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April 17, 1900

Farming

A Paper for
Farmers and Stockmen

"Canada's Greatest Seed House"

(1 lb.) STEELE BRIGGS' **ROYAL GIANT** SUGAR BEET



GROWS HEAVY CROPS. EASILY HARVESTED

LARGE CLEAN ROOTS. HIGHEST FEEDING QUALITIES.

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—FOR—
STOCK FEEDING

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THE STEELE, BRIGGS SEED CO., Limited, TORONTO, ONT.

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A Dispersal Sale of the Hillhurst Stud

By Auction **SATURDAY, APRIL 28TH**, At 10 o'clock a.m.
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BRETHOUR & SAUNDERS,

is acknowledged to be the highest class of bacon hog. Won all herd prizes offered at the largest Canadian exhibition in 1899.

Grand Sweepstakes over all breeds and for dressed carcasses at Provincial Winter Show.

The quality of your hogs may be improved by using Oak Lodge blood.

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80c PER BUS.

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Grain Grinders

TWO SIZES FOR ANY POWER.



No. 1 has 10-inch reversible burrs

No. 2 has 8-inch single burrs.

Both have ball-bearing burr plates, relief springs and shake feed.

Grind fine and fast with least power. Always guaranteed. A trial given. Hundreds in use.

GOOLD, SHAPLEY & MUIR COMPANY, Limited
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TWO choicely-bred Holstein bulls, fit for service. One was first prize calf at Toronto last fall, the other is out of the first prize three year old cow at Toronto and London.

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TAMWORTHS

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YOUNG Stock for sale. Send for history of the herd, and description, prices and conditions of sale of the "Hermanville Tamworths" for 1900; also rates of expressage to your nearest trade centre. Address—

HERMANVILLE FARM

Hermanville, P.E.I., Can.

MAMMOTH BRONZE and NARRAGANSETT TURKEYS

and **COLLIE DOGS**—all of noted strains.

A. ELLIOT, Pond Mills, Ont.

Brookbanks' Special Offering

7 Holstein Bulls (over 1 year)

7 Holstein Bulls (under 1 year)

15 Females, any age desired, bred to one

of our great stock bulls. Calamity Jones Paul, Homestead Albini DeKol, or Count Calamity Clay, three of the greatest bulls in America. Must reduce the herd. Prices cut to make them go. Liberal terms to large purchasers. State just what you want, age, time to calve, etc. We can suit the most fastidious. 70 head to select from.

A. & G. RICE,

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FOR SALE GLYDESDALE

TWO STALLIONS, weighing over a ton each, sure getters; all seven young Mares with foal—sure breeders of all breeding strains. One Yearling Colt and three under one year. Young Red Shorthorn Bull.

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FARMING

VOL. XVII

APRIL 17th, 1900.

No. 33

Poultrymen Fall into Line

At the live stock meetings held recently in this city it was announced that the next Ontario Poultry Show would take place at Guelph in conjunction with the Provincial Fat Stock and Dairy Show, and also that Mr. A. P. Westervelt, Secretary of the Dominion Cattle, Sheep and Swine Breeders' Associations would also act as Secretary of the Ontario Poultry Association, with head office in this city. These changes in the secretaryship of the association and also in the location for the next Ontario Show were not made public during the meetings, because definite arrangements regarding them were not completed. Since then we have learned that everything has been satisfactorily arranged and that the next Ontario Show will be made one of the educational features of the Provincial Winter Show, which, as previously announced, is to be located permanently at Guelph.

This change of policy on the part of the management of the Ontario Poultry Association will come as somewhat of a surprise to many poultrymen and farmers throughout the Province. The association had undoubtedly gotten into a rut and the benefits which the farmer derived from the public moneys which it received were practically nil. It is very gratifying, therefore, to know that henceforth the association and the annual show will be run upon different lines and will be made a great educational factor in building up the poultry industry of this country along practical and profitable lines. There is a great work to be done in this regard and with a secretary so directly in touch with our live stock and farming interests as Mr. Westervelt is, the association is capable of doing excellent work for the poultry branch of the farm. The complaint most frequently heard in regard to the association and its shows was its great lack as an educational institution. Of course, all shows, of whatever kind, have an educational character, but we think we are safe in stating that formerly with the "Ontario" the educational features were only secondary. We therefore congratulate the present management on the change of policy in this regard and can assure them of our hearty support and co-operation in making the association and the show potent factors in the educational work that must be done in building up the poultry industry of this country.

The influences that have tended to bring about these changes, which mean the permanent location of the Ontario Poultry Show and the direction of the work of the association more along educational lines are, no doubt, many and have been at work for some time. But be this as it may, we feel like taking some credit to ourselves for this important turn in the affairs of the Ontario Poultry Association. The discussion upon "Government Assistance to the Poultry Industry," which began in FARMING a few months back, has undoubtedly been a very strong factor in bringing about this change for the better in its management. Our only desire was for the benefit of the organization and we are glad to know that thus far our efforts have borne such good fruit.

Canadian Cattle at Chicago

Under the above heading appears an article in the *Chicago Live Stock Report* of April 5th, from which we take the following;

"The high prices paid for western range cattle at Chicago

last season caused many a cattleman across the Canadian border to turn his thoughts toward this market and seriously consider the proposition of sending his shipments hither.

The great demand for cattle at Chicago, the head and centre of the dressed beef trade, is very attractive to our Canadian friends, who fail to find in their local or shipping and export buyers the strong, unfailing competition necessary to maintain profitable prices. Hence, in spite of distance and the import duty imposed upon beef cattle brought into this country, we should not be at all surprised to see considerable numbers of North-West Territory cattle included in the range receipts at Chicago the coming season. We believe that, in many cases, Canadian ranchmen will realize more from their cattle by sending them to this market than by disposing of them in any other way."

The same journal quotes from a letter received from a ranching company at Crane Lake, N.W.T., as follows:

"Regarding the Chicago market for Canadian beef, our company recently received a check from the Montana Stock Growers' Association (of which we are a paid member) for \$49.38, being net proceeds of one estray '76' steer sold in Chicago. The gross amount was \$70.65, and freight, duty and other charges amounted to \$21.27, leaving a net balance as above. This is beginning to open our eyes up here."

From the above it would seem that some effort is being made to divert the cattle trade of Western Canada to Chicago. It is in the interests of every one who raises cattle to get the very highest prices for them obtainable, but whether it is possible, considering the heavy duty put upon cattle shipped into the United States, to develop a trade with Chicago that would be permanently profitable, to even Western ranches, is another matter. The goal for all the surplus cattle on this continent, whether shipped alive or as dressed meat, is Great Britain; and whether it will pay our ranchers or cattle raisers better to develop this trade through Chicago or our own shipping centres is worth considering. If this country is to grow and develop as it should, our export trade with the Mother Land should be diverted as much as possible through Canadian channels. In doing this, however, the question of freight rates must be considered, and it is only too true that Canadian shippers have not the advantages that American shippers have in this regard. If the carrying charges were the same on both sides of the line, we fail to see where the advantage would come in of Western cattlemen making their shipments through an American rather than a Canadian channel. However, this whole question is worth looking into, and, if Canadians are hampered by excessive freight rates, some effective remedy should be applied.

Prizes for Seed Grain Competition

Mr. G. H. Clark, B.S.A., has been appointed to take direct charge of the work in connection with the sum of ten thousand dollars donated by Sir William C. Macdonald to promote "progressive agriculture" by encouraging boys and girls to select seed grain on the farms on which they live. Mr. Clark has been for three years assistant to Mr. C. A. Zavitz, experimentalist at the Ontario Agricultural College. His training there in that capacity has given him particular fitness for carrying on the work, and the boys

and girls will find him a most helpful and sympathetic co-worker.

As has already been said, the sum of ten thousand dollars in cash is to be paid in prizes during the three years. One set of prizes is to be awarded for the largest yield per acre of oats, counting also the quality of the grain. The basis for awarding the prizes is one mark for every pound in weight of grain of good quality per acre in the first year; two marks for every pound in weight of grain of good quality in the second year; and three marks for every pound in weight of grain of good quality in the third year. Other sets of prizes are to be awarded for wheat. Any acre of oats or wheat on the farm on which the competitor lives may be selected for 1900, and the particular acre need not be chosen until just before the grain is ready to harvest.

1. (a) The competitor who obtains the largest number of marks in the total of the three years will receive the first prize in the province; the competitor who obtains the second largest number of marks, the second prize; and so on for ten prizes in every province.

(b) There will be also prizes for wheat on the same plan

(c) The following show the prizes for one province :

Prize	Oats, \$100	Wheat, \$100
1st	75	75
2nd	50	50
3rd	25	25
4th	15	15
5th	10	10
6th	5	5
7th	5	5
8th	5	5
9th	5	5
10th	5	5
	\$215	\$295

(d) There will be sets of prizes as above for Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Manitoba, the North West Territories, and British Columbia respectively.

2. (a) There will be also sets of prizes annually for the hundred heads of grains which contain the largest number of seeds of the best quality picked out of those selected from the acre each year.

(b) Any one hundred heads from the acre entered for competition may be picked; one mark will be awarded for every seed on the one hundred heads and two marks for every grain (in weight) which those seeds weigh.

(c) The competitor who receives the largest number of marks will receive the first prize in the province; the competitor who obtains the second largest number of marks, the second prize; and so on for the ten prizes in every province.

(d) The following show the prizes for one province for 1900 :

Prize	Oats, \$25	Wheat, \$25
1st	20	20
2nd	15	15
3rd	12	12
4th	10	10
5th	8	8
6th	5	5
7th	5	5
8th	5	5
9th	5	5
10th	5	5
	\$110	\$110

There will be sets of prizes as above, for Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Manitoba, North West Territories and British Columbia, respectively, in 1900 and also in 1901 and 1902.

SUMMARY.	100 LARGE HEADS.
1900	Oats, \$110 Wheat, 110
	\$220 × 8 = \$1,760
1901	" 1,760
1902	" 1,760
	\$5,280

Three year lb. grain per acre competition :

Oats, \$295
Wheat, 295
<hr/>
\$590 × 8 = \$4,720
<hr/>
\$10,000

The seed grain for this competition is not supplied by Prof. Robertson, and it is not necessary to choose any particular variety of seed for sowing this year, but whatever variety of seed is sown this year will be continued during the three years of the competition on each farm.

Teachers in rural districts are invited to join in helping to forward this educational movement. Any teacher may send in a list of not more than six pupils in the school district for competition.

Professor Robertson, through whom this donation was given by Sir William C. Macdonald, says :

"All those who desire to enter the competition should send their names and addresses to Professor Robertson, Ottawa, before the 1st June, 1900. These communications should contain only the words 'Entry for seed grain competition,' and the full name and address. They will be carried by mail free of postage.

"I particularly request that no questions be asked on these entry applications. Full particulars will be mailed in good time to everyone whose entry is received; and I am sure the newspapers will accord their much-prized courtesy and help in giving publicity to any further announcements. The competitors will doubtless number many thousands, and it will not be practicable to write letters to them individually. The plan provides for 640 prizes, of which 16 are \$100 each, 16 are \$75 each, 16 are \$50 each, and 64 are \$25 each."

It will not be necessary for any of the boys or girls entering this competition to receive any further directions concerning this movement until some time in June, when full particulars will be sent to each competitor intimating how to choose the particular acre and how to go about selecting the large heads from it for seed grain for sowing next year. As mentioned above, entries should be addressed to Professor Robertson, Department of Agriculture, Ottawa, and should contain only the words "Entry for Seed Grain Competition" and the full name and address of the competitor. These applications will be carried by mail free of postage. They will be received until the first day of June, 1900. Already there are many hundreds of entries from every province in the Dominion.

Utility Poultry

A great many farmers and others are asking what is meant by utility breeds of poultry. This may be a somewhat difficult term to explain satisfactorily. From the farmer's point of view we would say that the utility bird is the one that will give him the best returns in eggs and edible poultry for his feed and care. In this class a great many breeds might be included that would render the farmer a good return for feed and labor expended upon them. The following report of an egg laying competition conducted by a member of the Utility Poultry Club of England, will be found interesting, and may serve to give some idea as to which are the utility breeds in so far as egg laying is concerned :

"I have pleasure in submitting my report of the laying competition I have had the honor to conduct on behalf of the club at this farm. The birds arrived on an average four days before the competition began (October 25th), and were placed in large runs I had specially erected, which measure seven yards by thirty-two, and the houses, which are without bottoms, are 5 ft. by 3 ft. and 4 ft. high, with shelters 3 ft. by 4 ft.

"The site selected is a well-drained meadow of nice loamy soil, sloping to the west, and has not previously been used for poultry. On the north and east sides the runs are well protected with high prick thorn hedges, and it

would probably be difficult to select a more ideal spot for the purpose.

"All the birds have kept remarkably healthy, with the exception of one of the Buff Leghorns in Pen No. 2, which was noticed to be ailing on January 17th, and at once placed in the hospital, where the usual remedies were administered, but I regret to say that it 'passed over to the majority' four days later.

"A number of the fowls have been in the moult, especially both lots of white Leghorns, which have been handicapped the most seriously in that respect. Also a number have been troubled with broodiness, more especially the Plymouth Rocks and buff Orpingtons, whilst not one of the light breed has shown the least indication.

"The morning food has mainly consisted of one-third sharps (or middlings), one-third barley meal, and one-third pea-meal, which has been cooked over night in one of my own patent cookers. The afternoon meal has been about half wheat and half maize, given alternately, or according to the state of the weather. Oyster shell and flint grit have been supplied *ad lib.*, and the floors of both the houses and shelters have been kept thickly covered with Miller's dust, in which the fowls have spent a great deal of time scratching. The cost in food, leaving out shell, grit, and dust, has been 1.61d. per head per week.

"During the last fortnight of the competition I weighed eight eggs from each pen, taken successively as they came in, and rejecting none excepting one that was double-yolked, with the following results:

PEN No. 1.—Black Orpington.....	18	ozs.
" 2.—Buff Leghorn.....	17½	"
" 3.—Buff Orpington.....	15	"
" 4.—Min rcas.....	16	"
" 5.—Langshans.....	15½	"
" 6.—White Leghorn.....	17	"
" 7.—Plymouth Rock.....	17½	"
" 8.—White Leghorn.....	18	"
" 9.—Faverolles.....	15	"
" 10.—Buff Leghorn.....	17	"
" 11.—Silver Wyandotte.....	16	"
" 12.—Black Leghorn.....	16½	"
" 13.—Golden Wyandotte.....	17	"
" 14.—Brown Leghorn.....	16½	"
" 15.—Golden Wyandotte.....	15½	"
" 16.—Anconas.....	15	"
Total weight of the 64 brown eggs.....	129½	"
" " " 64 white eggs.....	133½	"

"The average number of eggs laid per bird has been 27.76, heavy or sitting breeds averaging 31.09, whilst the light or non-sitting breeds have averaged 24.43.

"Speaking generally of the competition, I trust the results will be found highly satisfactory, especially considering that the winning pen this year has scored sixty-two eggs more than the most successful winner in either of the two previous competitions, but it is a matter of regret that some of the lots have shown to disadvantage by being late hatched or in a backward state when they arrived, because it is evident that whilst some are not high on the list they are of a good laying strain. This has been especially noticeable with regard to No. 15 pen, which did not lay an egg till the ninth week, but during the last month scored 66, which is the greatest number laid by any pen during any of the four months. I would respectfully suggest that in future competitions each owner be compelled to state the date when the pullets were hatched, and that the same be placed side by side with each month's result, and it might even be desirable—seeing the club has more entries than it can accommodate—to accept no birds that have been hatched later than, say, April 20th. Publishing the date would also afford valuable information as to which is the most profitable time to hatch, as it is patent to me that pullets that are hatched too early to escape moulting, or are hatched too late to be laying, or on the point of laying, when they arrive really stand no chance of winning the prizes or of indicating the quality of the laying strain.

"I may add that the cost of the food, which I believe has not been given in the previous competitions, has come as a surprise to me, as our own large stock, which are kept in large lots, cost considerably less, but I ought to state

that they are on unlimited range, and consist chiefly of the light breed; evidently, feeding laying fowls in winter that are partially confined, and half of which consist of heavy breeds, together with using the best of food, costs more than is generally supposed."

Early Spraying

By F. C. Sears, School of Horticulture, Wolfville, N.S.

It may be doubted whether the old adage, "A stitch in time saves nine," will apply with as much force to any other farm operation as it does to spraying, for with many of the fungous diseases of plants, unless the spraying is done before the plants are attacked, it is a waste of time and materials. And with *all* of the pests for which we spray, either insect or fungus, prompt applications at the proper time are necessary if they are to be effective. Let every grower in the Maritime Provinces, therefore, resolve that this coming season he will practice the most approved methods of spraying and *then* let him carry out that resolve.

The first two pests which claim our attention are the oyster-shell bark-louse and the bud moth. If your trees are infested with bark lice or if they are covered with moss or old bark, and look as though they needed a general clearing up, nothing will do them so much good as spraying with potash, either the rock potash, which can be bought for about eight cents per pound, or with the leachings from wood ashes. One who has never tried it will be surprised at the wonderful improvement this will make in the appearance and thriftiness of the trees. It cleans off all old bark or roughness of any kind, thereby removing countless bark-lice, insect eggs and fungous spores, and it makes the trees look almost as though they had been varnished. Try it, and you will have all your neighbors stepping in to ask how you did it. And the beauty of it all is that whatever material is applied in this way will eventually find its way into the soil, where it will make the best of fertilizers for the orchard. If you use the rock potash take one pound to three to five gallons of water, and if the leachings from ashes, that leached from a barrel should make a cask or more of excellent spraying material. But there are two precautions to be observed in applying this potash. (1) It must be done when the trees are dormant, which means that if you are going to use it this year (and that is what you should do) it must be applied during the present month; and (2) great care must be taken not to get any of it on the hands or any part of the person, as it is extremely caustic, and is likely to produce serious results.

The bud-moth, which seems to be very troublesome in parts of the province, is one of the most difficult of insects with which to deal. The eggs of this insect hatch in the late summer and the little worm produced feeds on the leaves of the apple until about half grown, when it stops feeding and passes the winter in a half-developed state, in little cocoons or nests which may be found by careful investigation attached to the twigs of the trees. In the spring, on the first signs of growth in the orchard, the little worm gnaws its way into the centre of the expanding bud and there lays havoc with the prospective crop of fruit by eating the young buds. Our object should be, therefore, to prevent the worm from getting into the bud, and to do this requires very careful spraying with Paris green. I should advise spraying just as the buds are opened sufficiently to afford a lodgement for the Paris green among the points of the little leaves, and if the insect is very troublesome I should spray a second time a few days later, when the buds are fairly well opened, using for both sprayings Bordeaux mixture with ¼ lb. of paris green to the cask. The Bordeaux mixture will adhere to the buds better than pure water, and this increases the chance of keeping the poison where it will do the most good. This treatment may not effect the entire destruction of this pest, but I am con-

fidest it will greatly reduce its ravages. And we must remember that once the worm is inside the bud, he is beyond the reach of sprays of any kind.

For the past two years Nova Scotia has been blessed with an abundant apple crop, while the world's crop has been light and the result has been high prices for our fruit and "no questions asked." We cannot hope for this to continue indefinitely, but must be prepared the coming season to compete with at least an average crop from the other apple growing districts. And the best way to prepare for this is to produce the best of fruit. The best fruit grown in Nova Scotia to day can successfully compete with that grown in any other section, and what we must do is to make it *all* as good as the best. Growers can do this if they will make a united effort for better practices all through the season, and nothing will help more to accomplish this object than thorough spraying. Will you do it?

Silage for Horses

When silage was first introduced, cases of sickness in horses attributed to its use were frequently reported, and the opinion that silage was not suited to horses came to be quite widely entertained. Evidence has accumulated, however, that good silage, used with proper care, is a safe and valuable food for horses.

In experiments at the Virginia Station with eight work animals (six mules and two horses), four of the animals were fed only hay and corn, and four were fed corn silage in addition, the silage replacing a part of the corn. During a preliminary period the animals were gradually accustomed to the silage, only a small amount being fed at first, but during the last six weeks of the experiment the animals were fed all the silage they would eat. The amount consumed varied from 52½ to 174½ pounds per week—less than "is readily devoured by cattle of the same weight." The animals remained in good health throughout the experiment and gained in weight, although constantly at work except in stormy weather.

As a whole, it would appear that silage would make a good roughage for horses when used in connection with hay or clover and grain, but that the animal should become accustomed to the food by degrees, and that this is as important as when changing from old to new corn, or from hay to grass. For some days, when beginning to feed silage, it is of the utmost importance to feed a very small amount at first, and increase gradually as the animal's appetite and condition of bowels may indicate.

A Small Farm Flock of Sheep

We have always advocated that every farmer should keep some sheep. If he is not prepared to go into the breeding or raising of sheep on a large scale it will pay the average farmer in this country to keep a few sheep. The following from the pen of John Jackson which we take from one of our American sheep journals fully endorses our views along this line, and points out how a small flock can be most economically kept:

"I find my flock of 25 coarse wool grades very profitable, and would hardly know how to farm without them. In the summer or fall if the pasture goes short, they are given a small daily ration of grain. They have daily access to salt and pure water the year round.

"The stable in which my sheep are kept during the winter is 14x40 feet, with a loft above for hay. It is built on one end of the barn. The mangers for feeding hay and grain are arranged on two sides, and about two-thirds the length of the stable; this gives plenty of room for the sheep so there is no crowding. The floor is first covered with dry straw to the depth of about six inches. This, with the ort from the clover hay on which the sheep are always fed during the winter, makes a

comfortable bed which is always dry. The stable does not have to be cleaned until spring, when the contents can be drawn directly to the field where needed. The sheep are fed night and morning as much hay as they will eat up clean, and are kept in the stable until noon each day, when they are turned out for the remainder of the day for exercise and to drink, unless the weather should be very cold and stormy, in which case they are only left out long enough to get a drink at a near by well. If they show any symptoms of cold or catarrh, a small quantity of tar is applied to the nose which soon gives relief. As my sheep are always in good condition at the beginning of winter, no grain is fed with the clover hay.

"As soon as the ewes begin to drop their lambs, generally about March 1st, they are placed in a separate and warmer stable, where they are fed grain twice a day, and given tepid water to drink for a few days if the weather is cold. By this treatment the ewes and lambs both do well, and seldom do any of the lambs die. I continue feeding the ewes a small ration of oats until it is time to turn them out to pasture in the spring. In about a week after the sheep are sheared, if there are any ticks they will be on the lambs. The lambs are then thoroughly dipped, which kills every tick, so there is no more trouble from this source during the season. As it takes only a couple of hours to dip quite a large flock of lambs, nothing pays better, because no man who keeps sheep can afford to raise ticks."

Rape for Hogs

June 6th we sowed to rape about three fourths of an acre of land, the plat being a part of an old orchard that had been used for a feed lot more or less for twenty years. One corner of the plat had been fenced off and used two years ago for a feed lot for dairy cows, springers, in which to feed a lot of clover hay. The manure made was not removed till well rotted. Consequently this part of the plat was very rich. Another part of the plat was a clay point, quite thin.

The rape came on quite rapidly. As we did not need it for the hogs it was allowed to grow till about the second week in August. At that time it ranged in height from a few inches to three feet. We then turned on it a lot of lambs that in the course of two weeks stripped it of everything but stalk and stems. They were then taken off and the rape allowed to come on again. Early in October we put on it two brood sows with litters, one of the sows farrowing after being turned in. Also a third sow in farrow was soon turned in. Now we have on the plat three brood sows, fourteen shoats large enough to wean, an aged boar and two young sows. They have all their other feed, corn and slop, but we notice that they all are hearty feeders on the rape and are thriving first rate.

A neighbor also sowed a plat of about three acres, and we think was rather disgusted with the crop for a time, but now he tells me his hogs are feeding on it at a wonderful rate. We notice that the sharp frosts we have had are blacking it some. The important feature we would call attention to is the length of time it will give green forage. From this plat we will have green forage four months at least, allowing seven weeks for it to start, which was longer than was necessary. Hogs do better on it than either sheep or cattle, as there is no danger of bloating. We shall probably grow it more extensively in the future. It can be made to play an important part in swine growing on most every farm for the reason that it can be sown any time during the growing season from April 1st to September 1st. It finds a place in small lots rich with manure that are usually allowed to grow up in weeds, and will yield a profit in such places. It reveals in soil rich in manure, in fact cannot get too much. It is much more slightly in these small lots than a crop of weeds that furnish seed for the rest of the farm.—John M. Jamison, in *Stockman and Farmer*.

CORRESPONDENCE

Judging at Ploughing Matches

To the Editor of FARMING:

I would like to point out through your valuable paper some of the grievances of ploughmen. A person may plough at one match and be successful; at another match he may have the same ideal as a guide and yet scarcely be noticed by the judge. Judges and ploughmen are at sea so far as a standard is concerned. If a man be appointed to judge at an agricultural fair on any breed from a horse to a chicken, he will be armed with a set of rules known as the standard of the particular breed he is to judge. Ploughmen fare quite differently. Judges are appointed at hap-hazard whether they are men that are capable of taking every point into consideration and coming to a just conclusion, or whether they are able to see half way across the field or not, or worse still if they have no fair standard fixed in their minds but have a hobby of their own, they will give general dissatisfaction. If the different ploughing societies would unite and provide a set of fixed rules which would suit the different localities of our province and also the different classes of our societies it would fill a long-felt want. A standard as shown in the table below to be known as a score card would be of great help. A few of the benefits of a system of this kind would be that favoritism would be shown upon the surface. There would be an ideal for ploughmen to follow and also a guide for judges. In case of a ploughman coming from a locality where they plough with very plain irons to a locality where they carry a great deal of cut on their irons, he would come in for a share according to his merits or vice versa. As it is now in either case he would not be taken notice of. In case of a boy or a young man going to a match where the art of ploughing is known to be of a high order and he should beat some of the ploughmen on some point, it would pay him for all his trouble, and the chances are it would not be the only society that would be benefited by his entrance fee. In order to carry out this system the judge or judges should be furnished with a score card and every point a ploughman is worthy of should be credited thereon. Judges should use their judgment as to what part of a possible score the highest scorer on any point should get. For example see the following table representing seven ploughmen and four prizes:

Number on Ridges.	1	2	3	4	5	6	7	8	9	10	11	12
Possible points.												
Shoot or scratches.....	15	0 5		3 8 10					4		5	
Crown of furrows.....	15	0 2		5 8 7					4		2	
Straightness.....	15	2 5		8 10 12					10		7	
Finish.....	15	3 0		2 10 12					7		8	
Uniformity.....	15	0 0		1 10 12					6		4	
Grass put away.....	15	0 5		4 9 10					12		5	
Solid ploughing.....	15	2 6		7 10 13					7		8	
Points deducted.												
Ploughman helped.....	10										10	
Gauges attached to ploughs..	10											
Staked or out of time.....	10											
		8 23		30 65 76						50 29		
				4h 21 1t						3d		

This is simply a suggestion on my part and I would feel very gratified if the societies would take the matter up and arrive at some standard. A society when issuing hand bills could state that judging would be governed by standard. But if a number of societies cannot arrive at a set of fixed rules to govern matches, then any individual society might use a score card similar to the one shown above, but it would necessarily have it printed on the announcements.

A. S. MILNE.

Leaskdale, Ont.

Rosa Bonheur Fifth

(11227 H.F.H.B.)

An Interesting Account of the Performance of this Wonderful Cow

To the Editor of FARMING:

On Thursday of last week, April 5th, this famous old cow died on the farm of the Michigan Agricultural College, the scene of her past splendid achievements. She was calved March 20th, 1888, and was, therefore, at her death a few days over twelve years old.

On the 20th of February, 1894, when Rosa was five years and eleven months old, she was placed under test, with the following remarkable results:

RECORDS.		
One day.....	106.75 lbs. milk.....	3.22 lbs. fat.
One week.....	726.25 " "	20.47 " "
Ten days.....	1033 5 " "	28.75 " "
Thirty days.....	2989.5 " "	82.16 " "

This remarkable performance gave her the world's record for milk-production for one day and one week. She was an unusually large cow, her weight at the time of this test being 1,750 pounds.

Rosa was a veritable gold mine to the student of dairy type and form. When the writer first saw her his impression was that there was a large blending of beef and dairy form, later careful study showed that in many respects she was ideal in dairy form, the earlier impression being due to the fact that I had not been accustomed to dairy conformation on such a huge scale; this can be the better understood when we say that her maximum weight was two thousand and seventy pounds. At her death she was fresh in lactation, her udder was simply extraordinary in its proportions; at one time its greatest circumference was 5 feet 7 inches. A few of her measurements are worthy of note: Girth of belly, 8 feet 6 inches; space from last rib to hook point, 14 inches; her height at the shoulder was 4 feet 10 inches, and at the hips, 5 feet. In disposition she was unusually gentle and tractable.

For a period of six weeks, Rosa averaged a daily milk production of 97.66 pounds. For this large production, a correspondingly large consumption of food was essential. Her menu for twenty-four hours was:

Silage.....	114 pounds.
Corn meal.. ..	12 "
Oat meal.....	9 "
Bran.....	3 "
Oil meal.....	9 "
Roots.....	27 "

Average daily consumption of dry matter 52.43 "

Notwithstanding this enormous consumption of dry matter, Prof. Smith notes that "the cow never failed to take her ration regularly and with relish." Further, it is worth noting that this great milk production was accomplished in severe winter weather in a stable walled with a single thickness of inch boards. A low temperature was absolutely essential to the consumption of such quantities of food, since the body radiation must have been enormous. With the advent of warm weather the consumption of food and the consequent secretion of milk decreased. The records given could not have been made in summer weather.

Rosa's great work made her name known in every State in the Union; she was the great centre of attraction to the multitude of visitors who inspect our herds. A short time ago an insidious low disease rendered her unable to use her limbs. When finally no hope of recovery was entertained, we very reluctantly relieved her of her suffering.

J. J. FERGUSON.

Agricultural College, Mich., April 9th, 1900.

The Sugar Beet Question Guelph Mentioned as a Good Location for a Factory

To the Editor of FARMING:

In recent issues of FARMING I have noticed considerable discussion of the "Sugar Beet Question." In your last

editorial on the subject you said what seemed to be the only thing needful was to find a place where the farmers would be or were in a position to grow a supply of beets—and "Ex-Farmer," in his letter, said he knew of or had a company ready to invest in the business without Government aid or bonus, if they could find a suitable location convenient to a good supply of beets.

Now, sir, I think I can tell you of a place where the farmers would be willing, and are in a position, to supply any quantity of beets from September till June, and "Ex-Farmer" will find here a suitable location for his company's factory.

Some seven or eight years ago a gentleman came to Guelph and represented himself as the agent of a strong company of capitalists wanting a suitable location for a sugar beet factory. After a little canvassing a public meeting of the farmers around was called in the city hall, and as the writer happened to be one of a committee appointed, I then took, and have ever since had, considerable interest in the subject. We soon found a goodly number of farmers willing to grow from one to six acres at four dollars per ton delivered to their nearest railway loading point, the pulp to be returned at a reasonable rate. As there is already built railroads running in five different directions, and three more projected, and each line has from two to four sidings or stations in the first twelve miles out, it soon became apparent that a goodly supply could be easily obtained. Some seed was sent around to a few of the farmers, but for want of knowledge, scarcely a sample was properly cultivated, consequently the beets were found to contain a rather low percentage of sugar when analyzed at the O.A.C. At that time but few beets or mangolds were grown around here, but modern dairying and hog-feeding has now caused them to be cultivated on almost every farm—and in no other place in Canada are the farms so well equipped with root storage facilities for the winters as in Wellington County.

For the above reasons, Mr. Editor, I think there is at least one place in Ontario where the farmers would be able and could be relied on to meet the requirements mentioned in your editorials. Permit me now to give "Ex-Farmer" a few pointers on the location. Guelph city is a hard-headed, steady-going city of about eleven thousand inhabitants, with a fairly progressive council and a live Board of Trade, well served with railways, as before mentioned, plenty of good water, and a strong flowing well was recently obtained for one of our industries at a very moderate cost; abundance of building material, namely, stone and lime, can be got at a low cost, as these were said to be the main requisites. I will not trespass further on your space than to say that, as Guelph's experience in the bonusing business has not been very encouraging, bonus-hunters are not likely to get a very warm reception, but men prepared to talk and do straight business will undoubtedly be favorably met by both citizen and farmer. The reason the project was dropped before was that after talking the farmers into the notion the gent proceeded to talk bonus to the citizens, and it then leaked out that this company had a lot of old machinery belonging to a factory in Quebec, which had proved a failure, and they wanted to unload on to a good bonus. At least this was the only explanation I could get, and the whole thing was about as suddenly dropped as hot coals. Hoping to see the subject further discussed in your columns, and a factory successfully launched somewhere in our province in the near future, I am, dear sir, ever yours,

GEO. NORTH.

Glenside Farm, Marden, Ont., April 6th, 1900.

Phosphates and Clover

No. 2. The Union Experiments

To the Editor of FARMING:

I am referred by Mr. McNeil to the fertilizer experiments of the Experimental Union. For fear of being misunderstood, or possibly misquoted, I want to emphasize that I refer only to the *fertilizer* experiments and not in any sense to the other experiments of the

Union. Further, I think the blame for the conditions I am going to point out is with the directors rather than with the members. Presumably their intention is to impress upon farmers the necessity for potash, phosphates and nitrogen, in available form, but their effect seems to be quite the contrary and the sum of the results seems to throw discredit on capable scientific experimenters.

The starvation method of feeding crops on the hand-to-mouth plan or the production of the single crop with commercial or natural manures, permeates all these experiments, and those of many agricultural stations as well, and dooms them to almost certain failure. As I pointed out in my last letter a condition of high all-round fertility must first be obtained before we can pretend to force higher production by the use of superphosphates, muriate or sulphate of potash and nitrate salts. If such a soil is not a condition precedent to these experiments, then at least a very complete history for many years of the field must be before the director to enable him to make even a fairly intelligent estimate of the result and how it probably occurred. It depends very much on the conditions of farming which have for years, and to date, prevailed on the land as to what will be the immediate results obtained by the application of manures of any kind. The mere dressing of the land with potash, nitrogen or phosphate will not give you an intelligent answer as to what the land needs. Exactly the same lands may show very diverse results for the dressing with any manurial substance, owing to their conditions being brought about by preceding conditions of husbandry.

It is the *condition* of the soil rather than the *kind* of soil which affects the result.

A soil deficient in humus is a hard proposition to face for immediate results, and I consider humus the first condition necessary to successful production of paying crops, and with it must exist efficient drainage. I do not mean that *application* of humus will immediately effect satisfactory results, but a continued condition of humus will importantly affect the result. The land is certainly richer in the ingredients of plant food from the application of any of the materials mentioned, but their residual effect is more or less marked according to the conditions of the land. This is true as well of water-soluble superphosphates as of bone. If you apply a superphosphate to a soil abounding in mineral bases and deficient in humus, insoluble tribasic phosphates are formed, and the result is disappointing, and the ingredient of phosphoric acid is practically lost to the farmer. If you apply a bone meal, the stuff lies dead in such a soil, and even the small amount of citrate soluble phosphoric acid in it is not to any appreciable extent recovered by the plants. If you apply the superphosphate to a humus soil, excellent results may be obtained, if the soil is not already too acid, or sufficiently acid; but if it is, better results are obtained from the bone, the moderate amount of citrate soluble phosphoric acid of which is readily dissolved. As most of the phosphate of the bone is, however, tri-calcium, it takes years to dissolve, even in a very humus soil. As, then, it is so difficult to judge nicely of the exact condition of acidity in a soil, the best practice is to use a citrate soluble phosphate which gives a happy medium between superphosphate and bone meal.

But the Union experiments fail also for the want of a useful plan of action. Farmers want to *improve* their lands and bring them to a general high state of fertility to produce crops to meet the increasing needs of civilization and multiplying humanity. Consequently, plans for manurial experiment must be more comprehensive to be useful in results, and must aim at something higher than single crop production. As far as I have read these experiments, they puzzle by their seeming contradictions rather than assist those whom they might benefit, and, judging from Mr. McNeil's reference to them, he is as much puzzled as others.

In another letter I shall take the liberty of suggesting a set of experiments which I will ask the Union to consider.

Fernside, April 3rd, 1900.

T. C. WALLACE.

The Agricultural Gazette

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

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

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

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

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

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

The name and address of each member, and the stock he has for sale, are published once a month. Over 10,000 copies of this directory are mailed monthly. Copies are sent to each Agricultural College and each Experiment Station in Canada and the United States, also to prominent breeders and probable buyers resident in Canada, the United States and elsewhere.

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

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

A. P. WESTERVELT, Secretary,
 Parliament Buildings, Toronto, Ont.

Railroad Rates to Manitoba Fairs.

The following letter has been received by the secretary of the Dominion Live Stock Associations in reference to reduced railroad rates to Winnipeg and Brandon Fairs:

Montreal, April 6th, 1900.

"The same arrangements will be in effect as regards rates from Ontario to Winnipeg and Brandon Fairs as in force last year.

"With regard to poultry, we would not object to a small quantity being shipped with thoroughbred stock, but I should not care to make an arrangement for carrying any large quantity on this basis. Yours truly,

"(Sgd.) G. M. BOSWORTH,
 "Freight Traffic Manager."

LIST OF STOCK FOR SALE.

DOMINION CATTLE BREEDERS' ASSOCIATION.

Shorthorns.

Bonnycastle, F. & Son	Campbellford	Cows; heifers; heifer calves; bull calves.
Bright, J.	Myrtle	9 bulls, bull calves, under 10 months; 18 heifer calves and heifers, under 3 years.
Chapman, G. & Son	St. Thomas	Heifer, 2 years; 2 bulls, 12 and 16 months; aged bull.
Davis, J. F.	Tempo	4 bulls, 14 months; cows and heifers.
Fairbairn, H. K.	Theford	10 cows; 3 yearling heifers; 2 bulls.
Hauser, I.	Weisenburg	3 bulls, 10, 12 and 23 months; cow; heifer calf.
Holdsworth, R. L. & Sons	Port Hope	5 bulls, 3 to 22 months; cow.
Howden, J. D. & Son	Whitby	Bull calf, 11 months; 5 young cows; yearling heifers and heifer calves.
Jeffs, E. & Sons	Bond Head	2 bulls; heifers.
Milne, D.	Ethel	5 bulls, 10 to 20 months.
Smith, A. W.	Maple Lodge	5 young bulls; 10 heifers and young cows.

Ayrshires.

Ballantyne, W. W.	Stratford	2 bulls, 2 months; bull, 6 months.
Drummond, D.	Myrtle	6 bulls, 3 months to 6 years.
Yuill, J. & Sons	Carleton Place	5 bulls, from 12 months to 3 years; 12 bull calves, under 7 months.

Holsteins.

Hallman, A. C.	New Dundee	Bull, 12 months; 2 heifers, 18 and 24 months.
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DOMINION SHEEP BREEDERS' ASSOCIATION.

Cotswolds.

Bonnycastle, F. & Son	Campbellford	Yearling rams and ewes.
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Leicesters.

Smith, A. W.	Maple Lodge	Rams and ewes.
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Shropshires.

Yuill J. & Sons	Carleton Place	Rams and ewes, all ages.
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DOMINION SWINE BREEDERS' ASSOCIATION.

Berkshires.

Bonnycastle, F. & Son	Campbellford	Pigs, 6 weeks to 3 months.
Hauser, I.	Weisenburg	6 sows, 7 months; 16 boars and sows, 3 months.
Jeffs, E. & Son	Bond Head	Stock, both sexes.
Reed, I.	Ardrea	Boar, 2 years; boar, 3 months; sow, 7 months; spring pigs.
Ross, A. W.	Douglas	12 young pigs, both sexes.
Yuill, J. & Sons	Carleton Place	Boar, 7 months; boars and sows.

Yorkshires.

Davis, J. F.	Tempo	Sows, six months.
Drummond, D.	Myrtle	Stock, both sexes, 5 months to 1 year.
Howe, Wm	North Bruce	5 boars, 12 to 15 months; 4 sows, 5 months; young stock.
Ross, A. W.	Douglas	60 young pigs, both sexes; 6 sows.

Chester Whites.

Birdsall, F. & Son	Birdsall	Stock, both sexes, all ages.
Holdsworth, R. L. & Son	Port Hope	Aged boar and sow; sow, 8 months; young stock.

Tamworths.

Boyd, A.	Kars	Young stock, both sexes.
Hallman, A. C.	New Dundee	Imp. boar, 2 years; 5 boars, 5 months; 24 sows, 1 to 10 months.
North, Geo.	Marden	Boars and sows, 3 to 8 months.
Smith, H. D.	Compton, Que.	10 boars, 7 weeks; 20 sows, 8 weeks.

FARM HELP EXCHANGE.

The Farm Help Exchange has been started with the object of bringing together employers of farm and domestic labor and the employees. Any person wishing to obtain a position on a farm or dairy, or any person wishing to employ help for farm or dairy, is requested to forward his or her name and full particulars to A. P. Westervelt, Secretary, Live Stock Associations. In the case of persons wishing to employ help, the following should be given: particulars as to the kind of work to be done, probable length of engagement, wages, etc. In the case of persons wishing employment, the following should be given: experience and references, age, particular department of farm work in which a position is desired, wages expected, and where last employed.

These names when received together with particulars will be published FREE in the two following issues of the "Agricultural Gazette" and will afterwards be kept on file. Upon a request being received the particulars only will be published, the names being kept on file.

Every effort will be made to give all possible assistance, to the end that suitable workers, male or female, may be obtained. Every unemployed person wishing to engage in farm or dairy work is invited to take advantage of this opportunity.

Help Wanted.

Wanted, at once, a good farm hand, for eight or ten months. Wages \$15 to \$16 a month, according to worth, with board and lodging. No. 528. a

Boy wanted, about 15 or 16 years old, as soon as possible, to do farm and garden work, for a term of six or seven months. No. 529. a

Good, strong young man, 15 to 20 years of age, wanted for general farm work during the summer. Wages from twelve and a half to fifteen dollars a month and board. No. 521. b

Wanted, married man without children, who is a good teamster and who understands feeding cattle. Permanent situation to the right man. Will have to board two of the other farm hands. Good house and garden furnished. Wages \$1.25 per day, paid every month. No. 522. b

Wanted, stockman for Manitoba on farm where Shorthorn cattle and pure-bred hogs are kept, roots cultivated, green feed grown, no grain and very little milking. State experience and wages required and give references. Yearly engagement to suitable man. No. 523b.

Steady man wanted on farm close to Ottawa where 13 cows, 4 horses and pigs are kept. Wages \$17 a month, with a quart of milk a day, also wood, and land to grow vegetables. No. 524b.

First class young man required, who is able to do all kinds of farm work, is a good teamster and ploughman. None other need apply. Must be strictly temperate, quiet and obliging. Wages 200 a year and board. No. 525b.

Good general farm hand wanted for 7 or 8 months. Young man would do. Must be trustworthy, willing, kind with horses and fair ploughman. Farm is near Toronto. State wages with board, no washing. Box 150 Cooksville, Ont.

Man and wife wanted, the former to do general farm work on 200 acre farm near Toronto, the latter to do general housework. Yearly engagement to begin at once. \$300 paid to man and wife. Advertiser is single and the family averages about 5 persons. No. 526b.

Wanted, a single man to do general farm work. Wages \$15 a month with board and washing. No. 527b.

Situations Wanted.

Married man, with no children, 33 years of age, with practical and scientific knowledge, would like a place as farm manager or superintendent. Best of references from former employer, college professors, etc. No. 409. a

Capable, competent woman wants place as housekeeper. Excellent testimonials from former employers. No. 406. b

Young man, aged 19, wants a place on a farm. Good hand with a team, good ploughman and can run all kinds of farm machinery. Is honest, obliging and not afraid of work and does not chew, drink or smoke. No. 407b.

American, aged 22, who understands care of live stock and use of farm machinery wants a position as assistant in a creamery or butter maker on a farm. Took a course at Cornell University in Agriculture and Dairy Husbandry. No objection to working on a farm. No. 408b.

N.B.—Where no name is mentioned in the advertisement apply to A. P. Westervelt, Parliament Buildings, Toronto, giving number of advertisement.

Stranger—Mr. Conductor, will I have time to bid my wife good-bye?

Conductor—I don't know. How long have you been married?

Farmers' Institutes

Under this head the Superintendent of Farmers' Institutes will each week publish matter relating to Institute work. This will include instruction to Secretaries and other officers, general information about Institutes and Institute work, suggestions to delegates, etc. We will also from time to time review some of the published results of experiments conducted at the various Agricultural Colleges and Experiment Stations of Canada and the United States. In this way he hopes to give Institute members some valuable agricultural information which they might not otherwise receive, on account of not having access to the original publications. If any member at any time desires further information along any of the lines discussed, by applying to us he will be put in direct communication with the Institution that has carried on the work.

G. C. CROKESMAN
Superintendent Farmers' Institutes
Parliament Buildings, Toronto

The Need of an Agricultural Education.

Read by I. R. McCrimmon, at Vankleek Hill Institute Meeting, Dec. 8th, '99.

Should the farmer of to-day be an educated man in order to make a success of his business? It depends on what you mean by success. If we look at it from a financial standpoint only, then we say that there have been many farmers in the past who have become wealthy, through long years of toil and bitter experiences. But were they not in a sense educated? They may not have been familiar with such questions as:—the rotation of crops, draining, soil, nitrogen, or the growing of leguminous crops to enrich the soil. Many of them, however, practised these theories, not knowing why they did so. They had learned in the hard school of experience that by following a certain method they obtained the best results. So they were in reality scientific farmers, though not aware of the fact.

Now the question is—would not those men have made a greater success financially, and would not their business have been a much more pleasant occupation, had they at the outset acquired a knowledge of the sciences pertaining to their work? There is no reason why it should not have been the case.

STRENGTH AND ENDURANCE A REQUIREMENT OF THE PIONEER FARMER

It was thought at one time, that all a farmer needed to make a success was physical strength with great powers of endurance and willingness to work. This was true to a greater extent years ago when the farmer had to reclaim his acres from the primeval forest. Then, physical strength together with a strong will was what was needed to succeed. These qualities cannot well be dispensed with yet, but in addition, the agriculturist of to-day requires a thorough knowledge of his calling in all its phases in order to make the most of it. Time has wrought changes. Pioneer work, with its many hardships, has passed into history. We often hear those who fought the obstacles of the past speak of the farmers of to-day as having no obstacles compared with the hardships of the early

settlers. We know that our obstacles are different, but are they any more easily overcome?

In the early days the land was more productive, prices were better, taxes less, habits of living simpler and less expensive, there were fewer weeds, almost no insect enemies and the climate was less severe. To-day improved farm machinery, the opening up of new and fertile areas to cultivation, cheaper and better facilities of transportation have all operated to lower the prices of farm products in the great centres of population.

TO-DAY THE SUCCESSFUL FARMER MUST HAVE KNOWLEDGE.

It is necessary that the people should be well-informed of their present needs. In the first place the farmer of to-day needs a wide knowledge. We know of no occupation that requires greater intelligence. He needs to be familiar with the character and composition of the soil. On the same farm he may have different kinds of soil, requiring different treatment. If the conditions are not right he must know how to make them right. If the soil is lacking in some element of plant food, he must know the best method of supplying the deficiency. If his land requires drainage, he must know how to do it successfully and cheaply. He must know how to till the land so that it will produce to its utmost capacity. He needs to know the nature of the different crops, their habits, and how to handle each so as to produce grain or fodder of the best quality. He must know what his crops take from the soil in order that he may arrange the best system of rotation for increasing the fertility of his land.

The prices that are paid to-day for coarse grain and hay will not justify his disposal of them in the raw state. He must manufacture them into the finer products, and in the transfer from the vegetable to the animal kingdom he must know the requirements of each animal, the best rations to produce pork, beef, mutton, dairy products, etc. To do this he needs to study the market value of raw material, also their food and manure value. He must follow the example of the successful manufacturers, making the most of the by products and attending carefully to details. The farmer needs to look closely after his business. To do this he needs to keep strict accounts, that he may know where his money comes from, and where it goes. He requires to closely calculate each branch of his farm work, to see whether it be profitable or not. He should take stock at least once a year. Many farmers go blindly on from year to year, not knowing their financial standing until it is too late, when they are astonished to find that they cannot pay all they owe. This state of things might have been avoided had they kept accounts.

He also requires an education as a

safeguard against the many leeches in the business world.

THE SOCIAL BENEFITS OF GOOD EDUCATION.

There are also the social benefits to be derived from a good education. In society and public life the farmer is pushed aside by men of the other professions. As a rule, they allow others to occupy positions intended for them, and say, "Well, I am only a poor farmer." In this way they lower the dignity of their occupation. Members of the so called learned professions are allowed to usurp positions to which they are not justly entitled. Even in the government of our country farmers have a very small representation in the Houses of Parliament, simply because they are not sufficiently educated. Further, a good education will inspire and enable us to enjoy nature's works; science will lay a foundation for continuous study; nature will reveal God's works; the rocks will speak of ages past; and plants and animals will declare the presence of an Almighty Creator. And we will understand the words of the poet:

"To me the meanest flower that grows can give
Thoughts that do often lie too deep for tears."

Where are we to obtain the knowledge necessary? It is within reach of all. We get knowledge by engaging in the work; we learn from the experience of one another by visiting well-conducted farms. Our Institute meetings are places where we can learn a great deal. The subjects are well discussed and criticized. All are invited to take part, and receive the full benefit of the subjects discussed. This is not all. For the sum of twenty-five cents we may become members of the Institute for a year, during which time we will receive many very valuable reports and bulletins, each containing the latest information along their lines. We have the very best agricultural journals within the reach of all. They are edited by men who know what they are speaking about.

WHAT CAN BE LEARNED AT OUR AGRICULTURAL COLLEGE.

Then there are excursions to the experimental farm. While there we can ask questions on any line of farm work. And young men, who can at all afford it, should take a course in the Ontario Agricultural College. They will be better equipped by the instruction they receive there for making a success of farming, and filling their places in the world, than if they added the small amount it would cost them to their capital. This institution is not valued at its true worth, from a prejudice that scientific knowledge is of no use to a farmer, that the staff know little of practical farm work, and that there is danger of the boys becoming lazy and dissatisfied with farm

work. The moral tone of the college is excellent. Dr. Mills, the president, is a man well acquainted with all the phases of farm life, having lived over twenty years on a farm before he began his studies, and he always keeps in touch with farming. He takes an interest in the boys, and if any of them neglect their work he will use every means in his power to induce them to do better. While there they will also form acquaintances with bright, pushing men, that will stimulate and help them in after life.

The educational system of the Public and High schools of this province is considered to be the very best. It certainly affords great educational advantages for those wishing to enter the other professions, but it leads from, rather than to, the farms. It has been said that over seventy five per cent. of the population of this country are engaged, either directly or indirectly, in farm work. If this is true, should not the rural masses be educated more along the line of their calling? It is true that something has been done towards placing the subject of agriculture on the public school curriculum, but how many of our teachers are qualified to teach it? They have never made it a study, nor do they receive much encouragement from the trustees. If they had some encouragement, in the shape of a little more salary, they might be induced to take the summer course, open to teachers, in the Ontario Agricultural College.

Let us, then, as farmers, make the most of our opportunities, and take advantage of every available help.

GOOD ROADS.

AN ADDRESS DELIVERED BY A. HARRIS, TO THE MEMBERS OF THE DUNDAS FARMERS' INSTITUTE AT IROQUOIS, NOV. 27, 1899.

MR. PRESIDENT AND GENTLEMEN,—In addressing an audience composed largely of the most progressive farmers in the community it is scarcely necessary to dwell on the importance of good roads. That they add materially to the value of the property in their vicinity, promote good farming, conduce to the progress and prosperity of the people, and in many ways make country life more attractive, will be readily conceded. It will also be conceded that in the matter of road improvement we have not kept pace with the general progress of the country. This has become so obvious that the Local Government has deemed it necessary to appoint a special commissioner to go among the people as a sort of missionary in behalf of the highways of the country. Such a step seems to point to a feeling on the part of the Government that the local councils are not equal to the task assigned them; and that the control of the highways, as well as of the schools, should be assumed by the central authorities; and, accord-

ingly, that the councils should become in this, as in most other matters, mere instruments for the collection of the necessary revenue.

Fifty years ago, when township and county councils were first organized, the tendency was in the direction of decentralization; and they were given an authority that has in many cases since been withdrawn. In conjunction with the trustees, they had a considerable share in the management of the schools, and they had entire control of the roads; yet, while their authority was considerable, their pecuniary obligations were light. The local school trustees provided largely for the schools for which the Government grants, especially to the secondary schools, were much more liberal in proportion to the cost of maintenance than they are at present. Practically, the only imposts the council had to levy were a contribution to the administration of justice, a grant to the public schools equal to the Government grant, and the levy for roads.

Thus the councils were enabled, without imposing a tax that could be deemed excessive, to make considerable appropriations for roads. The results, notwithstanding defects in management, were fairly satisfactory, and for some years the improvement in the condition of the road was marked. Later, however, the management of the schools was withdrawn, gradually, from local bodies and taken over by the authorities at Toronto. Government grants led to Government inspection, the people were required to provide better school accommodation and to employ more experienced teachers, and the councils were called on to make the levies heretofore imposed by the local trustees. The support of High Schools, from being largely provided for by the Government, devolved almost entirely on the local and rural taxpayers, who were also called upon to contribute in large proportions to the continually increasing cost of the administration of justice. Thus, while a very large proportion of the revenue of the municipalities passed beyond the control of the councils, they were held responsible by the people for the taxes imposed.

CURTAILING THE EXPENDITURE ON ROADS.

Now, the average aspirant for municipal honors nearly always appeals to the people's instinct for economy in the public service. Believing that the quality most frequently sought in a councillor is his ability to keep down the taxes, he rings the changes on this until he gets into the council. When he becomes more familiar with public affairs and attempts to apply his own teaching, he finds the only way he can practice economy effectively is by curtailing the expenditure on roads.

Taking the adjoining township of Matilda—the one I am most familiar with—the ordinary annual expenditure on roads is about fifteen hundred dol-

lars. This is in the neighborhood of twelve per cent. of the total levy excluding local drainage rates.

Thirty five years ago, with practically the same population, the expenditure was somewhat greater but, putting it at the same figure, it formed fifty per cent. of the total levy made by the council and rather more than twenty-five per cent. of that made by the council and the Trustees. Thus, while the taxes have doubled, the work on the roads has diminished rather than increased.

I do not, however, wish to be understood as finding fault with this, I am merely drawing attention to a condition with the view of finding a remedy for what is an admitted disadvantage. It would be like turning the hands of a clock backward to attempt to return to the old system. When we remember that the Government takes our children almost from the cradle and, in twelve or fifteen years thereafter, turns them out educated men and women; and that in many, if not most, cases, this is all the provision that is made for them; we need not be surprised that it costs a great deal of money, nor need we expect to have it done more cheaply.

On the other hand, there is no doubt that it would be felt to be oppressive to very much increase the rates at present imposed; nor is this necessary—we should look rather to the intelligent application of the means already at our disposal. To-day one man with a team will do as much in the harvest field as ten could do fifty years ago.

As most of our subsoils are better for road purposes than the surface soil and contain less vegetable matter, they should, in grading, be brought to the top. Of course, all our roads that are much more than mere byways should be gravelled; and the main roads, where the gravel is not first-class, should be finished with crushed or ground stones. For this purpose, nothing is better than the ordinary boulder stone, which has given us so much trouble in our fields.

Another important matter in connection with the roads is the fence along their boundaries. These are generally so constructed as to cause accumulation of snow that render them impassable during a great part of the winter. Something has been done in recent years to correct this by arranging with the adjoining property holders to build wire fences; but, now that these can be built as cheaply, or nearly so, as the old-fashioned rail-fences, it should be clearly understood that no property owner has the right to build or maintain a fence that may render the road valueless for two or three months in the year.

In addition to the substitution of wire for rails, or the entire removal of the fence, care should be taken to make and keep the land adjoining the roadway, level and free from accumulations of rubbish, brush, stone, or anything that will start a snowbank. Next

to badly constructed fences, these are the most fruitful causes of that terror of the winter wayfarer, the Canadian *cahot*.

DAMAGE DONE BY NARROW TIRES.

One of the most active enemies of good roads is the narrow waggon tire. This was made strikingly manifest when barley was our staple crop, and was marketed during the rainy season in the fall. The "metalled" part of our country roads is seldom more than eight feet wide—it would in most cases be too expensive to make it much wider.

This leaves but a single track for vehicles, and those of you, who like myself, have during a few hours or a wet morning in the late fall, seen fifty or sixty wagons each bearing a load of from one and a half to two tons, pass down one of these roads, will readily understand that it requires good material, well put down, to withstand the wear and pressure there is on tires originally an inch and three quarters wide, and sometimes worn so that their faces are little wider than the edge of a man's hand and round at that. The result is, small ruts that hold water soon form; and the wear is assisted by the moisture; or, if the road slopes, these ruts soon become the beds of tiny rivulets that still further accelerate the process of destruction. Whereas, if tires wide in proportion to the load they bear were used, the pressure would be on a considerable surface and would tend to smooth and solidify the road rather than cut it up. The difference between the narrow and the broad tire is the difference between the disc harrow and the land roller.

It is an encouraging sign of the present times that the wide tires are coming into more general use; the farmers are beginning to understand that they can move a heavy load over the roads or over the fields with greater ease on wide, than on narrow, tires. The same rule holds good with sleigh shoes; our winter-roads would be levelled for the horses' feet and contain fewer and less dangerous holes, if the width of sleigh shoes were doubled. The width of both tire and shoe, as well as that the sleigh should be regulated by general statute. We are all partners in the public roads, and no member of the firm should be allowed to improperly use or injure the property of the other members.

CASH EQUIVALENT FOR WORK.

What I propose is to commute this statute labor and exact therefor a small cash contribution. In this country one dollar is supposed to be a reasonable equivalent for one day's work of a laboring man who boards himself; the ordinary farmer or mechanic should be worth as much, but we do not propose to exact full pay. To make sure that in no way we increase the burdens of the people, we ask but fifty cents for each day's statute labor, which, in a town-

ship such as we have taken for illustration, will give us a revenue of three thousand dollars. This should be supplemented by a grant from the township of twenty-five cents for each day's statute labor,—equal to one-half the statute labor revenue,—and about an equivalent of what is already given out of the township funds. Thus without increasing the burdens now imposed, every township would have from four to five thousand dollars to spend annually on roads.

This would enable the councils, or such local authority as might have charge of the work, to adopt an improved system of road improvement, to procure the tools and machinery best adapted for the work, and to keep properly equipped and properly led gangs of men on the roads from May till September.

Under a system like this the labor of each man employed would not only be very much, probably several times, more effective than it is at present, but we would not have any roads built of alternate layers of gravel or broken stones and clay, a practice now altogether too common. Just here I should like to say that you can hardly make people poor by taxing them for road improvement. Barring a small percentage for machinery, every dollar that is taken from them is given back in the form of wages.

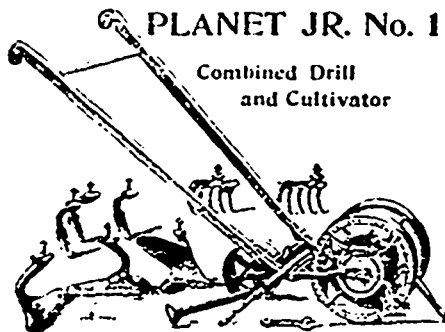
Nearly every other form of taxation, or rather nearly every other purpose for which a tax is imposed, tends to build up the cities at the expense of the country; this has no such effect. If we do not give to each man the money taken from him we take the money from rich and poor alike, and give it back to the men whose necessities compel them to work on the roads.

ROAD MAKING.

I need not dwell at any length on how the roads should be made, further than to indicate a few principles that should always guide. The ditches should not be deeper than is requisite for the proper grading of the road—unless when it is necessary to cut through slight elevations when the surplus material should be removed to depressions; for slight, elevations mean slight depressions, and it is desirable to have the road-bed as level as possible. When the elevation is more than slight,—that is, when there is a hollow between two hills,—drainage should be sought through the adjoining land. The roads should be graded so that the water will flow readily into the ditches, and the ditches should be laid out and constructed so that no water will lie in them. This latter rule is very important and is, we fear, about as much honored in the breach as in the observance.

No matter how poor a man is, there was a time when he rode in his own carriage—when his mother pushed it along.

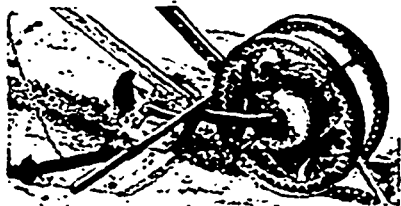
Farm Implement News



PLANET JR. No. 1

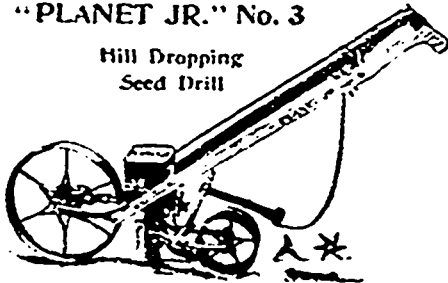
Combined Drill
and Cultivator

The "PLANET JR." No. 2
Seed Drill



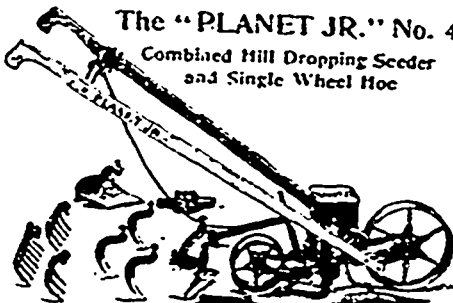
"PLANET JR." No. 3

Hill Dropping
Seed Drill

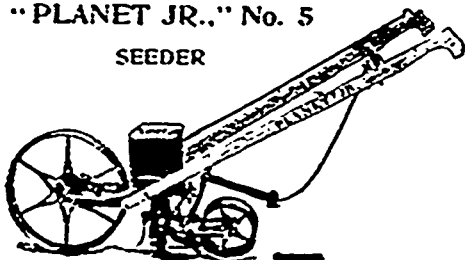


The "PLANET JR." No. 4

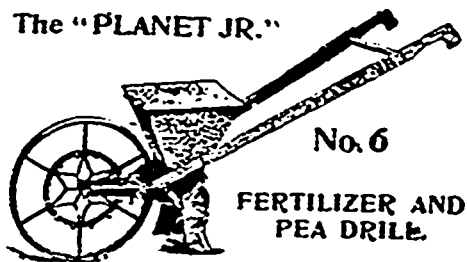
Combined Hill Dropping Seeder
and Single Wheel Hoe



"PLANET JR." No. 5
SEEDER



The "PLANET JR."



No. 6

FERTILIZER AND
PEA DRILL.

Twentieth Century Garden and Farm Tools.

We are indebted to Mr. S. E. Briggs, of the Steele, Briggs Seed Co., Toronto, for the following valuable information in regard to garden tools and the cultivation of the farmer's garden. No one can expect to have success with his garden unless he has the proper tools with which to cultivate it and keep it in order. The illustrations and the descriptions given refer especially to the brand of garden tools known as "Planet Jr.;" a term that means efficiency, good workmanship, and modern and up-to-date ideas in everything turned out. Mr. Briggs writes us as follows:

Sowing the seed is, perhaps, the most important of all the farmers' and gardeners' operations in growing crops from seed, for, no matter how good the seed is, if it be badly sown the sower loses both it and his labor. A good seeder is, therefore, one of the most important of all farm tools, it "pays at both ends," it saves labor and seed in planting, it saves work and trouble in hoeing. It also makes a more even and, therefore, a larger crop. If the drill is a hill dropper, these advantages are emphasized. In a word, let a seeder sow ever so perfectly in drills, it is not up-to-date unless it is a satisfactory hill dropper.

WHEEL HOES AND ATTACHMENTS

Wheel hoes are the companion implements of seed drills and are indispensable to market gardeners, sugar beet growers, nurserymen, and all farmers who grow roots for stock or vegetables for market. By using a good wheel hoe one can plant five times his usual acreage of small hoe crops without fear of being caught in their cultivation. It is a much less common mistake now than it was twenty years ago to imagine that these finely-made tools are fit only for the playthings of fancy farmers or for the gardens of the rich, or as one person expressed it, that they are too handsome for any place but the parlor. Nothing could be further from the truth. The rich can get along without them, and the fancy farmer can pay for hand labor, but the intelligent grower who wishes to make money cannot afford to be without them. While they are adapted to the strength of a boy or a woman, they are built expressly for the all-day work of an able-bodied man.

DOUBLE WHEEL HOES.

The "Planet Jr." double wheel hoes are the greatest tools in the world for



"PLANET JR." No. 11
Double Wheel Hoe,
Cultivator, Rake
and Plow.



"PLANET JR." No. 12
Double Wheel Hoe,
Cultivator
and Plow.



"PLANET JR." No. 13

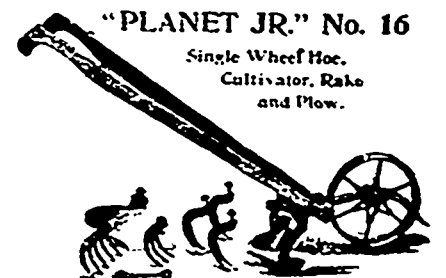


Double Wheel Hoe



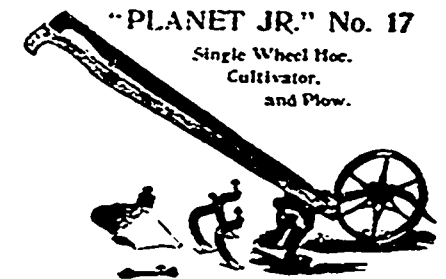
"PLANET JR." No. 15

Single Wheel Hoe,
Cultivator, Rake
and Plow.



"PLANET JR." No. 16

Single Wheel Hoe,
Cultivator, Rake
and Plow.



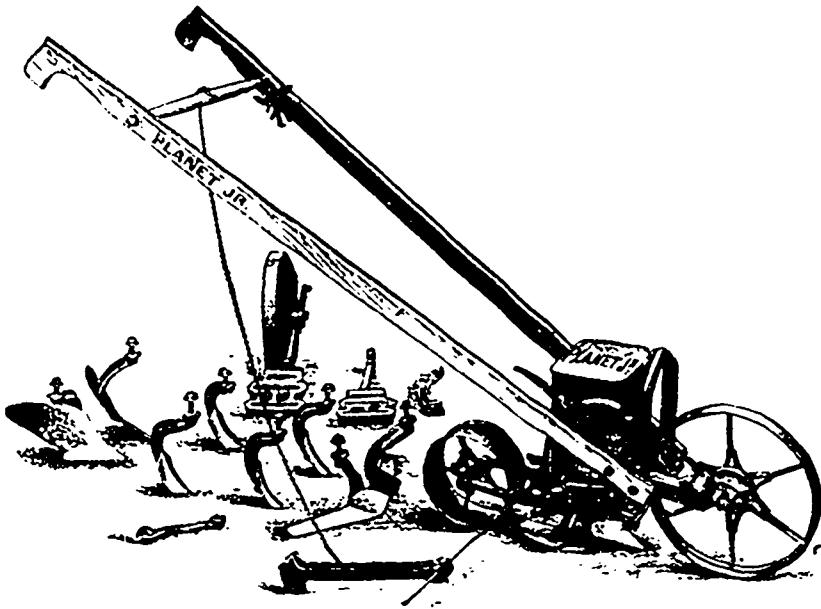
"PLANET JR." No. 17

Single Wheel Hoe,
Cultivator,
and Plow.



"PLANET JR."
No. 18

Single Wheel Hoe.



No. 25. Combined Drill and Hill Seeder and Double Wheel Hoe, Cultivator, Rake and Plow.

the onion grower and for all hoe crops which are sown in drills. They do more work in less time and do it better and easier than can possibly be done in any other way. The tools comprise one pair each of four inch and six-inch hoes, four inch and seven-inch cultivating rakes, plows, wide and narrow cultivator teeth and leaf guards. Every attachment is adapted to some particular work in the cultivation of the crop, and for the convenience of those who do not desire a complete outfit of attachments each tool is supplied with any portion of the various attachments that the purchaser requires, and as represented in Nos. 11, 12, and 13 illustrations.

SINGLE WHEEL HOES.

Single wheel hoes are lighter than the double, but do almost the same variety of work though in a different way, being used mostly between the rows instead of straddling them as with the double, yet by attaching the wheel to the side of the frame, No. 15 can be used to hoe both sides of the row at once, while the plants are small, the most important time. The single wheel hoe for 1900 has the greatest variety of tools that have ever been offered, and which adapts the implement to a greater variety of crops and to work at many different distances apart. There is scarcely any garden culture of which it is not capable. Nos. 15, 16, 17 and 18, as illustrated, are all of the same model. The only difference is in the equipment.

NO. 25 COMBINED HILL AND DRILL SEEDER.

This is a new combined machine especially adapted for gardeners who have a large enough acreage in crops for a double wheel hoe to be used to good advantage, and yet prefer not to buy a separate wheel hoe. It is large enough for field use. It has 11½-inch wheels, which are just the right size,

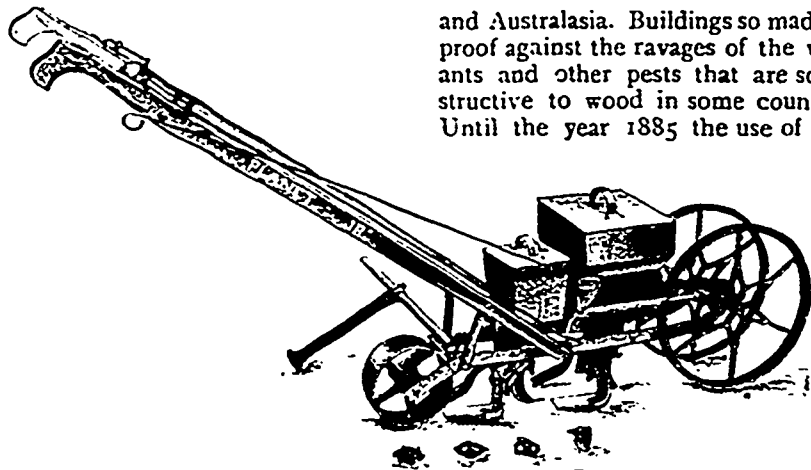
and the drill will carry 2½ quarts or about five pounds of onion seed.

As a drill it is almost identical with the "Planet Jr., No. 4," will sow in drills or drop in hills, four, six, eight, twelve, or twenty four inches apart, and has the same seed hill dropping mechanism and automatic device for throwing out of gear, and the new combined cut-off and seed index with brass thumbscrew adjustment. It will sow all kinds of garden or field root seeds in hills or drills. As a wheel hoe, it is identical with No. 12 double wheel hoe. The change from drill to wheel hoe and back again is quickly made.

A Drill to Sow Phosphates.

A subscriber at Truro, N.S., writes: "Can you give us the name of any implement manufacturer in Ontario who manufactures a two row turnip drill that will sow phosphate also? We understand that such an article is manufactured, but we have been unable to procure the address of the manufacturer. If you can give us any information in regard to the matter we would consider it a favor."

We know of no firm in this province



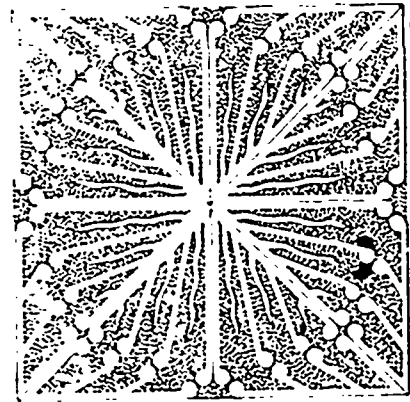
Combined one-rowed Seed and Fertilizer Drill.

that makes a combined drill like the one described above. If any of our readers know of such and will write us we shall be glad to forward particulars to "Subscriber." We give herewith an illustration of a combined one-rowed seed and fertilizer drill, made in the United States, and sold by the Steele, Briggs Co., Toronto.

Sheet Metal Building Materials

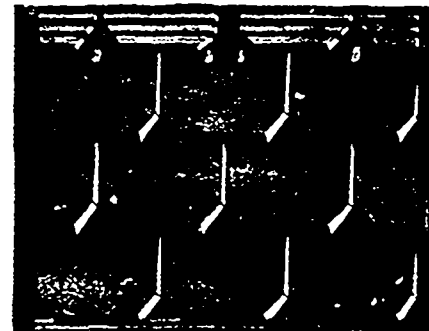
By J. O. Thorn, Manager Metallic Roofing Co., Toronto.

Sheet iron and tin have been used in nearly all parts of the world for a very long time, as a covering for buildings in order to render them fire and lightning proof and as a protection



An Embossed Metal Ceiling Plate.

against the weather. Besides, in some countries entire buildings are constructed of sheet metal, notably in India, South Africa, South America,



Steel Shingles.

and Australasia. Buildings so made are proof against the ravages of the white ants and other pests that are so destructive to wood in some countries. Until the year 1885 the use of such

goods in Canada was almost entirely confined to flat sheets nailed on solidly, and these were used almost exclusively for roofing.

In the above year, however, a company started in Toronto to manufac-

Building in Toronto, where, we are told, some \$40,000 worth were used.

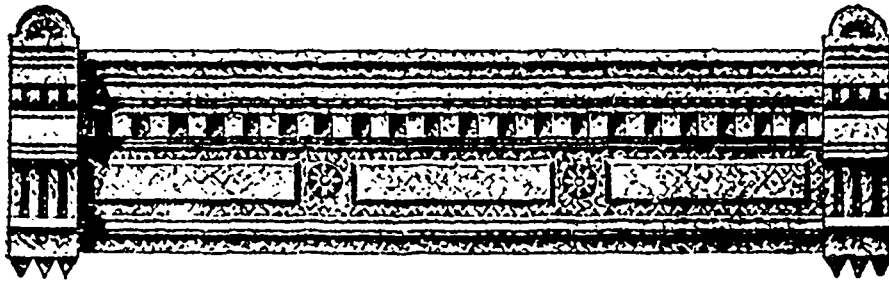
Then there is steel lathing for plastering on which is a decided improvement on the wooden lath so commonly used. This steel lathing is so con-

renewing worn-out lands. One method is to sow peas and buckwheat early in the spring at the rate per acre of one and a half bushels of some long straw variety of peas, and one-half bushel of common buckwheat. The best plan is to sow with a grain drill separately, the peas in one direction, and the buckwheat across. When both the peas and buckwheat are beginning to bloom spread farm manure over the crop at the rate of about ten team loads per acre, and plow the whole, crop and manure, under about four inches deep. Use a revolving coultter that will not clog, and a chain from the beam of the plow to the end of the evener to draw all the green crop and manure under the furrow. (See fig. 8.)

After this, the plowed land must be rolled with a heavy land roller and harrowed thoroughly. After the ground has been thoroughly harrowed resow with peas and buckwheat, or better, sow vetches instead of peas, and oats in place of buckwheat. Either of these will make a large quantity of vegetable matter ready to plow under by the middle of August. After plowing roll the land and harrow it immediately. This is necessary to retain the moisture which is one of the essentials for decomposing vegetable matter quickly.

By the end of August the green crop which was plowed under, as above stated, will be rotted sufficiently, so that it can be cultivated with a spring tooth cultivator (see fig. 10), and harrowed alternately, lengthwise and across the field, two or three times. This will decompose and make available sufficient plant food, and place it on the surface where it is required. It will also retain the moisture. This preparation is sufficient for a crop of wheat or any other grain. If the subsoil is a strong and tenacious clay, it will require to be loosened with a subsoil plow or with a cultivator supplied with chisel pointed teeth, to which four horses may be attached. (See fig. 11.) The spring tooth cultivator has also subsoil teeth. (See fig. 10 1/2.) If the subsoil is composed of sand or gravel it would be detrimental to loosen it.

In order to clean the land of weeds it is not necessary to make a bare summer fallow. Prepare the land as for a crop and sow peas and oats, or, say vetches and buckwheat, early in May. When these come into bloom spread farm manure on the crop and plow under as before described, fol-



Metallic Cornice.

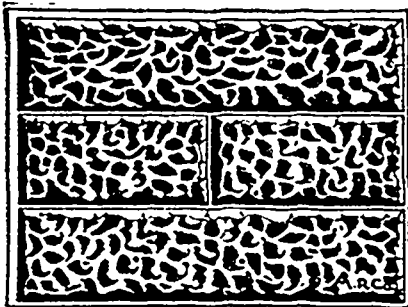
ture patent interlocking steel shingles for roofing purposes, and the business has rapidly expanded until now an immense variety of the most artistic sheet metal articles are being made, not only for the roofs and outside walls of buildings, but also for ceilings and inside walls, many of the designs being

constructed that it is quite impossible for the plaster to either crack or drop off, and it is not affected by changes of temperature, besides it does not require nearly as much mortar as wood lath, and, of course, does not harbor vermin or the germs of disease.

Corrugated iron is also now being made extensively in Toronto.

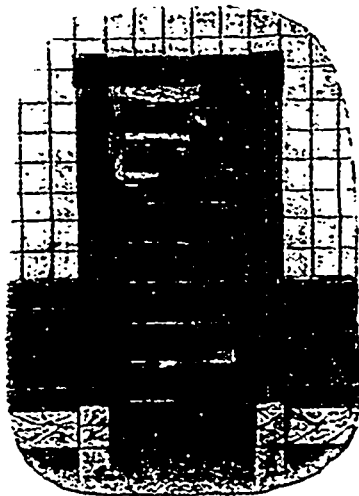
Ornamental architectural sheet metal ornaments for buildings form a new industry that is rapidly increasing in public favor, and it is now no longer necessary to import such goods from the United States. In fact, the Canadian-made articles are fully equal, and in many cases superior, to the imported ones.

Cornices and sheet metal fronts for buildings would require more space than we can spare to even partially describe them. Suffice it to say that an old building can be so transformed by the use of these articles as to present the appearance of being constructed of solid stone and brick, with columns, lintels, etc., that have every appearance of cut stone, and the cost is so very moderate as to bring them within the reach of all.



A Sheet of Rock-Faced Metallic Siding.

of the most elaborate description. In addition to this doors composed of two embossed steel sheets, filled with wood and asbestos, and fastened around the edges by steel bands, are being made in large quantities. These doors, in some cases, cannot readily be



A Pressed Metal Fire-Proof Door.

distinguished from solid oak in appearance, and being attractive in design and thoroughly fireproof, are in great demand for nearly all kinds of buildings. A very fine example of this kind of work may be seen in the Temple

The Cultivation of the Soil.

We reproduce herewith a portion of the chapter on soil cultivation from "Successful Farming," the new work on agriculture, by Wm. Rennie, Sr.

In the early part of the chapter Mr. Rennie dwells upon the great importance and necessity of humus in the soil, but as our space is limited we can only give such portions as show how to get and maintain this valuable substance in the soil:

There are different methods of

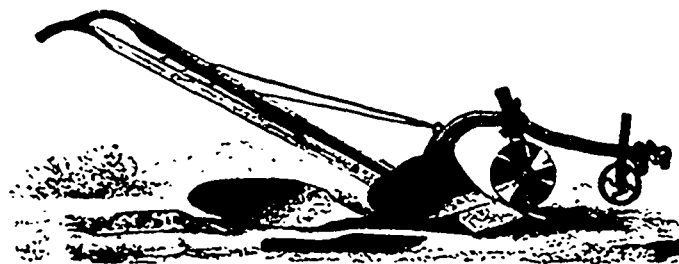


Fig. 8.

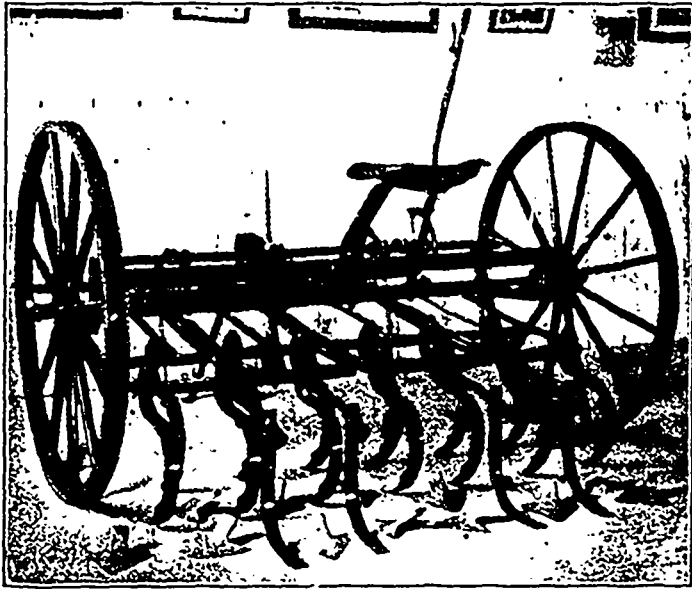


Fig. 10.

plowing with roller and harrows. If the land is foul with weeds and weed seeds they will soon germinate and grow under this kind of treatment. To destroy and exterminate them is now a much easier work than it was before we had little or no knowledge of their nature, or methods of feeding and growing.

About twenty years ago the late William Burgess, a well-known gardener, in an article upon this subject, stated "that no man could transplant Canada thistles better than the farmer with his plow." We can understand the force of this statement when it is known that all the buds or eyes on a thistle root are near the surface of the ground (the same holds good with all perennials). The roots that run down deep into the subsoil are only feeders, and have no buds or eyes to start a new plant. By plowing, say seven or eight inches deep, nearly all the buds are in the furrows, and will sprout and grow quickly, several plants from each root, so that in many cases plowing multiplies the plants instead of reducing them. Plowing down weed seeds of any kind is ruinous to the land. Many varieties of weed

seeds will retain their vitality in the soil for fifteen, and some as long as twenty, years if excluded from the air.

The correct method to adopt for increasing soil fertility, and ridding or cleaning the land of weeds, both annual and perennial varieties, is shallow cultivation. The only exception is the loosening of a clay subsoil occasionally, when a green crop and farm manure has been plowed under, and the ground rolled and harrowed about the beginning of July as before described. All seeds near the surface will germinate and grow quickly, and the roots of perennials such as Canada thistles, couch grass, etc., will quickly send up shoots. The simplest method of exterminating these is when the thistles or weeds are about three inches high, or say before any of the leaves

are fully developed. When the plants are growing they derive their nourishment from and through the roots, but after the leaves are fully developed they collect a certain amount of nutriment from the atmosphere. They should be cut off from the root at this stage in their growth. This work is done expeditiously with a spring tooth cultivator, with wide points regulated to cut about two inches below the surface. (See Fig. 10.)

After the land has been thus cultivated, and given one stroke with the harrows, a hot July sun will destroy them. If this operation is repeated at intervals of about two weeks until September, the land will be

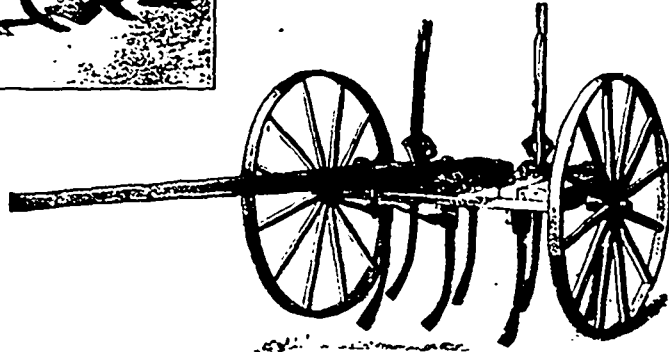


Fig. 11

cleaned of all perennial weeds, and all the foul seeds that are on, or near the surface. After the land has been cleaned in this manner, it should be in good condition to grow a grain crop of any kind. It should then be seeded with common red clover at the rate of twelve pounds per acre, to increase the fertility of the soil. If the clover seed is sown on the fall wheat, it should be sown early in the spring following by hand or with a grass seeder. (See Fig. 12.) If it is decided to sow grain in the spring instead of fall wheat, this land should be ribbed in October (instead of plowing) with a double mould board or drill plow. (See Fig. 13). An ordinary plow may be used instead, in a manner known as "Cut and Cover." This prevents the soluble plant food from leaching away during the winter, with rains and melting snows, which on the prepared ground will run off in the furrows, without interfering with the humus which is in the centre of the ribs. Make the ribs about twenty inches

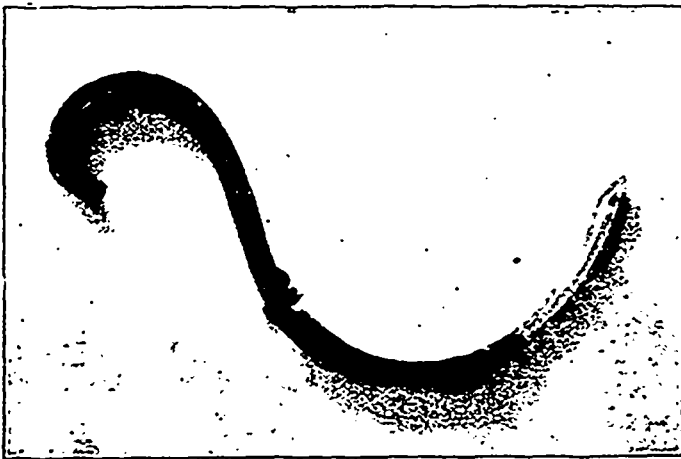


Fig. 10j.

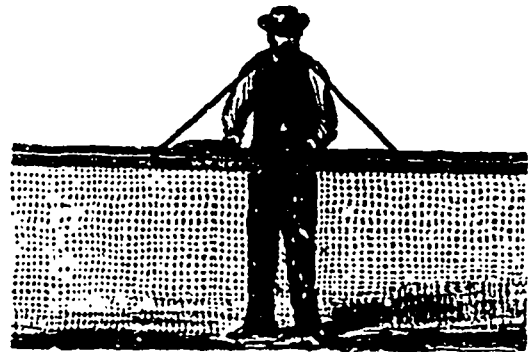


Fig. 12.

wide. When land is ribbed in the fall, it allows the frost to break up the subsoil and loosen it.

In the spring, these ribs are harrowed, and cultivated down with a spring tooth cultivator, and again har-

weeks the sod will be sufficiently rotted to cultivate with a spring tooth cultivator (one with wide points is preferable). By using a spring tooth cultivator several times and harrowing alternately during the summer and

which letters patent have been granted. This machine is strongly built, easy to turn, skims very clean, and is convenient to operate. The capacity is from 350 to 400 lbs. per hour. The height from floor to top of tank is only 53 inches, while the handle is the proper height for turning. The driving mechanism is of the spur gear type, simple and durable, in which friction and wear is reduced to a minimum. The oiling devices are new and efficient. The bearings are also original, and so constructed that perfect alignment is always assured. We call special attention to top bearing for bowl which secures a normal condition for a body running at a high rate of speed, avoiding undue wear on bearings. The skimming device within bowl is simple and easily cleaned and made of non-corrosive material. A rich, smooth cream can always be secured by this device.

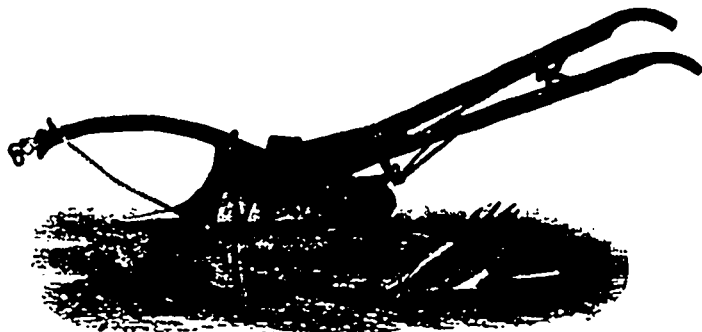


Fig. 13.

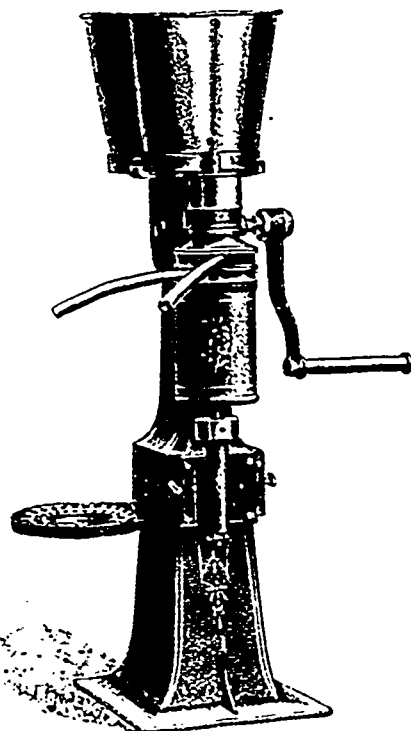
rowed before the grain drill is used. (See Fig. 14). Sow the grain, wheat, oats or barley, as early as possible in the spring. There is quite an advantage in having the land ribbed in the fall, as it can be worked much earlier in the spring. Use only sound and well-matured grain for seed. The following quantities are quite sufficient per acre: Barley, one and a half bushels; wheat and oats, one and a quarter bushel. In sowing clover seed with grain, the best method is to sow it in front of the grain spouts, so that it will be scattered on the surface. After sowing, give a stroke with the harrows crossways, to smooth the surface. Do not roll until the land is thoroughly dry, even if by that time the grain is two or three inches high. When land is rolled early in the spring, when damp, a crust is liable to form which will encourage capillary action, so that the moisture in the soil will rise to the surface and evaporate. This is prevented by not rolling until the surface is dry. When dry ground is rolled, the lumps of earth on the surface are pulverized, and this fine mould forms a mulching which prevents evaporation. If the above directions are followed, there will be no failure in securing a catch of clover seed.

To further increase the humus in the soil, cut the clover early the following year for hay, say by the middle of June. When the second growth is coming into bloom, spread on the surface about ten team loads of farm manure per acre, and plow all under about four inches deep, using a roller

early fall, the land will be in good condition to grow abundant crops continuously, provided a systematic rotation of crops is followed, such as is described further on in this book.

The "Magnet" Cream Separator.

The accompanying cut represents the new "Magnet" Cream Separator



manufactured by Robertson, Taylor & Co., Galt, Ont. It has been designed,

A Growing Manufacturing Concern.

No manufacturing concern in Canada has made greater progress, and has had a greater degree of success than The Wortman & Ward Mfg. Co., Limited, London, Ont. This firm began business in one room, in 1880, in the Yates foundry, on King street, London, and remained there for two years. At first, they manufactured the E. L. Church hay elevators and forks, and, in connection with these, job foundry castings were made. A little



Wortman & Ward's New Manufacturing Works.

later, wagon skeins and hardware specialties were added to the list. In 1885 the manufacture of barrel-churns, iron and force pumps and pump cylinders was also taken up. Since that date many other lines have been added from time to time, and the present output consists of feed and grain grinders, tread horse-powers, root pulpers, spade harrows, disk harrows, hay elevators, horse hay forks, hay-fork sling goods, pea harvesters, pea bunchers, scufflers, iron cistern pumps, iron and brass cistern force pumps, iron well lift pumps, iron well force pumps, iron, brass and brass-lined cylinders; barrel-churns, washing machines, post augers. A specialty is made of plow points for all the leading styles of plows.

We give herewith an illustration of the firm's new factory, which was com-



Fig. 14.

coulter and chain as before described; after plowing under a green crop, roll and harrow thoroughly. In about two

invented, and is now being manufactured in Canada, and embodies many original and important features for

pleted only a few months ago. It is roomy and thoroughly equipped with all modern machinery. The concern is a joint stock company, with a capital of \$80,000, of which \$50,000 is paid up. Mr. W. H. Wortman is president and general manager. From 90 to 100 men are employed steadily the year round.

The firm has a branch warehouse at 60 McGill street, Montreal, of which Mr. W. J. Phelps is manager. At this branch a large stock of goods is carried to supply the eastern trade. A trade is being opened up in England, Australia, New Zealand and South Africa. Mr. J. D. Taylor is in charge of the firm's European business.

Bale Ties and Baling Wire.

The following account of the Laidlaw Bale Tie Co. business will be of interest to any of our readers who use bale-ties or baling wire for hay, straw, rags, shavings, etc. Mr. G. W. Laidlaw, the manager, has until recently been connected with the Laidlaw Bale Tie Co. of the United States, the largest of the kind in the world. The business is now absorbed by the great steel combine supplying 40 per cent. of the entire production of that country. This business was inaugurated in Canada last August, and their trade reaches to all parts of the Dominion.

The wire is all drawn full gauge from a superior grade of steel, and



"The Single Loop Adjustable"



"The Crosshead Diameter"

their annealing process is perfect, turning out wire soft and pliable, and of the greatest tensile strength.

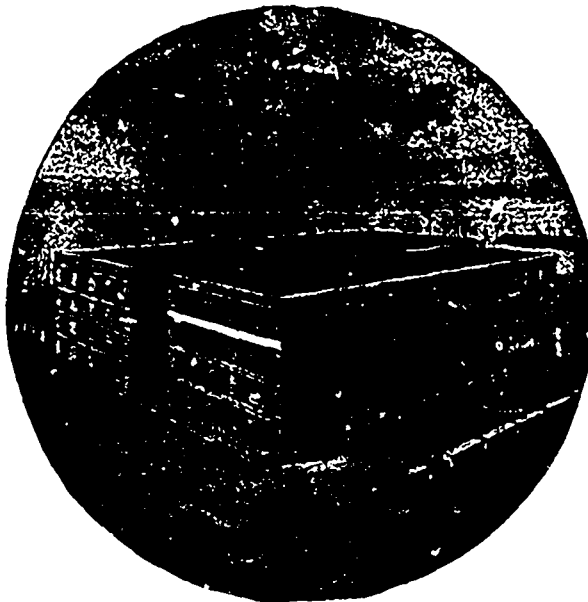
Objections are sometimes made that bales are not all uniform in length, and that wire has to be cut to suit the bale. While this may be the case, there need be but a few inches variation if the feeder and tyer have had experience, and will apply themselves to their work. Hay bales of uniform length command much better prices in all large markets than when they vary from $\frac{1}{2}$ to $1\frac{1}{2}$ feet, and a bale, when it is intended to be loaded in a car, should always be tied out the full length of tie, and let the hay expand to it even if it were one or two feeds short, and in this way no hay, wire, or space is lost, the tiers are straight and even in the car, and, as already stated, command much better prices.

An Enterprising Oil Company.

The Atlantic Refining Co. of Toronto, have recently established themselves in commodious new buildings located on Jarvis and Esplanade streets. We present our readers with a view of their factories, which are equipped with all modern appliances.

This firm, besides manufacturing machinery, raw and boiled linseed oil, turpentine, and castor oils, make elastic carbon paint, which is guaranteed to be water and fire proof, and

rod, in circumference, and is made of 1 inch band iron or of barrel hoops. The spokes are a cross of light wood an inch square, halved together with a piece of half-inch siding nailed on



The Atlantic Refining Co.'s New Building.

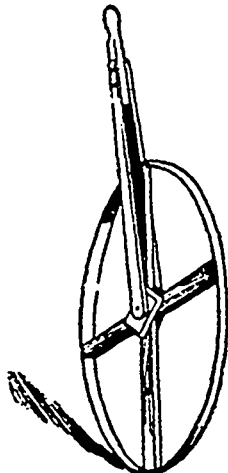
while being chiefly used for roofing purposes is especially valuable for painting farm buildings, iron and wooden bridges.

It is pleasing to observe that the better and more careful of our Canadian farmers now recognize the necessity of freely using good paints. Both implements and buildings will last almost indefinitely if protected by a good paint.

The Atlantic Oil Co. employ about twenty travellers, and their goods are sold in all parts of the Dominion. The firm's announcement appears on outside back cover page.

A Good Land Measure.

When measuring land, it is sometimes necessary or desirable to do the



work more accurately than it can be done by pacing. The accompanying cut shows a land measure which can be used by one person to better advantage than a chain or rope by two. The wheel measures just $8\frac{1}{4}$ feet, or half a

each side over the joints. These act as washers and make the wheel run more smoothly. To keep the spokes in place nails are driven into the hoop. A quarter-inch hole in the centre to receive the bolt completes the wheel.

The fork is also made of sticks like the spokes, with a short piece for a handle nailed between. This latter should be a little wider than the hoop, and rounded off at the end.

As the revolutions of the wheel have to be counted, it is handy to have one of the spokes plainly marked. Paint or a string tied around it will do this. If smaller divisions than half rods are desired, the spokes indicate eighths of a rod.

A Satisfaction.

"What are you going to do for amusement to-day?" "I think," answered the hero, "that I'll go to a dime museum and see the armless phenomenon." "I didn't know you were interested in curiosities of that kind." "I wasn't formerly. But it will be a great satisfaction to meet somebody who I'm dead sure isn't going to shake hands with me."—*Washington Star.*

Happy Suburbanites.

Mr. Citiman—To save my neck I can't understand why the crowds at the ferries always have such a happy look. Mr. Suburbs—It's simple enough. After the day's work in the city, we're always glad to get out of it, and after eight or ten hours in the country we're glad to get back.—*New York Weekly.*

The Farm Home

The Names of the Dead.

We're Irish; they said we'd not fight
For the Queen. Was that right
Ask for the names of the women who cried
For the heroes who charged to the cannon
and died—

Go ask for the names of the dead.

Our brothers are dead in the Transvaal—
English and Scotsmen—and is that all
Who died that the whole world might know
That watered by blood the Empire would
grow?

Go ask for the names of the dead.

We've drunk to the Queen—God bless her!
We've fought with the Boers—who cursed
her!

And we're Britons! We're true to the flag!
When fighting was on did one of us lag?

Go ask for the names of the dead.

English, and Scotsmen, and Irish—all
Britons yet;
When we fail, there'll be rooms in the Empire
to let.

We have wrongs! we are poor—God knows!
but we'll wait

Like Fusiliers, not traitors, we'll fight against
fate,

Go look at the names of the dead.

We'll pray for the names of the honored
dead;

We'll drink to the Empire their dying has
made;

It's their blood and our blood the banner has
stained;

It's their land and our land the dying has
gained.

Go pray for the souls of the dead.

—W. A. Fraser.

Dick's Scheme.

Two boys were trundling leisurely along on their bicycles one pleasant Saturday afternoon. The air was just cool enough for comfort, the road was a long, level stretch, and the young cyclists were enjoying their ride immensely.

"It doesn't seem as if I could get along without my bike now, anyway in the world," said the tall, blue-eyed boy—Ralph Grey—after a few moments' silence.

"Nor me neither," replied his companion, with his customary disregard for grammar. This was Dick Archer, who was short, red-cheeked, and had merry black eyes. "But we did get along before we had 'em," he added.

"You wanted one dreadfully a good while, though," laughed Ralph. "But of course before there were any bicycles boys got along all right and didn't think anything about it."

"Same as 'tis with lots of things," Dick responded with a philosophical air. "Folks stood it without steam cars and telephones and electric lights and—and most everything for ever so long. But I guess 'twould come pretty tough to give 'em up now, and it would be the toughest kind for boys to give up their bikes. I know who I wish had one, and that's Rob Warner. Wouldn't he like it, though! He ought to have one, too."

"Yes, he ought to," Ralph replied; "but of course he can't buy one himself, not even a second hand. His uncle might get him one, but I don't suppose he ever will."

"No, course he won't. Catch him! I wish we could get him one some way. Let's me and you go round with a subscription paper. Everybody likes Rob, and they'd all give something, I'm most sure. I'll bet we could raise twenty dollars easy as not, and there's a real good one at Jones' second-hand store for that. I saw it yesterday."

"I don't know about it," said Ralph. "I guess Rob wouldn't want us to do that."

"Why not? He'd be a great silly if he wouldn't," cried Dick impatiently.

"Oh, well, just put yourself in his place, and see if you think you'd like it."

Dick spun along silently for a few moments, then he said, "Well, maybe I wouldn't. But I do wish Rob could have a bike. He'd like one so much, and he needs it, too; he has such a lot of running around to do."

"Yes, and he'd soon beat us all if he did have one. Takes to it like a duck to water. Never saw a fellow learn to ride so quick. Does better than most of us now, just trying a little once in a while. Well, we'll talk it up with some of the fellows and see what can be done. Now let's have a race. This road along here can't be beat."

"And that's more'n you'll be able to say of yourself pretty quick," cried Dick, starting off like the wind.

Rob Warner was the son of a thriftless farmer with a large family, who, some time previously, had given the boy into the care of an uncle upon his agreeing to board and clothe him for what services he could render, and, though not intentionally unkind, Mr. Kent was a hard master. He was a merchant in a small way, and almost every moment of Rob's time out of school was employed in the store or carrying home parcels. All packages not entirely too large or too heavy, which were not taken by the customers themselves, he delivered. For those beyond his ability to handle, Mr. Kent hired an express wagon.

So the lad worked early and late with scarcely a moment he could call his own, and with hardly a penny to spend as he chose. Fortunately, he was of a cheerful temperament, which made his work easier, and with his obliging ways rendered him a general favorite.

Dick and Ralph did not forget about the bicycle, and the following Saturday they met with two other chums to talk the matter over in the loft of Mr. Gray's barn.

"Tell you what!" Dick exclaimed

when they all were comfortably disposed on the hay. "Wouldn't it be a dandy plan for us fellows to get him a bicycle for his birthday? That'll be in about two weeks. I know, because its just a month to a day before mine is."

"I wish we could, but I don't see how, times are so hard," said Ed. Barton, gloomily, "I'd hate to get him a second-hand bike, too, for a birthday present, and, of course, that would be all we could think of anyhow."

"Yes, I guess 'twould, and I should say it would do. I'd be glad enough of a good second-hand myself," replied Walter Lane. Walter had no bicycle of his own, but he had entered generously into the idea of getting one for Rob.

"That might depend on how you got it," Ralph suggested.

"Yes, we must put ourselves in his place," added Dick, wisely.

"His uncle ought to get him one," Ed. declared. "He works hard enough to deserve it; besides, it would be for Mr. Kent's own interest; I should think he'd have sense enough to see it. A bike would save ever so much time."

"Course it would. Hey! I believe I've struck it!" cried Dick. Then he enthusiastically unfolded his plan, which was unanimously accepted by the other boys, and after it had been well discussed the meeting broke up with mutual warnings to be very careful.

In the two weeks following the mothers of several boys were surprised at the remarkable readiness they displayed for going on errands to Mr. Kent's store. The merchant also observed that they came often, but he certainly did not object to that if they attended strictly to business and then left. He didn't want any "hanging around," as the boys well understood, and as they were anxious not to offend in any way just now, more frequent errands were necessary, for, since their visits to the store must be brief, it was only occasionally that an opportunity presented itself for carrying out their scheme.

Dick found one while he was at the store soon after school closed one day. He had, in fact, made an errand for that time, thinking there might be something waiting for Rob to deliver quite a distance away. And he was not disappointed. There was a package to go about a mile.

"Pshaw!" Dick cried as Bob started for the door. "It'll take you most an hour if you walk. Go on my bike and you'll be back in a jiffy."

Taking the package, he deftly strapped it to the handle-bar, saying as he finished, "Now, let's see what good time you can make."

Greatly pleased, Rob wheeled off at excellent speed while his uncle gazed after him in amazement. "I'd no idea he could ride like that," he said.

"O, yes, he'd soon be the best rider in town, with practice," Dick replied.

In ten minutes Rob was back again. "Well, that is an improvement on walking," said Mr. Kent.

"Nothing like a wheel for saving time," Dick responded carelessly, as he mounted, and with a thoughtful air the merchant returned to his work.

Ralph happened in the store the next Saturday forenoon just as Rob was starting out with a well-filled basket on each arm.

"Do all those things go in the same direction?" inquired Ralph.

"No, but I'd have to farther to come back," said Rob, "so I thought I'd take them along."

"Well, see here. You can use my bike this forenoon just as well as not. I don't want it. Wouldn't lend it to everybody, but I know you'll be careful. Put all those packages that go in the same direction together, if they're not already; then come back for the rest. The extra time won't count with the wheel. Leave it at our house after dinner, will you?"

Mr. Kent said nothing as Rob delightedly thanked Ralph and prepared for his first trip. He was much impressed, however, with the amount of time saved by the bicycle, and missed it in the afternoon when they were very busy.

"Seen that second-hand bike at Jones' for twenty dollars?" asked Walter Lane that same day in Mr. Warner's hearing, while Rob was filling his order. It's a bargain, I tell you, I'd get it in a minute if I had the money—unless he's sold it already. He won't keep it long, I'll bet. Come real handy in the business if you had a wheel, wouldn't it? I'm saving up for one, but of course I don't have the use for it you do."

The following Monday after school Ed. Barton came to the store to make some purchases for his mother. They made a large package, and as Ed. strapped it to his bicycle Mr. Kent inquired, "How much of a load could you carry with that if you tried?"

"Well, I've carried pretty big bundles this way, and another in my hand at the same time," Ed replied, "but if I was going to do much in the transportation line, I should rig up my bike with a carrier, and a valise in the frame."

"What'll you give me to deliver for you after school? I'd like to earn a little something first rate. I'll collect for you too. Wheel's great for that business. Takes a fellow all over the country on the double quick."

"I'll let you know when I want you," replied the merchant shortly, and Ed. shot past Rob who had just started out with some packages, leaving him far behind in a few seconds, as Mr. Kent observed before hurrying back into the store. There was a good deal to do that evening and Rob was gone nearly an hour.

"Seems to me it took you an uncommonly long time," he said in a fretful tone when the boy finally appeared.

"I went as quickly as I could," Rob answered respectfully, and his uncle did not in the least doubt his statement.

Mr. Kent lived nearly three-quarters of a mile from his place of business and much time was consumed in going back and forth. This fact he had frequently considered of late, and also the distance of the school building from both house and store.

Tuesday morning Rob, as usual, went down town early, swept the store, dusted, and waited on the first customers. Then he began to watch for his uncle, who was so late in coming that he feared he must be tardy at school or go without his breakfast, when to his amazement Mr. Kent walked in trundling a bicycle.

"There," he said, "now you won't need to borrow. I believe this is your birthday, eh?"

Rob was speechless for a moment, then he gasped, "O, thank you, uncle, thank you! I didn't expect one at all. Ain't I glad though! And I can save lots of time with it, too."

"Well, save time enough with it this morning to eat plenty of breakfast. Your aunt's got some of your favorite sort of pancakes," Mr. Kent replied, and as Rob whisked merrily away he went about his work feeling rather uncomfortable, in face of the boy's delight and gratitude, over the large share selfishness had in the gift. Great was the surprise of his companions that morning when Rob wheeled up to the schoolhouse with proud possession in his face.

"It's my birthday present," he announced. "Isn't it a splendid one, though!"



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Write at once for List of Dealers.

BINDER TWINE.

FARMERS who wish to be supplied with binder twine from the Central Prison are requested to send to "The Warden, Central Prison, Toronto," before the 1st June next, their names and addresses, together with a statement of the probable quantity required in each case.

On the 1st June the Inspector of Prisons will fix the price to farmers for their own use, which price will be based on the market price of the hemp used, the cost of manufacturing, etc., and will, on the date mentioned, advertise the same.

After the public announcement of prices, those farmers whose applications have been received, and who notify the warden of the Central Prison as to the number of bales required, whether one or more, and give directions where to ship, will be supplied at the advertised price and terms.

JAMES INOXON, Inspector,
Parliament Buildings
Toronto, March 23rd, 1900.

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Most desirable land can be obtained in the BEAVER HILL District and along the line of the Manitoba and North-Western Railway. In the PRINCE ALBERT, DUCK LAKE and ROSTERN Districts, on the line of the Qu'Appelle, Long Lake and Saskatchewan Railway. In the OLDS District, along the line of the Calgary and Edmonton Railway, about fifty miles north of Calgary. In SOUTHERN ALBERTA, in close proximity to the Calgary and Edmonton Railway and the Crows Nest Pass Railway, suitable for Mixed Farming and Ranching on both a large and small scale.

For full information concerning these Districts, Maps, Pamphlets, etc., FREE, apply to

OSLER, HAMMOND & NANTON,

Land Office, 338 1/2 Main St., Winnipeg, Man.

The conspirators were surprised with the rest. They had not looked for so speedy an outcome of their plan, and they were almost as much delighted as the happy owner of the wheel himself.

"It's the second-hand," Dick whispered to Ralph after a brief survey, and it was. But it is doubtful whether a brand new hundred-dollar wheel ever brought the possessor more genuine pleasure.

"Got it for a birthday present after all," Walter chuckled in an undertone as Ed. and himself passed together into the schoolroom "Uncle caught on pretty easy, didn't he?"

The bicycle proves a very useful adjunct to Mr. Kent's business, and, impelled perhaps by his nephew's gratitude and the wish that it were better, deserved, the merchant lets the lad off occasionally, simply for a pleasure spin.

Dick feels great satisfaction over the affair. "Tell you what!" he exclaims every now and then with much self-complacency, "that scheme of mine was a big success, wasn't it, though!"—*C. A. Parker.*

Valuable Household Hints

Brooms dipped for a minute or two in boiling suds once a week will wear much longer.

Mould may be prevented in ink, paste, mucilage, etc., by the addition of a small quantity of carbolic acid. It is well to add an ounce of it to whitewash when whitewashing cellars, basements and dairies. It purifies them.

A spoonful of horse-radish in a pan of milk will keep it fresh for several days.

Water standing in a bedroom over night is unfit for drinking purposes in the morning. A pitcher of cold water on a table in your room does much to purify the air.

Kerosene oil is used quite effectively to keep ants away, but a very simple remedy is a heavy chalk mark made on the shelf completely surrounding the sugar box or cake dish, etc. If the line is complete the ants will not cross it.

Fish may be scaled much easier by first dipping them in boiling water for a minute.

A tablespoonful of turpentine boiled with the white clothes will greatly aid in the whitening process.

BINDER TWINE

Township Agents Wanted

Write for Prices

American and Canadian Binder Twine

ONTARIO BINDER TWINE Co.

113 Union Station Arcade
TORONTO, ONT.

Quick Cure For Lump Jaw

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

Fleming's
**LUMP
JAW
CURE**



Trade Mark Reg'd.

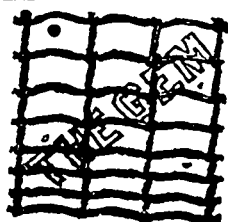
Lump Jaw has heretofore baffled treatment. It has infected herds and pastures, and caused loss of hundreds of thousands of dollars. This new remedy cures quickly, thoroughly, and permanently. Leaves jaw smooth and sound. Easy to apply; costs but a trifle compared with results.

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

Sent everywhere by mail, Price, \$2.00.

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

Address: **FLEMING BROS.**
Chemists, ST. GEORGE, ONTARIO.



Fence Machine

The GEM still holds the Record, 120 rods, 10-wire fence in 10 hours. Price, \$5.00.

Coiled Spring and other wire for sale in any quantity. Write—

McGREGOR, BANWELL & CO., Windsor, Ont.



THE IMPROVED DOUBLE-LEVER AND ROLLER-BEARING

Queen Churn

The very finest in the market, in fact the only one of perfection and beauty; is so simple that a child can work it with as much ease as a grown person, easiest to clean of all churns; while simplest in operation, it saves all butter fat, and produces a strong grain to the butter.

Sold throughout Canada, but write us for descriptive Catalogue. Manufactured by

The LONDON and PETROLIA BARREL CO.,
LONDON, Ont.

When writing to advertisers kindly mention **FARMING**

LIDLAW BALE-TIE CO.

Manufacturers of

STEEL WIRE BALE-TIES



The Single Loop Adjustable.



The Cross Head Dimension.

Soft, durable, annealed Steel Baling Wire.

Write us for prices.

Mary and Kelly Sts.

Hamilton, Canada

THE ACTION OF THE ATMOSPHERE.

Moisture and dryness, heat and frost, cause decay in woods, and rust in metals. Cover them with our paint; that will be true economy in every way.

THE JAMES ROBERTSON CO., LIMITED

Manufacturers Ready-Mixed Paints

TORONTO



FREE CAMERA

Complete with outfit and instructions. Takes a picture 2x2 in., and any person can learn to do it in a few hours. Includes: 1 Camera, 1 box Dry Plates, 1 pkg. Hygro, 1 Printing Frame, 1 Developing Tray, 1 pkg. Developer, 1 set Directions, 1 Toning Tray, 1 pkg. Fixing Powder, 1 pkg. Silver Paper, 1 pkg. Ruby Paper. Camera and outfit securely packed in a neat box and sent all charges paid for selling only 15 Glass Pens at .75c each. They are over 6 in. long, made of colored glass, each securely packed in wooden case. Send this advertisement, with your name and address, and we will forward the pens. Sell them, return the money, and camera will be sent you all charges paid. Toledo Pen Co. Lox Toronto

Farming.

A PAPER FOR FARMERS AND STOCKMEN.

Managing Director, D. T. McAINSH
Editor, J. W. WHEATON

Farming is a paper for farmers and stockmen, published weekly, with illustrations. The subscription price is one dollar a year, payable in advance.

Postage is prepaid by the publishers for all subscriptions in Canada and the United States. For all other countries in the Postal Union add fifty cents for postage.

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

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

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

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

Advertising Rates on application.

Letters should be addressed:

FARMING,
CONFEDERATION LIFE BUILDING
TORONTO

QUESTIONS AND ANSWERS

Mixture for Pasture.

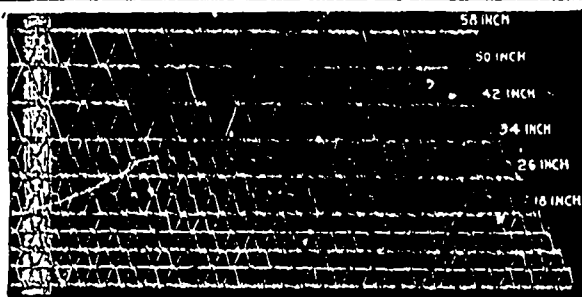
A subscriber at Chatham, Ont., writes: I want to seed down some land to pasture. I have a field that last spring I seeded with alsike, but have not got sufficient stand to leave. Would it be wise to sow blue grass on it, or would I be reasonably sure of a catch if I were to plow and seed it with oats or barley? Would the Canadian be as good to use for the purpose as the Kentucky? What quantity is used to the acre?

ANSWERED BY WM. RENNIE, SR.

In reply to Subscriber, would suggest that he gang plow the land not more than three inches deep (where seeds have missed); then harrow and cultivate thoroughly before re-seeding. Drill in barley or any other spring grain not exceeding 1½ bushels per acre, and sow the grass seeds in front of drill spouts, with the following mixture for "pasture": Lucerne clover, 4 lbs.; red clover, 3 lbs.; white clover, 1 lb.; alsike, 3 lbs.; timothy, 3 lbs.; blue grass, 3 lbs., and red top, 3 lbs.

Canadian Horse Show.

Entries for the horse show, to be held at the Armories, Toronto, on April 26th, 27th and 28th, closed on Saturday last. The number of entries is in excess of last year, and includes a number of outside breeders who do not usually exhibit. About all the prominent horsemen of the province have entered, and a splendid show of high class stock is expected. Among the special attractions will be several military events. Their Excellencies the Governor-General and Countess of Minto will be present.



The Fence Of the Times.

The best spring steel wires, twisted main cables, well woven cross wires. Heavy enough for all purposes, yet low in price. Heavy galvanizing, expansion and contraction provided for. Once properly put up will last practically forever.

THE ELLWOOD FENCES

Sold by our agents everywhere. If no agent in your town write direct to
AMERICAN STEEL & WIRE CO., - Chicago or New York.



DAISY AIR RIFLE

FREE

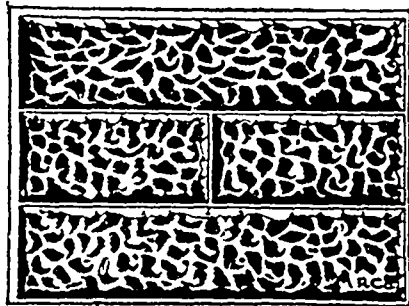
We give this splendid rifle for selling only two dozen packages of Sweet Tea Seeds at 10 cents each. Each large package contains 65 most fragrant varieties. All colors. This Rifle is of the best make and latest model, well finished nickel plated, carefully sighted and tested before leaving the factory. It is just the thing for target practice or for shooting rats, rabbits, sparrows, etc. Return this advertisement with your address and we send seeds. Sell them, return money and we forward your rifle all charges paid. The reason for selling seeds is short so order at once. Our Sweet Tea packages sell themselves. Premium Supply Co., Inc. Toronto.

THERE'S ECONOMY

In Using Our

Rock Faced Stone

STEEL SIDING
Either Galvanized or Painted

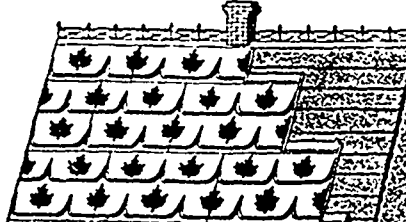


It gives such perfect fire, cold and damp-proof protection to any building—looks most attractive—is easily applied—and yet costs very little. Try it this spring on some of your new buildings, or for improving an old one. It is used everywhere with splendid success on farm buildings. Full information if you write.

METALLIC ROOFING CO.

(Limited)

King and Dufferin Streets. TORONTO



"SAFE LOCK" METAL SHINGLES

THE KIND THAT ARE WEATHERPROOF
COST LITTLE MORE THAN WOOD SHINGLES
AND ARE LIGHTNING AND FIRE PROOF
ASK FOR FREE SAMPLES

METAL SHINGLE & SIDING CO
PRESTON ONT. LIMITED

Maxwell's "Favorite" Churn.



Patent Foot and Lever Drive.	No.	Holds	CHURNS
Patented Steel Roller Bearings.	0	6 gal.	1 to 3 gal.
Improved Steel Frame	1	10 "	1 to 5 "
	2	15 "	2 to 7 "
	3	20 "	3 to 9 "
	4	28 "	4 to 12 "
	5	30 "	6 to 14 "
	6	40 "	8 to 20 "

Superior in Workmanship and Finish

DAVID MAXWELL & SONS
St. Marys, Ontario, Canada.

Grain Grinders



BEST IN THE WORLD

Write for Catalogue

S. VESSOT & CO.,
Joliette, Que.

Guelph Dairy School.

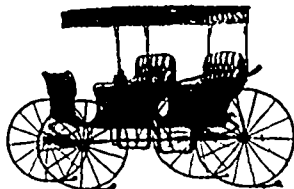
The eighth session of the Dairy School at the Ontario Agricultural College, Guelph, closed on March 23rd. The number in attendance was 76, of whom 23 were ladies. The majority remained for the full term of three months, and 45 wrote for certificates. Of this number 24 passed on all subjects and ranked according to standing in general proficiency; 11 in the home dairy and nine in the special butter-making, separating, and milk-testing class.

Spring Troubles.

The capricious weather of early spring often produces serious troubles in animals as well as man. Frequently horses at this season take severe colds which their owners fail to notice until it is too late to do anything for them. There are certain symptoms, however, which demand attention and prompt measures. As soon as a horse shows signs of dullness and distaste for food there is something wrong, and the owner should keep the horse quiet in the stable and send for the doctor. Should there be no doctor near he should prepare some bran mash as follows: Half a stable bucket of coarse wheat bran, one pint of oats and half a pint of linseed, all boiled carefully together in half a gallon of water and covered up for an hour, so that the feed is well soaked. After giving the mash have a bucket filled with clean, tepid water, in which an ounce of nitrate of potash is dissolved, placed near the animal, so that he may quench his thirst when he likes. The horse should be kept in a box stall, if possible, free from exposures, should be hand rubbed all over and his legs bandaged, then bedded down nicely with straw and kept quiet. Use the following prescription: Tincture cinchona, six ounces; spirits sweet nitre, four ounces; spirits of camphor, two drachms; thick barley water and honey sufficient to make 32 ounces. Give one-sixth to one-fourth part as a drench carefully three times a day and rub the throat with liniment of ammonia once. With kind attention, nursing and quiet for a week the cold will be relieved. When there has been neglect complications ensue which the doctor alone can properly diagnose and prescribe for correctly.—*Exchange.*

Where He Made a Mistake.

"I'm afraid I made a mistake when I told Willie that I never played truant when I was a boy," said Willie's father. "Why?" "Well, I can see very plainly that I have fallen a good deal in his estimation." "Thinks you were a sort of milksop, does he?" "I'm not quite sure whether he thinks that or just puts me down as a plain liar."—*Chicago Post.*



No. 30—Canopy-Top Surrey, double fenders. Price complete, with curtains all around, storm apron, lamps, pole or shafts, \$87—as good as sells for \$40 more.

We can assure you of good quality from beginning to end—good woodwork, good steel and iron, good painting and varnish, good finish, good trimming, fine style, and good selection to choose from. Catalogue free. Address—

**INTERNATIONAL CARRIAGE CO.
CANADIAN BRANCH, BRIGHTON, ONT.**

One Profit Only.

We manufacture 100 styles of vehicles 50 styles of harness, and sell them direct from factory at wholesale prices: in fact, we are the only firm located in Canada selling direct to the consumer exclusively. When you buy on this plan you pay **only the profit of the manufacturer**—no travelling expenses, no losses, no agents' commissions. **WE HAVE NO AGENTS**, preferring to deal direct with you until we have our goods established at least. We are adopting this system to get our goods in the hands of the Canadian consumers. No matter where you live, we can reach you and save you money.



No. 19—Buggy, 4-bow rubber top. Price complete, with apron carpet and boot on body, \$55—as good as sells for \$25 more.

Dowsell's Leader Churns.



Steel or Wooden Frames. Made in four different Styles, and six regular sizes. Cranks or Levers as required.

All desirable features to be found in other churns are embraced in The Leader, and many additional advantages.

Our patented Internal Breakers increase yield, improve quality and also reduce the length of operation almost one-half. You will have the best if you buy The Leader.

Trade Only Supplied

See that your dealer shows them to you, or write us for full information.

**The Dowsell Manufacturing Co., Limited
HAMILTON.**

Why

--In these times of keen competition, is there such a great demand for this All Steel Flexible Harrow?



BECAUSE The Flexibility of the Harrow enables it to adapt itself as readily to rough and uneven ground as to smooth, and the oscillating motion produced by its flexibility pulverizes the ground, and leaves it in a loose and more porous condition than any other Harrow, and it is made of the very best material money can buy for the purpose. The bars are made of **Hard Spring Steel** very stiff and strong, the hinges and teeth being of solid steel, all of which are of a higher grade than is possible to use in any other make of Harrows.

We can guarantee more than double the strength and wear in this Harrow than there is in any other make.

Parties wishing a first-class Harrow will do well to write us direct or apply to the local agent.

OUR MOTTO: "Not how Cheap, but how Good."

TOLTON BROS., GUELPH, Ont.

NEW 20TH CENTURY

Styles, Capacities, Prices, etc.

The year 1900 marked the introduction of the Improved 20th Century "Baby" or "Dairy" sizes and styles of "Alpha" De Laval Cream Separators—another advance in centrifugal cream separator construction and efficiency. Great as has been the universally conceded superiority of the De Laval machines heretofore, the standard is now raised still higher. As near practical perfection as have been the De Laval separators the past year, the latest improvements make them still better, until it is difficult to-day to perceive the possibilities of further improvement.

The De Laval "Baby" or Dairy Cream Separators are now made in six different sizes and styles. All the machines are of the improved "Alpha" or "Disc" construction. The "Humming Bird" is solely a hand machine. The Dairy Turbine is solely a steam-motor machine. All of the other sizes are capable of convenient use either by hand or power.

SIZES, CAPACITIES AND PRICES

Size.	Capacity lbs. per hour.	Equal to lbs. of any other separator.	Price.
Humming Bird.....	225	370	\$ 65
No. 1—Iron Stool.....	325	400	100
No. 2— " ".....	450	550	125
No. 2—High Frame.....	450	550	125
No. 3— " ".....	850	1000	200
Dairy Turbine.....	850	1000	200

On demand we will mail a fine booklet, "Keeping Cows for Profit."

GENERAL AGENTS

The Canadian Dairy Supply Co.

327 Commissioners St., MONTREAL

Stock Notes

BRONZE TURKEYS.—J. S. Henderson, Rockton, Ont., writes: My stock gobbler is a large-boned yearling, weighing over thirty-five pounds. He has a splendid plumage, and is a real good bird in every way. With him are mated pullets weighing from fourteen to seventeen pounds, and hens twenty to twenty-two pounds, all first-class birds. At five local fairs last fall I won nine first and three second prizes on twelve entries with these birds.

IMPROVED CLYDESDALES.

J. Devitt & Son, Freeman, Ont., write: Since your visit in February our stock have been doing well. The young mares we are offering are in fine breeding form and have the run of a large yard daily. They are all good, clean, sound animals with plenty of ambition. We have for the past 20 years paid close attention to the improvement of the breeding qualities of the mares in our stud and have used nothing but the best of sires and only retained for breeding purposes those that proved good breeders, having bred all the young things when they came to mature years and any that did not come up to our standard were disposed of for working purposes. Following is a list of sires used: Bay Comet (imp. in 1872), Boydston Boy, Lord Lyon, St. Gatten, MacArthur, Bold Boy, MacLay, Grandeur, Douglass MacPherson, Lord Charming and Grandeur 2nd now at the head of the stud is a powerful specimen

of the draught horse. We have also a few colts and fillies by Grandeur 2nd, and Douglass MacPherson and also two stallions.

Take advantage of the holiday excursions and come and see us. No trouble to show stock. Drop us a card and we will meet you at the station, farm $\frac{1}{2}$ mile from Burlington Station.

FINE YORKSHIRES.

Mr. L. Rogers, Weston, Ont., whose advertisement appears in this issue is offering some fine types of Yorkshire swine. An indication of the fine quality of Mr. Roger's herd may be judged from the numerous letters he receives commending his stock and testimonials from purchasers.

Publishers' Desk

Name Wanted.—A subscriber at Fergus, Ont., writes us of date April 9th and neglects to sign his name. This is the second letter received from the same post-office to which no signature has been attached, making it impossible to tell who the writer is. The first one, doubtless, referred to the difficulty mentioned in the second letter, and if the writer will send us his name and address we can, no doubt, get track of the registered letter to which he refers. Subscribers cannot be too careful when making remittances in sending their full name and address.

Horse Owners Should Use
GOMBAULT'S

Caustic Balsam

The Great French Veterinary Remedy.

A SAFE, SPEEDY AND POSITIVE CURE.



Prepared exclusively by J. E. Gombault, ex-Veterinary Surgeon to the French Government.

SUPERSEDES ALL CAUTERY OF FIRING

Impossible to produce any scar or blemish. The safest best Blister ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses or Cattle.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, Etc. it is invaluable.

WE GUARANTEE CAUSTIC BALSAM will produce more actual results than a whole bottle of any liniment or specific cure mixture ever made.

Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

THE LAWRENCE WILLIAMS CO., Toronto, Ont.

**At Grand New Oat
SIMMERS' CANADIAN PRIDE**

NOTE—We have had grown for us only a limited stock of this variety, we would therefore request customers desirous of securing seed to order early.

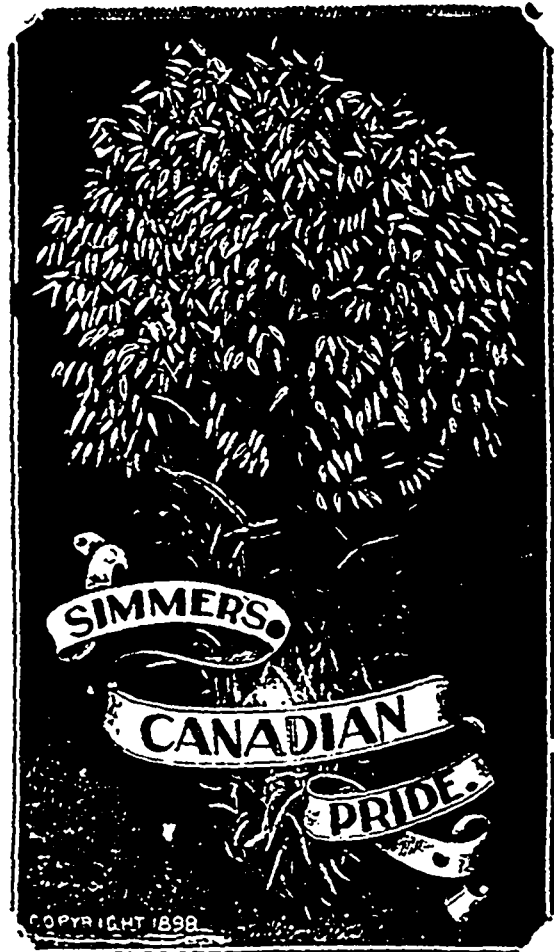
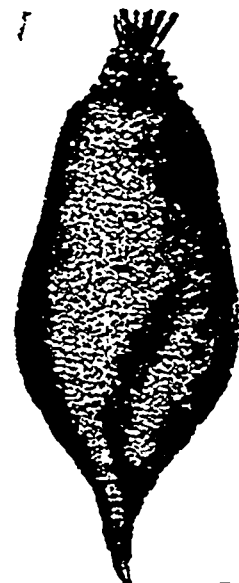
Oat is without a blemish, without a fault or flaw—and we predict for it the most wonderful run that any oat has ever had. Now, we know that this is a strong statement, but we know also that this Oat will back up anything and everything that we can say in its favor. To our mind it is the only absolutely perfect Oat of to-day—perfect in all respects, perfect in growth, in vigor, in yield and quality. This is certainly the greatest oat we have ever seen, and we think the many years that we have spent in originating and producing farm seeds entitle us to this opinion.

Canadian Pride Oat is a very plump, heavy variety, but at the same time having thin hulls. All the heavy varieties that we have heretofore seen have had such thick, hard hulls as to be almost valueless for feeding purposes. We are glad, therefore, to be able to offer this "Canadian Pride" Oat, which combines hardiness, vigor and productiveness, with heavy grain and the best of feeding qualities. The oats are white and have good large kernels. They weigh forty pounds to the measured bushel. It is a branching variety with very stiff straw of vigorous growth, free from smut and rust. The stooking qualities of the oats are remarkable. It should not be sown too thick, using but $1\frac{1}{2}$ measured bushels per acre.

PRICE—Lb. 20c.; 3 lb. 50c., postpaid; by express or freight—Peck, 40c.; bush., \$1.20; 2 bush., \$2.30; 5 bush., \$5.50; 10 bush., \$10.50. Cotton bags included.

Danish Improved Sugar Beet

This variety is distinguished by its great productiveness; in rich, deep soil in good cultivation nearly approaching the standard varieties of Mangel Wurzel in yield of bulk (they standing closer than the Mangels), in connection with a high percentage of sugar. For fattening purposes, and for feeding to milk cows, in cases where a liberal flow of rich, creamy milk is the main object (for butter production) this variety is, where the proper soil is at disposal,



especially to be recommended. It is one of the cleanest and best beets for cattle-feeding that we have.

PRICE—Per oz., 5c.; $\frac{1}{2}$ lb. 10c.; lb., 40c.; 5 lbs., \$1.75; 10 lbs., \$3.25, postpaid.

Address all orders

Mention this paper when ordering.

J. A. Simmers

SEEDS, BULBS AND PLANTS

Toronto, Ont.

Send us your name for Catalogue, and mention FARMING.

Market Review and Forecast

Office of FARMING,
Confederation Life Building,
Toronto, April 16th, 1900.

A fairly good line of business continues to be done in wholesale circles at generally steady prices with an excellent outlook for improved trade. Business seems to be done on a better basis and profits are much better than they were a few years ago. Remittances have shown some improvement of late. Money continues in good request at steady rates, calls being quotable at 5 to 5½. Mercantile papers in good supply and is taken readily by the banks at 6 to 7 per cent.

Wheat.

Wheat markets have ruled fairly steady during the week, and on the whole show a slight improvement over a week ago. There has been great reduction of stocks held in the United Kingdom which have been reduced fully 50 per cent. since the beginning of the year. Some attach great importance to this, but it is doubtful whether much prominence should be attached to it as the world's wheat supply in sight continues to increase and is now 29,861,000 bushels greater than at this time last year. The weather continues fairly favorable for the growing crop. The United States Government report issued last week indicates 90,000,000 bushels more winter wheat than last year.

Canadian markets have ruled steady. At Montreal Ontario spring wheat is quoted at 73c. to 73½c. at May. Quite a lot of No. 1 hard Manitoba has been placed at 68c. to 68½c. on spot, Fort William. May float Fort William, is quotable at 68c. to 68½c. The market here is steady at 65c. to 65½c. for red and white west and goose 69c. to 70c. On Toronto farmers' market red and white bring 69c. to 71c., spring life 70c., and goose 70c. per bushel.

Oats and Barley.

A fair demand continues in England for Canadian oats, though the export demand has fallen off considerably at Montreal. This is due largely to the high ocean freights demanded. Oats in car lots are quoted at Montreal at 31½ to 32c. float, and 32½ to 33c. in store. Oats are steady here at 29c. for white east, and 28c. west. On farmers' market here they bring 33c. per bushel.

The barley market is quiet. Quotations here for No. 2 are 42½c. west and 43c. east. On Toronto farmers' market barley brings 45c. per bushel.

Peas and Corn.

Peas rule steady at Montreal, but the demand has fallen off lately owing to high ocean freights for export. The market here is firmer at 62c. east, and 61c. west. On farmers' market peas fetch 63½c. per bushel.

The corn markets have ruled quiet. American is quoted here at 48 to 49c. Toronto.

Bran and Shorts.

These continue scarce and high. Quotations at Montreal are \$19 to \$19.50 for bran, and shorts at \$20 to \$20.50 in car lots. City mills here sell bran at \$16.50 and shorts at \$17.50 in car lots f.o.b. Toronto.

Eggs and Poultry.

The egg market at Montreal advanced to 16½c. and 17c. early in the week for large lots, but these figures have gradually fallen to 14½c. to 15c. These are considered good figures by dealers, and should afford a profit to the country trade. The market here rules steady, though lower prices are looked for. Case lots are quoted weak at 12 to 13c. On Toronto farmers' market eggs bring 13 to 15c. per dozen.

On Toronto farmers' market dressed chickens bring 70c. to \$1 per pair, and turkeys 14 to 16c. per lb.

Potatoes.

The firmer feeling reported last week at Montreal was only temporary, as supplies have greatly increased, car lots selling at 40c. per bag, and 50 to 55c. in jobbing lots. The market here rules steady at 37 to 39c. in car lots, and 43 to 47c. out of store. On Toronto farmers' market potatoes bring 40 to 45c. per bag.

Hay and Straw.

The Montreal *Trade Bulletin* sums up the hay situation last week as follows: "There has been a fairly good export demand both for Great Britain and South Africa, two steamers leaving New York last week for Cape Town with 21,224 bales of hay, a good portion of which was Canadian. Quite a lot was also shipped from New York for Glasgow, as well as from Portland and St. John, N.B. Since our last report sales have been reported to us of about 300 tons No. 2 at \$7 to \$7.50 f.o.b. at country points, although some say they can buy at lower prices. In this market prices will be found as quoted in our regular market report in another column."

There is a fair demand here for baled hay at \$9 to \$9.50 per ton in car lots. On Toronto farmers' market timothy brings \$10 to \$12, mixed, \$9, sheaf straw, \$8 to \$9, and loose straw, \$4 to \$5 per ton.

Seeds.

Prices remain firm at Montreal at \$5.25 to \$6 for red clover, \$5.25 to \$6.25 for alsike, and \$1.25 to \$1.75 for timothy per bushel. On Toronto farmers' market red clover brings \$5 to \$5.75, alsike, \$5.50 to \$7, white clover, \$7 to \$8, and timothy, \$1 to \$1.35 per bushel.

Cheese.

There is reported to be more old Canadian cheese coming to light than was expected a few weeks ago. Holders, as the season for new stock is drawing near, are more anxious to sell, and, therefore, are bringing their supplies to light. Of course there is no big supply of old stock in any case, and not enough to affect the market. Since the advance in prices consumption has fallen off very largely in Great Britain, and this is having more effect on prices than anything else. Finest old colored cheese is quoted at Montreal at 12½ to 12¾c., and white at 12 to 12¼c., which are lower than was looked for at this time a couple of months ago. A better English demand is looked for after the Easter holidays. The make of fodder cheese so far has been light, due to cold weather; 11 to 11½c. are the quotations at Montreal. Dealers are looking forward to buying the last half of April cheese at less than 11c.

Butter.

The English market keeps firm with a nincreased demand. Canadian finest is quoted at 92s. to 95s. in London. At Montreal the market for creamery opened strong at the beginning of the week but declined ½c. later with an easier feeling. The supply of choice fresh creamery is not large, however, and stocks are kept pretty clear. No very great slump in prices is expected for a while, however. The ruling figures are 20 to 20½c. for choice fresh creamery, while less than 20c. has to be taken in the country. Creamery is steady here at 19 to 20c. for tubs and 20 to 21c. for prints, choice dairy tubs bring 15 to 16c. and lb. rolls 16 to 18c. in large lots. On Toronto farmers' market lb. rolls bring 16 to 20c. each.

Cattle.

The cattle markets both here and in the United States have ruled steady during the week, export cattle suffering most owing to lack of ocean vessel space. At Buffalo the supply has hardly been equal to the demand, and a fairly good demand is looked for this

week. On Thursday at Toronto receipts were light and the quality of fat cattle was only fair. Trade was fairly good. The outlook for exporters is anything but promising owing to high ocean freights.

Export Cattle.—Choice lots of these sold on Thursday at \$4.70 to \$4.90 and light ones at \$4.25 to \$4.40 per cwt. Heavy export bulls sold at \$4 to \$4.10 and light ones at \$3.25 to \$3.60 per cwt. Loads of good butchers' and exporters' mixed sold at \$4 to \$4.12½.

Butchers' Cattle.—Choice lots of these sold at \$4.25 to \$4.50 per cwt.; good cattle at \$3.70 to \$3.90; medium at \$3.45 to \$3.65, and inferior to common at \$2.60 to \$3.15 per cwt.

Feeders.—Few choice ones are coming forward and choice well-bred steers, weighing 1,050 to 2,000 lbs., are worth \$4 to \$4.15 per cwt. Light steers weighing 800 to 1,000 were more plentiful at \$3.60 to \$3.80 per cwt. Feeding bulls bring \$2.75 to \$3.40 per cwt.

Stockers.—At Buffalo the market for these keeps active and strong and is higher. At Toronto on Thursday yearling steers, 500 to 600 lbs. in weight, sold at \$3.25 to \$3.60, and heifers and black and white steers at \$2.50 to \$3 per cwt.

Milk Cows.—Trade for these was slow with very few offered at about last week's quotation.

Calves.—Choice feeding calves are in good demand at Buffalo. Here they bring from \$5 to \$10 each.

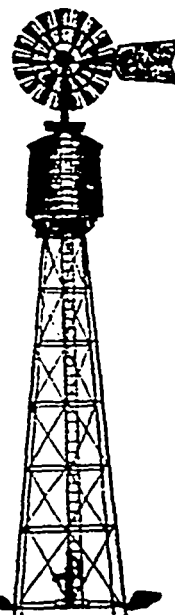
Sheep and Lambs.

The high prices at Buffalo is bringing out a lot of common or inferior stock which sell at lower prices. The bulk of the finest bring from \$7.75 to \$8.25 per cwt., with good wool lambs fetching as high as \$8.30 and \$8.40 for strictly fancy. Choice to prime sheep are quotable at \$6.40 to \$6.60, and fair to good at \$5.75 to \$6.25 per cwt. At Toronto on Thursday sheep were firm at \$3.50 to \$4.25 for ewes, \$3 to \$3.25 per cwt. for bucks. Yearling lambs were firm at \$4.75 to \$6.25 per cwt. Spring lambs sold at \$3 to \$5 each.

Hogs.

Choice select bacon hogs sell here readily at \$6.25 per cwt., and thick fats at \$5.75.

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TORONTO

Light fats, which are too plentiful, are lower at \$5.50 per cwt. Unculled ear lots sold at \$6 to \$6.15 per cwt. At Buffalo, Yorkers bring \$5.70 to \$5.80 per cwt. At Montreal prices have advanced to \$6.50 per cwt. for select hogs. Dressed hogs rule high and are quotable at Montreal at \$8.50 to \$9.00 per cwt., the highest prices realized for years. The *Trade Bulletin's* London cable of April 12th, re Canadian bacon, reads thus: The market remains firm with a good demand at last week's advance. First quality Canadian bacon 59s. to 62s

Horses.

Horses were rather slow sale at Grand's last week and prices were lower than usual owing to the large number of horses being offered for sale just now. Only about thirty per cent. of those offered were sold. Small drivers from fourteen to fifteen hands high sold at \$60 to \$75 each, and large drivers at \$75 to \$115. General-purpose horses sold at from \$90 to \$115 and draft horses at from \$100 to \$135.

A remount officer has recently arrived in this city from England, being induced to come here largely through the influence of Mr. T. C. Patteson, postmaster, Toronto. His object is to find out whether a number of British army horses can be secured here. The British Government will give Canada the preference over other countries in purchasing remounts providing a sufficient number can be secured in a reasonable time. A limited number of ponies 14.1 to 15 hands high will be taken at a low figure. More will be paid for horses 15.1 to 15.3 hands high. These horses are for immediate service in South African war and not for permanent army mounts. A similar class of horses can be secured in the United States at from \$75 to \$85 each and sellers here will have to arrange their prices accordingly.

Her Sarcasm.

Mr. Snarley—I never was one that wanted to get something for nothing.
Mrs. Snarley—Well, that is about what happened when you married me.
—*Puck.*

Jokes and Conundrums.

Yes, this place has changed hands. Come in and swap lies.
Don't wait until you get to the park to be cheated. Come in here.
What are the two things in this life for which a man is never prepared? Twins.

How much ice cream can your best girl eat? Ray's arithmetic says: 1 gal.—4 quarts. Try it; 10 cents a dish.

Women appreciate rising young men—especially in a street car.

The last word is the most dangerous. Show this to your wife.

Some women can't believe a word their husbands say unless they talk in their sleep.

The man who wants the earth generally gets it—when he dies.

Why are watermelons full of water? Because they are planted in the spring.

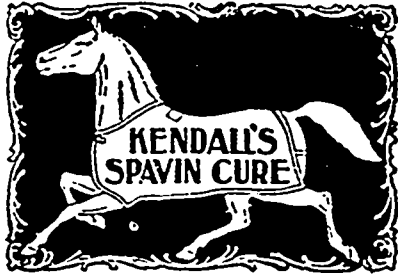
What is the proper length for a young woman's dress? A little above two feet.

Why can't I sell postal cards any longer? Because they are all of the same length.

What class of men are apt to marry for money more than others? Clergymen.

A LAME HORSE

is a luxury you cannot afford. Don't have a lame horse; cure him with



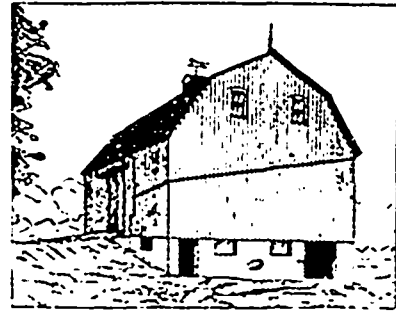
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for Spavins, Ringbones, Splints, Curbs and all forms of Lameness. It is certain in its effects and cures without a blister, as it does not blister. The endorsement of its users guarantees its merits. Price, \$1; six for \$5. As a liniment for family 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 COMPANY,
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Thorold Cement



Do you intend building Barn Basements, or Stable Walls, or Walls of any kind? If so, use "Battle's Thorold Cement," which can truly be called the **Farmer's Favorite Cement**

What the Hon. E. J. Davis, Commissioner of Crown Lands, says:

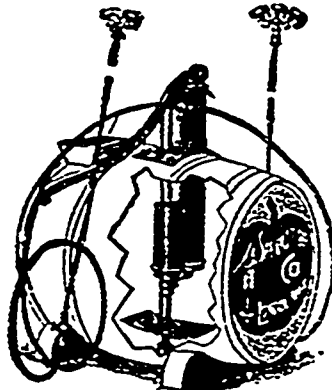
Toronto, February 25th, 1900.

During the year 1899 I built a new basement at King, Ont., with concrete walls, the size of the barn being 50 feet by 70 feet, with walls 9 feet high. In the construction of the walls and floors I used two car loads of Battle's Thorold Cement, and I must say that I am well pleased with both the walls and floors.

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THIS is just what you do with almost all sprayers sold to-day. All the Spramotor salesmen have to do to show this is to shut off all discharge outlets, and ask customers to pump up the pressure. When this is done the handle is held tight, nothing is lost, showing the perfect mechanism.

All other machines lose from 5 to 15 strokes each minute from leakage with a pressure of 100 pounds. One machine in the market which is claimed to have no packing, but which is in reality packed with metallic rings, lost 10 strokes each minute from leakage back through the plunger, and, to overcome this difficulty, put on leather-faced valves and plunger in the machines used at the Fall Fairs during 1899, displaying the rings to the public.

A metallic packing in a steam engine is a very satisfactory packing, as it can be oiled and kept in proper working order, and are made to expand in width as well as in diameter, but all mechanics know what the result is when it is not kept oiled, and they are amused when told that it is a suitable packing for a sand pump, which is just what a sprayer is when using Bordeaux mixture or whitewash.

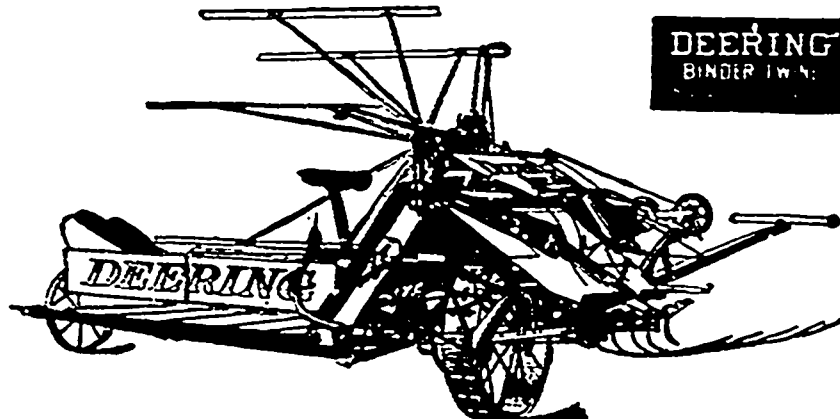
Take two pieces of brass, and put sand and water between, and rub them together, and you will soon see what the result is.

Why throw away one-half your labor, when with the Spramotor you use it all at the nozzle. Each Spramotor is guaranteed, and the guarantee is good.

The Spramotor Treatise of 76 pages is yours for the asking.

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Makers of these articles, in many instances, do not pay the necessary attention to the quality of the salt they use. Some people think that "salt is salt," and it does not matter where it comes from or who makes it. This is a great mistake, for it is essential that to produce the best Butter or Cheese nothing but the purest salt should be used.

The number of prizes obtained by users of

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at the various exhibitions is conclusive proof that these brands of salt stand unrivalled. For prices, etc., address

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YOU CAN'T DO IT

You can't make good butter or cheese with common, impure salt. It pays to use the best, and the best is

Windsor Salt

the use of which improves flavor and keeping quality.



THE WINDSOR SALT CO.
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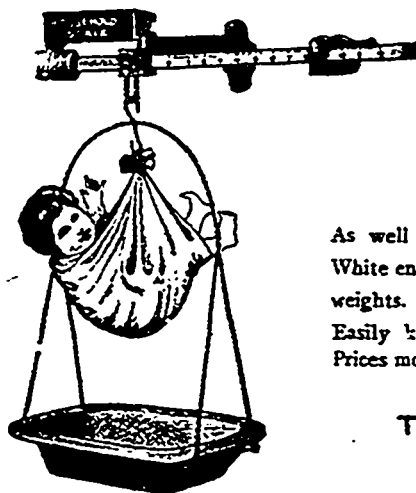
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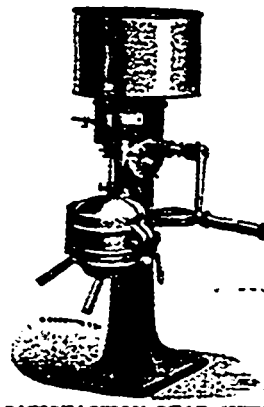
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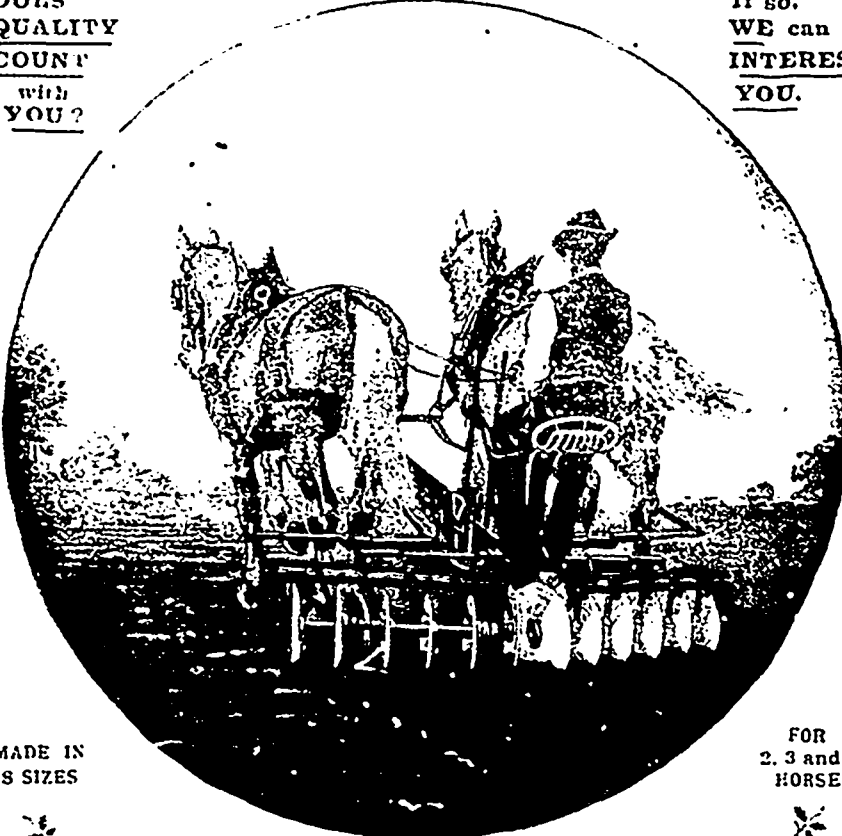
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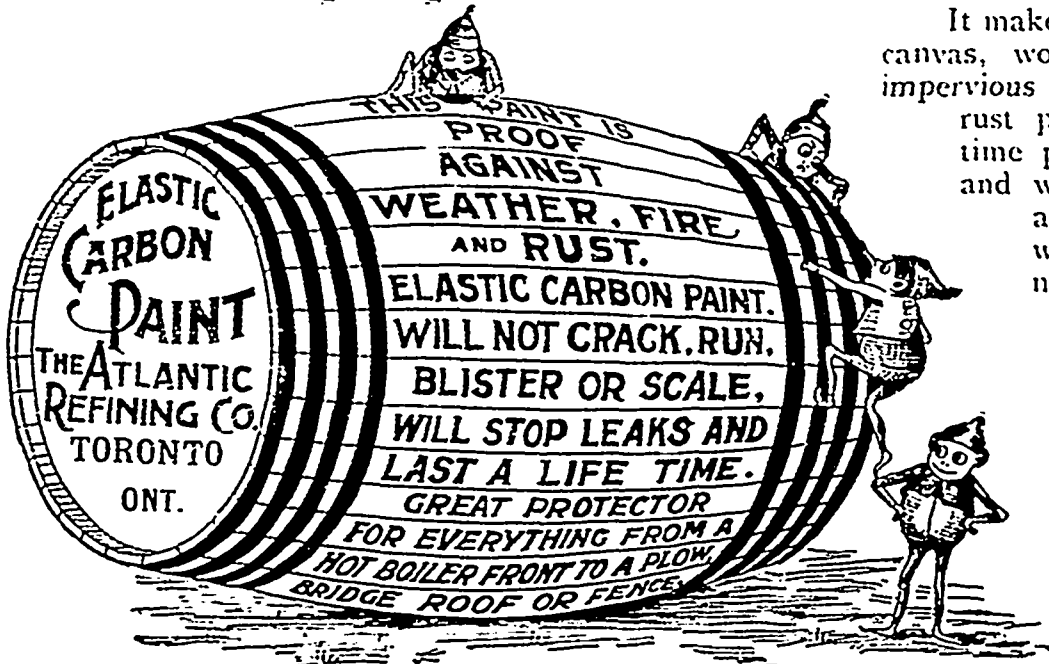
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