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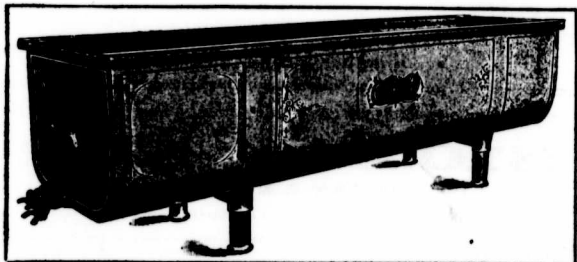
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Turn to pages 232 and 253 FARMING WORLD of September 3rd.

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# The Farming World

For Farmers and Stockmen

Vol. XIX.

SEPTEMBER 24th, 1901

No 13

## The Late President

**T**HE untimely death of President McKinley, at the hands of a treacherous assassin has caused general and sincere sorrow. He was a man among men, one of the leaders of his time. His sterling integrity and force of character coupled with his love of truth and righteousness made him beloved by his own people and respected and honored by the citizens of other lands. He was a most striking example of what energy, pluck and sobriety can accomplish in this western world. From a poor school teacher, thrown on his own resources in early life, he became the President of the world's greatest republic and died in the midst of honor and power second to no European crowned head. In all this he proved that the road to success in life is not by pleasant paths of ease and idleness, but by persistent, plodding, systematic hard work. The story of his life forms a most excellent guide book for young men at the beginning of life's journey. May many profit by his example and precept.

## Canadian Energy and Intelligence Commended.

The Chicago Live Stock Journal in commenting upon our annual autumn number, says:

"The Farming World's, Toronto, Canada, autumn number of 80 pages handsomely illustrated, show the great agricultural prosperity of the north country, Ontario, Manitoba, Northwest Territories, and British Columbia teeming with abundant harvests of grain, grass, fruits and vegetables, where energy and skill has developed success in stock raising and where formerly it was thought to be too cold a country to raise stock. Their draft horses, beef, and dairy cattle, sheep and hogs of the best breeds of England and Scotland, have overcome the obstacles of climate and given the highest agricultural prosperity. Their grain, fruit and vegetable crops have developed large export trade. Their dairy exports have increased more than double in ten years, reaching \$25,000,000 in 1900, while their bacon exports increased from \$1,000,000 in 1890 to \$12,800,000 in 1900. By studying the British market they are rapidly increasing their exports. Canada has wonderful exhibits at the Pan-American and

Glasgow expositions, profusely illustrated in this issue of The Farming World. Despite the great increase of Canadian exports to Great Britain and the flow of immigration from Europe the population of Canada shows but little increase, and whether Canada is ever annexed to the United States or not, thousands of the best Canadians annex themselves to our country, and we heartily welcome them. With their energy and brains they make good Americans. The cold climate develops energy, and brains they inherit from their Scotch and English ancestors, with a love for fine stock. They are skillful stock breeders and good business men."

While we thank our esteemed contemporary most heartily for its words of commendation and the fine tribute it pays to the energy and intelligence of Canadians, we beg to state that Canadians, who, it is claimed, are annexing themselves to the United States, are not the tillers of Canadian farms. The time was when the overplus of the farming population in the older provinces of the Dominion helped to fill up a great deal of the vacant farming lands in the United States. But a change has come to this order of things and to-day we find the surplus population of the Western States wending its way in large numbers to the new and fertile lands of Western Canada. During certain seasons of the year almost every train for the north, from the Dakotas, Minnesota and other Western States where cheap farms are no longer available, contains numbers of American citizens, who are casting in their lot with us. And very good Canadians they make too.

We do not deny that many Canadians have become Americans citizens during the past decade, but if the records are examined it will be found that all or nearly all of these are from our towns or cities and not from the rural sections. This we think is especially true of the present day. The farmers of the older Canadian provinces who desire to settle elsewhere are not going to the United States but to New Ontario, to Manitoba, to the North-west Territories and to British Columbia and when after another decade, our vacant farming lands are well taken up, not only by farmers from the United States, but from numerous other sources, we may have sufficiently large business centres and a large-

ly increased business conducted in them, sufficient to keep our townspeople, as well as our farmers in Canada, and to bring back a number of those who, during the transition period have thought it best to sojourn in Uncle Sam's domains. Just now the annexing process is working both ways, but the time will come when it will work only one way and that most favorable to Canada.

## How Some Prizes Are Won.

The article on the "Selection of Judges at Fairs," in last week's issue has aroused considerable interest in this important question. Since it appeared we have learned of things being done by Judges in one of the departments of our larger fairs that mark the present system as rotten. We have it on the authority of an exhibitor, who exhibited at all the larger fairs up to this year, that he has more than once been held up by the judges. The scheme in brief as told to us, is worked out in this way: The judge writes or tells certain exhibitors that he knows where the exhibits, be they live stock, poultry or anything else, are which will win at the coming show or shows at which he will judge. The prospective exhibitor if he desires to win, replies asking the judge to send on the exhibits. The hold up consists in the judge demanding an exorbitant price for the winning exhibits after the fairs are over.

We are not in a position to make a further statement just now, but understand that the whole thing will be ventilated before long in a way that will show up the offenders in no very complimentary manner. We might say, however, that the responsibility for this condition of things does not rest so much upon the Exhibition authorities as upon the Associations or organizations that recommend the judges. In the particular organization in question a certain clique has had and still has control and continues to recommend the judges year after year who, as we have been informed have been guilty of the practices we have named.

Truly things are coming to a pretty pass when such practices as these are carried on at our larger fairs and by judges recommended by associations receiving public money with which to carry on their work. Is it not about time that the question was looked into a little more closely by our Fair authorities? There is no room for

such scheming or dishonest practices in connection with the awarding of prizes at any fair in this country. A show that countenances that kind of thing or where judges arrange before hand for a money consideration, who shall get the prize is of no value to the country. In the particular department to which our attention has been called, people have wondered how it was that some of the inferior exhibits won so many prizes. But knowing how the judges have manipulated matters the whole thing is quite plain. Let there then be a thorough investigation of this matter and a complete exposure of the guilty parties. Above all things let honest and capable men be selected for judges and ostracise every individual no matter how capable he may be as a judge who countenances anything along the lines we have indicated.

### The Ottawa Fair

The fourteenth Annual Exhibition of the Central Canada Exhibition Association was held at Ottawa, last week, and so far as attendance, etc., are concerned must be considered a success. More favorable weather prevailed this year, while the visit of their Royal Highnesses the Duke and Duchess of Cornwall, attracted a large number of visitors to the capital, many of whom took advantage of the opportunity to visit the Central Fair. From a financial point of view the fair will likely show up considerably better than either Toronto or London in that the receipts will exceed the expenditures. This is all the more gratifying inasmuch as the management of the Central Fair, owing to unfavorable weather have had to face a balance on the wrong side for several years back.

In regard to the show itself, perhaps not as much can be said. While the live stock shown was generally of good quality there was very little competition in most of the classes and the splendid stables on the grounds had in them fewer animals than usual. There are several reasons for this. The Pan-American drew many of the best exhibits, while many of the Quebec breeders went to the fair at Quebec city instead, where the prizes offered in many cases were larger than at Ottawa. The prize list at Ottawa this year was lowered considerably from that of a year ago, and made it hardly worth while for breeders from a distance to send their exhibits. Then again the railway facilities at Ottawa are not of the best. From the C. P. R. to the grounds live stock have to be driven a long distance over a narrow and dangerous road. While on the G. T. R. and Canada Atlantic, higher rates were charged than has been the case for several years back. All these circumstances conspired to lessen materially the show of live stock, which, with the exception of Avreshires and draught horses in which there was a lot of local competition, was very much below other

years. This is rather unfortunate, as the Ottawa Fair people otherwise put up a good show and provide excellent accommodation for both exhibitors and their stock. Breeders are always loud in their praises of the treatment received at

Ottawa and it is hoped that another year both as regards railway facilities, etc., circumstances will be more favorable for inducing a much larger exhibit. A full report of the fair will appear in next week's issue.

## Keep More Hogs

### Trend of Market for Three Years—The Outlook in England

We don't know whether the average Canadian farmer, generally speaking, is inclined to pessimism or not, but it would seem that he is very much inclined that way in regard to the bacon hog trade. He has had unprecedentedly large prices for his hogs during the past year, and still he is not increasing his supplies at a very rapid rate. For several months back prices for select bacon hogs have ruled above the \$7.00 per cwt. mark, and have frequently reached \$7.50, and still the farmer hesitates to increase his output of hogs, lest there should be a drop in prices. When asked his reasons for not doing so his reply is that these high prices cannot last and that there will soon be a change when values will be at rock bottom again, with no profit in the business for the producer. Several farmers whom we have recently asked their reasons for not going more extensively into the raising of hogs have given the one excuse: "These high prices cannot last long and there will be a drop in prices before long."

But let us see what the grounds are for coming to this conclusion. In our opinion they are based altogether on precedent. True, it is, that there are always lower prices during the last two or three months of the year than at any other time. But even if this is followed up closely it will be found that of late years, the drop in prices in the fall has not been nearly so large as it formerly was. In fact signs are not wanting to show that, the periods of low prices for bacon hogs are gradually getting less and approaching to more uniformity all the year round. September is now well over, and the market is still firm with steady prices.

A comparison of the prices paid on the Toronto market during the past few years may not be amiss in this connection. The figures we give are taken from the Market Review, published every week in The Farming World. During the fall of 1898, that is from Sept. 1st to the end of December, the highest price paid for select bacon hogs was \$4.75 per cwt. and the lowest \$4.12½ per cwt., the average being something like \$4.37½ per cwt. About these same figures were maintained till June 1st, 1899, when prices advanced to \$5.00, and remained at this figure till September. From Sept. 1st to the end of December, 1899, the highest price paid was \$5 per cwt. and the low-

est \$4, the average being about \$4.50 for September and October, and \$4.25 per cwt. for November and December. Prices averaged about \$4.50 during January and February, 1900, and about March 1st, advanced to \$5.37½ and April 1st to \$6 per cwt. The average from that date to Sept. 1st, being about \$6.37½. Prices averaged \$6.25 during Sept. and Oct. 1900. On Oct. 30, prices dropped to \$5.75; on Nov. 6 and 13 to \$4.75, only to advance again on Nov. 20 to \$5 per cwt. During the balance of November and December, the average was about \$5.75. During the first six months of 1901, prices for select bacon hogs averaged about \$6.50, and since then considerably over \$7.00 per cwt.

These figures show the trend of the bacon hog market during the past three years, and if they prove anything at all it is that the period for low prices in the fall of the year has been gradually getting smaller. There were only two weeks last fall when prices were below \$5.00 per cwt. and then they were not below the profit line being \$4.75 per cwt. So far as this year's trade is concerned, there is no good reason for believing that prices will drop below the profit line. No one expects that present exceptionally high values will be maintained till the first of the year. But these high prices can afford to take a pretty big drop and then yield a good profit to the producer. In our opinion there is no surer market in connection with any farm products than that of hogs and it is really surprising why so many farmers hesitate about engaging in the business on a larger scale.

The past three years have wrought wonderful changes in the Canadian bacon trade. The demand for Canadian bacon has increased in Great Britain at a most rapid rate and our packers are not able to supply enough of the right quality for this trade. Read the testimony of Prof. Robertson and Live Stock Commissioner Hodson, as given in our annual autumn number. It will be remembered that these gentlemen visit Great Britain this season in the interests of Canadian Agriculture. Speaking of the Canadian bacon trade, Prof. Robertson says:

"The growth in this one department of our agricultural trade has been marvellous, and still not so marvellous in the light of the growth of the whole trade in our products. In 1890 the value of the



pork, bacon and hams exported from Canada was only a little over half a million dollars, (645,360); and the value of the exports in 1900 was \$12,803,034. That is something like twenty times more exported, and a very much better place in the markets of Great Britain."

Mr. Hodson says:

"Canadian hams and bacon are attracting a great deal of attention in Great Britain and form a large portion of the bacon that is imported. Denmark sends to England twice as much bacon as Canada does. Her No. 1 quality is one and one-half times the total sent from Canada.

However, taking the quantity into consideration, Canadian ranks high in quality in the British market. A little of the Irish sells for a higher price than the average Canadian, or, in fact, higher than any of the Canadian, but the amount of good stuff sent from Ire-

keep the business running. The same story comes from other quarters. With a large amount of capital invested in these numerous packing establishments both new and old that must have hogs in order

to pay interest on the investments is there any likelihood of prices getting down to below a good margin for profit for any length of time. We think not and would advise farmers to keep more hogs.

## Canada Wins Again

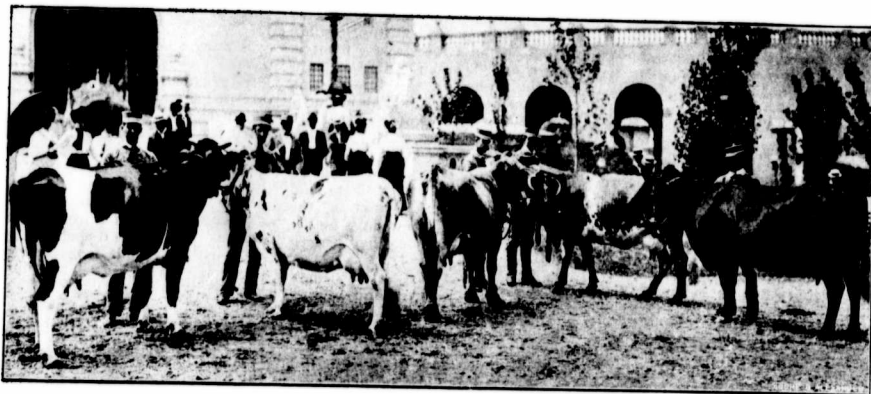
### Carries off the Bulk of Awards for Cattle at Buffalo

The show of cattle at the Pan-American last week proves one thing and that is that there would have been a very insignificant display had not Canada taken a hand in the game. In all the leading classes including Shorthorns, Herefords, Galloways, Polled Angus, Ayrshires, Jerseys, Holsteins, Guernseys, and French Canadians, Canadian breeders were well represented and carried off the best of the prizes, especially was this true with Shorthorns, and Ayrshires, where Canadians had things near-

Speculator (imp.) W. D. Flatt, Hamilton, Ont.; 2, W. A. Boland, Grass Lake, Mich.; 3, Valiant, W. D. Flatt; 4, B. C. Rumsey, Buffalo 5, Geo. Bruce, Hon. Thos. Greenway, Crystal City, Man.

Bull, two years—1 Lord Banff (imp.) W. D. Flatt; 2, Sittytton, Hero, Hon. Thos. Greenway; 3, Royal Victor, J. & W. B. Watt, Salem, Ont.

Bull, one year—1, Knight Errant, W. B. Flatt, Hamilton; 2, Ribbon's Choice, Hon. Thos. Green-



A Group of Five Typical Cows in the Model Dairy, Pan-American Exposition, representing the Holstein, Shorthorn, Ayrshire, Red Polled and Brown Swiss Breeds, the last two breeds being American and the first three Canadian.

land is small in comparison to that which comes from Canada."

These extracts certainly show that Canadian bacon is forging ahead in the Old Land at a very rapid rate, and that there is still great room for expansion, assuring producers of a market for many years to come at profitable prices. All that is necessary to hold and increase this trade is a sufficient quantity of the right quality of bacon to supply the gradually growing list of consumers of the Canadian article.

And yet there is another phase of this question that makes for good and steady prices for bacon hogs. During the past two or three years the number of pork packing concerns in Ontario has largely increased. To such an extent is this the case that all these establishments cannot obtain sufficient hogs to keep their plants in operation. Only last week we heard of a large concern in one of our Western Ontario towns, and which received a large bonus from the municipality for locating in the district; that is unable to secure enough hogs to

ly all their own way. The cattle display as a whole, compared very favorably with that of the Industrial Fair, a few weeks ago, many of the best animals and winners at Toronto being winners at Buffalo.

In the Shorthorn classes the results were most gratifying, and showed that Canadian breeders are again well to the front, as they were at Chicago in 1893. Mr. W. D. Flatt, Hamilton, came out with the greatest number of honors, winning the sweepstakes for both bull and cow and also the prize for the best herd. The imported Royal winner "Cicely" won against all competitors. J. & W. B. Watt, Salem, Ont., and Hon. Thos. Greenway, of Manitoba, were also prominent winners, the former winning first on aged cow, and the latter 3rd for herd. W. A. Boland, Mich., who showed at Toronto was also a large winner but failed to wrest the highest honors from the Canadian herds. The following is a list of the awards in the Shorthorn section, the awards in the other classes will follow:

Bull, three years and over—1,

way; 3, D. R. Hanna Ravenna, Ohio.

Bull, under one year—1, King Tom, J. & W. B. Watt; 2, W. A. Boland; 3, Britannia's Duke, W. D. Flatt; 4, Splendor, J. & W. B. Watt; 5, B. C. Rumsey.

Cow, three years or over—1, Cicely, (imp.), W. D. Flatt; 2, Empress (imp.), W. D. Flatt; 3, Jenny Lind Fourth, Hon. Thos. Greenway; 4, D. R. Hanna; 5, W. A. Boland.

Heifer, two years and under—1, W. A. Boland; 2, W. A. Boland; 3, D. R. Hanna; 4, Matchless 25th Hon. Thos. Greenway; 5, Village Princess, Hon. Thos. Greenway; 6, Lady Waterloo B. Second, W. D. Boland; 2, Lady Hamilton, W. D. Flatt; 3, B. C. Rumsey; 3, D. R. Hanna; 5, B. C. Rumsey.

Heifer calf—1, A. Boland; 2, Duchess Second, Macdonald Bros., Woodstock, Ont.; 3, Clover Hill Lorne, W. D. Flatt; 4, B. C. Rumsey; 5, Judge's Heiress, Hon. Thos. Greenway.

Sweepstakes.—Bull, any age—Speculator (imp.) W. D. Flatt.

Cow, any age—Cively (imp.) W. D. Flatt.

Herd prize—1, W. D. Flatt; 2, W. A. Boland; 3, Hon. Thos. Greenway.

### The Canadians in the Model Dairy.

Since the opening of the test in the model dairy at the Pan-American, we have endeavored to keep our readers posted as to what was going on. These reports have shown that in more than one respect the Canadian cows are holding their own.

There are 50 cows in the test 25 of which are from Canada making five each in the Shorthorn, Holstein, Ayrshire, Jersey and French Canadian classes. These have been contributed by individual breeders with the exception of four supplied by the Dominion Government.

We have been asked several times for a list of the Canadian cows with their owners. With the exception of the French Canadian cows they are given as follows:

#### SHORTHORNS.

14th Princess of Thule, A. W. Smith, Maple Lodge, Ont.

Daisy D., G. D. Minor, Sparta, Ont.

Rose, 3d., W. G. Pettit & Son, Freeman, Ont.

Miss Molly and Queen Bess, Dominion Government.

#### AYRSHIRES.

Kirsty Wallace, of Auchincbairn, Robt. Reford, Ste. Anne de Bellevue, Que.

Betsie, of Fairfield Mains, Robt. Reford, Ste. Anne de Bellevue Que. Lady Florence, W. W. Ogilvie, Lachine Rapids, Que.

Alice 2nd of Lessonoch, W. W. Ogilvie, Lachine Rapids, Que.

Pearl of Woodside, Robt. Ness, Howick, Que.

#### JERSEYS.

Primrose Park's Pride, W. E. H. Massey, East Toronto.

Queen May of Greenwood, W. E. H. Massey, East Toronto.

Maple Dextrua, J. H. Neil, Lucan, Ont.

Gypsy of Spruce Grove, Dominion Government.

Mossey of Hursley, Dominion Government.

#### HOLSTEINS

Meg, Ontario Agricultural College, Guelph, Ont.

Tidy of Alberkin, H. Bollert, Cassels, Ont.

Inka Mercedes, M. Richardson & Son, Caledonia, Ont.

Hulda Waynebaggie, M. Richardson & Son, Caledonia, Ont.

Beauty of Norval, Wm. McClure, Norval, Ont.

These are the cows and their owners who are maintaining the honor of Canada at the Pan-American. At considerable sacrifice several of the names mentioned have complied with the call. In several instances where breeders could not be got to put in their cows for so long and trying a test the Government purchased the cows and entered enough to make the different herds complete. More interest

perhaps would be aroused in the test if Canadians and Americans had cows of the same breed in the test. As it is, it is not so much a test of individual cows as a battle of the breeds. The final outcome of the test will however be watched with a great deal of interest and profit.

We show elsewhere a group of five of the cows in the test, three of which are from Canada. These are representatives of the breeds.

### Ontario Fruit at Buffalo

THE PROVINCE SWEEPS THE BOARD IN THE "WILDER" COMPETITIONS.

The Ontario fruit exhibit at the Pan-American is recognized by all as one of the best exhibits of its kind on the grounds. During the past few weeks a large amount of this year's fruit has been sent over and the display is now perhaps more characteristic of what this province can do in the fruit line.

That the Ontario exhibit and Ontario fruit takes first place has been demonstrated quite forcibly during the past few days. What is known as "The Wilder Medal," after the name of the donor, was competed for under rules laid down by the American Pomological Society. The competitions for these medals are always keen, and this year exceedingly so, and still although Ontario fruit growers did not arrange to take part in the competition until a few days before the entries were made, they practically swept the board.

The first silver medal under these auspices went to an exhibit put up by the Ontario Fruit Experiment Stations. The first silver medal announced for a collection forwarded by an individual was awarded to Albert Pav. St. Catharines. Murray Pettit, Winona, won a silver medal for a collection of 130 varieties while W. H. Orr, Grimsby, won a bronze medal for a collection of 60 varieties.

These were all the entries made from this province, and in all cases medals were secured while a number of American competitors, though making creditable exhibits had to be satisfied with an "honorable mention." Truly many good things are coming to Canadians these days.

### A Big Haul for the Northwest.

A recent decision of the Court of Regina is of considerable importance to the people of the North-West Territories. The result of this decision places the sum of \$45,000 to the credit of the North-west Government and next year \$150,000 is expected. In 1898 the Territorial Government brought action against the Hudson Bay Company and the Canadian Pacific Railway, who objected to the payment of a local improvement tax on lands held by them. This decision compels these and other large corporations in the Territories to bear their share of the expenses of local improvements which will be of great advantage to the settlers.

### A New Flavor in Cheese

There has recently developed in some of the cheese made in North Oxford a flavor that seems to be entirely foreign to anything yet found in this product. The origin and remedy of this flavor has puzzled the Inspectors of the Western Dairymen's Association who have investigated the matter. One or two factories north of Woodstock are especially affected by it and should it continue will work serious injury to the cheese trade of that locality.

Believing that this flavor had its origin in some new form of bacteria, Mr. Andrew Pattullo the local member for the riding, reported the matter to the Superintendent of Agriculture and to the Hon. Mr. Dryden, who has instructed Professor Harrison of the Ontario Agricultural College to make a thorough investigation of the subject. His report will be looked forward to with interest.

### Selecting and Saving Seed Corn.

Among the many useful bulletins issued recently by the Department of Agriculture at Washington none are of greater value than one dealing with the selection and saving of corn for seed, from which we take the following:

"The best plan for saving corn for seed is to go through the field before the crop is harvested and gather the best ears from the best stalks. The largest yields of grain are usually made from varieties producing two ears on each stalk, and if such a variety is desired then seed should be saved only from stalks bearing two ears. It is sometimes claimed that the upper one of two ears will produce the earlier maturing crop, but unless early maturity is of considerable importance, if a stalk has two good ears both should be taken; if one ear is good and the other only fair the better one may be taken; while if either ear is very poor in size, shape, or fullness both should be rejected. If a variety bearing only one ear to each stalk is preferred the ears selected for seed should be the largest which can be found, of nearly equal diameter throughout, and well filled at each end. It is as important to take seed from the best stalks as from the best ears, and whatever variety may be preferred every ear which is selected for seed should be taken from a stalk which in size, habit of growth, and number of ears approaches closely to what is the desired form for that variety.

If careful hands are employed in gathering the crop a very good selection of seed may be made by having a box in the wagon into which the most desirable ears may be thrown as they are found.

"In selecting seed from the crib, as is often done, nothing can be known of the character of the stalks upon which the ears were grown, and little or no improvement can be made in a variety by such a selection; while a careful and judicious selection in the field will

work a constant and gradual improvement in the crop and will make it more nearly uniform with each succeeding year. No one item in the growing of corn is of greater importance than the selection of seed.

"After the seed has been selected it should be thoroughly dried, treated with bisulphide of carbon to destroy insects, and then stored where it will be kept dry and secure from rats and mice.

"It is a somewhat common practice to discard the tips and butts of the ears when shelling the seed for planting, but the practice is of doubtful benefit. A number of the experiment stations in both the

North and the South have made repeated tests of the productiveness of seed from different parts of the ear, but these tests have shown no marked or constant difference in yield, even when the selections have been repeated through several generations.

"For all ordinary purposes the value of a variety depends on the amount of shelled corn which it will produce per acre. This in turn depends fully as much on the growth and productiveness of the individual stalks as upon the size and shape of the separate ears, and for that reason seed should always be selected in the field rather than from the crib."

## Our Western Letter

### Dairy Work in the West—Threshers' Organization— The Fruit Trade

Winnipeg, Sept. 16th, 1901. Mr. J. A. Ruddick, Assistant Dairy Commissioner, passed through the city last week on his way west where he is inaugurating two very important undertakings in connection with the dairy industry. His attention will be first directed to the travelling dairy which is to work during the fall in British Columbia. With two assistants Mr. Ruddick will visit as many points as possible, making a stay of ten days or two weeks at each. Instruction in dairy practice will be given for the whole period or according to the students' inclination in the matter. The travelling dairy was the commencement of the present Manitoba Dairy School and by the way, was in charge of Mr. Ruddick. That is nearly ten years ago, and now he is doing for B. C. what he did for Manitoba. It is to be hoped that the final outcome in that province will be the same as here and that a year or two hence will see a permanent Dairy School established there.

The other matter which will engage Mr. Ruddick's attention is the creamery at Qu'Appelle, which the Government intend operating this winter. Every effort will be made to demonstrate the profitable nature of winter dairying in the North-West, and the experiment will be watched with interest by Manitoba as well. There are now three creameries in Manitoba operating in winter—two at Winnipeg and one at Brandon. There is room for others, and the rates given by the railways are so low that every railway centre at least should have one. At the Qu'Appelle creamery the Government will pay the freight on cream from outside points, so as to place all the patrons on an equal footing. There are of course many obstacles to be overcome in winter dairying, but on the whole it is doubtful if these are any greater than those experienced in summer, while the better price obtained is a strong inducement.

During the past two weeks there have been a large number of Kan-

sas land-seekers in this province. These gentlemen have been looking over Manitoba and Alberta and most of them have made purchases. These are delegates sent by various organizations of farmers in Kansas to report on the country and as a result of their visit they and many of their friends will undoubtedly settle on Manitoba farms. The Kansas people are not the only ones taking an interest in Manitoba. A Minnesota company which bought large areas of land here last spring reports having sold over 9,000 acres during the past month, at a good margin over purchased price.

The question of threshers' organizations is at present occupying the attention of a great many of our farmers. The subject is not one in which they have voluntarily interested themselves; indeed the majority express the strongest disinclination for the whole matter. But since the organizations include the greater number of the threshermen of the province the farmer must, willy-nilly, reckon with them. The Threshers National Protective Association organized this summer under the management of Charles Koester of Brandon is the combination under consideration. Organizations such as this usually portend an increase in prices and there has been a well founded apprehension that this one would be no exception to the rule. But the organizer claims that such will not be the result in this instance. He states that the object is to maintain uniformity in price among the threshers, to prevent cutting of rates by men who he says, buy threshing-outfits without any intention of paying for them, and to protect themselves against the farmer who may have a chronic indisposition to pay for his threshing.

The local hail insurance companies are busy making up their returns of the past season's business. The losses have been the lightest on record and the season has been in every way a most satisfactory one. It is expected that all pre-

miums will be promptly met now that the safety of the crop is assured and the companies expect to make up some of the losses of other years out of the surplus of 1901. There are now four companies doing business in Manitoba.

The wholesale fruit dealers of Winnipeg appeared before the market, license and health committee of the City Council, at a recent meeting of that body, and pressed their request for a by-law restricting transient traders. The wholesalers complained that surplus fruit stocks in the east, as well as large quantities of apples etc., unfit for export are shipped up here at certain seasons of the year and sold in wholesale quantities at slaughter prices. They claim that much of this fruit is of such inferior quality that it could not find a sale if offered in open packages. This takes away much of the business which the wholesalers consider rightly belongs to them, consequently they ask a high license or tax on such business. It is true that some of the fruit auctioned off here during fall and early winter will not bear inspection, and such shipments have done much to prejudice the Ontario fruit in this market. But at the same time there are dealers who are bringing in first class fruit from Ontario, and the people here would view with strong disfavor any such movement to shut out the Eastern fruit from the market, or give the wholesalers a monopoly of the fruit trade. The committee refused to take any action in the matter.

#### MARKETS.

Dealers are regularly bidding 16½ and 16⅞ cents for creamery butter at factory points; this is a slight improvement over last report the demand being better. Dealers were slow to recognize the tendency of the markets, and have right along been offering about ½c less than the factories were willing to accept. Choice dairy butter is very scarce, and in good demand, but inferior stock is as plentiful as usual, and as little wanted. As high as 16c, delivered here, is offered for choice lots. Inferior is begging at 10c. The cheese market continues firm. The upward tendency continues and factories are receiving 8c at factory for best.

All classes of dairy produce have shown the improvement predicted in former letter and this will continue until the winter prices are reached. Notwithstanding the greatly increased output of the past season there has never been anything like overproduction. There have been no surplus stocks, even the low-grade dairy disappears somewhere as newer stocks make their appearance.

Shipments of export cattle go forward to the British market regularly. Export steers are to-day worth 3½c to 3¾c off ears here which is ½c better than a year ago. Export cows 3¼c; butcher's cattle 3c to 3¼c. Stockers are not in demand. Choice mutton sheep are worth 4½c, lambs from 5½c up. Hogs are stationary at 5½c to 6¼c. Foregoing prices are all live weight.

## Studies in Nature

### A Review of Insect and Bird Life on the Farm

Edited by C. W. Nash

The majority of our warblers and bright-colored finches, together with all the swallow tribe, have gone south, leaving us nothing but the more soberly clad olive backed and hermit thrushes and the hosts of Northern-bred sparrows to enliven the woods and fence rows. In the fields meadowlarks and horned larks are still busy foraging for grasshoppers and in the new clearing the eye-holders are feasting on the ants that make their homes in the decaying stumps, while high overhead the hawks can be seen gracefully sailing towards their home for the winter. When on their flight, some of them, such as the goshawk, sharp-shinned hawk, pigeon hawk, and duck hawk, fly straight ahead alternately flapping their wings for a short space and then sailing for a time; these seldom fly at any great height above the ground; others like the red-tailed, red shouldered, broad-winged, and rough-legged hawks, sail in wide circles, spirally towards the south or south-west, sometimes at such an enormous height as to appear like mere specks only to be noticed at all when they happen to cross a white cloud. The hawks when migrating seem to have lines of flight, which they follow with more or less regularity every year; in this neighborhood they fly all through the month of September, the greatest number passing on days when a strong, north-west wind is blowing. The straight flying species usually follow the shore of Lake Ontario, from east to west while the red-tailed and red-shouldered hawks pursue the same course further inland. The rough-legged hawks are not so regular in their flight here, as are the others, there are always a few pass with the rest, but occasionally enormous numbers appear and continue their flight until late in October. When these great flights occur the birds seem to loiter along, feeding as they go, so that it is probable that an abundance of food in the locality attracts them. The last great flight we had here was in 1895, when many thousands must have passed over this neighbourhood, and great was the slaughter of the field mice upon which these hawks feed. I am sorry to say that a great many of these grand birds were snout by people who seemingly cannot resist the impulse to kill everything that flies, whether it is of any use to them or not. I obtained the bodies of a good many, and post-mortem examination showed that not one bird either wild or domestic, had been eaten by them. In

one stomach I found a frog, in another the flesh of a muskrat, another was filled with large grasshoppers, and the rest contained mice and nothing but mice, or traces of them, ranging in quantity from a little fur and some bones to seven whole ones. Moral—Spare the large, slow-flying hawks that you see circling about over the meadows; they are hunting for mice and will not trouble the chickens.

On the 18th I saw a humming bird hovering about the gladiolus blossoms, this little fellow will be about the last to be seen until next May. What a journey he still has to make before he reaches winter quarters. How far he has already come can be guessed at. It may be that he was born near the shore of James's Bay; from there he will go southward across the whole of North America, well into South America, before he ceases travelling. Most of our birds when migrating skirt along, the shores of large bodies of water, such as the great lakes, until they come to a narrow place and thus perhaps avoid some danger. Our little Hummer is not so particular and will often strike out to cross Lake Ontario from any point in fine weather. This I have often seen them do both in the spring when they arrive and in autumn when leaving us. When crossing the water they fly low and at such a high rate of speed that a few seconds suffices to carry them out of sight. From the middle of August to about the tenth of September humming birds in immature plumage are enormously abundant in Southern Ontario. Every ravine in which the water balsam grows is swarming with them. Where they all come from is a mystery, for their number is out of all proportion to those which pass northward in the spring, and each pair of adults only raises two young ones in the season. It is just possible that there is a northward migration of the young produced to the south of us. Just at this period, as we know there is in the case of some other birds, but if so it seems to have escaped observation. It is certain that they are not bred here and I have never been able to learn that they breed in sufficient numbers in the north, to account for our late summer visitors. The water balsam blossoms evidently have great attractions for them, and in places where it grows their interesting ways can be studied to good advantage. Here they may be seen darting from one flower to another probing the depth of each

in search of the minute insects which form their food and perhaps at the same time obtaining a small quantity of honey of which they are undoubtedly fond, though it is the insects and not the honey, as is generally supposed which forms the essential part of their food.

#### INSECT NOTES.

Since writing of the Tussock moth last week, I have made some further investigations and I find that instead of being conquered this insect has gained a lot of ground, and is now spreading out from the city of Toronto into the surrounding country very rapidly. For several miles easterly and north-easterly from the city there is scarcely a clump of trees or a board fence on which cocoons with the eggs of this pest cannot be found, and but very few, not one per cent., were parasitized. If therefore, any check is to be put upon the increase of this moth before it gets beyond control it should be done this autumn and winter. The cocoons with the eggs attached are plainly visible and can be readily gathered from the trees and fences, this should be done carefully before cold weather sets in, or the damage next year to our shade and fruit trees will be very serious.

#### The American Corn Crop.

The thing speculators are somewhat in doubt about at the moment, is what the total yield of the American corn crop for 1901 will be. Of course there will be a shortage, but what the full amount of that shortage will be is not by any means certain. The year's planting of corn, according to official data, issued from Washington, is about 82,000,000 acres, and if there were a full crop the yield this year would equal 2,565,000,000 bushels.

On August the Dept. of Agriculture at Washington, estimated a crop approximating 1,385,000,000; but on Sept. 1, lowered this to 1,325,000,000, an average of about 16 bushels per acre. 1894 was the lowest average previous year, when the yield was 19.4 bushels per acre, or 2 per cent. more than the average for 1901.

The Price Current is inclined to doubt these official figures for 1901 and places the yield at about 1,740,000,000 bushels, basing its figures on the fact that while a portion of the area has not maintained the condition of a month ago, the most of the corn area has been favored with all that could be desired in maintaining and possibly bettering the situation. The corn supply in the United States on hand this season of prior production, represents about 200,000,000 bushels more than in 1894, at the same period, so as compared with that year, the total corn for use this season will approximate the total yield then.



## Ideal Farm Homes

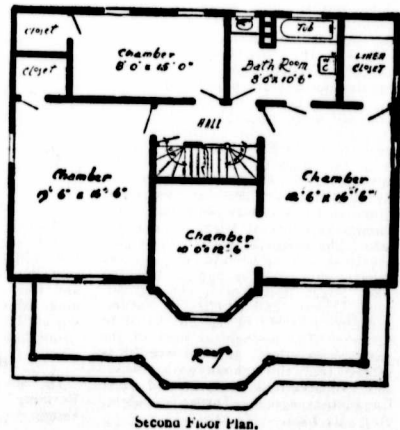
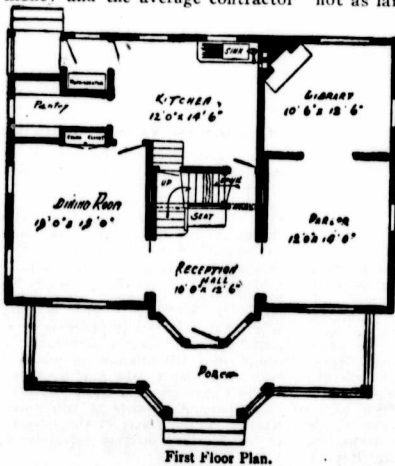
Design number 26 gives you a house of eight rooms, besides a reception hall, bath, closets, pantry, etc. There are four rooms down stairs, besides the reception hall, and four up, not counting the bath. These rooms are good size and mostly square. The front view, as shown in the perspective, shows a very pretentious building, and at the same time a house of this kind can be built for about \$1800, or we will say \$2000, complete. This would pay for the plumbing, which is not always counted in our plans and would also pay for the mantels.

It is surprising to the amateur in house building that so much of a house can be built for so little money and the average contractor

sometimes talks against the stock plan being built for what we claim it can, but the figures we give have been borne out a good many times by actual building, therefore, we have no hesitancy in saying that if our plans and specifications are followed to the letter, the houses can be built for about the figures we state. This house could be used as a nucleus for a large house if a person wanted to at some future time, put on an ell and build more rooms. As a rule, however, we advocate a person employing the services of an architect, if he wants to build a very expensive house, or a very large house, for the reason that the houses we plan are mostly of moderate price, and therefore are not as large as many people would

like. Our idea is more to sell plans and specifications to the people of moderate means, who want to build a house for a small amount of money, than it is to advertise to the people who would naturally employ the services of an architect.

In size this house is 38 feet wide and 26 feet long, exclusive of porches. The blue prints consist of cellar and foundation plan; first and second floor plans; front, rear and two side elevations; wall sections, and all necessary interior details. The price of same, together with a complete set of typewritten specifications, is \$4.50, and they can be had at the office of The Farming World.

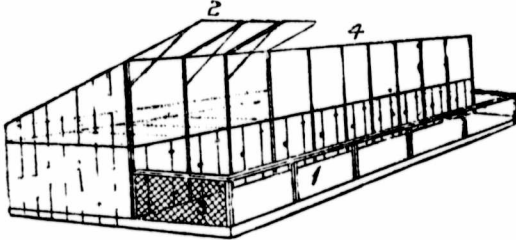




## A Cheap and Useful Pig Pen

We give below the plan of a simple, cheap and useful pig-pen, which might be built on any farm at little cost. One of the chief faults with most of the pens on the average farm is that they are hard to keep clean, are dark and gloomy and without sufficient sunlight. The beauty of this plan given here is that it allows for plenty of sunlight, which is conducive to good health and the best sanitary conditions. By having lots of sunlight in the pig-pen it will not have

use anywhere, which are original with me. I have given it a two years' trial, and it is pronounced by all who see it as the best in use. In building a pig-pen we should try to shut out every bit of wet and cold, but we want all the sun and ventilation we can get. I have succeeded in getting all of these qualities in my pig-pen. (1) The pen must have a floor, and it must be off the ground a sufficient height to keep it dry, or it will rot out in a short time. (2)



so much of that filthy, foul smell so characteristic of piggeries. In describing this pen in detail we can not do better than give the inventor's own words:

"There are many young men beginning on a farm every year and I believe some of them would like to know how to build a model pig-pen cheaply, where means are not over plentiful. I have built just that kind of a house and I pride myself on having the best house for the money I ever saw. It has some new features that I never saw in

any other. I have given it a two years' trial, and it is pronounced by all who see it as the best in use. In building a pig-pen we should try to shut out every bit of wet and cold, but we want all the sun and ventilation we can get. I have succeeded in getting all of these qualities in my pig-pen. (1) The pen must have a floor, and it must be off the ground a sufficient height to keep it dry, or it will rot out in a short time. (2) We must have the front so as to get the sun. The sun is the life of the little pigs. To get this the house must be built so the sun can shine into and all over each stall the greater part of the day. This can only be accomplished (in my estimation) by having the upper three and a half feet of each stall open for sun and ventilation. But we cannot keep them open at all times, hence I have provided each stall with a light door 3½ ft. x 5 ft. I made mine of weather-boards. These doors are hung on T

hinges at the top, just under the projecting roof, and are kept open in fair weather by means of a large wooden hook fastened to a roof, but can all be closed at night or in stormy weather. This makes it rainproof, as the front or bottom of each stall (3½ ft. high) is enclosed with tight boards and doors, and when the top door is closed down it laps over one and a half inch, so the drip will fall on outside of stall on leading floor. This floor must have fall or slope enough to drain—about 2 in. to 8 ft. I made my stalls 5 ft. x 8 ft. The partitions, which are 3½ ft. high, I made of "split" and shaved pickets 3 in. wide and ½ in. thick, 1½ in. apart; thus I get thorough ventilation. When you want the pigs to exercise turn them out on the feeding floor.

Reference to plan:—1, place to exercise the young pigs; 2, upper doors open; 3, fence; 4, upper doors closed.

They sawed off his arms and his legs,

They took out his jugular vein;

They put fancy frills on his lungs,

And they deftly extracted his brain.

'Twas a triumph of surgical skill

Such as never was heard of till then;

'Twas the subject of lectures before Conventions of medical men.

The news of this wonderful thing Was heralded far and wide;

But as for the patient there's nothing to say,

Except, of course, that he died.

—Dietic and Hygienic Magazine.

## What the Press Think of It

### An Admirable Production.

The annual autumn number of *The Farming World* was issued yesterday, and is certainly worthy of the important interests it represents, that of organized agriculture in Canada. Its chief feature is a series of articles from official sources dealing with the progress and development of agriculture in the Provinces and Territories of the Dominion, and what the various local Governments are doing to assist the farmer in making his business more profitable. Two valuable articles are contributed by Prof. Robertson and F. W. Hodson, dealing with the markets for Canadian fruit products and live stock conditions in Great Britain. There are two well illustrated articles showing what Canada is doing at Glasgow and Buffalo. The editorial matter is bright, practical and up-to-date, and all the departments of the paper, including *The Sugar Beet World*, *The Agricultural Gazette and Studies in Nature*, contain matter of special value to farmers. The mechanical part of the paper is excellent, and the number is interspersed throughout with numerous illustrations of farm and other Canadian scenes.—*Toronto Globe*, Aug. 31, 1901.

### A Creditable One.

The annual autumn number of *The Farming World*, just issued, is a very creditable one, both in mechanical make-up and letterpress. A unique and valuable feature of the number is a series of articles dealing with organized agriculture in the several Provinces of the Dominion. Perhaps no one volume yet published contains within its pages such important official data, relating to the progress and development of agriculture in all parts of the Dominion, as is contained in this number. It should certainly prove of great value as a source of reference to parties interested in promoting advanced agriculture in Canada.—*Toronto World*, Aug. 31, 1901.

### A Fine Specimen.

The current number of *The Farming World* is a special or exhibition number, and it is a fine specimen. It contains eighty odd pages of matter and illustrations of interest to every man who farms, gardens or raises stock. It covers a wide field.—*Hamilton Times*.

### Best Yet Published.

The annual autumn number of *The Farming World* is one of the best things yet published in the line of

agricultural journalism. It contains 80 pages of well illustrated and valuable reading matter. The cover is designed to represent agriculture as the all important industry of the Dominion. The special feature of the number is a series of articles from official sources dealing with agricultural progress and what the various local Governments are doing to make the farmers' business profitable.—*St. John Globe*, Sept. 6, 1901.

### Of the Greatest Value to Agriculture.

*The Farming World* has issued an excellent annual autumn number, "representing organized agriculture in the Dominion of Canada." It is a most comprehensive publication and of the greatest value to any who desire to become better acquainted with the extent of the agricultural resources of the country. It is well worth being preserved as a handy book of reference. *The Farming World* has made great progress in recent months, and is admirably accomplishing the mission on which it was sent out to the reading public. Its editorial work is being especially well done. An article in this special number on the result of the census is of particular interest.—*Sentinel-Review*, Woodstock.

# The Sugar Beet World

Devoted to Sugar Beet Culture in Canada and Allied Industries. Specially  
Representing the Farmers' Interests

Edited by JAMES FOWLER

## ONTARIO BEET SUGAR ASSOCIATION. OFFICERS FOR 1901.

President, John Parry, Dunnville; First Vice-President, J. M. Shuttleworth, Brantford; Second Vice-President, B. B. Freeman, Warton; Third Vice-President, T. A. Smith, Chatham; Fourth Vice-President, W. S. Caron, Aylmer; Secretary-Treasurer, D. H. Price, Aylmer; Solicitor, N. E. Gash, Toronto.

### EXECUTIVE COMMITTEE.

E. R. Blow, Whitby; Charles Kelly, Uxbridge; S. A. Perry, Warton; T. Elliott, Brantford; Ald. Farnell, London; Hugh Blain, Toronto; T. A. G. Gordon, Aylmer; F. G. Ramsay, Dunnville; D. A. Jones, Beeton; J. H. Glover, Aylmer; John A. Auld, M.P.P., Amherstburg; Charles Cain, Newmarket; J. R. McCallum, Welland; E. W. Stewart, Mount Forest; George E. Bristol, Hamilton; Howard Annis, Whitby.



## Wallaceburg.

The Wallaceburg papers say, there is now some doubt about the sugar factory being built on account of the apathy shown by the farmers in signing acreage contracts. The larger portion of stock is held by American capitalists, who are becoming discouraged over the prospect of getting a full supply of beets and talk of building elsewhere. The contractor and engineer have been on the ground but no further preparations have been made to go on with the work.

## Sugar Beetlets.

The time of harvesting is governed by the time of the ripening of the beets.

If you have a few acres of beets it will pay you to get a beet pulling implement.

An experienced eye soon learns to detect a field of ripe beets that is ready for harvesting.

Get your land ready for next season's crop, do not use the same piece of ground twice for beets.

A thorough test of the growing of beets may result in the establishment of a factory in your vicinity.

If there is to be a factory in your vicinity next year, do not hesitate to encourage it by contracting for a few acres.

An implement has recently been invented that tops and pulls the beets, it will be a great labor saver if successful.

The ripening is made apparent by the outside leaves of the plant taking on a yellow tinge and drooping to the ground.

If no experiments have been made in your section in the raising of sugar beets for factory purposes, organize and try it thoroughly. You cannot afford to neglect it.

Whole crops have been known to have been almost entirely lost by second growth. If your beets are under contract and are ripe get rid of them as soon as possible.

If you have grown beets this year, continue it another year. You know how much money there is in the crop and you can handle it better after one season's experience.

If the beets are ripe, look out for rain, as the effect of rain, followed by warm weather, will start the beets growing again, and the sugar content goes down very rapidly with the second growth of the beets.

## Ontario Sugar Co.

Messrs. Hugh Blain, S. H. James Jno. Flett, M. McLaughlin, and M. B. Gash, of Toronto, representing the Ontario Sugar Co., accompanied by Mr. Baum, engineer of the Oxnard Construction Co., New York; Mr. Penoyer, of Saginaw, Mich., and Prof. Shuttleworth, of the Ontario Agricultural College, Guelph, have been making a tour of inspection with a view to finding the best possible location for their sugar factory. Guelph, Galt, Berlin, Waterloo and Whitby, have so far been looked over and several other points are on the cards for investigation. The Ontario Sugar Co., are determined there shall be no mistake made in the location of their plant and are making a careful study of the following conditions: 1st. Character and nature of the soil for the growing of beets. 2nd. The condition of the farmer and their willingness to grow the beets. 3rd. Water supply and drainage which must be perfect. 4th. Railway facilities for the handling of the beets and the distribution of the finished product. 5th. The quality and cost of limestone and fuel. 6th. The available site, 100 acres being required.

All these different points will be thoroughly gone into and stumped up by this committee and reported to the directors of the company before a decision is finally made.

## Galt.

During the week Galt has been visited by a committee representing the Ontario Sugar Co., of Toronto, and by Mr. G. C. McMullen, representing himself and a New York party, with a view to the establishment of a sugar factory in that town. Both parties are highly pleased with the outlook, and Galt people are satisfied that the outcome will be a factory for next year.

The farmer is the one most directly benefited by the establishment of a sugar factory.

## Warton Sugar Factory.

Construction on the new beet sugar factory will commence at once, a Montreal syndicate having become interested to the extent of \$150,000. The contract for the buildings and plant has been given out to the Colonial Construction Co., of Montreal. The factory is to be large enough for 700 tons, but it is to be of only 350 tons' capacity per day for the first year or two. All the fixed machinery, however, is to be put in with a 700-ton capacity.

The contract price for the factory, buildings and plant is \$350,000, and the foundation is to be laid as soon as the plans and specifications can be prepared. The plant and structural steel work will be shipped in during the winter. The building will probably be of stone from the company's own quarries.

## Whitby

The town of Whitby seems to be a splendid location for a sugar factory. The following advantages are set forth by the Board of Trade of that town as inducements for the building of a plant in that town.

1. The Government tests now being conducted throughout the territory tributary to Whitby prove pretty conclusively that the soil is well suited for the successful cultivation of sugar beets.

2. The farmers show a disposition to take hold of the sugar beet question in a way that warrants the belief there will be no difficulty on the score of the quantity they will produce.

3. Lake Ontario will supply all the water required. The quality is excellent, drainage is easily obtained.

4. For assembling beets we have the Grand Trunk main line east and west, and the Northern Division through Ontario County, and to Lindsay and Peterboro, as well as the lines north from Peterboro Junction through York County to

Lake Simcoe. The magnificent harbor here affords all the advantages of 14 feet navigation on Lake Ontario by which means beets might most economically be brought from as far east as Belleville, and all along the shore of the lake, from there westerly to Hamilton and mouth of the Niagara River.

Probably before a factory could be erected we would have C. P. R. connection completed by a trolley line to Myrtle for which the Whitby Railway and Park Co., have a charter and are moving in the matter of an early establishment.

The facilities for transportation by railway and water will answer admirably also for distribution of the finished article. Double tracking and other improvements now under way between here and Toronto will reduce the running time between Whitby and Toronto to 30 minutes. No other point possessing such attraction to capital for investment in this new industry is so near Toronto as Whitby.

5. There are splendid limestone quarries in Ontario County on our Northern railway and we have the lake to bring us at the lowest possible cost, limestone from Kingston, Hamilton and along the Welland Canal.

6. Coal is as cheap as anywhere in this part of Canada because of the low water freight.

7. A free site and exemption from taxes are recommended by the board.

### Swamp Land Good for Beets.

The sugar beet crop raised on 10,000 acres of reclaimed swamp land in the marshes of the Kankakee river near Shelby, Ind., the property of the Lake Agricultural company, of which W. R. Shelby, vice-president of the Grand Rapids & Indiana railway, is the heaviest stockholder, 30,000 tons are now estimated at. Owing to the delay of Chicago parties in financing the matter of erecting a sugar factory to work the crop, this year's yield will be taken to the factory at Benton Harbor.

That this great tract of land, which lies just south of the Michigan line is capable of raising good sugar beets is not alone shown by the large amount raised but by the chemical tests which have recently been made. A number of beets selected at random showed 14 per cent. sugar and 85 per cent. purity.

It is believed by Mr. Shelby that this former swamp land is an ideal place for the culture of sugar beets. It was formerly the bottom of a lake and the soil is a black loam with just enough sand in it to make it peculiarly adapted for the purpose. It is very fertile as it represents the alluvial deposits of ages.

You can make no mistake if you grow beets, providing you give them proper attention.

### Michigan.

We have had three years' experience in growing sugar beets for a factory in this part of Michigan, and with an almost complete failure of all crops in '99, when the beets only averaged about 7 tons per acre in the State, and many farmers got discouraged with the new crop, they reluctantly tried it again in 1900, and again dry weather seriously retarded the crop, so it only averaged about 10 tons per acre, but the per centage of sugar was about 15, so the beets brought between \$5 and \$5.50 per ton, and on the whole averaged over \$50 per acre; thus a reaction set in, and for 1901 many more farmers tried it and on a larger scale, and for this harvest we have a promise of a largely increased tonnage, and the prospects seem to be that the average may be doubled the next time. Already all the factories are talking of beginning to write contracts for the crop of 1902, and many are ready to sign, with a large acreage already being cultivated to keep the weeds down and soil fine, preparatory to late and deep fall plowing.

There will be 12 factories making sugar in Michigan this fall, and many more in 1902, several of them already incorporated, and building contracts let.

We have one being planned in connection with River Bluffs, in which excavating will be done and cold storage installed to receive the crop as fast as harvested and keep the factory running for a longer period. Many farmers will not try to cultivate so many acres of other crops, and thus have more time to attend more carefully to the beet crop, realizing that it is a crop that pays for all the labor expended on it, and that there is a very great difference between the field that is not half cared for, as compared with one that receives the best of care.

A field that is buried with weeds shows a big comparison with one that shows only beets, and is one sea of clean beet leaves.

One of the farmers wins a reputation as a careful, painstaking, thorough man, the other as—(we'd rather not write it.) we wish there were more of the former and none of the latter.

—Thissell.

### U. S. Estimates

As one acre of beets will yield from 2,000 to 3,000 pounds of sugar, the thorough culture of 1,600,000 acres will be required to produce the sugar we need for home consumption. As it is calculated that the cost of raising an acre of beets is \$25, the production of our own sugar would necessitate paying out for labor the sum of \$40,000,000 in day wages to laborers. Again, 300 factories employing 600 men each, or 150,000 workers in all, would be required to manufacture these 1,600,000 acres of beets into granulated sugar. These 600 workers at an average wage

of \$1.75 would receive \$262,500 for their services per day, or \$24,000,000 for a campaign of 130 days. This would give a total of say \$75,000,000 paid out in wages in field and factory if we were producing what sugar we use. If, then we figure wages paid workers in quarry, machine shop, on transportation lines and elsewhere for services due to the existence of beet culture sufficiently ample to supply our own sugar at home, the bill would easily foot up \$100,000,000.

### Whole Tract Ready for the Plow.

In reply to the question as to whether there would be any more dredge work done for the purpose of reclaiming more of the swamp land, Mr. Shelby said that there was no more of their land to drain and that the entire 12,000 acres are ready for the plow.

The company has an option on 8,000 more acres adjoining its present tract and if it desires to buy it, the entire farm will be one of the largest in the country devoted to the culture of sugar beets.—Sugar Beet.

### A Yarn.

The following hot weather story is taken from the Jacksonville, (Fla.) Times-Union and Citizen and may be good reading these dry times: "Capitalists claim they are perfecting plans to erect at Battle Creek, Mich., a factory to make refined table sugar from maize. This is something never yet accomplished in a large way, although experiments have been conducted for many years. 'A company at St. Louis,' said C. W. Post in a newspaper report, has been for a year quietly making sugar from corn and refining, under patented process, a very high grade sugar. The whole secret is, if the ears are plucked off early in their growth, the stalks will yield a paying quantity of sugar. But if the ears are left to ripen they will absorb so much of the sugar and convert it into starch in the grain that the sugar making will not be profitable."—Gazette.

E. H. DYER & CO.

Builders of

SUGAR MACHINERY

Cleveland, Ohio

Will contract to build complete beet sugar plants, including all machinery and buildings; also furnish the necessary technical and skilled help to operate them.

## Beet Sugar Industry at the Pan-American Exposition.

The United States Department of Agriculture, through the Bureau of Chemistry, prepared a beet sugar exhibit at the Pan-American Exposition, which is described by E. E. Ewell, in a pamphlet prepared under the direction of Harvey W. Wiley, chief of the bureau, in the words given below. Visitors of the Exposition will do well to have this description at hand when inspecting the exhibit to which it refers:

The Department of Agriculture, through the Division of Chemistry, which July 1 was raised to the rank of a bureau, has been endeavoring to develop our domestic sugar industry for more than two decades. During the last ten years its efforts have been devoted principally to the development of the beet sugar industry. Since 1897 this industry has grown rapidly and may now be considered to be on a permanent footing, as approximately \$25,000,000 are invested in the manufacture of beet sugar in this country. This does not include the large amount of capital invested in the growing of sugar beets.

The development and present condition of the industry in the United States is shown by a collection of statistical tables and photographs mounted in "wing frames." An effort was made in preparing the collection of photographs to illustrate as fully as possible all phases of the sugar industry from the production of the seed from which the beets are grown to the marketing of the sugar.

The modern sugar beet of high sugar content has been developed, and its present high quality has been maintained by careful selection of the mother beets, from which seed is produced. At the beginning of the century the sugar beet contained only 5 to 6 per cent. of sugar. The beets delivered to American factories in 1899 contained an average of 14.5 per cent. of sugar, while the average of those grown in California was 15.9. Many single beets have been produced which contained more than 20 per cent. of sugar, and the product of some entire fields has been found to contain nearly that amount. Until recently the seeds used for sugar beet growing in the United States have been imported from the seed farms of Europe. The production of high-grade beet seed has now commenced in this country and a sample of seeds grown by the Utah Sugar Company of Lehi, Utah, is exhibited. The production of sugar beet seed has also been undertaken by the Spreckels Sugar Company, Spreckels, Cal., the Peninsular Sugar Refining Co., at Caro, Mich., and perhaps elsewhere.

### GROWING AND MARKETING SUGAR BEETS.

In case No. 7 a map is exhibited which shows the areas in the United States probably suited to sugar beet culture. This map was pub-

lished with the reports of experiments with sugar beets made by the Division of Chemistry of the United States Department of Agriculture in 1897. Since that time twenty additional factories have been built and operated; eight more are in process of construction for the crop of 1901. All of these factories are located in or adjacent to the areas indicated on the map as probably suited to sugar beet culture because of their favorable mean summer temperature. Subsequent experiments do not suggest, in general, that any material changes should be made in the areas indicated on this map as probably suited to sugar beet culture. The Bureau of Chemistry is indebted to the Weather Bureau for valuable co-operation in the preparation of this map.

Unless the factory provides ample facilities for quickly weighing and unloading a large number of wagonloads of beets, the expense of delivering sugar beets to the factory is materially increased. Some of the methods employed for transferring sugar beets from wagons to cars or from wagons to the storage bins of the factory are shown on pls. 15 and 16 of the exhibit. The net method or some form of the tilting platform is very much used in various parts of the country. The net method is now very generally used on the Pacific Coast. The net is placed in the bottom of the wagon and the beets loaded on top of it. When the wagon arrives at the factory or other unloading point, a rope is attached to the net, and by means of a horse or other power the beets are quickly transferred to the car or storage bin.

### SUBSTANTIAL CONSTRUCTION OF AMERICAN FACTORIES.

The confidence of investors in the continued success of the industry is shown by the substantial character of the buildings which have been erected for the housing of the machinery used for the manufacture of beet sugar in this country. Pls. 17 to 20 of the exhibit give an excellent idea of some of the typical forms of construction which have been adopted for this purpose.

### STORAGE OF THE BEETS.

The factory must provide storage for many thousand tons of sugar beets. The device generally used is a shed or open bin with a trough shaped floor along the bottom of which there extends a canal made of metal or masonry, which reaches from the storage place to the factory. This canal or sluiceway is covered with boards before the bins are filled with beets. When it is desired to transfer the beets from a given shed to the factory, these boards are pulled up one at a time and the beets allowed to fall into the canal, where they are caught up by a constantly flowing current of water and carried into the factory.

### WASHING, WEIGHING AND SLICING THE BEETS.

A large part of the adhering soil is removed during the hydraulic transportation of the beets, but in order to make the washing operation perfect the beets are passed through a special washing machine on their way to the slicing apparatus. In the modern factory the washed beets are weighed by an automatic scale, from which the superintendent or factory proprietor can learn at any moment the quantity of beets entering the factory during a given period, and compare it with the yield of sugar obtained, and the richness of the beets as shown by the chemist's report. After the beets have been weighed they fall into a slicer, where they are cut into small slices, having a V-shaped cross section by means of corrugated knives radially placed on a revolving disk. The storage sheds and the washing, weighing and slicing machines are shown on pls. 21 and 22 of the exhibit.

### EXTRACTION OF THE SUGAR FROM THE BEETS.

The extraction of the sugar from the sugar beet by means of pressure has given place to the more advantageous and more modern "diffusion process." This operation is conducted in a series of from 12 to 14 closed metal tanks connected by an elaborate system of pipes and valves, known in the sugar factory as the "diffusion battery." Each tank or "cell" in the battery holds one or more tons of beets, according to the capacity of the factory. The operation of the "battery" is as follows:

A cell is filled with slices of beets and the top door closed. Hot water is then admitted at the bottom until all of the space not occupied by the slices is filled with water. While the water is flowing into the first cell a second cell is being filled with beet slices, and as soon as this second cell is filled the conveyor which brings the slices to the "battery" is adjusted to deliver them into a third cell, and so on, the current of slices being diverted to an empty cell as soon as one is filled. When the first cell is filled with liquid it is allowed to flow into cell No. 2, and through it into cells Nos. 3, 4, etc., as fast as they are filled with beets, and closed. The liquid flows from cell to cell through the system of piping referred to above, the current of water continuously entering cell No. 1. This is continued until all but two of the cells of the battery are filled. The manipulation is then varied by drawing liquid from the cell last filled with slices and liquid, into a measuring tank before the current of liquid is turned into the next cell of fresh slices. This portion of hot water has passed through ten or twelve portions of fresh beet slices, has approximately eight-tenths the density of the juice originally contained in the beets, and is called "diffusion juice." The sugar is extracted from the beets partially by a process of displacement of the juice by

hot water, but largely by the process of diffusion, the sugar diffusing from the slices into the liquid which surrounds them. The beet slices contained in the cell which was first filled have now been washed with ten or twelve successive portions of water, and contain less than one-half of 1 per cent. of sugar. This cell is therefore emptied in order to make room for more fresh slices. The process is continuous. Each time a cell is filled with fresh beet slices and juice, and a portion of diffusion juice drawn off, the cell at the opposite end of the line contains exhausted slices and is emptied.

The cells of a "diffusion battery" are sometimes arranged in a straight line and sometimes in a circle.

#### PURIFICATION OF THE JUICE

The "diffusion juice" is submitted to an elaborate process of purification before it is in a condition suitable for evaporation for the recovery of the sugar contained in it. Lime and carbon dioxide (carbonic acid gas) are the agents principally employed for this purpose. They are both obtained from a lime kiln, which is kept continuously in operation. The kiln is charged with coke and limestone at the top and the burnt lime is withdrawn at the bottom. Carbon dioxide is formed in large quantities in the kiln, both by the combustion of the coke and by the decomposition of the limestone. It is withdrawn at the top of the kiln by means of pumps, and forced through the juice contained in the "carbonation tanks". The process of purification includes five filtrations and two successive treatments with lime and carbon dioxide. The juice coming from the battery is passed through coarse filters for the purpose of removing small fragments of beet pulp. It is then treated with a large excess of lime (2 to 3 per cent. of the weight of the beets worked), and carbon dioxide then forced through the hot juice until the lime which has not already been rendered insoluble by combination with organic acids and other impurities in the juice is precipitated as carbonate of lime. The "carbonated" juice is very turbid, and is pumped through filter presses, which remove the insoluble matter suspended in it. This insoluble matter consists of carbonate of lime, lime compounds formed with the impurities contained in the juice, proteid bodies rendered insoluble by the heat, etc. The clear juice is again treated with lime and carbon dioxide, and again filtered. The clear juice coming from the second "carbonation" is then bleached with sulphurous acid, applied in the form of the fumes of burning sulphur. The bleached juice, after being again filtered, is ready for the evaporator.

#### EVAPORATION OF THE JUICE TO SYRUP.

The juice, after having been purified by the method described, is evaporated to a syrup containing about 50 per cent. of water and 50 per cent. of solid matter. The solid matter is made up of 40 to

45 per cent. of sugar and 5 to 10 per cent. of organic and inorganic substances other than sugar, which to a greater or less extent, prevent the crystallization of the sugar.

In the modern sugar factories the juice is evaporated in multiple-effect vacuum evaporators heated by steam. These evaporators consist of from two to four closed evaporating pans which are heated by steam which circulates through copper pipes arranged in the lower part of the first pan. They are called "Multiple effect" because more than one effect of a given portion of steam is obtained. For example, exhausted steam from the pumps and engines or steam drawn directly from the boilers is used to heat the first pan. The steam generated by the boiling juice in this pan is collected, and used to heat the second pan. The vapor of the second pan is in turn used to heat the third pan. In the case of a quadruple-effect evaporator the vapor in the third pan is used to heat a fourth pan. The vapor from the last pan is conveyed to a condensing apparatus in which it meets a spray of cold water, which condenses the vapor to form water.

Air leaking into the apparatus and non-condensable vapor are removed from the condenser by means of a vacuum pump, which is kept constantly in action. The juice in the first pan boils at approximately the atmospheric pressure. The pressure in the following pans is successively reduced from pan to pan, the liquid in the last pan boiling in as nearly a complete vacuum as is practicable. Evaporators of this type are called "double," "triple" or "quadruple effects" accordingly as there are two, three, or four pans. The operation of the evaporators is continuous. The juice is pumped into the first pan while the finished syrup is pumped out of the last pan in a continuous stream.

It is the practice in most modern factories to filter the syrup after it comes from the evaporator, as more or less insoluble matter separates from the juice during the process of evaporation.

#### GRANULATION OF THE SYRUP

The filtered syrup is granulated in a vacuum apparatus which the sugar maker calls a "strike-pan." The appearance of the granulating pan is shown on pl. 32 of the exhibit.

The operation of the vacuum pan

is one of the several processes conducted in the beet sugar factory that requires a great amount of skill. The pan is heated by several tiers of copper coils so connected that steam can be admitted to any one of them at the will of the operator. Syrup is drawn into the pan and concentrated until the pan is from one-fourth to one-third filled with a liquid of such density that when a fresh charge of cool syrup enters a large number of small crystals of sugar is formed.

The boiling is then continued in such a manner that these crystals continue to grow in size until the entire pan is filled with a thick mass of crystals of sugar and molasses. The number of crystals formed at the beginning of the boiling determines the size of the crystals, or the "grain" of the finished product. When the operation is skillfully conducted no additional crystals, of "false grain," as it is called, are allowed to form after the original quantity of "grain" which the sugar boiler considers the proper amount has been formed. The coarse and fine granulated sugars found in the market are due to the manner in which the boiling is conducted and not to any subsequent crushing or grinding operation.

#### SEPARATION OF THE SUGAR FROM THE MOLASSES

The finished product of the vacuum pan is known in the sugar house as "massecuite," and is separated into molasses and sugar by means of centrifugal machines. These machines consist essentially of a cylinder having walls of fine wire cloth and attached to a vertical shaft in such a way that they can be made to revolve at a speed of from 1,200 to 1,500 revolutions per minute. Small portions of the "massecuite" are placed in these machines which are then rotated at the rapid rate named. The centrifugal force causes the molasses to pass through the mass of sugar and the screen, while the crystals are retained thereon. Any adhering molasses is removed from the crystals of sugar by means of a spray of water, to which a small portion of ultramarine blue (a harmless coloring matter) is added to correct the yellow tint which the sugar would otherwise have. The construction and outer appearance of the centrifugal machines may be seen by inspecting the photographs of pl. 33 of the exhibit. —Beet Sugar Gazette.

## The Kilby Manufacturing Co.

### Founders and Machinists

Corner Lake and  
Kirtland Streets,

**CLEVELAND, OHIO**

New York Office:  
220 Broadway.

**Builders of Complete Machinery for Beet, Cane and Glucose  
Sugar Houses and Refineries.**



# The Agricultural Gazette

The Official Bulletin of the Dominion Cattle, Sheep and Swine Breeders' Association, 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, \$2.  
BENEFITS OF MEMBERSHIP.

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

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

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

The name and address of each member, and the stock he has for sale are published once a month. Over 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 profitable 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 the issue. The data will be published in the most condensed form.

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

### 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 Association, 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.

Boy wanted 14 to 16 years of age to work on farm, milk and do chores around house. Family of three. Apply stating age, wages and experience. Address M. N. Overholt, Rainham Centre. a.

Two first-class milkers wanted on a farm near Toronto. Good wages, steady employment, with comfortable quarters. Applicants must be single. No. 948. a.

Wanted in Kent County, a man who is careful and competent, to do all kind of farm work. Good wages and steady employment to suitable person. Address, Jos. Hawley, Mull, Ont. b.

Wanted, married man to work a 100 acre farm, good, reliable, honest, trustworthy man, who understands general farming, feeding and care of stock, a good milkman and capable of taking temporary management. Good comfortable house with stone cellar provided, large garden and other privileges given. Three-quarters of a mile from school, post-office and Catholic church. Permanent position. No. 852. b.

### Situations Wanted.

A position wanted in a Christian farm home as mother's help. A

true home being object most desired. Strong, active, cheerful. Would go to Manitoba or North-West, No. 949. a.

A situation as housekeeper on a farm by a competent woman, references exchanged. Address Mrs. E. Ross, Walkerton. a.

Position wanted between Simcoe and Toronto if possible, by a good, honest, steady man, who can do all kinds of farm work. Address, Alf. Sheppard, Springvale, Ont. b.

Position wanted by first-class young married man, to manage small farm. Address, Smith Woodhouse, Galt, Ont. b.

Position wanted by a man 34 years of age, who has a wife and one child 4 years old, has been foreman on a farm for past two years, his wife having charge of the dairy. Address, B. A. Bisbee, Saltford, Ont. b.

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

### Meeting of Sheep Breeders.

The Committee from the Sheep Breeders' Association, appointed to prepare model classifications for sheep at the fall fairs, met in the live stock tent on the Exhibition grounds on Thursday morning, September 5th. The following classification was recommended:

Section 1.—Ram, 2 shears and over.

Section 2.—Shearling ram.

Section 3.—Ram lamb.

Section 4.—Shearling ewe.

Section 5.—Ewe lamb.

Section 6.—Pen; ram lamb and 3 ewe lambs, all bred by exhibitor.

Section 7.—Pen; ram, any age; 2 shearling ewes and 2 ewe lambs.

Section 8.—Pen; Canadian bred, not to be shown in section 7; ram, any age; 2 shearling ewes, 2 ewe lambs, bred and owned by exhibitor.

It was also recommended that the above classification be used by county and township fairs, as far as the money at the disposal of these fairs would permit.

### 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. He 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 the Superintendent he will be put in direct communication with the Institute that has carried on the work.

G. C. CREELMAN,  
Superintendent Farmers' Institutes.

### Cold Storage and the Transportation and Marketing of our Perishable Products.

BY G. C. CASTON, CRAIGHURST.

(Continued from last week.)

The ice chamber and refrigerator room have slatted floors, under which there is a cold air flue running from under the ice through which the cold air flows and comes up through the products stored in refrigerator room. As the air gets warmer it rises to top of room and passes up through the warm air flue as indicated by the arrows, and passes into the ice chamber. It is there cooled, as it circulates through the ice again. Any effluvia or gasses given off by the products are absorbed by the ice. The moisture of the air is also absorbed and carried off by the trapped drain, at the bottom, and the air flows into the refrigerator room rid of the moisture, rid of the gasses, and the current is cold, dry and pure. Thus the necessary conditions are present for the preservation for a long period of perishable products.

Cost of Building. The cost of one of these houses with a capacity of about a carload of products would vary according to price of lumber in a locality, but would be somewhere about \$200 to \$250. The lumber must be good and sound and a large part of it dressed. The building must be carefully constructed, and all joints and doors must be made tight. One of these buildings might be jointly owned by a number of farmers, and in that case should be located on the nearest railway.

Government Aid. To encourage the co-operative shipping and marketing of perishable products by farmers the Legislature has appropriated a sum of money for the purpose. A number of farmers may form a company, simply by

filing a declaration with the Registrar of the county and the payment of a small fee. A very simple and inexpensive procedure indeed, and they become a joint stock company for cold storage purposes. The amount of bonus such a company would receive would be one-fifth of the cost of the building up to the limit of \$500, which is the maximum amount of bonus that will be paid. The conditions attached to the bonus are that the Department holds a lien on the building for five years to ensure that it is used for cold storage and for no other purpose, and that the buildings so bonused shall not be less than five miles apart. The company will make their own regulations for the management of the institution.

The Refrigerator Car. The next link in the chain is the refrigerator car, and in the Hanrahan car the same system is used as in the cold storage house. In the ordinary refrigerator car the ice boxes are in each end and there is no provision for the circulation of air. In the Hanrahan car the ice box is in the centre, with the cargo stored on both sides of it. As the air is warmed from the heat given off by the cargo, it rises and passes through the warm air flue to the ice box, where it immediately becomes cooled, passes down through the ice, and flows through the cold air flue and up through the slatted floor of car, cold and dry. Thus as the car proceeds on its journey the air is circulating round in each end of the car, down through the ice and out and up through the cargo like two hoops slowly revolving in opposite directions.

It Would Save Millions of Dollars. With these cold storage houses at convenient centres and reasonable rates of transportation and the proper conditions furnished by the transportation companies while in transit, there could be no doubt millions of dollars added to the wealth of the country every year. It is a great pity to see anything that is fit for food going to waste, when at the same time somewhere in the world, perhaps in our own Dominion, there are lots of people who would be glad to get this very article and pay a good price for it. All our agricultural products have cost labor to produce them, and nothing should be wasted.

Besides, there is a vast amount involved in the carrying of products to market in perfect condition. Take for instance, two packages of fruit of the same quality exactly alike. The one is carried to its destination in a refrigerator car such as I have been describing. The two packages are put on the market, one is in fresh, perfect condition, while the other shows signs of decay. The first is sold for the top price, while the

other is sold for whatever it will bring, perhaps less than half the price obtained for the first. Yet these two packages of fruit cost the same labor to produce, and they are each worth the same money when put up. The same will apply to all dairy products, eggs, dressed poultry and every article of a perishable nature that is produced on a farm.

While this subject of cold storage is a comparatively new one, and

we cannot speak of it to any great extent from the standpoint of practical experience, yet enough has been accomplished to show that it is all right; that there is money in it for the farmers of this country, and the sooner they become familiar with it the better. It is a live question to-day, and it may be the means of adding very largely to the wealth of the country.

## Farm Poultry

By Myton A. Gee, Fisherville

Every farm has its flock of chickens to furnish the family larder with fresh eggs for culinary purposes and chicken for stewing. The surplus goes farther towards meeting the running expenses of the household than the unthinking person gives them credit for.

The report of the Ontario Bureau of Industries for 1899 gives the number of fowl in Ontario at over nine and one-quarter millions, which, according to Prof. Gilbert, should earn a profit of one dollar per head. Add to this amount of fowl killed or sold one and one-quarter millions, making a total of ten and a half millions of dollars for fowl in our own Province no mean showing for the neglected, and many cases, down-trodden hen.

### SELECTING A FLOCK.

The vigor of farm poultry must be kept up in order to have profitable stock, as weak, inbred stock does not thrive or lay well. There is a mistake made in calling for extremely heavy weights in a breed. Select birds about the standard weight for the chosen breed, and get them thick-fleshed and solid. Avoid a knock-kneed or crooked-back bird, and a low comb is preferable in dressed birds. The active, alert hen is the layer. Select eggs from your best layers for hatching, and use pure breeds by all means, as they dress more uniformly, and will give best, all-round satisfaction.

### THE HOUSE.

A good poultry house has the following qualifications—warmth, dryness, brightness and cleanliness. Have a four-inch dead air space lathed and plastered, not too much glass, low ceilings, and all furniture moveable. Permanent fixtures are often lice harbors. A good house could be made cheap by 2x4 studding, lathed inside, ceiled outside of studs with cheap lumber; tar paper on two or three thicknesses, and side wall shingled; put paper on sheeting under shingles.

### CARE OF LAYING STOCK.

Give but little feed, and make them take lots of exercise. A very light mash of clover chaff, bran and oats ground fine, mixed stiff, is good in the morning, and it is readily assimilated by the fowl. Do not feed more than a quart to a dozen hens. Feed all grain in litter, and for non-give vegetables and meat in some

form. Boil odds and ends of butchering rather than feed to dogs. Keep them well supplied with grit and clean water. The secret of winter eggs is comfortable roosting quarters, meat and exercise. Young hens lay better than old ones, and some strains excel in egg production.

### CARE OF YOUNG CHICKS.

Hatch chicks as early as possible. The early ones catch the worm for either egg basket or market. Don't feed chicks until from twenty-four to thirty-six hours old. Then give them stale bread soaked in sweet milk and squeezed. The best feed we have ever used is cornmeal 1-3, bran 2-3, mixed stiff in milk, either skim or whole. Sour milk will not hurt after they are a week or ten days old. Don't let food stand. They will relish mashed potatoes, oatmeal, dry or cooked, for a change, and meat in some form. If they can't get green grass give them other vegetable food. Don't feed wheat. Keep them busy and growing. The whole secret of successful poultry raising is in the first six weeks' good, vigorous growing.

### MARKETING.

The market requires attention if best prices are to be obtained. Don't allow male birds with laying hens, as few people relish the idea of buying eggs with chickens in the shell. Have eggs clean and sorted for size and color. In every town and city in Ontario a person who can guarantee eggs fresh and sweet can command a premium from customers. The cities and tourist trade in northern Ontario would take more of these products if the proper quality was produced. It is astonishing to see the black-skinned stuff that is offered in the cities for sale.

### THE ENGLISH MARKET.

Would take ten million dollars' worth of dressed poultry every year. They want a fat, plump bird, four or five pounds weight, and nicely dressed. The Plymouth Rock or Wyandotte fills the bill very well. There is no immediate danger of overdoing the trade, if we only produce the right quality, and at the prices, pure bred stock can be obtained, there is no excuse for any person having mongrels.

### DISCUSSION.

Q. How do you make fattening crates

A Sixteen inches square, with stalls all round, top, bottom and sides, with V shaped trough to put feed in. Make compartments to hold four or five chickens.

Q. How do you keep lice down?

A. By having interior lathed and plastered, fixtures moveable, and use coal oil freely on roosts and nest boxes.

Q. Can you make as much per head out of two hundred hens as you can out of ninety?

A. Yes, if you give them plenty of room and exercise.

Q. What is the best breed of poultry for the farmer?

A. Wyandottes or Plymouth Rocks. If you want an egg breed, too, keep only hens of that breed, and they will lay only white eggs, and need not be hatched.

Q. Where could I get pure-bred birds of those breeds?

A. The Canadian Agricultural Press contains advertisements of reliable breeders who would supply you.

Q. What breed and weight suit the English market best?

A. Rocks or Wyandottes; and four pounds is the best weight, but must be plump. Indian Game or Dorkings are the best carcasses, but the latter breed is tender and the former are poor layers.

Q. Is the cramming machine necessary to fatten them?

A. No. If you have pure-bred fowls you can fatten them without it. It is a waste of feed to try and fatten scrub fowls.

Q. What do you feed to fatten them and how?

A. Feed finely-ground corn, oats and buckwheat; two parts corn and one part oats and two of buckwheat by weight, with hulls sifted out. Mix soft with skim or buttermilk, and feed them either in crates or confined for two or three weeks.

Q. What is the most profitable breed of ducks?

A. Pekins.

Q. What care should breeding ducks get?

A. Don't overfeed. Give laying ducks oat chop and bran and add ten per cent. meat scraps if you want early eggs. Hatch ducklings as early as possible.

Q. How should young ducks be fed and when marketed?

A. Feed them heavily on oatmeal and shorts and milk, and force till two months old; market them when they will weigh from four to five pounds each. Early hatched ones pay the best, as they command a higher price.

Q. Are young ducks liable to lice?

A. No, but they must be provided with shade, or the sun will kill them.

Q. How do you keep your hen-house free of lice?

A. I spray the hen-house with the common little hand potato sprayer, with a mixture of coal oil and carbolic acid. A desert spoonful of carbolic acid to a quart of coal oil is about right.

Q. What would you do to give hens exercise if confined in a house with very little yard room?

A. R. THOMPSON, ST. CATHARINES.

A. I would cover floor with chaff,

short or cut straw and scatter grain among it and let them scratch.

Q. Is wheat good food to produce eggs?

A. Yes.

Q. How would you preserve eggs?

A. Either by packing fresh in salt or by using a solution of 5 of water to 1 of water glass.

Q. Would you pick fowls dry or scald?

A. I would pick dry.

Q. What do you feed for eggs?

A. In the morning boiled potatoes and carrots mixed with fine ground oats and barley and meal moistened with milk; wheat or small grain scattered in the straw for noon; then warm corn fed whole before going to roost. At noon I also feed meat scraps, etc.

Q. Would you use an incubator?

A. Yes, if raising many, but on the majority of farms this is not necessary.

Q. Does it pay to feed ground bone?

A. Yes.

Q. What would you do for hens eating their eggs?

A. It is caused largely by lack of meat and green food. You can check them by filling one or two eggs with mustard and leaving them where the hen will be sure to get it.

Q. What varieties of hens are the best for the farmer?

W. C. SHEARER, BRIGHT.

A. The Barred Rock is at the top at present as a winter layer, and also for a dressed fowl for the English market, but the Wyandottes are a close second.

Q. Is there no danger of overstocking the market with dressed fowl?

A. Not for some time to come. We are only supplying a small percentage of what the British require.

Q. Can one make any profit on a small flock of hens?

A. Yes. I knew a man who gave over his ninety hens to his daughter, who had to keep a strict account of all food consumed and all eggs and poultry sold. Result—cost of feed, \$35.00; production, \$110.35.

Q. What is the best breed of hens for egg production?

PROF. GILBERT.

A. White Leghorn.

Q. Are they good winter layers?

A. Yes, when properly fed with cooked food and meat scraps, wheat, barley and oats, and also get some exercise.

Q. Would you keep the male birds amongst the laying hens, that is when the eggs are being sold for table use?

A. No, unfertilized eggs keep better and remain fresh much longer.

Q. Is the Leghorn not much too small for table use?

A. Yes, but the Leghorn crossed with Wyandotte or Plymouth Rock makes a very fine table bird, maturing much quicker than Wyandotte or Plymouth Rock.

Q. Would it pay a farmer to buy a bone cutter?

A. No.

Q. How old should hens be kept?

A. Not over two years old. Pulletts pay best.

Q. What about the Black Spanish?

A. They are poor winter layers and

not of robust constitution. A good cross is made by crossing the Wyandotte hen with the Leghorn male, but never go beyond the first cross.

Q. Could a farmer make it pay to buy an incubator?

A. No, it will pay better to hatch with the mother hen.

Q. What is the best grain feed for hens?

A. All the grains grown on our farms except peas and rye. Wheat is the best whole grain.

Q. How would you prepare clover for fowls in the morning?

A. Run through the cutting box well cured, second growth clover. Fill a pail and pour boiling water over it. Leave steaming until noon. Mix clover and clover tea with shorts and meal and feed at noon. This makes a fine laying ration.

Q. How much does it cost you to produce eggs in winter?

A. 9½c. per dozen. In summer 1½c. per dozen.

Q. Have you any trouble with hens eating their eggs?

A. Yes. Take the head off an egg-eating hen.

Q. Have you any trouble with sick hens?

A. Yes. The hatchet is a good remedy.

Q. Have you a dirt floor in your hen-house?

A. No, it is too damp. I have a board floor. If hens are confined there should be six square feet of floor space to each hen. But where the hens have the run of the yard, much less space will answer. House should not be more than 15 feet in width. Have it as long as you like. Divide house into pens, 15 in the pens.

Q. Will not the Black Spanish lay larger eggs than the Plymouth Rock?

MR. CLARKE.

A. Yes, but their eggs are white. The English market wants brown eggs.

MR. NIXON.

My boy has Wyandottes which beat the Rock right along this winter.

Q. At what age is it possible to get a bird up to eight pounds?

MR. CLARKE.

A. If properly grown, at four months.

Q. Do you think it would pay an ordinary farmer with 40 hens to have an incubator to hatch chickens to fatten?

A. Yes, if it is properly managed.

Q. When do you crate?

A. When fully grown or nearly so.

### Tree Planting.

BY G. T. RAYNOR, ROSEHALL.

In nearly every portion of the older settled parts of Ontario there has been too much of the original forests removed for the benefit of our country in very many ways. Is it not time a halt was called in this matter? Before tree planting has to be resorted to as a matter of necessity, would it not be wise to consider the preserving of what is left?

The importance of this matter is coming home to us with greater

force every year. Our conditions are approaching more and more the conditions of the open, treeless prairies, where the storms may frolic at their own sweet will. The violence of heavy wind storms is being felt much more than formerly. I have only to refer to the September gale, which visited us last fall from end to end of the province, and which was claimed to be the tailend of the Texas storm. It shook the apple orchards to an alarming extent. Everyone, too, is remarking on the increasing violence of the electrical storms, which pass our way every summer. Many of our springs, which used to run the whole year, now dry up in the early summer. Many rivers and creeks are decreasing in their summer volume of water, and very many more wells are going dry from year to year.

In asking ourselves what is the cause for these conditions, there can be but one solution of the problem, it seems to me, and that is emphatically the results of our over-clearing.

If this be true, and I believe it is, should we not be aroused to the great importance of the question?

It is generally remarked that when the woods are plentiful the rainfall was more evenly distributed than it is now. It came in copious showers during the growing season, when evaporation was the greatest, mostly from the leaves of forest trees. It was rare in those days to have a poor crop of any kind.

But all the evils of over-clearing have not yet been estimated. Comparatively little is known to what extent the insectivorous birds have benefited us in destroying the many injurious insects which prey upon crops. The rapid destruction of our forests has driven many kinds of insects out upon the field crops, and at the same time removed the favorable resting places for our birds.

While in many places the destruction of our trees has been wanton, yet in many districts there are enough left worth preserving, and I believe the time is ripe for replanting as well. Forestry experts claim that twenty acres of every one hundred acres should be left with trees. I am under the impression that if belts of woodland were left along our streams and around our lakes, and if the barren hillsides, unsuitable for cultivation, were replanted along with what is being replanted to orchard, that ten acres for every one hundred acres would be sufficient for the best climatic conditions. So long as farmers allow their stock to forage in their wood lots, so long will wanton destruction of those wood lots ensue. It is quite noticeable that grass soon follows stock roaming in the wood lot, and it is only a question of time when more or less sod gets in. Then it is that the trees begin to die at the top, which is soon followed by their removal and a general clearing of the bush land, adding to the arable part of the farm.

Wood Lots Should be Free From Taxation. It has been recommended that wood lots should be exempt from taxation, where the owner would guarantee to keep his stock out. I believe this scheme could be worked through the municipal machinery with little or no cost to the country. Some such encouragement must surely be given if any attempt at preservation be made. If cattle were kept out of the wood lot the second growth would soon become rank enough to smother out the grass and restore primitive conditions, to some extent at least. The leaves falling would form a mulch and the snow drifting in would accumulate in large quantities, which would supply the needed moisture. We would not see this snow going with such a rush as the snow outside under the direct rays of the sun and exposed to the warm winds. More of the water formed from the melting snow in spring would soak into the ground through the gradual melting, and many a spring freshet, carrying destruction of life and property in its track might be averted.

A Little is being Done. I am aware that some progress is being made in tree planting. The impetus of apple culture is doing a good deal. The setting apart of Arbor Day to be observed in our schools is exerting some influence, and a few who believe in beautifying their homes and farms by planting ornamental and shade trees, thus adding very materially to the value of their farms, is an educational force.

These influences are too slow to keep pace with the destruction which is continually going on, therefore, I maintain that this question is of sufficient importance to be forced upon us to such an extent that we shall see the benefit of preserving what we already have and making some amends for the mistakes made by our ancestors in overclearing.

If the prairie farmer finds it so much to his advantage to have even a few willows and poplars for wind breaks, surely where trees grow so well as they do in Ontario there is no excuse for the present generation not deriving all the beneficial results of plenty of trees.

If every farmer would plant some evergreens and other kinds of trees to the north and west of his buildings and a shelter belt on the same sides of his farm, the country, as the individual, I am sure, would enjoy the benefit. In fact, what better legacy could a man leave posterity than a number of silent monuments in the shape of trees.

I notice on many farms along the fences, that if a little encouragement were given to the trees already there, by protecting them from stock and field mice, that it would not be long before considerable of a wind break would be formed. Where shelter belts are planted along farms the outside row might be evergreens, which make good nurses. Then a row of nut-bearing and fruit-bearing trees,

the latter for birds, to be followed by both ornamental and useful trees in a third row, such as maples, hard and soft, elms, basswood and ash.

I trust that these few ideas may be taken by others which may result in a general crusade in favor of more tree preservation and tree planting.

### To Rent

To rent or let on shares at once a good dairy farm, seven miles from Port Arthur, well stocked and first-class trade worked up with the best customers in Port Arthur; good buildings on premises, a snap for the right person; anyone not thoroughly posted in butter making and good care of stock, implements, etc., need not apply. For further particulars, apply to R. W. Hyndman, Wolsey street, Port Arthur.

Major Ford H. Rogers tells an amusing anecdote of the Gen. Wm. Clinton B. Fiske. The General was addressing a Sunday-school convention. One of the speakers had reminded the children that it was Washington's birthday.

"Children," said General Fiske, "you all know that Washington was a general. Perhaps you know that I am also a general. Now, can anyone tell what was the difference between General Washington and myself?"

"I know, sir," piped a small boy in the back part of the room.

"Well, what was the difference?" said General Fiske smiling at the lad's eagerness.

"George Washington couldn't tell a lie, sir," cried the boy in exultant tones. "Shouts of laughter followed, in which the General joined heartily.—Detroit News.

The obsequious person who seeks fees from travelers by pretending to take them for noblemen occasionally meets one who fails to fall into his trap. An English gentleman of somewhat imposing personal appearance had a door opened for him at the Paris Opera House by an ouvreure, or usher, who bowed low and said, "The door is open, Prince!" The Englishman glanced affably at him, and, without extending the expected fee, simply said, "Thank you very much, Viscount!"—Tit Bits.

The late State Senator Sessions of New York, was a clerical-looking man, always wearing an immaculate white cravat, but his appearance was in some respect deceptive. The will of Stephen Girard provided that no clergyman should ever be allowed to enter Girard College at Philadelphia. One day Mr. Sessions approached the entrance. "You can't come in here," said the janitor. "The — I can't!" said the stranger. "Oh," said the janitor, "excuse me. Step right in."—Argonaut.

## Farm Implement Department

### Some Valuable Adjuncts to the Dairy.

Among the noticeable exhibits at the recent Toronto Fair, was that of the Creamery Package Mfg. Co., Limited, of Cowansville, Que.

This Company opened a branch factory on Feb. 1st this year, for the purpose of introducing to the Canadian butter and cheese makers their patented specialties, that have such popularity among the factories in the States. Notably:

The Victor Combined Churn and Butter Worker, factory and dairy sizes, ranging from 20 to 1000 pounds. Churning and working the butter being done in the single machine. The Company's sales of this



machine alone in the States this year aggregate 1000 machines.

Our readers should be much interested in the devices shown for the distribution of whey at cheese factories and skim milk at the creameries. The Barber-Colman Check Pump for whey, and the Ideal Skim Milk Weigher, for creameries.

This machine is made especially for the distribution of skimmed milk to the patrons of a creamery. It is simple in construction and easy to operate. It takes up small space, and is easy to set up. It is thoroughly practical, strong, and durable. It has a capacity of 10,000 pounds of milk per hour, and this can be increased if necessary.



There are five checks of each size to a set. The shortest check represents 15 pounds of milk and the longest 400 pounds, with other sizes for every 5 pounds intervening. The entire machine is constructed of iron and brass, with the best chilled steel bearings on scales. It has no wood to swell or

get out of order, and no levers to operate.

As its name implies this machine actually weighs the milk. The weighing tank is adjusted so as to swing on a scale beam. The machine is located on the inside of the Creamery at a point convenient for the delivery of the skim milk. It is connected with the skim milk tank, so that the milk passes into the weigher tank and through it to the patron outside of the Creamery.

Each machine is provided with a set of V-shaped checks, put up in a convenient case. These represent a certain amount of milk. As the patron's milk is weighed in he is handed a check corresponding to the amount of milk he has delivered.

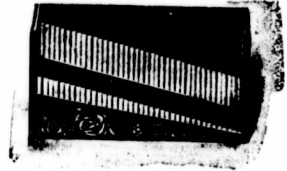
The patron having received his check proceeds to the skim milk platform. The check is placed in the slot in the bar which projects through the building. He then places his hand on the end of bar and pushes it slowly inward as far as it will go. This sets the scales at the right notch and at the same time opens the inlet valve and the milk flows into the can. When the beam tips with the correct weight the inlet valve closes and the outer valves opens and the milk can be drawn off. The whole process is simple, rapid and absolutely accurate.

Milk is delivered absolutely by weight, therefore there is no fluctuation on account of heat and cold. It is a well known fact that milk varies largely in bulk compared to weight at different seasons of the year. The machine can be adjusted to deliver any desired per cent. Each check is marked plainly with weight it represents. All parts are easy of access so as to be easily cleaned. It is automatic, no pumping or labor of any sort connected with its operation. It is absolutely impossible to get more than the amount of milk represented by the checks. The Ideal Weigher cannot be bribed. It will show no partiality.

#### THE BARBER-COLEMAN CHECK PUMP FOR MEASURING THE WHEY BACK TO THE PATRONS OF CHEESE FACTORIES.

is, as shown in the cuts, simply an ordinary suction and force pump with a device added at the top which locks it and prevents its being operated until a check is dropped into the slot on top of the square box. Then if the T-rod is pulled, the pump unlocks and as many strokes can be taken as necessary to throw the amount of whey indicated by the check. By changing the adjustment of the stop collar, the length of the stroke can be varied to cause the pump to throw any desired percentage of the face value of the checks, allowing

for the different percentages of the solids subtracted from the milk in different factories. When all the strokes permitted by the check have been taken the pump automatically locks, and if the T-rod is then pulled again, the check drops from its position in the mechanism into the top chest, and is locked up, to prevent the patrons from using the same checks over again. If the T-rod is pulled again, or any number of times after the pump is locked, it will not unlock the pump unless another check is dropped in. And if it be pulled before the check is pumped out, the check does not drop, but remains in the mechanism until the full number of strokes has been taken. If the



person operating the pump neglects to take full strokes the amount of whey thrown at each stroke will be less, but the number of strokes which he can take before it locks will not be any greater. Consequently, in order not to cheat himself, he must take full strokes. If the whey in the vat runs so low that the pump sucks air and foam, and does not throw the full proportion of solid whey the operator of the pump will instantly know it by the feeling of the stroke as he pumps, and he should then wait until more whey has run into the vat.

When a patron has dropped in a 100 pound check he can pump 100 pounds of whey less the percent-



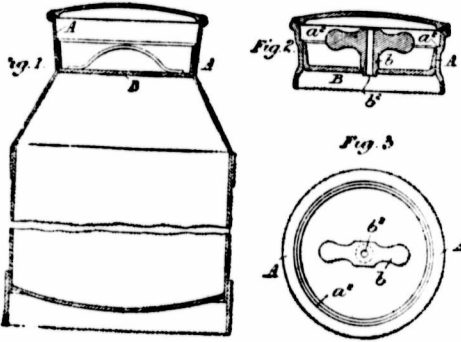
age taken out for cheese, so in like proportion with all other checks. Points of advantage are that the



Check Pump is simple and not liable to get out of order, but it does the work. Its measuring apparatus is just an ordinary pump which every one understands and knows how to operate.

**Improved Milk Cans.**

The invention of Mr. A. W. Vinal, of 32 Bohemia-road, St. Leonards-on-Sea, is intended to obviate the defects of the milk cans known as box cans. Fig. 1 represents in section an ordinary box can. Fig. 2 is a similar view of the improved can top, and Fig. 3 is a plan of the can top with cover removed. A is the upper part of a box can, which is



usually made, as shown in Fig. 1, as a continuation of the main portion of the can. As shown in Fig. 2, in the new invention a solid rim a2 is formed for the reception of the closing plug B, by casting in one with the upper portion A of the milk can, and consequently there is no recess formed by the rim into which milk can have access, and in which it is likely to decompose and contaminate the milk contained in the can. This casting can be connected with the lower portion of the milk can in any convenient way. The plug B is formed of cast metal, and through this and the handle a passage b2 is formed for ventilation. The outer cover may also be cast and be hinged to the upper end A, and fastened in its closed position in the usual manner. By casting the parts of the milk can in this way the usual wiring of these parts is dispensed with.

**Price of Farm Implements.**

The Department of Agriculture at Washington, has made a careful comparative study of the prices paid during the last forty years for farm implements. The returns show that if prices of grain and stock have at any time gone down to what may have seemed to be less than living sales, at the same time the farmer has not had to pay for the implements so necessary in his work the high prices that obtained before the era of invention in agricultural machinery. It is very clear that in lines where the demand has been general the

cost of implements has gone down steadily and in most cases has now reached about one-half the figures of twenty years ago. When the farmer paid in 1860 for a road wagon \$125, he now gets just as good a wagon for \$60. A common walking plow that twenty years ago cost \$20 can now be had of better make and harder steel for \$10. Probably no single article used by the farmer has been so much improved in the last quarter of a century as his plow, and this implement, as made in this country, is now practically perfect. A good reaper in 1880 generally cost \$150, the best now can be had for \$65.

In mowers the decline of cost

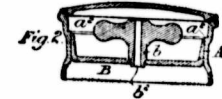
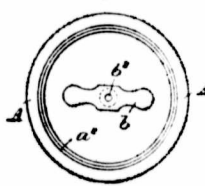


Fig. 3



price has been marked. A good mower in 1860 cost from \$120 to \$160. There isn't a mower of any make on the market that is priced higher than \$45. The twine binder that twenty years ago put so many Western farmers in debt usually cost \$325, that was a common price for several years. Now the best can be had for \$125. A spring tooth harrow that years ago sold for \$25 now sells for \$7, and the makers are enjoying a business many times larger than they had. There is a large demand in the corn producing section of the West for riding cultivators. The best sort in 1880 was sold at \$45, but now the same machine is to be had for \$28.

In carriages and buggies which the American farmer considers indispensable there has been the greatest kind of a coming down. Rich farmers in the '60s paid \$350 for a buggy, but now they can get the identical vehicle in style, quality and durability for \$75. It is only in the things that are not in general use that prices hold up. A threshing machine or a stump puller cost about as much now as twenty years ago. Machinery, such as portable sawmills, also sell now for as much as they did in 1860.

The department experts have figured out that the introduction of new machinery saves to the country in labor cost of producing farm crops fully 10 million dollars on hay, 79 million dollars on wheat, and 523 million dollars on corn. It is a significant thing that where there were 1,943 establish-

ments making farm machinery in 1880 there are now but 910. The total capital invested in manufacturing farm implements now is, however, 1,45 million as against 62 million dollars twenty years ago.

**Notes of Farm Machinery.**

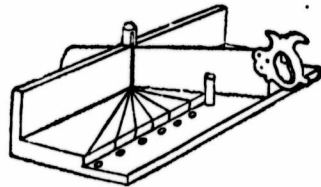
A writer in the rural New Yorker gives the following practical hints:

Many times machinery works hard, does poor work and gets out of repair, simply from sheer neglect. Keep all nuts tight and when using machinery keep your eyes on parts subject to most rattle and bang. A little watchfulness and turning up of a nut once in a while saves many a repair bill. We like to give all parts that come in contact with the earth a quick clean at close of day. A worn-out whisk broom and an old sack work well. When through with a machine for the season take it apart and give it a thorough cleaning the first rainy day. It will live longer. We have often found many points of value before unknown during this cleaning process. It pays to know all about the machine and to be able to locate trouble at once. It is surprising how many hard knocks among the rocks some of the modern machinery will stand and do perfect work.

The average hired man has an antipathy for an oil can and will run a machine until it squeaks can be heard at a distance before he will look into the matter. He must be constantly reminded frequently to oil the machine, be it harrow, planter or reaper. When work crowds as it does at this season, and especially so this year, it pays better than ever to keep old tools well oiled. They work better, much easier on the team, and all hands, team and machine will last longer. Oil is not very expensive, and a gallon does quite a while. We formerly paid 40 to 60 cents per gallon when bought locally. We now buy by the barrel right from the producing region and get the same grade that cost 40 to 60 cents for 12 to 18 cents. It pays to buy of the producer and generally to sell to the consumer.

**A Mitre Box.**

A mitre-box of an improved form is shown herewith. The greatly-increased use of moulding in house



building renders a mitre-box very necessary in the work-shop. In the

one here described a bevel of any angle may be cut. At the rear of the box is a slotted post, which works in a socket, so that it will turn readily in any direction. From the post lines are laid out upon the bottom at various angles. At the termination of each line is a round hole, into which a pin may be fitted. The pin is used as a guide for the saw in cutting a mitre joint, as shown in the illustration.

### Two New Stable Inventions

One of the most interesting and attractive exhibits seen at the Toronto and London Fairs, was a new adjustable stock rack and floor shown by Mr. R. Smith, Sydney Stock Farm, Fort William, Ont. The feed rack and manger can be made any length desired. The one shown by Mr. Smith was six feet long and suitable to accommodate two cows. The rack is made of slats on the side facing the cows and is tight boarded on the outside. This rack is for feeding roughage, such as hay, etc. The rack revolves from outside to inside and vice versa, and can thus be moved backward or forward so as to shut the animal from the manger or from the watering trough, or from both if desired. It looks like a most useful and valuable arrangement and can be built cheaply and easily by anyone used to handling a saw and hammer. The measurements of the parts of the feed rack and manger are given by Mr. Smith as follows:

Back and Sides of rack 25 ft. of in. lumber.

Front of Rack 8 pieces 2 x 4, 4 ft. long.

Top of rack 1 piece 2 x 4, 6 ft. long.

Hangers 2 pieces 2 x 6, 4 1/2 ft. long.

Manger 2 pieces 2 x 12, 6 ft. long.

Manger 1 piece 2 x 10, 6 ft. long.

Water Trough 1 piece 1 x 4, 6 ft. long.

Brackets 2 pieces 2 x 12, 1 ft. 6 in. long.

The other part of Mr. Smith's exhibit, that of the patent floor is equally valuable with the manger and is just as easily and cheaply made. It consists of a moveable stall floor for each animal, made the usual length. For the male this floor from the rear end to the middle is made with slats 2 x 4. These are put on lengthwise with the stall and have below them a slanting board to carry off the liquid manure which soaks through the slats. The stall floor for the female is on a similar plan only that the slats do not extend so far forward as for the male animal.

The object of the slat floor is to allow the liquid manure to be carried off leaving the upper part dry for the animal to lie on. The liquid after passing through the slats, is carried into the drain and thence from the building. The floor can be easily made and Mr. Smith gives the dimensions and particulars as follows:

Drip Board 18 ft. of in. lumber.

Slats 16 pieces 2 x 4, 3 ft. 2 in. long.

Plank Floor 5 pieces 2 x 12, 3 ft. long.

Plank floor 1 piece 2 x 10, 3 ft. long.

Runners 4 pieces 2 x 4, 6 ft. long.

Cross Pieces 8 pieces 2 x 4, 2 ft. 10 in. long.

Mr. Smith has a large dairy farm near Fort William from which to supply milk and cream for the C. P. R. dining cars in the west. For this trade he is compelled to keep a large number of milking cows all the year round. He had some difficulty in keeping his stables and his cattle clean at all times and hit upon this style of floor to solve the problem and so far he has succeeded admirably. And here we might add that Mr. Smith's stables are of the most modern type and parties who have examined them state that they are the cleanest and most up-to-date to be found anywhere. If it were necessary for Mr. Smith to devise some scheme of this kind to keep his cows clean how much more necessary will it be for the average dairyman to have something of this kind.

### Straw Binders.

A jeweler of York, Neb., has recently invented a binder, which, taking the place of a twine binder on any harvester, twists a band from the straw of the incoming grain, and goes through the process of binding and delivering the bundle as effectually as any binder, thus "saving farmers from fifty cents to a dollar per acre a year for twine"—according to the newspapers of that section. The inventor is described as a very ingenious young man, and as he has shown his capacity by the invention also of a jeweler's drill and engraving machine and a keyless padlock his success with the straw binder is not questioned.

The production of a practical straw binder has engaged the attention of inventors in this line from the beginning, and it is not through lack of ingenuity or earnest effort that none has been produced; indeed, it has baffled the highest class of ingenuity and mechanical skill. This ground has been gone over so thoroughly and the difficulties so plainly demonstrated that well-posted inventors no longer waste any time upon it, the conclusion being that a practical binder, making its own band and binding as it goes along, is hardly among the possibilities.

In 1857 four patents were issued on devices for binding or assisting to bind with straw. The first patent for a fully automatic straw binder was granted to J. Mitchell, Sept. 7, 1858. Several straw band or straw binder patents were issued during the years immediately following. None of these inventions accomplished anything further than to point out the difficulties of the undertaking, and inventors thereafter gave their attention almost exclusively to wire and cord as band materials.

About twenty-five years ago the success of automatic binding by wire and twine apparently caused a revival of efforts to bind by straw. Three straw binders of that period, each on a distinct or different principle, were carried far enough to do some work in the field and all failed, not from lack of ingenuity or money to put them through, but because the condition of grain in harvest varies so widely. One made a loop stitch around the bundle from its straw, but would not work if the straw was weak or mixed with coarse weeds. One twisted a band from the butt ends of the outer straws and carried it around the bundle; it also would not work with weak straw or in weedy grains. And one twisted a band from prepared straw carried on the machine, which band as spun was used by the binder, it bound enough in the field to demonstrate that it could not be made to do regular harvest work. Since then several straw binders have been reported; but none have done any practical work in actual harvest. Twisting a band from the grain being operated on by the binder is impracticable, for the reasons given; and straw rope to be carried and used like binder twine would be too rough, bulky and uncertain for practical use.—The Farm Implement News.

A bright little "Chinee" was attending a Chinatown Sunday School for the first time. The contribution box came around.

"Wha' flo?" he inquired.

"For Jesus," said the teacher.

"Allee lightee," and he chipped in a nickle.

Next Sunday, contribution-box again.

"Wha' flo?"

"For Jesus."

Some hesitation this time, but the nickle was produced. Third Sunday, more contribution-box.

"Wha' flo?"

"For Jesus."

With much reluctance a nickle was again dropped in the box, with the question: "He, Jesus, is he allus bloke?"

### Twain's Unpublished Humor.

The witticisms of Mark Twain in private life would fill a good-sized volume with flashes of humor and gleams of wit that are treasured by his friends and neighbors.

Some years ago his home in Hartford was invaded by scarlet fever, all of his children being stricken with the pestilence. Mark Twain described the disinfection that followed by saying:

"We had a fumigator so strong that it took all the brass off the door knob and all the tune out of the piano."

**Rich and Poor Alike** use Pain-Killer. Taken internally for cramps, colics and diarrhoea. Applied externally cures sprains, swollen muscles, etc. Avoid substitutes, there is but one Pain-Killer, Perry Davis'. 25c. and 50c.

## Some New Literature for Farmers

### Important to Farmers and Stock Owners.

BY J. HUGO REED, V.S., GUELPH, ONT.

The World Publishing Company, of Guelph, Ont., is about to put upon the market a new work "The New Cyclopaedia of Live Stock & Complete Stock Doctor." This is a work of over 1400 pages and 800 illustrations. It treats at length with the different classes of domesticated animals, viz.—Horses, Cattle, Sheep, Swine, Poultry and Dogs, with a Chapter on Bees, the author of every article in the book being a man well qualified to write upon his special subject. It deals briefly but comprehensively with the anatomy of the above mentioned animals, furnishes cuts to illustrate points of the same, also to illustrate the desirable confirmation especially of the horse. It is replete with excellent illustrations of well known, high class, prize-winning individuals of all classes of stock. It deals at length with all animals in both health and disease and describes the causes, symptoms and treatment for diseases. A chapter is devoted to the examination of a horse as to soundness; others to the education of a horse, how to buy and sell, etc., etc. It deals with the origin and history of the different breeds of all classes, and characteristics and peculiarities of each breed, best methods of breeding, general care of stock, construction of stables, grooming, feeding, watering, etc. A chapter is devoted especially to the American trotter; one to the Bacon Hog; one to Horse Breeding, giving tables of the points of excellence in each class; one to Dairying and Dairy Buildings, and one to Poultry. As far as possible there is an absence of technicality, all being written in plain English. This work should be a valuable addition to the library of any person who breeds or owns stock.

### A New Stock Book.

BY PROF. G. E. DAY, ONTARIO AGRICULTURAL COLLEGE.

"The New Pictorial Cyclopaedia of Live Stock, and Complete Stock Doctor," is the title of a new book which has just been launched by The World Publishing Company, of Guelph, Ontario. This well known and enterprising firm has such a high reputation that the public will naturally look for something good, and a careful examination of the book in question confirms the belief that there will be no disappointment. The book is ambitious in its scope, and represents the efforts of both American and Canadian writers. It contains over 1400 pages and is profusely illustrated.

It would take too much space to review the book fully, but a general idea of its character may be obtained by merely giving the headings of the thirteen different parts

into which the subject matter is divided.

Part 1 treats of "The Horse.—History, Management and Characteristics of the Various Breeds." This division contains many practical hints and directions on nearly all matters pertaining to the horse including an excellent description, with illustrations, of the outward appearance of the horse as indicating value.

Part 2 deals with the diseases of the horse. It is very plainly written, by a veterinarian of high standing, and deals with nearly every disease that horse-flesh is heir to.

Part 3 is concerned with Cattle.—"History, Management and Characteristics of the Various Breeds."

Part 4 takes up the diseases of cattle in a very full and clear manner.

Part 5 gives the history, breeds, etc., of swine, and Part 6 discusses the diseases of swine.

Parts 7 and 8 are devoted to the sheep, including breeds, breeding, management, diseases, etc.

Parts 9 and 10 have to do with poultry and their diseases, while 11 and 12 have dogs and bees for their respective subjects.

Part 13 contains a variety of subjects, and has been added to bring the book strictly up-to-date in those departments which needed strengthening. The American Trotter; the latest regarding hog cholera; the Canadian bacon trade and the judging of bacon hogs; horse breeding, dairying and dairy buildings; and the selection of breeding stock in poultry, all find a place in this important addition of the book.

If one were disposed to criticise, perhaps, a portion of the illustrations would present the best opening. The greater number are remarkably good, but there are a number of them old fashioned and antiquated, but there are more than enough good pictures to compensate for this defect. In all there are over 800 illustrations. A large number are used to illustrate symptoms and thus help in the diagnosis of diseases. There are many illustrations of animals of superior excellence covering the various classes, also illustrations of appliances, methods of feeding, etc., many dealing with Anatomy, and included among the illustrations are 11 full pages of drawings and diagrams prepared by the Dominion Government for Creameries and Cheese factories.

There is room in this country for a good stock book which will serve as a reliable book of reference for the farmer, and the book in question seems admirably adapted to this purpose. Taken altogether, it is the best book of the kind which has come before my notice. Its scope is a wide one, and the ground, on the whole, appears to be extremely well covered. Many similar books are prepared merely

to sell; but this one seems to have for its primary object the furnishing of reliable information, and it should find a ready sale.

### Rural Hygiene.

Harvey B. Bashore, M.D., Inspector for the State Board of Health of Pennsylvania, is the author of a most valuable little work on this subject. It is published by the F. A. Davis Company, Philadelphia, and should meet with ready sale in rural sections. An appendix is attached on the Normal Distribution of Chlorine, by Prof. Hubert E. Smith of Yale University.

The book is not large, containing but 84 pages in all, with a number of explanatory explanations. The chapters are arranged under the headings of: Water Supply, Waste Disposal; The Soil; Habitations; and Disposal of the Dead. Each subject is dealt with from a distinctly sanitary point of view.

The excuse for such a work is well stated by the author in the preface, who says: "The almost absolute neglect of sanitary rules in districts outside of the great cities, and the absence of special attention to this branch of sanitation in the larger and more elaborate treatises have called for this work."

### Fitting Sheep for the Show Ring and Market.

This is the title of a concise, up-to-date, and well illustrated work recently issued by the Draper Publishing and Supply Co., of Chicago. The work is edited by W. J. Clarke, "Shepherd Boy," and is designed to assist sheep breeders in properly fitting their flocks for the show ring and market. Part I. is confined to fitting sheep for show and deals in detail with the selection, judging, feeding, showing out, etc. Part II. is concerned with the general management of the flock, and takes up such questions as the relation of Shepherd and Flockmaster, the evolution of the modern mutton breeds, the purchasing of a flock, mating, inbreeding, etc. In Part III. the raising of hot house lambs is dealt with, while Part IV. is concerned with the common ailments of the flock, and how to treat them. Parts V. and VI. deal with forage crops that are especially suitable for sheep and the slaughtering and dressing of sheep and lambs for market.

The illustrations and photogravures are exceptionally good, the former showing diagrams, etc. of sheep, barns, hurdles, carcasses, etc., and the latter typical and noted animals of the different breeds of sheep, the aim being to make the illustrations as well as the letter press as strongly educational as possible.

The work contains a fund of practical and valuable information on sheep husbandry, and should serve a most useful purpose in the field it is designed to fill.

## The Farm Home

### September.

The golden-rod is yellow;  
The corn is turning brown;  
The trees in apple orchards  
With fruit are bending down.

The gentian's bluest fringes  
Are curling in the sun;  
In dusty pods the milkweed  
Its hidden silk has spun.

The sedges flaunt their harvest  
In every meadow nook;  
And asters by the brookside  
Make asters in the brook.

From dewy lanes at morning  
The grapes' sweet odors rise;  
At noon the roads all flutter  
With yellow butterflies.

By all these lovely tokens  
September days are here,  
With summer's best of weather  
And autumn's best of cheer.  
—Helen Hunt Jackson.

### My Vacation.

BY M. E. GRAHAM

Just three days in Toronto did I spend, and though I saw nothing that was new or unfamiliar to me, I have been greatly benefitted by even this short period of time from the usual environments.

Our lives in farm homes, if continued all the year without a vacation, have a tendency toward the running in grooves system. Our thoughts too, keep following the same old course. If we get right away for even three days, from the work we are always doing, from the house in which we always live, from the people with whom we always associate, and see, even from a distance, the occupations of other people. The houses in which they live, and something of their customs, we are made to think other thoughts and on our return we are brighter and more energetic and we find that we are doing our work better and more intelligently than before. Ideas perhaps about our cooking, perhaps about our household arrangements and not necessarily suggested by what we saw or heard when away, come to us.

Of course I visited the fair, and though I saw nothing greatly differing from other fairs, yet I learned some things. I learned that size and shape are of greater importance than markings and fancy points in turkeys and Barred Rocks, these being the lines which more particularly interested me. I noticed the first prize was given in one of the turkey sections to a bird that had one wing feather unbarred. The Rock judge very kindly pointed out to me the good and bad points of the many prize winners in that class, thus helping to make me a more intelligent Rock breeder.

In the butter making contest I learned that men are more sensible than women for they sit while churning, while the women stand, and I could not help wondering if the churn manufacturer had known this would be not have placed the majority of the churns on higher stands so that the many standing women might at least stand in a more comfortable and less stooping position.

I wondered also why Toronto's thousands would not rather spend a couple of hours watching the interesting method by which their butter is made instead of watching the not more graceful performers before the grand stand. I was surprised to note these graceful butter makers adopt such varied elbow movements in their turning of the crank.

Can each be equally easy on the system? I can not think it possible. It seems to me the arm motion as seen in engines is the simplest and least tiring.

In the Main building, the many food products could not fail to interest the housekeeper. The packages of the various cereals and prepared foods, the canned goods, soups and sauces, the jellies, etc., etc., were after all scarcely more interesting than the shining rows of every variety of light and dainty utensils with which to prepare the foods. One might label this display, "The Passing of the old Black Pot." In this connection one can bring to mind the stove building and rejoice that the old black stove is also passing for here we find a beauty all in white or silver finished. Think of it, ye housekeepers, no more old black stove brushes, no more black stove dust, no more getting up first on Saturday to polish the stove or to rub on dirt in order to make a stove clean, and then brushing it off again to make a shine. Now, for 75 cents, one can buy the silver polish which when once put on stays on a year and is white and clean. A year ago I gave a stove in the brooder house a coat of whitewash, which looks to me more artistic than a black polish. This was ordinary lime whitewash. But you can't wash the stove as you can these silver polished stoves. Not very long ago a woman said to me that she considered a nicely polished stove, the chief ornament to a room. I always considered stoves big black ugliness, some more so than others, useful but not ornamental.

I did not spend much time with the stock, only long enough to admire some graceful carriage horses and the beautiful, big Shorthorns, and some of them were, to use a school girl expression, "perfectly lovely."

I sat on a step to listen to the band playing and to admire the beauty of the lighted grounds. I had just begun to imagine myself

in some enchanted land, when I was rudely brought to solid earth by a voice behind me saying, "The illumination and the music are the only things any good," and she continued to talk, paying no attention to the music which she extolled and completely overshadowing the exquisitely and softly beautiful strains which the band was producing. How the music of the band spoils for one the tinkling music of the piano. Although so popular, I believe I like the piano least of all musical instruments. I can think of no term to describe its music excepting the word pianissimo. One can not lose the sound of the instrument in its music.

A visit to the Fair would not be complete without a stroll through the art gallery, where, if one is not sufficiently gifted to see the artistic in nature, one can see it on the canvas, and the pictures most admired, are those which look most like nature as we are accustomed to it. The visit to the Horticultural building, gives us another view of nature as improved by art. In the cut flower department one could not always agree with the judges. As big, showy, inartistic affairs usually sport the first prizes. I do not think flowers are improved by being arranged in set patterns, nor yet by being arrayed with large bows of white or purple ribbon. Flowers and ferns, in all their beauty, arranged as only an artist can arrange them were there. But my sense of "the fitness of things," does not allow the use of the ribbon bows.

I meant to answer some of the editor's questions in the Exhibition Number about the new farm woman, but must leave them for another time. I could not help thinking what a treat it would be to hundreds of farmers' wives to simply lounge in a street car from the Exhibition Grounds to Yonge street, and again to the railway tracks in North Toronto. She would be prepared to think some thoughts by the time she reached her destination.

### Hints by May Manton.

Woman's Tucked Shirt Waist with Yoke That May or May not Extend over the Sleeves.

To be made with or without the fitted lining.

Tucks, far from losing favor, appear to be steadily gaining ground and will be correct for the next, as well as the present, season. The novel shirt waist shown is of white taffeta silk, and is made over the fitted lining, but all waist materials are appropriate and the lining can be omitted when washable fabrics are used.

The foundation fits snugly and closes at the centre front. On it are arranged the portions of

the waist proper. The fronts are tucked to yoke depth, then fall free to form soft folds, but the backs are tucked for their entire length and are arranged to give a tapering effect to the figure.

The novel yoke extends over the sleeves, but can be cut off at the arms-eyes when preferred as the pattern provides for both shapings. The sleeves are in bishop



3901 Tucked Shirt Waist  
32 to 40 Bust.

style, tucked for nearly their length but left free to form puffs above the narrow pointed cuff bands. At the neck is a regulation stock collar, with which is worn a tie of black velvet to match the belt.

To cut this waist for a woman of medium size,  $3\frac{1}{2}$  yards 21 inches wide,  $3\frac{3}{4}$  yards 27 inches wide,  $3\frac{1}{2}$  yards 32 inches wide, or  $2\frac{1}{2}$  yards 44 inches wide will be required.

The pattern 3901 is cut in sizes for a 32, 34, 36, 38 and 40 inch bust measure.

**The price of above pattern post-paid is only 10 cents. Send orders to "The Farming World, Confederation Life Building, Toronto, giving size wanted."**

### Large Muffs to be the Style Again.

This coming season brown furs will rank first, then black, gray and white. Long-haired furs will be most used. Long boas with stole ends, and large muffs, will be much in evidence. — September Ladies' Home Journal.

### French Omelette.

Two tablespoonfuls of shredded ham (do not chop up in hard little dice, but cut very thin and shred. If the ham is very dry, soak in warm water for a short time), four fresh eggs, two teaspoonfuls of minced parsley, a little pepper and two ounces of butter. Break the eggs into a basin, add the pepper, parsley and ham and beat them well together. Put into a clean dry frying-pan the two ounces of but-

ter; place it on the fire, and, when the butter is hot, pour in the eggs. Keep mixing quickly with a spoon till it is lightly set, then tilt the pan sideways so as to let the omelette slip to the edge, which will make it of an oval shape. Let it set a minute, then

### Afraid of Cleanliness.

My name is A. Bacteria.  
This heat agrees with me;  
Just let me work inside your milk  
Some muggy day and see.  
While other workers drop their tools,  
And look around for shade,  
I peel my coat and go to work,  
For that's the way I'm made.  
I sour the milk, I spoil the fruit,  
I carry foul disease;  
I dance for joy in filthiness,  
I sleep right through a freeze.  
But boiling water knocks me out,  
And cleanliness I hate;  
I travel when I see them come,  
And use my swiftest gait.  
—Rural New Yorker.

### Why So Many Women Are Invalids

AMBITION PARENTS OVERLOAD THEIR DAUGHTERS WITH ACCOMPLISHMENTS.

The insane desire of fond parents that their children shall "shine" in their studies and accomplishments is one topic vigorously dealt with by Edward Bok in his editorial in The Ladies' Home Journal for September. Regarding the girls' side of this widespread evil he says: "There are parents who, not content with the studies which their daughters have to grapple with at school, load them down with a few special studies in the finer arts. I have in mind now several young girls between the precarious ages of twelve and seventeen, who, after they return from school, have an extra dose of painting, music or languages. 'But my daughter must know something of these things,' is the protest of the fond mother. 'She must be able to hold her own with other girls of her set.' Of course, the girl at this tender age, with such a mental load, soon goes to pieces. She becomes anaemic, listless and nervous, and then the mother wonders why! To build her up, everything under the sun is tried, except a lessening of mental work and the unnatural strain upon the nervous system. The girl develops into what? A bundle of nerves encased in the most fragile frame, her physical vitality sapped almost to the last drop. And in this condition she enters the marriage state! And yet we wonder why there are so few women absolutely free from organic troubles. Is it a celestial query?

Madam.—Well, Mary, what did you think of the pictures at the academy?

Mary.—Oh, mum, there was a picture called "Two Dogs," after Landseer; but I looked at it for nearly half an hour, and I couldn't see no Landseer.

Only vegetable oils—and  
no coarse animal fats—  
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The education of a child cannot be shifted to the shoulders of teacher or educator. The responsibility rests, first and foremost, with the parents.—September Ladies' Home Journal.

The books that help a young man, or anybody else for that matter, are the books that interest him. Therefore a young man must select his own reading, if he is to read with any profit to himself.—September Ladies' Home Journal.

From English and American novels alone the ordinary reader could construct the history of the English-speaking peoples from the dim dawn of the earliest invasions of their savage ancestors to the bright noontide of modern civilization.—September Ladies' Home Journal.

"Don't forswear the Eves, but remember Adam wasn't happy alone even in Paradise, so find a little better half by-and-by, and through the power of a genuine woman's love regain and keep your Eden green through a long and happy life."—Louisa M. Alcott in The Ladies' Home Journal for September.

The Bible is a storehouse of rich imagery and splendid words, of style both simple and ornate, and as literature alone, apart from its spiritual elevation, will repay the search of every student. Read the Bible and Shakespeare and you will find yourselves able to converse well.—September Ladies' Home Journal.

The social liberties of the American child are one of the evils of this country. Children's dances and children's parties, once given in the afternoon, have intruded into the evening, and are sending thousands of our children to their beds in a state of excitement which means no good for the future. It stands to reason that no child can, with his or her unformed strength, burn the candle at both ends.—September Ladies' Home Journal.



# The Farming World.

PAPER FOR FARMERS AND STOCKMEN.

Publisher, . . . D. T. MCNAISE.  
Editor, . . . J. W. WHEATON, B.A.

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## QUESTIONS and ANSWERS

### Rye for Sheep

G. H. K., Rodney, Ont., asks:  
(1) "Is green rye a good food for sheep during the fall and spring?"

In the early spring months green rye furnishes a most appetizing and succulent ration for the flock, and when the fall growth has been rank it may be fed off without doing much harm to the plant, provided it is not fed too late in the season. Rye grows very rapidly and should not be allowed to get old and woody before being pastured. It is not advisable to turn the sheep on the rye when hungry, or when the rye is heavily charged with moisture. Rye furnishes a fine ration in the early fall, when little else is at hand for producing the fine bloom which shepherds desire in a show flock. For this purpose it should be sown as soon as the harvest is off.

The cutting of rye as a soiling food should begin as soon as the first growth will justify such a course, and it should not be fed for any considerable time after it has reached the earing stage, unless it is to be run through a cutting box, and fed with other foods as "chafed" hay. When thus prepared and meal is added to the mixture, it would then be possible to feed green rye until the grain began to form in the ear, and possibly for a longer period. If fed alone after it has fully come out in head, animals do not relish it sufficiently to make it a desirable soiling food. In pasturing rye it is better to have creeps for the lambs, so that they can go ahead of the ewes and get the cream of the crop.

### A Popular Veterinary Medicine

Mr. R. H. Pope, of the Lawrence Williams Co., Cleveland, Ohio, has been in Toronto during the past week in the interests of Gom-

haut's Caustic Balsam. While here he received another large importation of the Balsam from France for the Canadian trade. The Company import it in large quantities and to the bottling on this side. To The Farming World, Mr. Pope stated that their Canadian business had increased fully 60 per cent. during the past year and sales continue to improve which is conclusive proof that this great French veterinary remedy has real merit among the better class of horsemen.

### Pan-American Notes.

A contest for scoring butter and cheese took place on the 10th and 19th of September. The butter was scored on the 10th by S. Edward Davis, Elgin, Ill., Daniel Derbyshire, Brockville, Ont., and W. T. Leonard, of Norwood, N. Y. Cheese was scored on the 19th. The judges were as follows: A. F. MacLaren, M. P., Stratford, Ont., George McAdam, Rome, N. Y., and A. D. DeLand, Sheboygan, Wis.

The next contest will take place between the 10th and 15th of October. At this time a very large exhibit of the finest goods that are made in the United States and Canada is expected. The judges who will score the butter in the October exhibit are A. H. Barber, Chicago; W. I. White, Boston, and I. W. Steinhoff, Stratford. The committee who will score the cheese in October are Mr. Brice of Montreal; Mr. Richardson, of Lowville, N. Y., and Mr. Hoyt of Fond du Lac, Wis.

The sheep show begins this week and the judging will take place on Sept. 25th and 26th. There are expected to be fully 700 sheep on exhibition. The Canadians who will exhibit in the different classes are: Cotswolds—A. J. Watson, Castleberg; Leicesters, A. and W. Whitelaw, Guelph; J. M. Gardhouse, Highfield; A. W. Smith, Maple Lodge; G. B. Armstrong, Teeswater; John Kelly, Shakespear; Lincolns—J. T. Gibson, Denfield, and J. H. Patrick, and Eugene Patrick, Iderton; Southdowns—John Jackson & Sons, Abingdon; Teller Bros., Paris, and Robt. McEwan, Byron; Shropshires—D. G. & J. G. Hammer, Mt. Vernon; Richard Gibson, Delaware; John Campbell, Woodville; Geo. B. Phin, Hespeler; Oxford Downs—J. H. Jull & Son, Mt. Vernon; Hampshires—John Kelly, Dorset Horn—Jno. A. McGillivray, Uxbridge; R. H. Harding, Thorndale.

In connection with the sheep show an exhibit of sheep shearing machinery will be made by two of the largest firms in the country. To properly represent the workings of these machines, animals will be selected and brought from the Buffalo Stock Yards to the Exposition grounds and shorn for Exposition purposes. This part of the exhibit may be seen at any time during the day from 8 o'clock in the morning until 6 in the evening.

A point of interest at the model dairy that has been thoroughly demonstrated is the effect that feed

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has upon the per cent. of butter fat. During the four months of the Exposition the amount and kind of feed has varied greatly, yet there has been no marked change in the butter fat as effected by the feed. Variations in this respect have almost invariably been traced to influences emanating from extraordinary conditions such as extreme heat and undue excitement caused by the unusual surroundings.

The value of silage as a feed for milk cows is another point of universal interest that has been thoroughly demonstrated during this extended milking test. Although the silage in this case was put up seventeen miles away, making it necessary to haul the feed in wagons through the hot sun this distance, the ration thus provided proved to be thoroughly satisfactory. The last load being as good as the first, and every herdsman was sorry when it was all gone. There seems to have been no division of opinion on this subject, as every man interested appeared to be thoroughly convinced that the silage has proved its value in this case to a remarkable degree. The only regrets apparently were that the silage was not put up on the grounds where it could have been handled to the best advantage.

Since less gluten has been included in the rations there has been a noticeable improvement in the hardness of the butter. During the months of May and June, when a great deal of gluten was fed, some difficulty was experienced during the very hot weather in getting the butter hard enough to work. At the present time, however, there is little or no difficulty experienced in this respect, and the difference is attributed principally to the change in feed.

**The Nova Scotia Provincial.**

The Annual Provincial Exhibition for Nova Scotia was held at Halifax last week. Like many of the larger fairs held this year, the exhibition generally speaking was one of the best ever held in the province there being an improvement in almost every department over recent years. The two principal live stock departments were those of horses and cattle.

No department of the show has made more progress than that of

horses, due largely to the importation of improved stock by the local government. The strongest classes were the standard breeds, carriage horses, Hackneys and Clydesdales and heavy draughts. Among the larger exhibitors of Hackneys were the Hon. T. R. Black, Amherst, and Hubert Stairs. There was a fine collection of Clydesdales, the leading exhibitors being W. W. Black, Amherst; L. A. Armstrong, Falmouth, and Glassy & Co., Truro.

There was an exhibit of upwards of 500 head of cattle among them being 70 head of Shorthorns including the fine herds of F. E. Dickie, Canard; C. A. Archibald, Truro, and C. W. Holmes, Amherst. Some 25 Herefords were shown, the principal exhibitors being W. W. Black, Amherst, and Davidson Bros., Anagance, N. B. In the Polled Angus class there was keen competition between the herds of John Richardson, P. E. L., and H. Stairs Hillaton, N. S. D. Ferguson, of Charlottetown, showed 13 head of Galloways. There was a fine showing of dairy cattle, among them being 48 Ayrshires shown by Easton Bros., Charlottetown; C. A. Archibald, Truro; F. S. Black, Amherst, and M. F. Berganeau, Pugwash. Some 30 Jerseys were shown chiefly by J. R. Starr, Starr's Point, and H. S. Pipes & Son, Amherst. There were 32 Holsteins shown, the exhibitors being Logan Bros., Amherst, and A. S. Dickie Onslow. Fourteen Guernseys were shown by McMillan & Davis, of Charlottetown.

**Now Open.**

The Autumn Session of the Central Business College, Toronto, has opened out this month under most favorable conditions with the largest enrolment of new members in its history. The reputation of this excellent School seems to be of the right kind and has been honestly won by its ample equipment and its first class work.

Hard Luck.—The Tramp—"Once I wuz in a fair way ter becomin' a millionaire, but a darn labour-savin' device ruined me." The Farmer—"Ye don't say! How's that?" The Tramp—"I wuz gettin' along nicely as bar-tender in a saloon when de boss bought a cash-register."—"Judge."

**How the Breeds Compare.**

Report of the Model Dairy at the Pan-American Exposition, giving totals of each herd complete from the commencement of the test, May 1st, up to and including the week ending September 3rd, 1901.

| NAME OF HERD.   | Lbs. Milk. | Amount of Butter. | Value at 25c. per lb. | Value Hay fed. | Value Silage fed. | Value Grain fed. | Total Cost of Feed. | Profit. |
|-----------------|------------|-------------------|-----------------------|----------------|-------------------|------------------|---------------------|---------|
| Holstein        | 28125.3    | 1044.67           | 261.15                | 24.08          | 16.16             | 70.27            | 110.60              | 150.06  |
| Shorthorns      | 23201.2    | 959.16            | 239.90                | 24.71          | 16.12             | 69.79            | 111.46              | 126.12  |
| French Canadian | 18587.6    | 842.11            | 208.03                | 18.40          | 13.82             | 48.13            | 80.55               | 127.48  |
| Guernsey        | 20368.2    | 1069.32           | 267.32                | 25.82          | 12.20             | 58.49            | 99.51               | 171.91  |
| Ayrshires       | 24275.8    | 1031.40           | 257.84                | 23.39          | 13.75             | 59.54            | 96.60               | 161.24  |
| Polled Jerseys  | 15163.1    | 810.              | 202.40                | 24.12          | 9.72              | 42.10            | 75.95               | 126.54  |
| Jerseys         | 19896.4    | 1034.77           | 258.67                | 20.68          | 13.27             | 59.87            | 93.82               | 164.36  |
| Dutch Belted    | 18349.9    | 701.34            | 175.33                | 21.60          | 10.81             | 37.53            | 90.92               | 84.41   |
| Red Polls       | 21651      | 983.94            | 245.98                | 22.28          | 13.40             | 61.29            | 96.97               | 148.61  |
| Brown Swiss     | 23171.0    | 991.68            | 240.42                | 29.92          | 13.50             | 61.69            | 104.16              | 132.16  |

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1 Imported aged Ram  
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## PURE-BRED STOCK

### NOTES AND NEWS FROM THE BREEDERS

*These columns are set apart exclusively for the use of breeders of pure-bred stock and poultry. Any information as to importations made, the sale and purchase of stock and the condition of herds and flocks that is not in the nature of an advertisement will be welcomed. Our desire is to make this the medium for conveying information as to the transfer of pure-bred animals and the condition of live stock throughout the country. The co-operation of all breeders is earnestly solicited in making this department as useful and as interesting as possible. The editor reserves the right to eliminate any matter that he may consider best suited to our advertising columns.*

#### Cattle.

Mr. Edwin Battye, Gore Bay, Ont., returned last week from a business trip to Great Britain, where he was successful in securing some very fine Shorthorns for his farm on Manitoulin Island. Since entering upon the breeding of Shorthorns several years ago, Mr. Battye has displayed a great amount of energy and zeal in the business. It has been his aim to get together as fine a herd of Shorthorns as could be secured, and in this he has succeeded admirably.

To still further improve his herd Mr. Battye decided this season to make a number of importations and visited Great Britain in person for the purpose of making the selections. He secured 12 animals in all 11 of whom are in quarantine at Levis, Quebec, where they will remain till November, when Mr. Battye expects to have them at his home at Gore Bay.

Nine of these importations were purchased at the sale of Mr. Henry Dudding, Riby Grove, England, held on August 7th last, two of them being noted prize-winners. Among the more notable purchases made at this sale were: Jilt, 22nd and calf, red roan, calved Feb. 18, 1894, sire Spicebox 63402; Winsome Beauty 3rd, and a calf very much like herself, sired by Sovereign. This cow is a roan, calved March 3, 1898, sire Lord James 67361. She was first at Doncaster in 1901, and also at the Elgin & Nairn shows as a yearling; Gipsy Maid, roan, calved Dec. 13th, 1899, sire Recorder 75372. She is in calf to Wanderer's Chief; Miss Confit 10, red, calved Feb. 14, 1900, sire Rosani 75471. She was a winner at the Lincoln show in 1901. Picture 4th calved Aug. 18th, 1900, sired by Golden Robin.

The most notable purchase made by Mr. Battye was the young bull Royal Emperor, calved June 20th, 1900. This bull is a fine red and has behind him some of the very best breeding in Scotland. His breeder was W. S. Marr, of Uppermill, Aberdeenshire. The grandmother of Royal Emperor was the dam of Royal Sailor owned by W. & J. B. Watts, Salem, Ont., one of the very best bulls ever seen in Canada. Royal Emperor's sire was Babpton Emperor, bred by Deane Willis, and the first prize champion yearling male at the Royal Show at Maidstone in 1899. He traces to Wanderer 60128 and Ann of Orange 50,694.

Breeders will thus see that Mr. Battye has been able to secure some of the finest blood in the old land among his importations, which will greatly add to the high stand-

ard of Canadian Shorthorns.

Mr. Arthur Johnston, Greenwood, Ont., also returned from the Old Land with Mr. Battye, bringing with him 13 head of Scotch Shorthorns, consisting of five calves, one yearling and 7 cows. We have not been able as yet to get full particulars regarding Mr. Johnston's importation, but knowing something of his ability and ambitions in Shorthorn lines, we are sure they will be the finest to be had.

At the Minnesota State Fair, at Hamline, on Sept. 2rd, 50 Shorthorns were sold under the direction of the American Shorthorn Association. The total amount of the sale was \$13,450, an average of \$269. The 10 bulls averaged \$217, and the 40 females \$282.00 each.

At the same place on Sept. 4 and 5, under the direction of the American Hereford Breeders' Association, 71 Herefords were sold at an average of \$203.35 each or a total of \$14,440.00. The 44 females averaged \$227.25, and the 27 bulls \$164.45 each.

#### Sheep

The secretary of the American Shorthorn Breeders' Association makes the following statement regarding the increase in registrations, etc., and which indicates a most healthy demand for this well-known herd.

"The receipts for 1900 were larger than any preceding year, but 1901 shows a decided increase over 1900. During the first five months of 1900 the receipts for pedigrees were \$18,856, and \$2,145.50 for certified copies, while during the same months of 1901 the receipts for pedigrees are \$26,311 and \$3,699.50 for certified copies. This is an increase of \$7,455 in pedigrees and \$1,554 in certified copies, or approximately 40 per cent. increase in the former and 75 per cent. in the latter. As certified copies are 25 cents each, this represents a demand of 14,798 copies in five months, or 113 copies for each working day."

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We agree to take off a lump of any character from either horses or cattle with FLEMING'S Lump Jaw Cure or forfeit all pay. This certain remedy for Lump Jaw has proved equally effective for cure of Spavin, Splint, Curb, Ringbone, etc. Our guarantee covers all lumps of every description. Very easy to use, can't harm, doesn't scar.

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Trade Mark

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Pure Bred Improved Yorkshire Pigs.

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# Market Review and Forecast

Office of the Farming World,  
Confederation Life Bldg.

Toronto, Sept. 25, 1901.

A better feeling has prevailed in wholesale lines during the week, and the volume of business being done is quite up to that of last year. There are some complaints in regard to general business in the Maritime Provinces which is said to be very dull. Money is firm at 5 per cent. on call with some lenders refusing to put out any under 6 per cent. Discounts on commercial paper range from 6 to 7 per cent. with fair offerings.

## Wheat.

There is reported to be a large accumulation of wheat and flour in Great Britain and which does not look very encouraging for high prices. However, the shortage in the corn crop is likely to influence the market the other way, it reports regarding it are to be relied upon. How much is another question which will have to remain unanswered for a while. A Montreal dealer said last week that he expected to see wheat selling there at 80c or over before long and corn at 70c or over. Whether this will be fulfilled or not remains to be seen. There seems to be plenty of wheat in sight and more in fact than is required for present requirements, and unless something unforeseen occurs prices are not likely to advance to a very high limit.

There is comparatively little doing in Ontario wheat though the movement is steady. New red and white is quoted here at 66½c to 67c east, and old at 68c. New is quoted at 66c middle freights; Goose is nominal at 60c middle freights and No. 1 spring at 68c east; Manitoba is steady at 84c for No. 1 hard and 79c for No. 2 Northern in transit. On Toronto farmers' market new red and white sells at 62c and old at 73½c, goose at 66c to 67c and spring 64c at 69c to 70c per bushel.

## Oats and Barley.

Quite a lot of Ontario oats are being exported and stocks are increasing. Prices are now fully 10c per bushel higher than a year ago at this time. Montreal quotations are 39c to 39½c afloat. Oats are steady here at 34½c to 35c at outside points. On the farmers' market they bring 40c to 41c for old and 38c to 39c for new per bushel.

There is little change in the barley market, quotations here being 43c to 47c per bushel at outside points. On Toronto farmers' market barley brings 48c to 53c per bushel as to quality.

## Peas and Corn

Very little is doing in peas and stocks are light. Montreal quotations are 81c to 81½c afloat. Peas are steady here at 71c north and west and 71½c to 72c middle freights. On the farmers' market they bring 72c per bushel.

Receipts of corn continue light. Canadian mixed is quoted here at

56c and yellow at 56½c west, and No. 3 American yellow at 68s Toronto.

## Wheat and Shorts.

Ontario bran is quoted at Montreal at \$15 to \$15.50 in car lots and shorts at \$17.50 to \$18.00. Manitoba bran in bags in carlots is quoted at \$15.50 to \$16.00. City mills here sell bran at \$14.00 and shorts at \$16.00 in car lots l.o.b. Toronto.

## Potatoes and Beans.

Potatoes are being marketed in larger quantities owing to the rot being prevalent in some sections. Good stock is selling at Montreal at 60c to 65c and inferior at 35c to 50c per bag. The demand here is moderate at 75c to 80c in a jobbing way.

The bean market continues firm. Montreal quotations range from \$2.15 to \$2.25 per bushel as to quality. The New York market is dull and prices have dropped to \$2.40 per bushel.

## Hay and Straw.

The outlook for the export trade in hay is good. Great Britain as well as the United States will no doubt take a considerable portion of our surplus crop. Farmers are selling a little more freely than last year at this time which helps trade. Sales of new baled hay are reported at country points east at from \$5.50 for clover to \$6.50 and \$7.00 for No. 2 in car lots l.o.b. At Montreal new hay is quoted at \$9 for No. 1, Timothy \$7.50 to \$8 for No. 2, and \$6.50 to \$7.00 for clover. Cuts of baled hay are selling here at \$8.50 to \$9.00; and straw at \$5.00 to \$5.25 on track. On Toronto farmers' market hay brings \$10.50 to \$12.00, shai straw \$10.50, and loose straw 8c per ton.

## Eggs and Poultry

There is a much firmer market at Montreal for eggs under a good local and export demand. From 12½c to 13½c l.o.b. have been paid at Ontario points for large lots. The offerings here are light and quotations are 13c to 13½c for the best and 12c to 12½c in case lots. On the farmers' market here new laid bring 15c to 18c per dozen.

The dressed poultry trade will soon be opening up and the outlook for prices is good. Prices here are 40c to 50c per pair for live and dressed chickens and 12c per lb. for young and 9c to 10c for old turkeys. On Toronto farmers market dressed chickens bring

50c to 70c and live 40c to 60c and ducks 60c to 80c per pair and turkeys 10c to 12c per lb.

The Canadian Produce Co., 36 and 38 Esplanade East, Toronto, will pay up to Oct. 3, for spring chickens, 6c per lb. For hens (including last year's birds) 4c per lb. For ducklings 4c per lb. Crates supplied free and express paid up to 50c per 100 lbs. of birds. These prices are for live weight.

## Fruit

The apple market keeps steady though there is comparatively little contracting on export account as prices are considered too high. The sale is reported at Ontario points west of 6,000 to 8,000 barrels at \$2.75 per bbl. for late fall and \$3.25 l.o.b. for winter stock. Late fall stock is quoted at Montreal at \$2.20 to \$2.25 and fancy fruit at \$2.50 to \$3.00 per bbl. The American apple crop from late advices promises to be better than was expected. At Toronto fruit market apples bring \$2.00 to \$3.00 pears \$2.00 to \$2.50 per bbl.

## Cheese

There is an improved feeling in cheese and there are more inquiries for stocks. The cause of the recent dullness is said to be the hard month buying, followed by the English trade this season. Prices, however, are very reasonably just now and it would not be surprising to see more active buying on English account at any time. The country markets have all shown an advance over a week ago and the export demand, though not overly active shows a healthier tone. Montreal quotations are 9½c to 9¾c for finest Eastern and 9½c to 9¾c for finest Western's. The combined exports of cheese from Canada and the United States so far this season show a decrease of 372,540 boxes as compared with the same period of last year. At the local markets during the week, prices have ranged from 9½c to 9¾c with more active bidding.

## Butter

There is a much healthier outlook for choice late made creamery though other brands show little change. The Australian season this year will likely be late, which will be all the better for the Canadian trade. The Trade Bulletin sums up last week's trade as follows:

There has undoubtedly been a better demand for choice late-made creamery, which has sold at 20½c

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THE CANADIAN PRODUCE CO., TORONTO

to 20¢, with fancy specials commanding 21¢. But quite a lot of North Shore and Quebec goods of fine quality have changed hands at 20¢ to 20½¢, about 2,500 packages selling at those prices. A round lot of fine Western creamery changed hands at 20¢. There is quite a lot of secondary grades pressing on the market, which are offered at 19½¢ to 19¼¢, showing good useful qualities, but which are not wanted for export. These are used for local purposes, and are in excess of the demand. Manitoba creamery has sold at 17½¢ to 18¢. In dairy butter there is a dull dragging market, a few lots selling for the Lower Ports and Newfoundland trade at 15½¢ to 16½¢ for Western and 14½¢ to 15¢ for Manitoba.

Creamery is steady here at 21¢ to 21½¢ for prints. Inferior tubs are selling down to 18½¢ to 20¢. There is a fair demand for best dairy tubs and pails at 16¢ to 17½¢, and 12¢ to 14¢ for low grades. Dairy pound rolls are in good demand at 17¢ to 18¢ in a jobbing way. On Toronto farmers' market pound rolls bring 18¢ to 20¢ and clocks 16¢ to 19¢ per lb.

**Cattle.**

Top grades continue strong and steady at all the leading American markets. Good to prime sold at Chicago on Friday at \$5.55 to \$5.60 per cwt. Cable quotations were firmer at the end of the week. The run of live stock on Friday at the Toronto cattle market was fairly large consisting of 895 cattle, 2,000 hogs, 1,448 sheep and lambs and 30 calves. Generally speaking the quality of the fat cattle was far from being first-class. Only a few good lots being out. Trade was brisk early in the day, till the good ones were all disposed of after which the market was slow and prices easy for inferior to common grades. Feeders and stockers of good quality are scarce and firm at quotations. Good milk cows are also scarce, with prices firm at quotations given below.

Export Cattle.—Choice loads of these are worth from \$4.80 to \$4.90 per cwt., and light ones \$4.35 to \$4.70 per cwt. Heavy export bulls sold at \$3.00 to \$4.25 and light ones at \$3.60 to \$3.75 per cwt.

Butchers' Cattle.—Choice picked lots of these, equal in quality to the best exporters, weighing 1,075 to 1,150 lbs, each, sold at \$4.40 to \$4.60 per cwt., good cattle at \$4.00 to \$4.35, medium at \$3.50 to \$3.70, and inferior to common at \$2.50 to \$3.15 per cwt.

Feeders—Heavy, well-bred steers from 1,100 to 1,200 lbs each, sold at \$4.00 to \$4.25, and other quality at \$3.50 to \$3.75 per cwt., Light steers, 900 to 1,000 lbs. each sold at \$3.25 to \$3.40 per cwt.

Stockers.—Yearling steers, 500 to 800 lbs. each, sold at \$3 to \$3.25, off colors, and inferior quality at \$2.50 per cwt.

Calves.—These are steady at Buffalo. Good to choice veal brings \$7.50 to \$7.75 per cwt. At Toron-

to market ordinary calves bring \$2 to \$10.00 each.

Milk Cows.—Milk cows and springers sold at from \$30 to \$50 each.

**Sheep and Lambs**

Strictly good Canada lambs weighing 75 lbs. are selling at Buffalo at \$5.25 to \$5.35 per cwt. Good feeding lambs sell there at about 4¢ per lb. There was a large run of sheep at Toronto on Friday and prices were easy, owing largely to space for export sheep being scarce. Ewes sold at \$3.35 to \$3.40 and bucks at \$2.50 to \$2.75 per cwt. Spring lambs sold at \$2.50 to \$3.50 each, and \$3.75 to \$4 per cwt.

**Hogs**

The hog market continues firm with no change in values. On Friday best select bacon hogs sold at \$7.37½ per cwt. and lights and fats at \$7 per cwt. Unculled lots sold at about \$7.25 per cwt.

The Wm. Davies Co., Toronto, for the week ending Sept. 28, will pay \$7.37½ per cwt. for select bacon hogs and \$7.00 for lights and fats.

**Horses.**

While the auction sales at Grand's last week were well attended there was only a fair business done. Quite a number of horses were sold, but prices were low and did not show the real values of the market. At this season a great many horses are put upon the market that have been in use during the summer and which are offered without reserve, thus reducing prices considerably. Those sold were mostly drivers and general purpose horses. General trade is about as usual for this season.

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AND

### A. H. BAKER, V.S.,

Veterinary Editor "American Field"; Veterinary Surgeon Illinois Humane Society; Medalist of the Montreal Veterinary College; Member of the Montreal Veterinary Medical Association, etc., etc.

With important articles and contributions from the following Professors of the Ontario Agricultural College of Guelph, Ontario, Canada:

**G. E. DAY, B.S.A.,**

Professor of Agriculture and Farm Superintendent.

**H. H. DEAN, B.S.A.,**

Professor of Dairy Husbandry.

**J. HUGO REED, B.S.A.,**

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President Ontario School of Agriculture, Guelph, Ont.

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D. McEACHRAN, F.R.C., V.S.,  
Principal Montreal Veterinary College, and Chief Dominion Stock Inspector.

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GENTLEMEN.—I consider your "New Pictorial Cyclopaedia of Live Stock" an extremely useful book for the stock-man and the general farmer. The additions which have been made in each department makes it a completely up-to-date book. The photographs of the leading animals of the various breeds constitute an education in themselves for the young man interested in live stock. I am contributing to the Swine Department.

G. E. DAY,  
Prof. of Agriculture and Farm Supt., Ontario Agricultural College, Guelph

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H. H. DEAN,

Prof. Dairy Husbandry, Ontario Agricultural College, Guelph.

[Prof. Dean is too modest to recommend specially that portion of the work referring to the Dairy Husbandry, as he is writing that portion himself.]

GUELPH, May 1, 1901.

World Publishing Co., Guelph, Ont.:

GENTLEMEN.—I have carefully examined your "New Pictorial Cyclopaedia of Live Stock" and find it very complete in all departments. It is a book that should be of great value to all farmers. As to the part of the work devoted to Poultry, the fact that I myself, contribute to that portion shows that I approve of the same fully.

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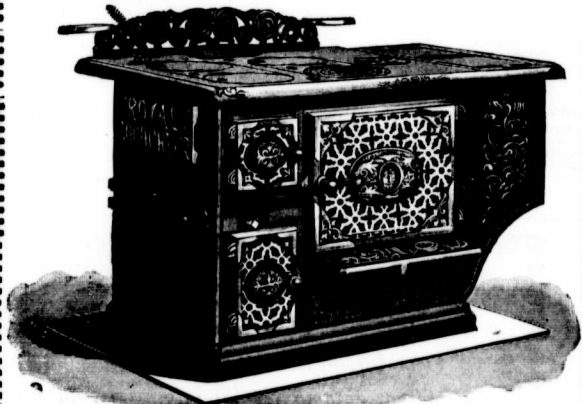


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