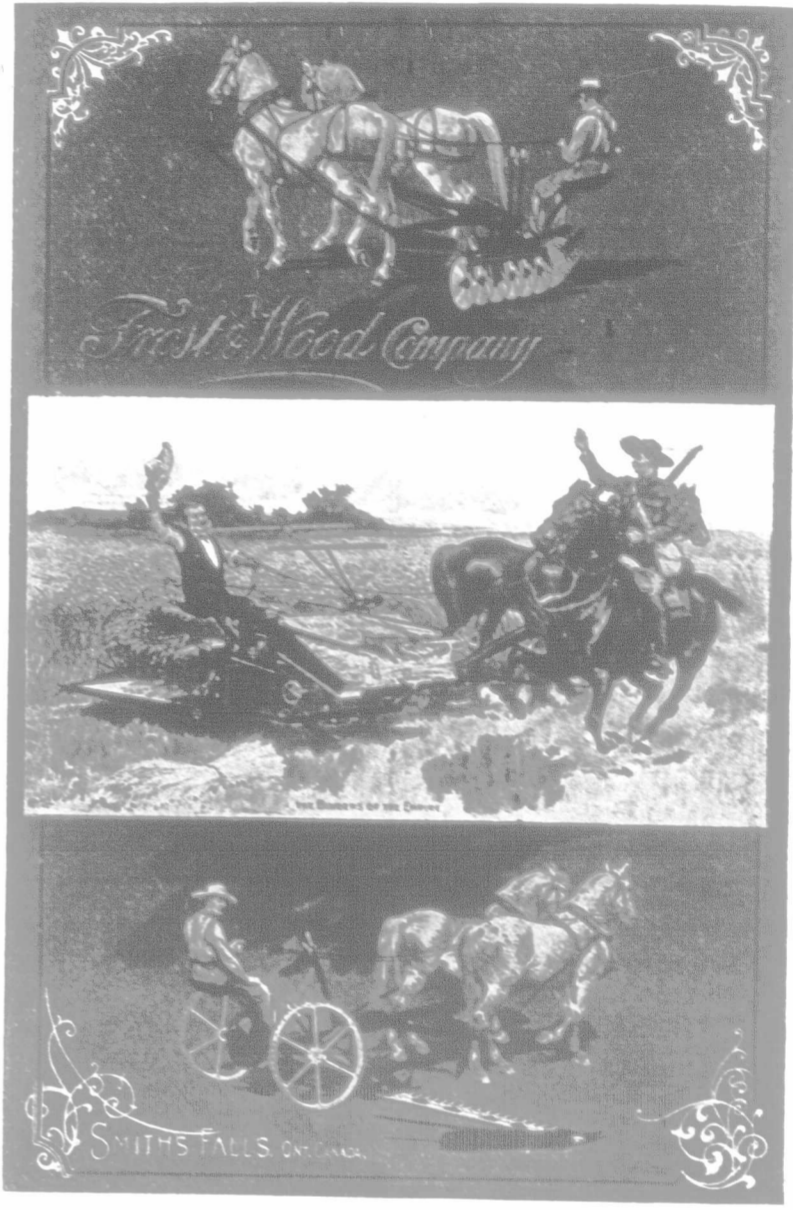
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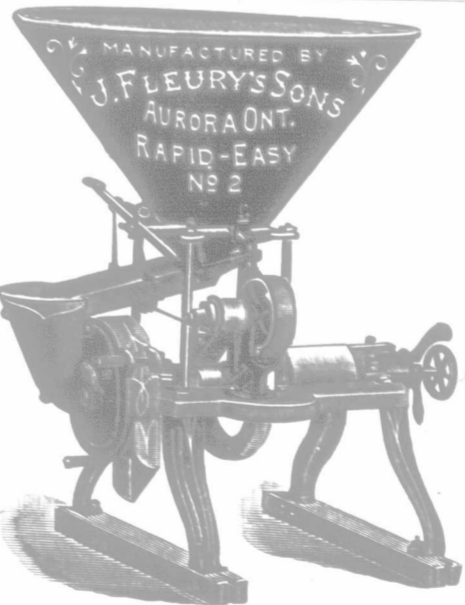


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We shall be glad to have your enquiry by letter or card. On application, we will send a lithographed hanger showing our "Rapid-Easy" Grinder No. 2.
J. FLEURY'S SONS, Aurora, Ont.
Medals for Plows: Chicago, '93; Paris, 1900.

DRAFT HORSEMEN MEET.
The fourteenth annual meeting of the Dominion Draft Horse Breeders' Society was held at Clinton, Ont., Dec. 1st last, with a good attendance of members and a keener interest than has been shown for some years past. The annual reports showed an improvement in the amount of work done, and no impairment of the excellent financial condition which has marked the society since its formation, the balance on deposit in the bank being over \$840.
The old officers and retiring members of the board were re-elected for 1901, and a large amount of routine business transacted. Among the matters of general interest discussed was that of obtaining the reduced transportation rates on stock shipped for breeding purposes. The committee on that behalf will continue their efforts. Messrs. Alex. Innes, Clinton, and James Henderson, Belton, were appointed delegates to the Canadian Horse Breeders' Association, and Messrs. D. McIntosh, Brucefield; J. E. Blackall, Clinton, and John McDiarmid, Lucknow, to the Western Fair, London.
Mr. Innes gave notice of motion at next annual meeting to raise the standard for registration from four to five accepted registered crosses, and arrangements were made for the publication of a number of photographs of selected animals, showing the Clyde and Shire crosses, with accompanying reading matter on draft-horse breeding. The executive officers of the society are: John McMillan, Constance, President; D. McIntosh, V. S., Brucefield, Vice-President; P. McGregor, Brucefield, Treasurer; James Mitchell, Goderich, Sec.

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Yours truly, (Sgd.) J. A. GRAVELLY.



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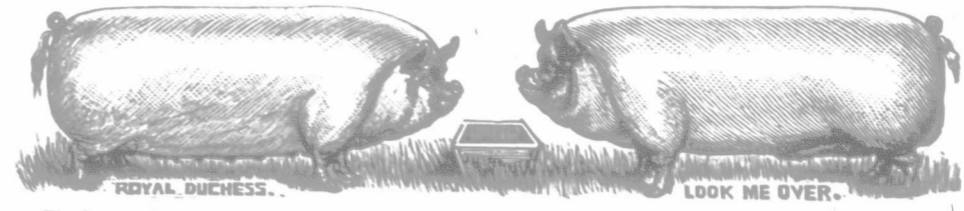
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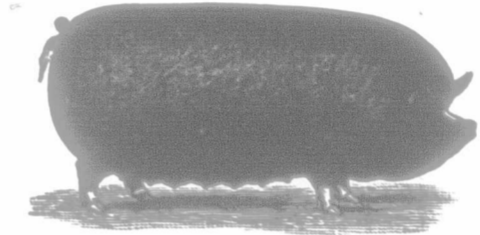


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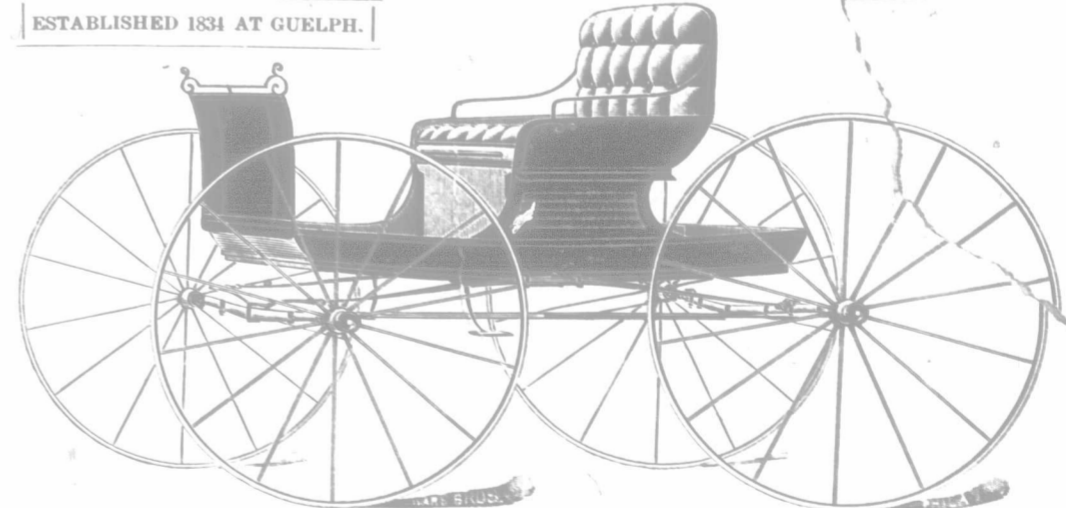
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An offering during this month a grand lot of boars and sows ready for breeding; pairs supplied, not taken from show stock; also several sows in pig to imported boar. Young pigs from 2 to 3 months old, all of the most improved bacon type. Registers furnished. Express prepaid. Address:
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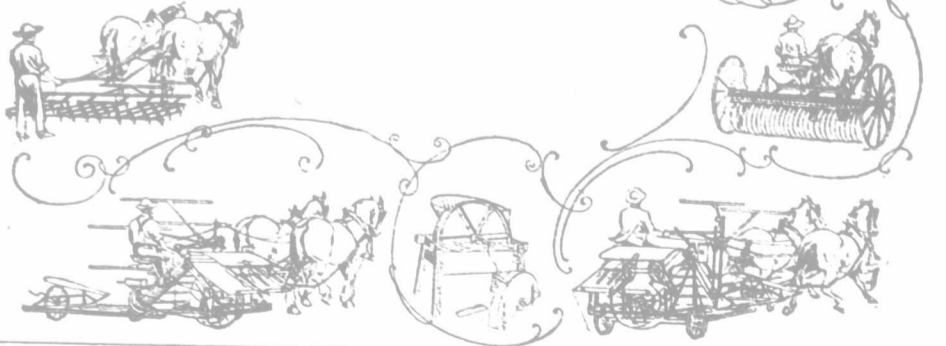
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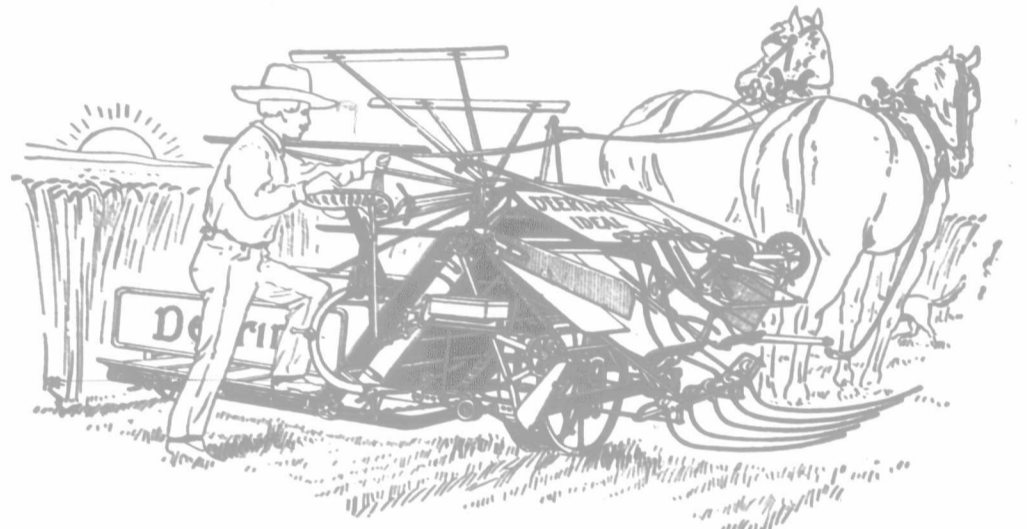
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