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FARMER'S ADVOCATE

AND HOME MAGAZINE.

FOUNDED 1866.

VOL. XXIII.

LONDON, ONT., AUGUST, 1888.

Whole No. 272.

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THE FARMER'S ADVOCATE & HOME MAGAZINE

WILLIAM WELD, EDITOR AND PROPRIETOR.

THE LEADING AGRICULTURAL JOURNAL PUBLISHED IN THE DOMINION.

The FARMER'S ADVOCATE is published on or about the 1st of each month. It is impartial and independent of all classes of parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for farmers, dairymen, gardeners and stockmen, of any publication in Canada.

Terms of Subscription—\$1.00 per year in advance; 25c if in arrears; single copies, 10c. each. New subscriptions can commence with any month.

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Our Monthly Prize Essays.

CONDITIONS OF COMPETITION.

- 1.—No award will be made unless one essay at least comes up to the standard for publication.
- 2.—The essays will be judged by the ideas, arguments, conciseness and conformity with the subject, and not by the grammar, punctuation or spelling, our object being to encourage farmers who have enjoyed few educational advantages.
- 3.—Should one or more essays, in addition to the one receiving the first prize, present a different view of the question, a second prize will be awarded, but the payment will be in agricultural books. First prize essayists may choose books or money, or prize essayists may order books from our advertised list must be sent in not later than the 15th of the month in which the essays appear. Second prize essayists may order books for any amount not exceeding \$3.00, but no balance will be remitted in cash. When first prize essayists mention nothing about books, we will remit the money.

A prize of \$5 for the best original essay on *Is Sheep Raising Profitable in Canada, and What are the Future Prospects?* has been awarded to Ernest L. Black, Nova Scotia.

A prize of \$5 will be given for the best original essay on *Is Hog Raising Profitable in Canada? What is the Most Economical System of Feeding and General Management? What is the Future Outlook?* Essays to be handed in not later than August 15th.

A prize of \$5 will be given for the best original essay on *The Best, Simplest and Easiest Form of Book-keeping for Farmers?* Essays to be handed in not later than Sept. 15th.

We want good live agents in every county. Farmer's sons and daughters who have read the ADVOCATE can do well canvassing for us. Do not let a visiting neighbor go home without subscribing. Secure a cash commission or a prize.

Editorial.

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On the Wing.

(Continued from Vol. 22, No. 6.)

THE PACIFIC SLOPE NO. 2.

From San Francisco we went to Los Angeles. Here the excitement in land speculation was something almost incredible, we believe unprecedented. Hotel accommodation was to many unattainable, even at very high rates, and such was the rush for baggage at the stations that it caused a delay to many of half a day or a day. Hundreds of people were blocked in rows for long distances to wait perhaps hours before they could get a letter at the Post Office. Never before did we see half as many land agent offices at any place. We stepped into some of them, the occupants are pretty sharp business men and know all about the country; they are very courteous and bland, and go to any amount of pains and even expense to secure business—horses and carriages are at their command, and a drive attainable by almost any prospective purchaser. They are sure to have the best bargain ever known either in house property, corner lots, towns, cities, fruit or grain farms, water privileges, mines, timber and ranches; they will make a fortune sure for the purchaser in a few days, months or years; they try to show that no such climate or such prospects ever existed; that people are rushing in from all parts of the world; that Southern California is to be the most densely populated place that ever existed; they point you to individuals who have made money in a short time; they try to increase the excitement, which is already awakened in the visitor, expectant settler, or speculator, and the majority that have a few dollars or a few millions are pretty sure to have less in a very short time if they are not extra cautious, and well posted about all other parts of the world. We informed one we were from Canada. He had been there: had lived there; could not stand that climate, it was too wet and too cold; he must have fruit; would have been dead long ago had he remained there; you have ice palaces there, lots of frozen ears, toes and noses (here he shudders); rather be dead than try to exist there; had hard work to live; felt no pleasure in such a climate; Canadians all coming here as fast as they can get away, etc., etc. Such are their meshes, and "tender feet," as new arrivals are termed, soon drop their money and are anchored there for life, or death. Once there they must lead all the advantages and cloak the defects, or there would be but little prospects of

their ever realizing anything for either time or money, or they might be rated out.

Many of the old settlers have made large fortunes by the rise in land; many speculators have also done well, and many have been badly bitten. The climate is pleasant; vegetation under irrigation is grand, and the inhabitants are progressive. Speculation has, we think, exceeded itself, and many collapses may follow, but there will be bread for the industrious. The orange groves and vineyards in the suburbs of Los Angeles are being cut down, and cement pavements are being laid through them, and building lots being sold. We went to the ostrich farm, about six miles distant. A railroad ran to it, having been but recently cut through the mountains. This is rather a pretty locality, it is a large, flat, partially surrounded by high hills. There were about 70 ostriches, most of which were young. Some of the old birds cost a large sum.

At San Diego the excitement is about as great as at Los Angeles. In fact, the whole country is filled with plans of towns and cities, and the rush to secure sites has been such that the railroad company could not supply cars enough, or run trains enough to carry the passengers, and actually paid the board of those holding through tickets till they could get them away.

We stepped off at Pasedeno. This is a pretty place. The Raymond House is one of the pleasure and health resorts, and is located on a high hill, surrounded by fertile flats. This is a comparatively new place that has recently sprung up, and in a few years will become a lovely spot. For miles on the flats fruit cultivation is being successfully carried on.

From here we go to Riverside. This is considered the best locality for the cultivation of the orange. It is claimed that they can be more economically raised here, and of a better quality than in Northern California. Their system of irrigation is the best we have ever seen. The crops of oranges are magnificent. We drove six miles into the country, and such a splendid appearance of semi-tropical agricultural production we had never seen before. The road, or rather the double road, was planted on one side with the Australian gum tree—a rapid growing tree having long, thick, glossy leaves, which appears the most thrifty timber tree that will thrive in this climate without irrigation, excepting pines and firs. On the opposite side was a row of palm trees, the main bodies of which are about two feet in circumference, and perhaps ten or twelve feet high, from which the long, beautiful and gracefully branching leaves grow, perhaps to about twenty feet in length.

In the centre of the road a row of pepper trees were growing, about twenty-five feet high. These trees are all evergreens. The people generally drive up one side and down the other. Thus it appear like two roads. There was no fence on either side of the road, except for ornamentation about a residence. The crops of golden-looking oranges were diversified here and there with a vineyard or olive plantation. The orange groves were scrupulously clean, not a weed of any kind was to be seen. Here and there

business would soon cease. Riverside is a very nice place, and a fine class of people are located there. It is destined to hold its own with any other place we have seen.

Farmer's Advocate Wheat No. 88.

The Farmer's Advocate Wheat No. 88 is to us a new variety not yet catalogued or described in any seedman's list that we have seen. It is a wheat of much promise, and we believe it will equal in some respects our celebrated wheats,

Scott, Democrat, etc., disseminated in four and six oz. packages. We strongly advise any farmer that raises fall wheat to procure a package. We do not intend this year to inform anyone the full particulars of where we procured it or the color of this wheat. It is to prevent swindlers from robbing you. Were we to give the slightest chance your doors would be besieged with oily-tongued deceivers. The FARMER'S ADVOCATE and this wheat go together—we will not sell one pound to anyone.

The Farmer's Advocate Grain Sheet, showing List of Fall Wheats Tested in 1888.

No.	NAME.	WHEN SOWN.	WHEN RIPE.	LONG STRAW.	SHORT STRAW.	MEDIUM.	BEARDED.	BALD.	SQUARE HEAD.	LONG HEAD.	MEDIUM.	CLOSE.	OPEN.	WEAK STRAW.	STIFF STRAW.	COLOR OF GRAIN.	COLOR OF CHAFF.	YIELD PER ACRE.
1	Democrat.....	Sept 12	July 13	"	"	"	"	"	"	"	"	"	"	"	"	Amber	White	.....
2	Tasmania.....	12	13	"	"	"	"	"	"	"	"	"	"	"	"	Red	Red	.....
3	Patagonian Trigo.....	12	12	"	"	"	"	"	"	"	"	"	"	"	"	Red	Red	.....
4	Bager.....	12	12	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
5	Longberry.....	12	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
6	Sibley's New Golden.....	12	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	Red	.....
7	Eureka or Surprise.....	12	16	"	"	"	"	"	"	"	"	"	"	"	"	White	White	.....
8	High Grade.....	12	18	"	"	"	"	"	"	"	"	"	"	"	"	Amber	White	.....
9	Garfield.....	12	16	"	"	"	"	"	"	"	"	"	"	"	"	White	White	.....
10	Ontario Wonder.....	12	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
11	Martin Amber.....	12	18	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
12	Scott.....	12	16	"	"	"	"	"	"	"	"	"	"	"	"	Amber	White	.....
13	Early Rice.....	12	12	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
14	Red Lion.....	12	18	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
15	Manchester.....	12	12	"	"	"	"	"	"	"	"	"	"	"	"	Red	Red	.....
16	Valley.....	12	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
17	Roscoe.....	12	16	"	"	"	"	"	"	"	"	"	"	"	"	White	Red	.....
18	Bearded King.....	12	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
19	Hybrid Mediterranean.....	12	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	Red	.....
20	Fultz.....	12	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
21	Unnamed No. 1.....	12	13	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
22	Wyandot Red.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	Amber	White	.....
23	Miller's Prolific.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
24	Royal Australian.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	White	White	.....
25	Hungarian.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	White	Red	.....
26	Landreth.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
27	Extra Early Oakley.....	24	13	"	"	"	"	"	"	"	"	"	"	"	"	White	White	.....
28	Winter Pearl.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
29	Rocky Mountain.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	White	Red	.....
30	Theiss.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
31	Silver Chaff.....	24	18	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
32	Deitz.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	White	White	.....
33	Tuscan Island.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
34	Golden Prolific.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
35	Colpays Hybrid.....	12	16	"	"	"	"	"	"	"	"	"	"	"	"	White	White	.....
36	Blue Stem.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	Red	.....
37	Niagara Red.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	Red	.....
38	Raub's Black Prolific.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	Red	.....
39	Roger.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	Red	.....
40	Unnamed No. 2.....	12	13	"	"	"	"	"	"	"	"	"	"	"	"	Red	White	.....
41	Clawson.....	24	16	"	"	"	"	"	"	"	"	"	"	"	"	Red	Red	.....

The above list was prepared, expressly for us, from data obtained from several reliable sources, including the test grounds of Jno. S. Pearce & Co. who tested 90 varieties of fall wheat this year, 25 varieties were winter killed, and 24 partially killed, the 41 given in the table stood the winter well. The latest sown plots produced the least amount of straw. There was no material difference in the time of ripening between the late and early sown plots. The red varieties are the most promising as yielders. The seed was sown about the same as with a grain drill, and the preparation was the same for all varieties tested. We found that the poorer the soil the greater necessity for heavy seeding. In most of the fall wheat growing belt of Ontario, especially where the land produces a large amount of straw, we find from September the 5th to the 24th the best time to sow; but where the land produces a small quantity of straw, as in many of the counties north of Lake Ontario, the last ten days of August is, perhaps, the best time. From one inch to one and one-half is the proper depth to cover the seed. We have given two unnamed varieties in our list, these are very promising kinds, which we deem advisable to test another year before introducing. We have four other varieties competing for our \$50 prize which we do not think judicious to tabulate this season.

the system of irrigation was being carried out. Can you imagine a much grander drive. We inquired the price of one of the fruit farms, comprising 18 acres, with a comfortable house on it. The price was forty-five thousand dollars. We estimated the prospective profits, but failed to see any money in it for the purchaser for fruit raising. Practical men informed me that the prices now being asked and realized are far beyond real values, and that the existing boom must collapse. Land agents still say the land must increase in value. If they did not, their

Scott, Clawson or Democrat. A four ounce package of it will be sent to any person that sends us in their own subscription and one other new subscriber to the ADVOCATE. Any old subscriber may have a package by sending in one new subscriber for 1889. The subscription price, \$1, must accompany the name. The remainder of this year's numbers will be sent free.

It is many years since we have found such a promising variety. You are all aware that the most valuable wheat now raised in Canada were introduced by us, namely:—The Fife, Clawson

We were also the first to introduce the Early Rose potato, which has paid our farmers so well. Our wheats have always proved good. Be the first to procure the best in your neighborhood.

All who receive packages are requested to send us reports of growth and yield.

The second prize essay on sheep raising will be published in the September number. This is a very important question and one which should receive much attention from our farmers. Canada produces the best mutton in America. There is a growing demand for it.

London, Ont.

Having recently given accounts of our journeying in different parts of this continent and in Europe, we now propose giving a brief account of our home, the western part of Ontario, of which London is the business centre, which we more clearly depict by the accompanying diagram. As a railroad centre it is unequalled in this Dominion, having now eight leading lines running into it, viz.: Grand Trunk, Michigan Central, Canada Pacific, London, Huron & Bruce, London & Port Stanley, Georgian Bay & Lake Erie, and London & Sarnia, and being on the shortest and most direct route between New York and Chicago and the west. Continental travellers should be made aware of this fact, that the shortest route is by Niagara Falls through London. Many railroad agents, interested in other lines, will try to conceal this fact.

The large sums that have been expended to depict the advantages of other localities both by State and Provincial expenditures may have tended to divert the attention of those deserving prosperity and a comfortable home, and even good settlers have been induced to go to localities or to invest their means where they will never see their money again, and can never make for themselves comfortable homes. We have for the past forty years been in search of a better locality, but without avail. In no part of the world, that we have ever visited, are there a more prosperous, independent and progressive lot of farmers than in this locality — farmers that own their land, till it personally, drive good horses and carriages, and are out of debt.

London is an inland city, and is supported by this class. The quality of the land, the abundance and purity of the water, the healthfulness of the climate, the excellent roads, and the perfection in which the most varied and valuable of farm products can be produced, make this western peninsula the favorite location for the agriculturist, the dairyman, the fruit grower, the beef and cereal producer. In this locality nut-bearing trees, such as black walnut, hickory, butternut, chestnut and white oak, thrive better than in any other part of Canada. Here the ground is covered with a beautiful mat of green flourishing grass, which in reality is more pleasing than the lauded magnolia or palm.

London now has 35,000 inhabitants. It has the largest and best cheese market in Canada; it is rapidly taking the lead as one of the great fruit centres of Ontario; drying factories are established in its vicinity, fruit canning factories are now being established; these will before long become a great industry. Medical, theological and military colleges are already established here. The beautiful park-like, maple-shaded avenues, with verdant boulevards, from all of which a fine view

is had of the rolling lands, hills and trees, tend to make it admired by all, and entitle it to the name it bears of "The Forest City." A large sanitarium is in contemplation, and it already has its sulphur baths. Pleasure steamers ply on the river to and from Springbank, the location of the water-works, where the springs are which supply the city with the purest of water—water so cool and pure that brook trout, the most delicate of fish, are kept alive in many of the small aquariums in the city. Workshops, to employ a thousand more hands, are expected to be built shortly.

It has previously been admitted that London had the best purely agricultural exhibition held on this continent; since then a disturbing element caused a friction, but now the affairs are settled. New buildings have been erected, and an onward march is now confidently expected, to which the

The Farm.

"Old" and "New Process" Bran.

Since the introduction of the roller process for crushing wheat at the flour mills, instead of grinding it between mill stones, farmers who feed bran, have noticed that the roller process cleans it more thoroughly of its starchy particles, giving a product that certainly looks to be of less value for feeding than the bran from the mill stone system of grinding. Some farmers who have formerly fed bran or shorts quite freely to their dairy cows have become so distrustful of the new process bran that they have discontinued its use entirely, or have fed it far less freely. The roller process bran is coarser, and looks and feels more like sawdust than does that from the old process. But looks are sometimes very deceptive. It has been one of the tricks of the trade, practised for many years past, to re-grind coarse bran and sell it several dollars per ton higher, although nothing has actually been added to it. Re-grinding changes coarse, harsh-feeling bran, to a soft, floury material, that will deceive almost any one not familiar with the goods. Knowing ones have continued buying the coarse, unground bran, and have thus saved a considerable expense for grinding, and for being deceived.

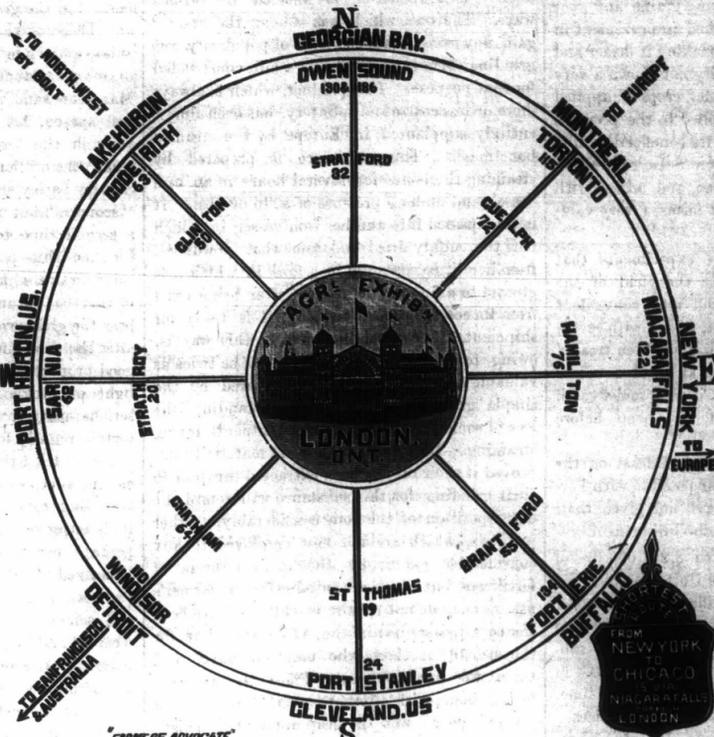
There may be a question whether cattle can digest coarse bran as thoroughly as the same after being re-ground. If they can not, it may pay to grind it, if no more than the cost of grinding be added.

The Agricultural Experiment Station connected with the Wisconsin University, has lately been looking into this matter, and has issued a bulletin in which it is stated that roller process bran differs from "old process" bran in containing

more protein, so that, in spite of its unpromising appearance, the roller bran must be more valuable as feed, than the old process bran, particularly if fed with the ordinary coarse fodders of the farm, which are deficient in protein.

Eastern cattle feeders, who have been accustomed to buying large quantities of bran for feeding their animals, should therefore not discard the roller bran without thoroughly testing its value by actual trial of comparison with the old goods. It should be remembered that bran has high manurial value in addition to its value as food, and it may be profitable to purchase it for feeding freely, even though it is not perfectly digested. The soil has more time than the cow for getting the valuable elements out of it. Feed it, first letting the cow take what she can, then apply the manure to the land, and the entire value of the material will be utilized.

Pure bred animals are easily obtained by sending us new subscribers. See our prize list in other columns.



A DIAGRAM SHOWING DISTANCES FROM LEADING POINTS TO LONDON, THE CENTRE OF WESTERN ONTARIO.

crops of the present year, within the radius of our diagram, give hope to every one; they have not looked more promising in this vicinity for many years as they do now.

We are informed by Mr. John Dyke, the Canadian Government Agent at Liverpool, says the Canadian Gazette, that there is at present so great a demand for Manitoba red spring wheat at Liverpool that any presented for sale is immediately snapped up. Messrs. Ross and Smith, Mr. Dyke adds, paid at the Liverpool Corn Exchange on Friday seven shillings and a penny per cental for a parcel of this wheat, this being threepence-halfpenny more than we paid for any Californian wheat or for wheat from any other country.

The FARMER'S ADVOCATE is edited by a farmer for the farmers. Their interests are its interests. We want good agents in every section to whom we will pay very liberal commissions in cash or in prizes. See prize list.

Fertilizers.

NO. II.

Bone dust, like all other fertilizers containing phosphoric acid, are very valuable on clay soils but, unless these are well supplied with organic matter, they should only be used in connection with farm-yard manure, muck, compost or some other substance containing a large percentage of organic matter. On very stiff and tenacious soils superphosphates would be preferable to bone-dust, but on all others the latter deserves the preference, unless it cannot be applied until shortly before the crop is sown. For in order to obtain good results, especially on the heavier soils, it should be sown the previous fall for all spring crops.

As a general rule bone dust gives the best returns when used for fall grains, but is also used with very favorable results on spring grains and root crops. It causes a very marked improvement in the quality of the potato, making it firmer and more mealy. It has generally not shown a very marked improvement on fodder crops if applied directly, but if liberally supplied to the previous crop it has generally shown its beneficial results on them the following season. In connection with compost, ashes and lime, and mixed with a large percentage of soil, it forms a very valuable fertilizer for meadows.

If it has been proven by experiments that bones will materially increase the yield of the crop on the farm, the best and most convenient way to apply it is to spread it, mixed with earth, on the manure heap. If it has not been treated in this manner, and the meal is of a coarse nature, it is advisable to mix it with moist earth and to allow it to ferment in a heap before applying it.

Bone dust should be sown broadcast on the land, and buried as deeply as possible with harrow or cultivator. They have not given their best results when applied in the hill or drill.

Last year Canada exported 8,257,000 lbs. of this valuable material to the United States, for which we received only a trifle more than 58c. per cwt., or in other words not quite a quarter of the fertilizing value of bone dust; for this substance, if of good quality, should contain 24% of phosphoric acid, 3% of nitrogen, and 31% of lime. These substances, at their present market prices—nitrogen in finely ground bone, 16½ cts.; phosphoric acid in finely ground bone, 8 cts.; lime is, generally, not taken into consideration, as the soils are generally well supplied with this constituent—would realize \$2.40, which would, therefore, be the value of a cwt. of fine bone dust. Every good farmer would denounce the practice of selling hay and coarse fodders; but what are Canadians doing when they sell bones, ashes and similar substances to the Americans (their competitors in agriculture); allow their manure heaps to be washed by rain, and other valuable fertilizing materials to go to waste? They are taking the very souls out of their farms, which, if they do not mend their ways, will become barren wastes before many generations have passed away. You may say other countries have pursued the same plan in years gone by. This is no doubt true; but they have had to buy fertilizers or their equivalent from other countries, and these again from others; but where are we going to buy when we find our farms at the verge of bankruptcy? And even if we could get them would it not be more economical to use our own

resources now and keep up our fertility than to buy it back again in future at a very much advanced price? Surely if our American brethren, who do not possess advantages superior to our own, can afford to pay the freight and the profits of the various middlemen in addition to the price the farmer here receives for these substances, the latter ought to make a fortune off them if he used them himself. Save all your fertilizing materials, they may only appear to be trifles, but trifle added to trifle will soon make a large amount, and it is from trifles that a large proportion of the profits are derived.

Bones are of comparatively little value if placed on the fields in their entire state, for they then require a long term of years before giving any returns; but if reduced to a powder (the finer the better), they are a very valuable fertilizer. This reduction is effected in various ways. The one which was among the first to gain any considerable extent of popularity was grinding them into powder by a mill constructed for that purpose. This product, which is always more or less coarse and splintery, has been almost entirely supplanted in Europe by the steamed bone-meal. This substance is prepared by steaming the bones for several hours in an iron vessel, and under a pressure of 50 to 60 lbs. It is then passed into another iron vessel, in which it is thoroughly dried and somewhat powdered, from here it is conveyed to a mill in which it is ground to a fine powder, when, after being freed from its coarser parts by sifting, it is ready for shipment. The meal prepared in this way is, owing to its fineness, considered to be twice as valuable as some of the grades prepared by the simple grinding process, notwithstanding the loss of some of its nitrogenous constituents during steaming. Both these brands are materially improved if their oil has been extracted previous to their grinding, for this substance will retard the decomposition of the bone considerably. Other methods, which are not now employed to any considerable extent by the manufacturers of fertilizers, but which are suitable for the farmer's use, as they do not require machinery, have been frequently described in the *Advocate*, but for the benefit of those who may not have read them we briefly repeat:—Place the coarsely broken bone, with alternate layers of ashes, on a covered floor; wet the heap until all is moist; shovel over occasionally till a blow with the shovel will reduce them to a powder; pound them and sift out the coarser parts, and repeat with them the operation. Another more efficient, but more troublesome way, is to boil the bones in lye obtained by leaching ashes with warm water. Composting or fermenting them with liquid excrements is also employed to make them more soluble. Superphosphate of bone is made by treating the bone-meal with dilute sulphuric acid, and sometimes with liquid excrement, but in this latter process a large percentage of the nitrogen is liable to be lost. In Europe the steamed bone-meal is, however, preferred to this as well as any other preparation of bone. The bone-black, a by-product of the sugar refineries; bone-ash, the remnants from the bone used as fuel in some parts of South America, and their superphosphates, are substances having little or no nitrogen, and are but little used in Canada; but the bone-black, which in the French method of sugar-refinement receives a considerable addition of blood, is extensively used by that nation with good results.

[TO BE CONTINUED.]

Barley Smut—A Word of Caution.

BY THOS. ELMES, PRINCETON, ONT.

During the past two seasons smut has increased to an alarming extent. This season I have visited some of the best barley growing districts of Ontario, and find all fields affected, and some of them very badly indeed, sufficiently to ruin the crop for sale and for seed, if proper care is not taken.

The increase of smut is due to several causes, viz.: Sowing the same seed year after year on the same land. Unfavorable seasons, such as alternate heat, cold and drouth, and during the past two seasons its rapid increase has, perhaps, been caused by the "barley scourer" attachment on the threshing machines. These grind the smut to powder and rubs it into the grain, which, not being passed through the fanning mill, is deposited in the granary, where it sweats slightly, and becomes thoroughly impregnated with the smut, and when sown next season is sure to produce a great abundance of this fungoid growth. Many thousand bushels were rendered unsaleable last season, being blackened by being passed through the "scourer." This season it may reach the millions if the same plan is adopted. Smutty barley should not be passed through the "scourer," but through the threshing machine a second time to remove the beards and smut, for then while passing through the mill all the smut grains which are broken are blown out, or, if this be too much trouble at threshing time, pass the grain over a fanning mill immediately after the threshing is done. This will remove a good proportion of the smut, at least all that is light or broken. Smut is beginning to be a serious matter, as I do not believe there is a certain remedy for it.

I have tried the many so-called remedies, such as bluestone, washing soda, etc. These I applied according to directions; but as they made but little improvement in the crop, I thought I had, perhaps, not done it properly. But this spring I received from the Experimental Farm, Ottawa, Ladoga spring wheat, which had been thoroughly and scientifically treated—indeed the grain I received had become so harsh and dry from the poisonous dressing that we were afraid it would not germinate, but it grew well, and so did the smut, for it constituted 14 per cent of the entire yield; while four acres of Rio Grande wheat, of my own seed (not treated), just across the furrow, was without smut. I believe the best remedy for it is to reject all seed grain which contains smut, and not sow on land that has produced it, if possible; but I believe the germs will not remain in the soil more than one year, if not renewed by grain being sown on the same land. To satisfy myself that grain can be impregnated with smut, I took some barley entirely free from it; took smut from other grain, dampened it and rubbed the smut on it till it was thoroughly blackened. This I sowed close beside some not thus treated. The grain treated produced twenty-five per cent. smut, while the other was entirely free. So, I believe, the greatest caution should be used in the selection of seed, threshing, and cleaning the grain as soon as threshed. Believing this matter worthy of very serious consideration, I have written these few words of caution to my brother farmers, hoping it will prove a benefit and guidance to them in the future.

Experiments with wheats at the New York station give strong evidence that compacting the soil aids the plants to resist winter killing and favors increased yield.

SECOND PRIZE ESSAY.

How Can Farmers Best Protect Themselves Against Combines?

BY JAMES HAWKINS.

The owner of any domestic animal will generally treat his brute with consideration, not always on the score of humanity, but from self interest. From like motives, if from no other, the slave-holder provided wholesome food and necessary clothing. The slave was also permitted to have a breathing spell and a few moments to dance, sing and tune the old banjo. The Canadian farmer, though he boasts of freedom and a high state of civilization, finds himself the victim of a system, even more than slavery, for what care these vampires in human form, the ringsters, whether the poor farmer has wholesome food to eat or garments to shield him from the storm. If the farmer, or one of his family is sick, he must pay the extortionate charges of a combined medical faculty, who have had and still possess sufficient influence to have laws enacted, to enable them legally to extort the last dollar from the unfortunate. Is he bereaved of a loved one by the grim monster death, the undertaker charges him frequently three times the real value for his services, and his furnishings of the paraphernalia of the dead. Almost everything he must buy from a pin to a binder is under the control of rings and monopolies. If this were all, even this would be tolerable, but a much more grinding tyranny and injustice is forced upon him in the case of what he has to sell. From the small buyer in the country village or town to the great ringsters in the world's emporiums, all conspire to fleece him of his store, and sink him to poverty and ruin. Whenever an article not produced by the farmers becomes too low in price, so that it is not considered profitable handling, a combine is formed, and no matter what the method, the effect is the same. It matters not, however, what it cost the farmer to produce his commodities, he must accept the price set upon it by others. The lower the price the more he taxes muscle and brain to produce more to make up the deficit, and the more he produces the lower the price will become.

Who then is to blame for this state of things? I reply, principally the farmers themselves. "Eternal vigilance is the price of liberty." All the way back, the centuries history teaches us whenever a nation or a people become the mere dupes and vassals of rascals, whose only aim is money and power, then that nation or people is doomed to destruction and oblivion. I assert that only for the wonderful capabilities and great natural resources of Ontario, her people would be in a more deplorable condition than Ireland. I have repeatedly heard this assertion made by intelligent and educated Irishmen, who were thoroughly conversant with the state and conditions of both countries. "The sheep which bleats looses a bite of grass," and the Canadian farmer thinks he has no time to look after the interest of his calling. He cannot afford even a couple of hours once a month at a club meeting gotten up for his special benefit. He cannot afford to read his own literature, and has no money to get it or time to read it. Is there one important question affecting him more than all others, then he is quite satisfied that a handful of professionals should do the thinking for him. He voted for them at the polling booth and thinks that completes his share of the responsibility.

If it were possible to allow without interference the whole body of agriculturists to be united on any one question they could be divided as if by magic by a simple wave of the political whip. When the farmers of Canada are so stupid in prejudice by political bias, is it any wonder that they have become the victims of scheming monopolists? The cure must be a radical one; the farmers must throw aside for ever the shackles of torism and gritism. They must do more thinking for themselves, even at the expense of less physical labor; they must form clubs and associations for the purpose of forwarding their own interest, and cast aside that silly idea that time spent at these meetings is lost. They must read their own literature and read less political trash, and above all in this reading age they must support, even to the last dollar, periodicals devoted to them and their interest alone. A widely circulated agricultural paper is undoubtedly the most powerful agency the farmers possess to free themselves of the impending thralldom which now threatens them. Farmers, you may protect yourselves against combines, corruption and misgovernment by a little effort. Will you make this effort? or will you allow the chains to be fastened around you tighter and tighter? Rid yourselves of old prejudices. What odds to you how your father voted? Would it be wise for you to imitate the follies of your father? Do your own thinking; attend to your farmers' clubs or institutions; help to form new ones; support agricultural periodicals, who have stood up for your interest against fearful odds. In so doing you will not only benefit yourselves but you will save your country.

The Farmer's Friends.

Concluding his remarks on injurious insects in the Husbandman, Mr. G. D. Halst says:—It may also be an advantage to point out some of the friends of the farmer, which, consequently, no farmer should destroy or allow to be destroyed. Among these are toads, which are, under all circumstances, the farmer's friend; moles and field mice, probably, do a vast deal more of good than harm; all birds, especially robins, wrens, thrushes, orioles, cuckoos, phœbes, blue birds, woodpeckers, swallows and cat birds. The destruction of all these and many others, except for scientific purposes, should be made, under very heavy penalties, illegal. The house sparrow, known better as the English sparrow, is to be rated an exception. This bird is now universally regarded as a nuisance, first, because of its grain and vegetable-destroying propensities; secondly, because it drives away insect-destroying birds.

Among insects, many wasps are friends, especially those with a more or less protruding horn or sting at the end of the abdomen. Lady bugs and lace-wing flies live entirely upon destructive insects, especially plant lice and scale insects, and should never be destroyed. Dragon flies, or devil's darning-needles, are also useful as well as harmless.

Un'sacked lime dust used on asparagus when the leaves are moist with dew is a favorite remedy for the asparagus beetle.

If when preparing mixtures of soap and kerosene, the soap and kerosene is put together in a vessel and allowed to stand over night, a few minutes stirring with a stick will bring these mixtures into the right state next morning. By letting the coal oil stand on the soap its chemical powers are brought into play as well as by beating it about, though more slowly.

Good Farming Pays.

There is one dangerous kind of infidelity among farmers which not the religious, but the agricultural press can best deal with. This is, briefly, the want of faith that their business is or can be profitable. It prevails to-day more extensively than ever before, and is undoubtedly due to the sharper competition that the farming business has been subjected to. It was bad enough when the great West poured its cheaply grown products in competition with those of Eastern farmers. Now both alike are threatened with more ruinous competition from the cheap pauper labor of semi-barbarous India. The infection of this infidelity has extended to nearly all the agricultural press, and it is high time that efforts be made to counteract it.

We have always said, and now repeat, that good farming pays. But what is meant by good farming? Is agriculture the unprogressive science or business that alone remains the same, while everything around it changes? If it is, then most lamentable indeed is the prospect for American farmers. We know that in agricultural implements and labor-saving machinery connected with farming there has been astounding progress. But this itself is not improved farming. It only furnishes the means to make better farming possible. In fact, by enlarging the areas of land under cultivation, labor-saving farm implements are apt too make farming poorer rather than better. And the great difficulty with the farming business at present is that American inventions in harvesting machinery have gone all over the world. They are used in Australia, India and on the plains of Russia almost as freely as by the farmers of our own country.

It is not merely the good farming that pays. It must be something more than good, an improvement on the kind that made farmer's reasonably prosperous forty or fifty years ago. This requires personal thought and skill, such as have never before been demanded in the farmer's business. The old idea of farming, and for its time the correct idea, was that it was mainly hard work. The method of farming ran in ruts, and when a man got into one of these all he had to do was to pull ahead. He need not even plan. The rut was all sufficient to direct his course. The man who got up earliest, worked hardest and longest, made the most money. He was by these facts the good farmer, and therefore successful.

Hard work never has been and never will be entirely eliminated from tilling the soil. Thorns and thistles and weeds it produces as it has always done, and it is still in the sweat of his brow that the soil tiller eats his bread. But we have relieved the farmer from more toil than would once have been thought possible, only it operates pretty impartially upon farmers of all classes. The better farming now needed must be the individual work and thought of the farmer himself. If he cannot plan, calculate and judge about the details of his business, he is in no better shape for success than his unskilled competitors, who perhaps work harder and for less wage than he. If a farmer wants to be successful he has to accomplish it through such improvements in farm stock of every kind, methods of manuring, underdraining and cultivation, as to largely increase the value of all our agricultural products. Possibly in some things it may be impossible for us to hold our own. These the skilful farmer will avoid.—[Am. Cultivator.]

The Agricultural College.

At the request of the Hon. Chas. Drury, we insert this illustration of the Ontario Agricultural College. We sent our artist to Guelph about a year ago, and got up some sketches and plans to illustrate the "Model Farm" which we submitted to the Hon. A. M. Ross, the late Commissioner of Agriculture, and we are pleased to see that the newly appointed Minister has adopted them.

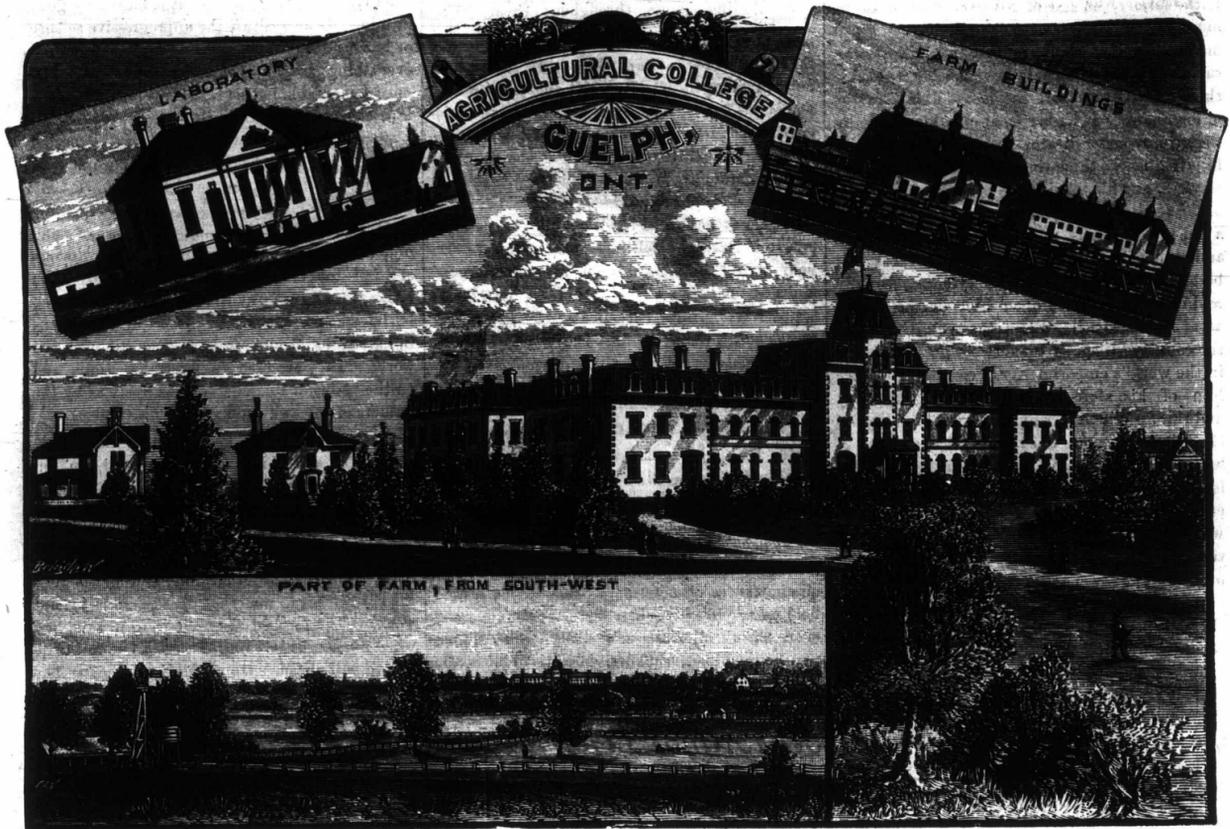
Mr. Drury is now employing all his energies to popularize this institution. We had the pleasure the other day of taking a drive with him around it, and a most sorry plight we found it in—so bad that he was utterly astonished, and will immediately attempt to improve it. Great improvements have been made in the approach to the buildings, and in the buildings themselves, and great improvements are in contemplation.

plant must have been previously tested and proved worthy of trial, and must be a variety not now known in Canada. No old variety with a new name will be entitled to receive the award. We have a test ground on which we test new varieties. The award will be made after a fair trial. None of the varieties so sent will be disseminated without permission of the senders. Information about the most valuable varieties will be given in the *ADVOCATE*.

In response we received four samples, which have now been partially tested. Two of the varieties are very promising, one appears doubtful, and one has since been withdrawn from competition by the proprietor. None of these varieties will yet be publicly described, as the best does not justify the awarding of the prize, although they may all be meritorious. We would advise any one having a promising new variety to send it in.

locality. Change your seed by procuring grain from some good farmer who has a different soil than yours. Clean well, lime and brine your seed; use vitriol in the brine if any smut is feared. Test the new kinds well before accepting them as general field crops.

On the Westwell Farm the Democrat and Roger were the main wheat crops this year; on an adjoining farm the Landreth was promising, and on another farm the Manchester was the favorite. The largest number of varieties that we have seen growing together this season is on a plot selected for the purpose by Messrs. John S. Pearce & Co., seed merchants, of this city, and grown under the superintendence of Mr. George J. Griffin, the former manager of our seed department, but for many years past in the employ of the above firm. We placed some of



Up to the present time, as a model farm and experimental station it has not been a success; as an educational institution it is good, and we believe that a farmer's son who wishes to benefit himself may do so by attending now, better than any time heretofore.

Winter Wheats.

On page 226 of August number for 1887, we made the following offer:

We have previously given \$100 to exhibitions to be expended for prizes. This year we purpose expending \$125 as premiums for the best seeds, etc., therefore we will offer \$50 for 4 ounces of either spring or fall wheat that bids fair, after testing, to be of more value than any of the varieties of spring or winter wheat we have already introduced; \$25 for 4 ounces of any potato that bids fair to be of more value; \$25 for the most promising variety of vegetables; \$25 for the most promising variety of fruit. This offer is open to all the world. Any seed or

We are in receipt of reports from several government and other experimental stations in both Canada and the United States; we have visited the Model Farm and several other localities where we could obtain information, and have sent our assistants to make enquiries where we were not personally able to visit. Up to the present time we have not found any varieties more popular than the Democrat, the Scott, and the Clawson. In some sections one is the favorite, in others another variety is found more suitable. In some localities the Landreth wheat is doing very well, in others the Manchester is highly spoken of; the Sibley wheat also has its admirers. The Martin Amber is being discarded, and the swindling wheat, the Red Lion, is not equal to any of the above sorts.

Our advice is, and always has been, to sow the variety that is the most productive in your

our test wheats with them to be tried and compared with other varieties that they already have. We have prepared a tabulated record for wheat. It is early to give a full report at the time we go to press. The different seedsmen will no doubt send us their catalogues, and if these contain any new kind worth offering, we will let it be known in the next issue.

On the first of next month we intend to send out a new variety of wheat, which has now been tested, and bids fair to equal our celebrated Clawson, Democrat, Scott, or any other variety. We are not now selling seeds, and the only way to procure our choice, new, tried and promising varieties is through our prize list. See it in another part of this journal.

For want of space we have had to lay over much valuable matter until next issue.

Stock.

One of Canada's Booth Herds.

The Sheriff-Hutton herd of Shorthorns belonging to Wm. Linton may be seen at his farm on Yonge street, in the town of Aurora, Ont., which is one of the most neatly kept and prosperous looking places we have visited in Ontario. The large manufacturing firms of J. Fleury's Sons, who manufacture almost every description of farm implements, from a wheelbarrow to a binder, employing 200 men the year round, and the extensive plow works of The Wilkinson Plow Co., give an impetus and enterprise that otherwise would not exist. Mr. Linton has been a breeder of Shorthorns all his life; born at Sheriff-Hutton, Yorkshire, England, in the heart of the great Shorthorn district, where the greatest Shorthorns that

Matchem (4422), Prince Albert (4791), Liberator (7140), the sire of Hudson (9228), who stood first at the Royal Show at York in 1848, and was used in the herd of Mr. A. Cruickshank's. Next came General Fairfax (11519), from Sittyton, and Magnus Troil (14880) from the same source. Earl Windsor (17788), from Stack House, brought in again the Booth blood, followed by that King of the Harem, Mountain Chief (20883), from that magnificent show cow Soldier's Bride, who won upwards of \$5,000 in money and cups. He was extensively used at Warlabby. Next came British Hope (21324), from Lady Pigot's herd, he was the sire of Lord Irwin (29123), which was thrice first in the Royal ring. Next Mr. J. E. Booth's Sergeant-Major (29957), which was the sire of Sir Arthur Ingram (32490). He also was thrice first in the Royal ring, and won over one hundred prizes at leading shows throughout Great Britain,

had expected, for it is generally known among breeders that Mr. Linton is not a heavy feeder. He says his experience has proved that with breeding stock too heavy feeding is not advisable, a subject whereof our readers may enjoy his views from his able pen in these columns. He certainly has the animals on which to build. A grand lot they are; all they want is bringing out. Besides the Shorthorns, Mr. L. has a flock of Cotswolds and some good Berkshires and black-breasted red game fowls. Personally, Mr. L. is much respected. He is very well informed, especially on everything pertaining to Shorthorns, and his honest, candid, straightforward manner has won for him many warm friends.

English Railways Construct a New Cattle Car.

The Shorthorn Society of Great Britain and Ireland have brought influence to bear on their leading railroad lines, causing them to construct



32490 Sir Arthur Ingram.

THE CELEBRATED ENGLISH PRIZE WINNER, BRED BY MR. LINTON, SHERIFF-HUTTON, YORKSHIRE, ENGLAND.

ever adorned mother earth were given birth. It was in the North Riding of the County of York where the great Dukes of Northumberland were bred, where Mr. Bates bred his Duchess, where Mr. Booth bred Bracelet, Necklace, Mantalini, Bride Elect, Queen of the Ocean, Soldier's Bride, &c., where Mr. J. Outhwait bred Vandevere and Royal Windsor, and where Mr. Linton's father bred Lord Irwin, Royal Irwin, Beau Benedict, Arthur Benedict, Sir Arthur Ingram, &c., &c., and it is from the best of those cattle that the present Sheriff-Hutton herd has sprung. Mr. L. imported seven females and three bulls in 1885, the remaining stock at Sheriff-Hutton, except two aged cows, after the distribution sale of 1879. These are all but one of the noted Scwerby family which was purchased from Mr. Richard Booth in 1837. Mr. John Booth's Marcus (2262), the sire of Mantalini, was the first bull used at Sheriff-Hutton; then follow Young

in fact he won more prizes and was the sire of more Royal prize winners than any other bull that ever lived; Sergeant-Major being followed by Mr. J. B. Booth's Paul Potter (38854). He was the sire of a host of Royal prize winners, such as Arthur Benedict, Beau Benedict, &c., &c. Both Lord Irwin and Sir Arthur Ingram were extensively used in the herd. Mr. Linton thinks with such a compounding of the very best blood in the present Sheriff-Hutton herd, he should stand second to none in breeding Shorthorns. With such cows as Sowerby's Queen, Sowerby's Rose, Sowerby's Gem, Miss Sowerby, and eight or ten others, nearly all roan, large, wide, deep, thick fleshed cows and heifers, we really do not see how he can fail. The calves speak for themselves, and are a nice promising lot, such as one would expect to see from such ancestry.

We found this herd in better flesh than we

special vehicles for the conveyance of cattle, sheep and pigs by passenger trains.

Rates for each Consignment of Cattle.

1 animal	3d per mile.
2 animals	5d "
3 animals	7d "
4 animals	9d "

Pigs up to 2 cwt., Sheep and Goats.

Not exceeding 4 animals	3d per mile.
Not exceeding 8 animals	5d "
Not exceeding 12 animals	7d "
Exceeding 12 animals	9d "

Pigs above 2 cwt., Rams and Calves.

Not exceeding 3 animals	3d per mile.
Not exceeding 6 animals	5d "
Not exceeding 9 animals	7d "
Exceeding 9 animals	9d "

In each case the above is the minimum charge as for twenty miles.

Canadian shippers have long felt the need of something in this line. Perhaps it would be profitable for them to enquire into the working of this system. If the cars answer a good purpose, they might be introduced in America.

To Tell the Age of Horses.

To tell the age of any horse,
Inspect the lower jaw, of course;
The six front teeth the tale will tell,
And every doubt and fear dispel.

Two middle "nippers" you behold
Before the colt is two weeks old;
Before eight weeks two more will come;
Eight months the "corners" cut the gum.

The outside grooves will disappear
From middle two in just one year;
In two years from the second pair,
In three the corners, too, are bare.

At two the middle "nippers" drop;
At three the second pair can't stop;
When four years old the third pair goes;
At five a full new set he shows.

The deep black spots will pass from view
At six years from the middle two;
The second pair at seven years,
At eight the spot each "corner" clears.

From middle "nippers" upper jaw
At nine the black spots will withdraw;
The second pair at ten are white;
Eleven finds the "corners" light.

As time goes on, the horsemen know,
The oval teeth three sided grow;
They longer get, project before
Till twenty, when we know no more.
—[Maryland Farmer.]

PRIZE ESSAY.**Is Sheep Raising Profitable in Canada, and What are the Future Prospects?**

BY ERNEST L. BLACK, NOVA SCOTIA.

The first part of our question may be considered from two distinct standpoints. First, from the actual profit or loss mathematically shown as the reasonable result of raising sheep, and again as compared with other stock. Considering that Canada is a broad field, extending from the Atlantic to the Pacific, including every variety of soil and climate; from the Rockies of the West, that vast fertile, treeless plain, the prairie, the rich land of Ontario, down to the fertile marshes, great timber lands, and half unbroken pastures of our own provinces by the sea. It will, therefore, appear useless to mathematically place the result in dollars and cents, for what would be applicable to Nova Scotia would not apply to Ontario, and what would apply to Ontario would not to Manitoba, owing to the great diversity of prices and conditions. But let us consider the question from the latter standpoint, drawing a comparison between the raising of sheep and the raising of beef.

Sheep will, by careful and proper management, give as much meat as cattle on a given amount of food. This, I think, is believed by the best and most experienced stock men. Very many of our farmers do not properly guard against the waste of food. The first waste is in a want of properly proportioned rations whereby the full amount of food would be utilized. A second waste is in the manner of feeding. Usually the hay, straw, or such feed as may be most convenient, is tossed out in the barnyard for the sheep to gather up as best they may; during the meal the food is trampled under foot, usually among snow or mud, and too large a part is left uneaten. This being repeated day after day and month after month, comes to be by no means trivial. The third waste is in a want of proper shelter. Though a close, warm barn is not desirable for sheep, yet shelter from the winter's snow and rain is much needed. Snow falling on the sheep will be melted by the heat of the animal, and the water soaking through the wool causes a cold dampness. Thus the sheep in many cases catches cold: at all events she is

made cold, and an additional amount of food is required to keep up the animal heat. Here, then, is a waste of food. Now I think it is only owing to these wastes that sheep are sometimes thought to yield less meat than cattle in proportion to the amount of food consumed. Their meat is said by analysts to be more nutritious. Be that as it may, it will sell in our markets at equally as high a price. Therefore I regard sheep equal to cattle, as regards the production of meat.

Now let us consider the manure question. The sheep undoubtedly in this particular stand decidedly ahead. I quote from Harris on Manures: According to Prof. Wolf's table of analysis "Sheep manure, both solid and liquid, contains less water than the manure from horses, cows or swine, and the solid dung is also the richest in nitrogen, while the urine from sheep is pre-eminently rich in nitrogen and potash." For farm manure the sheep is surpassed only by the hen, and rivaled only by the hog. It is much easier to save the manure from the sheep—less of the liquid being lost—owing to the dryness of the solid most of the liquid is soaked up and saved, while that from cattle is lost, or saved only in expensive tanks or cemented cellars. Sheep, while on grass, scatter their manure much more evenly, which is therefore of much greater value. Thus it is that wherever sheep are kept the land is found to continually increase in fertility. The amount of labor bestowed on sheep is much less than that bestowed on cattle. The labor of watering, which takes so much time with a large stock of cattle, is with sheep entirely done away by simply free access to a running stream. The labor of fencing is largely curtailed. The work of cleaning stables is, by a daily addition of straw, confined to some damp days, and altogether there is a great deal less expensive labor in the raising of sheep than of cattle.

Now, another matter which should not slip our attention is the quick returns from the sheep. The money invested in feed during the winter is returned in wool in the spring, and the return for summering comes early in the autumn in the shape of lambs, thus making a semi-annual return.

Now, in addition to all this, we have the wool, which is of the greatest importance. Very little food is used in the production of wool, whereas the wool by preserving the animal heat saves vastly more feed than is used in its production; therefore the wool is actually produced at no cost whatever.

Now what is the result of our comparison? We find that in the production of meat they stand equal. In the production of manure the sheep are perceptibly ahead. That there is less labor by the use of sheep, and that the returns are more quickly realized. Now, I would ask, what is left to the steer to counterbalance the wool of the sheep? I think that the above remarks tend to show that sheep-raising can at least be made quite as profitable as the raising of beef. But it may be argued that in connection with the production of beef, butter may also be made at little cost, or in other words, that sheep would not compare so favorably with a system of mixed husbandry. This may be very true, but in this also the remarks on manure, labor, etc., equally apply. Whatever comparisons are made, it is well to bear in mind that the wool of the sheep, so valuable and so indispensable to many, is produced at a cost actually less than nothing,

owing to the fact that it saves food by the preservation of animal heat. Though many do not believe that sheep may profitably supplant the fat steer or dairy cow, yet all, I think, must admit that they have a great value for utilizing our rough, unbroken pastures, to which they seem particularly adapted. In Canada, perhaps, more especially in the Maritime Provinces, there is a great deal of land which, though continually taxed, yields not a particle of income. This land might as well be pasturing large flocks of sheep, raising both food and raiment for the use of man.

Then, again, sheep kept on a farm in connection with other stock will utilize much food—otherwise wasted—and will accomplish a double purpose by transforming obnoxious weeds to mutton and wool.

Now, what are the future prospects? If our calculations are correct; if sheep will produce as much meat as cattle, and as valuable; if their manure is more valuable; if they require less labor; if the returns be quicker; if in the production of wool more food is saved than is used; if they utilize food which other stock pass over; if thousands of acres of Canada's soil, to-day idle, can be profitably stocked with sheep, and if Canada's sons are sane men, then the "future prospect" must be evident.

It is true that neither beef nor mutton command the price to-day that they did a few years ago. Indeed, both have been quite dull for about three years. But the prospect to-day is brightening. Lambs sell higher than this time last year. It is well to remember that "after the drought comes the heaviest rain," and already the clouds are gathering. The English market at present is dull, but we look forward to better days to come. The great essential is a better class of sheep. The exporters have always found it difficult to secure a suitable class for the English market. Though our sheep have greatly improved of late, yet there is still much room for improvement. No one need fear lest there be too many good sheep raised. What is most needed is a large quantity of excellent mutton which will make for Canada a name.

In the event of reciprocal trade with the United States, so much discussed of late, sheep-raising would receive a new impetus. Boston would prove a good and convenient market. Notwithstanding the present prices it is probable that early lambs could be shipped from the Maritime Provinces at a fair profit. Lambs dropped in January can be made to sell in Boston at from \$6 to \$8 in the early spring months. I do not present the above as argument in favor of reciprocity, but simply to show the future prospects of sheep-raising in the event of such relations. Dr. Twitchell, in his lecture on "The Breeding and Feeding of Animals," delivered in Amherst a few weeks ago, said that having carefully considered the relative cost of raising lambs in Nova and in his State, *i. e.*, Maine, he finds "that, including freight and duty, those raised in Nova Scotia can be placed on the Boston market at less cost than those raised in the State of Maine." If such be the case our sheep raisers may well take courage and not be afraid of the "future prospects."

"Debt is a good deal like the old-fashioned wire mouse-trap—the hole to get in is four times as big as the one to get out at."

It is estimated that 25 per cent of all the cows in America do not pay for their keeping. Test your herd and keep only the good ones.

Willow Lodge Stock Farm.

The name and fame of the late John Snell, of Edmonton, Ontario, as a breeder and exhibitor of fine stock is familiar and widely known in Canada and the United States. His advent as a Canadian farmer dates back to the year 1837, when he emigrated from England and commenced to hew out a home in the woods in the County of Peel, on the farm upon which he achieved the success which crowned his labors as a farmer and stock-breeder. In the year 1855 Mr. Snell made his first purchases of pure-bred Shorthorns and imported Cotswolds. In 1856, at Mr Stone's great sale at Guelph, he had the courage to pay \$1,300 for a cow and her yearling heifer, and though the cow only lived to produce for him one calf, and that a bull, yet her daughter lived to wipe out the account and pay good interest on the investment. In the same year he paid \$240 for a ram, which died after being only six weeks in service in the flock; yet in his produce from 112 ewes, which were bred to him in that short time, Mr. Snell always said he was amply repaid for the expenditure, for he left an impression on the flock which could be traced for many years. The first imported cow, brought into the herd at a cost of \$400, in giving birth to twin calves, which were both dead, received such injuries that she never bred again, and had to go to the butcher. These are a few of the discouragements which the subject of our sketch had to meet and overcome at the outset, and the man who, with but limited means, had the energy and determination to go on in the way he had marked out for himself, had the material in him which wins in the long run, and that he grandly succeeded the records of the Provincial Exhibitions for nearly twenty years give ample evidence. This in his day was the only great exhibition in Canada, and there were few men of his day, if any, who succeeded in carrying off more of the highest honors awarded at these exhibitions.

That he was a success as a breeder and feeder his steady advance in competition with older breeders and exhibitors proved beyond a doubt. His success met its crowning glory when, at the Provincial at London in 1872, a few months before his death, which took place near the end of that year, he, with the co-operation of his three sons, who were then recognized as his partners under the firm of John Snell & Sons, succeeded in winning both the herd prizes offered for Shorthorns, viz., for the best herd bred by the exhibitor, and also for the best herd open to all, a contest in which a large number of superior imported animals took part. At the same show the firm won the flock prize on Cotswolds, and the herd prize for Berkshires. Such a result was a fitting consummation for the brave spirit manifested in grappling with the difficulties met at the outset.

From 1873 till 1881 the three sons continued the same line of business under the name of John Snell's Sons, making a very fine record at leading shows in Canada and the United States, where, in 1875 and 1879, they won the leading prizes on Cotswolds at the St. Louis Fair, and in the latter year, at the first of the great series of fat stock shows held at Chicago, their exhibit of Cotswolds was one of the grandest features of the show, where ewes of their feeding were shown weighing from 300 to 346 lbs., yearlings from 250 to 270 lbs., and lambs from 140 to 165 lbs. each.

In the same year at the first Dominion Exhi-

bition held at Ottawa, in the great distribution of prize medals by the Princess Louise, the Senate Chamber echoed and re-echoed with the cheers that greeted the senior member of the firm as he bore off in his hat eleven medals, two gold, six silver and three bronze, including the grand medal given by the Marquis of Lorne to the exhibitor winning the largest number of first prizes on sheep and pigs.

In 1881 came a dissolution of this successful partnership, the two younger members striking out for themselves under the name of

J. G. SNELL & BRO.,

and the senior member holding to the old name, which had been so extensively advertised and at such cost as to make it worth while to perpetuate and continue it. Since that time the exhibition work has been left to the younger firm, who have shown the characteristic pluck and enterprise in importing and competing, with the old-time success, for the highest honors at the leading shows in Canada and also at Chicago and St. Louis, where they have twice made very successful shows.

The elder brother, Mr. J. C. Snell, while retired from the show ring, has continued to exercise the rich experience and ripe judgment which his position at the head of the firm for so many years brought to him, and quietly goes on breeding and keeping a select stock of his favorites, the Shorthorns, of which he has always a few good ones, for he knows a good one when he sees it, and the marked success of his public sales in the last few years is a fitting tribute from the public to his taste and judgment in the selection and breeding of high-classed cattle, while his flock of Cotswolds and herd of Berkshires are always up to the standard of the best of the good ones.

Messrs. J. G. Snell & Bro. have at present a large and useful herd of Shorthorns, headed by the imported Cruickshank bull "Eudymion," a typical specimen of the Scotch Shorthorn, blocky, beefy, full of quality and constitution, and evidently a successful sire judging from the useful lot of young things we saw in the stables. The breeding cows are a very useful lot. They are principally of English breeding, with a few good Rose of Sharons, all of which are nearly pure red, and are descended from a cow Messrs. Snell imported from Kentucky. Duchess of Gloster II. is a fine cow of Scotch breeding, and judging by her offspring now on the farm she is a good breeder. Medora is a very fine red heifer of English origin, having a Bates foundation.

Their Cotswolds are a very good lot, though not in high condition, but their quality is right. The sire of the present lot of lambs was a first prize winner at Toronto and Ottawa last year. He was bred by Robert Jacobs, Burford, England; imported in 1887.

Their present herd of swine maintain their old time excellence, which says a great deal for them.

The Messrs. Snell claim as the secret of the success of this establishment from its inception, the "invariable" rule of having only "strictly first-class sires" in use in the herds and flocks. The whole history of the place is marked by this one feature, as the long line of well known bulls used in the herd testifies, as well as the fact that in the last ten years no fewer than fourteen of the prize boars at the Royal Shows have been imported and used in the herd, and that only first class imported rams have been in service in the flock. This is the talisman of success in any line of breeding.

A Chatty Letter from the States.

From our Chicago Correspondent.

There is a sharp contrast this summer with last in respect to rainfall. Last year there was practically no rain in the great Western corn region between May and Fall, while during the present year there has been a grand distribution of moisture. The hay crop this year is excellent, while last year it was a failure. The grass, corn and trees never wore so rich and beautiful a green as during the present season—as one expressed it, "everything has about five or six extra shades of green."

Range cattle this season are in very excellent condition. Texas cattlemen have been getting pretty fair prices, and now if Western rangemen can get prices to match the condition of their cattle they will be happy and only remember their hard luck of the past three years as a bad dream. Texas cattlemen have been anxious to realize and have crowded the market pretty badly at times, but on the whole they have realized decidedly better prices than last year and are generally in much better shape.

The price which the wheat farmer gets is so small now as to make the business of wheat-raising very unprofitable. In fact, farmers who have no other sources of income than the ordinary farm are complaining, and with good cause, of the smallness of their incomes—not to say profits, for very few are making money now at legitimate farming. The big trusts, combines and pools of one kind or another have squeezed down the share for the farmer in the West until it is too small to enable him to rise above the level of hard toil and meagre compensation. Just what is wrong it is hard to determine, or rather, how to correct what is wrong is the problem, but we evidently are badly in need of some changes in social and commercial systems which shall make the farm laborer and owner worthy of his hire and enable him to get it. The greatest drawback to Western farming is excessive freight rates. It actually costs more to transport a ton of farm produce across a State 300 miles wide than it does to carry a ton of freight from Australia to London—13,000 miles.

Live stock and dead meat freights in the West are excessive and arbitrary despite the existence of the Interstate Commerce Law, which was designed to do away with pools and unjust discriminations. The modes of evasion seem to be without end, and the railroads continue to take the bulk of what should be the farmer's profits.

A lot of Texas goats sold here recently at \$1.25 to \$1.65 per head, rather a small price, as it costs nearly a dollar per head for freight and market charges.

The writer recently examined a nicely dressed grade Angora goat skin which was prepared to serve as a rug. It was of a rich, creamy color, the mohair was long, wavy and almost as soft as down, and admirably suited for a lap robe or rug. It is singular that more of them are not placed on the market.

Fine stock is selling quietly at fair prices. The improvement in the fine stock market is slow because so many more people are in the business than ever before, that the supply is very large even if individual herds are small.

The undertone of strength in the general live stock trade, noted earlier in the year, is developing quite as rapidly as could be expected, considering the large number of stockmen who have been unable, for financial reasons, to "bide a wee."

Prices for matured cattle have been pretty good the past month, and feeders have cause for

feeling much more cheerful and hopeful than a year ago.

Prices for nearly all kinds of stock are pretty good now, and compare as follows with a year ago:

	1888.	1887.
Best fat cattle.....	\$6 00@ \$6 25	\$4 25@ \$4 50
" " Hogs.....	6 00@ 6 15	5 30@ 5 45
" " Sheep.....	4 50@ 5 00	4 25@ 4 50
Good Texas cattle.....	3 75@ 4 25	3 00@ 3 50

From the above it will be seen that there is a very substantial improvement this year over last.

Spring Brook Farm.

Messrs. J. & W. Russell, of Richmond Hill, Ont., have for the last twenty years been well-known breeders. During the last decade there has been, perhaps, no firm that has been more closely watched by their fellow breeders, and among their competitors there was always a feeling of relief when it was known that the Russells did not intend to exhibit in any one particular class.

The present firm is composed of James Russell, a particularly clear-headed, keen, business man, of fine ability. As a business manager, farmer and breeder he has few equals. His brother and partner, William, ably seconds all his efforts, and is, probably, one of the most accomplished feeders in Canada.

At the present time their herd of Shorthorns is made up of a lot of very fine animals; all but one of which are descended from Mr. Sylvester Campbell's herd, of Kinellar, Aberdeenshire, Scotland. The Isabellas, Nonpareils, Rose of Autumns, Minas and Clementinas are all represented. The first shown us were three young bulls, imported from Kinellar in October, 1887, one of which, Toft Hill, Mr. Campbell says, is the best bull bred by him in 1887. The others, a red and a roan, are close up to him in quality.

The best young bull we have seen this year is Chancellor, out of imported Mina, and got by Baron Linton. He is of wonderful substance, stylish and handsome, very full in all his points, and is even, long and deep, but a fastidious judge might say that he is a little off in color. Scottish Crown is another fine roan bull of more than ordinary promise. His dam is an imported Mina, and he is by Royal Booth 2nd, a pure Booth bull. These are the best of their bulls, though they have other good ones.

Their breeding cows are all young, one being five; six, four; five, three, and four two years old. Seven yearling heifers, two bulls and seven heifer calves comprise the herd.

The five-year-old cow is an imported Clementina, and is a typical Scotch Shorthorn. The three best four-year-olds are all Isabellas, and are a grand lot, of great substance, and are very showy—such animals as any breeder might well feel proud of. They are all descended from prize-winning stock. In quality and breeding they are closely followed by others, among which is the Linton heifer, Lady Booth, a red cow of large size and grand quality.

The three-year-olds are a very good lot, and among them, we think, is the best beast in the herd. One of them took the first prize as a yearling at the Highland Society Show of Scotland. She is truly a grand cow, but, we think, she is excelled by two home-bred ones, both of which are descended from prize-winning ancestry. One of them is especially good; her grand-dam was Messrs. Russell's gold medal cow at the American Centennial, 1876; and her dam was a first prize winner at the leading Canadian shows. She has not been shown yet, but may be

counted on as one of Canada's best young cows. The best two-year-old heifer is a Mina, and is very similar to the three year-olds.

A red Isabella is also a good one, she is now suckling her first calf, and seems to be a fairly good milker. Next comes a grand Nonpareil, in every particular a show beast. She is now in calf to Royal Booth 2nd, of the Bright family, whose dam sold for £700 and grand-dam for £1,000. Among the yearling heifers are four Isabellas, one Nonpareil, one Lady Booth, and one Mina, which came out with her mate last November, and which has since been sold to go to Minnesota, U. S., for \$500.

Most of the calves are too young for this season's fairs, but among them is the best heifer calf we have seen this year. She is a full sister to the young bull, Chancellor, also to the best two-year-old heifer and the \$500 heifer belonging to Mr. John Ackrow, of Highfield.

AMONG THE HORSES

they have the imported Clydesdale stallion, Young Hartington (3515). He has not been made up for show, but is a good useful beast, and has been a very successful sire.

Altogether they have sixteen horses; all but one are Clydesdales or Clydesdale grades. Among them are Maggie, of Richmond Hill, 2nd and 3rd, which, with their dam, took the silver medal and \$20, at the Toronto Industrial last year for the best mare and two of her offspring. They were bred by their exhibitors.

THE COTSWOLDS

belonging to this firm are as noted as their Shorthorns. At the present time they number about eighty. The flock is of good quality and finely bred. Among them are a number of prize winners at the Royal Show of England. The feeding has been done for the past two years by Robert Tenant, a young Scotchman, who deserves much credit for the present fine appearance of the herd.

A few miles from Spring Brook Farm, near Clairville P. O.,

MR. ANDREW RUSSELL

owns a farm, where he conducts the business of breeding and importing Clydesdale horses. He, like his brothers, is a very good feeder. The first horse shown us here was Castlemore Banker, now two years old, by imported Lock Hill; dam imported Darling of Primivar. This is a Canadian bred horse, of wonderful substance, and good color. He has good feet and good hard legs, but is perhaps a little light in the bone. He is a favorite in the neighborhood, and is doing a good season, though only two years old. He has been successful in the show rings, winning first at Toronto Industrial, first at Newmarket, first at Clairville Spring Show, first at Lansing and at Richmond Hill last year as a yearling, and this year, as a two-year-old, as best heavy draft. The next shown us was Star of Fintray (6316), bred by Jno. Rennie, Kintore, Scotland; sire Harvester (3681); dam Gip (1672). He also is a two-year-old; a beautiful bright bay; and a splendid horse, possessing good feet and legs. He is well coupled, and has good range; with a little broader rump he would be a hard horse to beat. This was one of the horses, which, amidst strong competition, won a prize at the Canadian Clydesdale Association's Show held in Toronto last spring.

Pitfour Darnley (707), of the same age, and imported at the same time as the last named, is Mr. Russell's favorite horse. He weighed 1,900 lbs. at two years old; is a dark bay, with black points. He was also a winner in Toronto at the last named show and other important places. He is a wonderfully rangy good horse, with a good back and grand feet and legs. He was bred by Col. Ferguson, Aberdeenshire, Scotland; got by Darnley King (2717); dam Mary (1230), by Topsman (886).

Red Polled Cattle.

BY J. M'LANE SMITH.

I have just received the last volume of the English Red Polled Herd Book, which contains besides the registry of the stock, much valuable information about the breed, collected through the indefatigable industry of the editor, Mr. H. F. Euren. A few items selected from the rich feast prepared by Mr. Euren will be, I think, of general interest.

Speaking of the show of Red Polls at the Royal in 1886, held at Norwich, and the largest show of the breed ever witnessed, the official reporter says:

"The improvement made during the last few years in the style, substance, and quality of the animals, as well as the advance toward uniformity of type, is within measurable distance of the marvelous. No stronger proof of this can be desired or given than is to be found in the fact that the judges (all three of whom are keen men of business and thoroughly practical) commended in its entirety the class of cows with its thirty entries. Such an event as this is almost unknown, and but very seldom deserved."

The judges also, in their report, speaking of this class of aged cows, say: "Having selected twelve cows we placed them together in a line, and we venture to say few people have ever seen twelve better cows of any breed shown together."

What American breeders were especially anxious to obtain, however, were some authentic milk records for the purpose of comparison. For some reason English Red Polled breeders, until quite recently, have not entered their cows in any of the public milk tests, and private records in that country are not common. The present volume presents the latest information on this subject accessible to American readers. As the herd book, however, is not of general circulation, a few facts drawn from its pages may not be uninteresting.

At the Suffolk County Show last year (June, 1887) all breeds were classed together in the milk test. The first prize was awarded to a cross-bred polled cow giving 28 lbs. of milk, containing 4.65 per cent of butter fat, or a total yield of 20.5 oz. The second prize, with a yield of 32 lbs. of milk and 16.75 oz. butter fat, went to a registered Red Polled cow. The third and reserve number was a Shorthorn, with a yield of 15.6 oz. butter fat. The only Channel Island cow in the test (Jersey and Guernsey are classed together at most of the English shows) was sixth in the list, with a yield of 13.7 oz. butter fat.

In the herd book for 1883 is given the milk record of Davy 27th 1451—H 1, of Mr. John Hammond's herd, showing a total yield from Sept. 1 to April 30 of 8,957 imperial pints, equal to 11,196 lbs., a daily average for seven months (including the entire winter) of a little over 48½ lbs. In the present volume is given the record of her calf, Davy 44th 2136—H 1. She gave from Jan. 10, 1887, to June 12, 1887, 156 days, 6,113 lbs. of milk, an average of 39½ lbs. a day. Jan. 28 the milk gave 14 per cent. of cream; May 28 10 per cent.

Mr. Garrett Taylor, who owns the largest herd of Red Polls in England, has kept complete returns of the milk yield for the last year. As the milk is sold in Norwich there are of course no returns of cream or butter. Mr. Euren prints the returns complete of fifty-five cows, representing thirty-three different tribes. All are credit-

able; but it will be sufficient for my present purpose to present a few of the more notable ones. Dot 2765—A 1, gave from Feb. 25, 1887, to Jan. 19, 1888, 9,345 lbs.; Red Daisy 2437—H 2, from Feb. 24, 1887, to Feb. 16, 1888, gave 9,555 lbs.; Marham 2356—M 2, from Feb. 11, 1887 (a month after calving), to Jan. 6, 1888, gave 8,397 lbs.; Broken-down 2653—P 3, from Feb. 25, 1887, to Jan. 19, 1888, gave 8,562 lbs.; another, Bracelet 2037—W 14, from Feb. 11, 1887 (eight days after calving), to Dec. 30, 1887 (when she calved again), 9,282 lbs. There are numerous other reported nearly as good, but this will be sufficient for a sample.

For the purpose of comparison Mr. Euren also gives, from the recently published report of the milk records at the Royal Agricultural College, Cirencester, the returns of all the different breeds. It is too much for your columns, but I condense as follows:—The best Shorthorn gave in the year 9,764 lbs. of milk; the best Ayrshire, 7,384 lbs.; the best Guernsey (said to be the largest yield ever reported for the breed), 10,487 lbs.; the best Kerry (about ten months), 6,769 lbs.; Red Poll (only one), 7,050 lbs. In comparing rations we find the Red Polled cow the smallest eater in the lot, except the Kerry. All were on grass part of the day. In addition they received:—Chaff, Shorthorns 20 lbs., Red Poll 15 lbs.; roots, Shorthorns 20 lbs., Red Poll 15 lbs.; cake, Shorthorns 2 lbs., Red Poll 1½ lbs.; meal, Shorthorns 4 lbs., Red Poll 3 lbs. An analysis of the milk made March 23 showed as follows:—

	Short-horns.	Red Polls.	Ayr-shires.	Guern-seys.	Kerrys.
Total solids	10.78	13.14	11.35	14.63	12.55
Fat.....	2.77	4.20	2.97	4.00	3.28

The comparison is not quite fair to the Red Polled cow, as all the other breeds had two representatives, and the best is taken for comparison, except in the case of the Ayrshire, where the milk of the one giving a little the most does not appear in the table of analysis. However, the Red Polled cow makes a creditable showing. It is a little surprising that she should head the list in percentage of butter fat. As a rule this would doubtless not hold true in comparison with the Guernseys; but it is not to be expected that a Guernsey giving so exceptionally large a quantity of milk should make a very high percentage of butter fat. The other Guernsey gave only 6,044 lbs. of milk, but the analysis is omitted. One of the two Jerseys in the herd shows a larger per cent. of butter than the Red Poll—4.50 to 4.20—but through inadvertence, doubtless, the milk yield is omitted.

Assuming them to be representative cows of their respective breeds, the Red Poll is shown to be decidedly the best dairy cow of the lot, except the Guernsey. According to the analysis, the Shorthorn cow gave in a year 269.69 lbs. of butter fat, the Ayrshire 217.81 lbs., the Red Poll 296.10 lbs., the Kerry 215.25 lbs., and the Guernsey 419.48 lbs. The Guernsey yield, however, is stated to be the largest on record in England, while the yield of the Red Poll, in quantity at least, is exceeded by a dozen or more cows in the single herd of Mr. Garrett Taylor. If we take the other Guernsey, with a yield of 6,044 lbs. for the year, and assume that it was as rich in butter fat as the best of the two Jerseys, viz., 4.50 per cent., she would be credited with a total yield of 271.98 lbs., leaving the Red Poll at the head of the list.

Unfortunately most of those breeding Red

Polls in this country have made their selections for size rather than milking qualities. But the above returns will show that the milking qualities are there, and that it needs only judicious selection and proper handling to put the breed in the very front rank in this respect, while the steers confessedly make beef second to none in quality. —[Breder's Gazette

Reforms in Pork Raising.

A little more philosophy in the rearing of swine would lay a broader foundation for profit, says F. D. Curtis, in the Country Gentleman. The popular idea is to hurry things. The pigs must "mature" early. To bring this ultimate result about, there must be a constant stuffing. The pig is made a sort of crucible for rendering vegetable oils into animal, and its skin is used as the vessels to hold the same. When the vessel is full enough to satisfy the fancies of the owner, or in other words, when the frame which supports this mass of fat is unable, or about unable, to support it any longer, the mass of blubber is declared to be matured and the pig is killed. It does not worry anybody to catch it, as it is about helpless; neither does it bleed much, for there is lack of this vital fluid. It weighs, and that is the end desired. It is cut up and cooked, and half of it goes into lard. It is not meat to eat, nor meat to be eaten. Swine breeding has run too long in this popular rut. For the good of the business and for the good of the people, it is time to get out of it. I like a coming breed of hogs—a breed not finished; most persons do not. The men who felled the forests and cleared the farms could relish and digest the fat of pork, but the present race cannot and do not. Pork is out of proportion. There is too much fat and too little lean. Can this drawback in the pork interest be removed? It is not possible to have good hogs with no fat, but it is possible to have them with a larger proportion of lean meat. Here is just where the "coming hog" counts. He is not finished, and it is possible to breed in him an inclination to form muscle. He must be made a muscular animal. I know this is quite contrary to the common idea of a hog, for the reason that we are not used to seeing the "coming hog" but the perfect breeds, and perfected on the wrong basis—following a fat line rather than one with vigor and muscle in it.

The truth is, with the ridicule all thrown in, the old rail-splitter and the unsightly hog of the south really furnishes more and better food for the human family than the popular early-maturing hog which fills the eye of fancy with so much delight, and brings down the scales with heavy weight. Less mercenary spirit for the present and more looking to the future, will enlarge the foundation of the pork business. It is queer that the whole world should have gone agog in the rearing of swine. There has been a woeful lack of thought. How breeders have striven, and pushed, and fairly ground up common sense in order to stuff their hogs and to infuse the stuffed propensity-hereditary principle into them!

My notion is right the opposite—I want to stuff it out of them. The coming hog must be reared in the field; it should be born there. The green grass and the "bubbling brook" should furnish the food and drink for its mother. A sty on the ground always dry should be its bed. After the pigs are two or three days old, the owner may try his skill in supplementing the natural food of the field, beginning with little

and gradually increasing. In all cases the food should be of a succulent nature, and never in excess of the appetite, and never so much but that the mother will graze and make a considerable portion of her food of grass. Whenever there cannot be a full supply of grass suited to the purpose, other green food must be supplied. This can easily be had in the form of green corn, etc. Food wanting in fat but rich in flesh-forming material must be constantly given. My hogs know not corn. It is the last food to be given swine while growing with lean meat in view. Rye ground entire and lightened with more bran and middlings, is a grand food for pigs, and the clear rye entire is excellent to finish off porkers.

Corn may be used for the same purpose, but the time of feeding should be limited. The pork will be more desirable if the hog, or pig, especially the latter, is not fed corn more than six weeks. Old hogs, if of large frames may be fed on it for two months, but not longer.

The coming hog must be a grazing hog. It must seek its food; for in this way it will add to itself another cardinal and necessary virtue, exercise. Without exercise there will never be a full development of muscle. The pig pen must only be a necessity of winter, and even then it should not be closed, but a sunny door to the south should ever invite its occupants to go out and stir about. The breeder must never lose sight of the philosophy of the thing. With a constant and careful attention to all the details of promoting vigor and exercise, and the development of muscle by the selection of proper foods, I have no doubt but that all breeds of hogs may be changed, so that they will fit the public wants better by supplying more lean meat. There are doubtless many who have such a complacency over their own, that they are now perfectly content. Very well, stay so; nevertheless there must be more lean meat produced in hogs or the consumption of their products will grow less. Do not build on conceit, but let swine breeders do their best to fit the animals they rear for the best demand. If they do not, the coming hog will be the accepted heir and win the laurels.

These ideas have been practically carried out, and the pork made after this teaching has sold for a dollar per hundred over the highest market price. The adaption of foods and the care of animals to make more wholesome meats, are interesting and profitable subjects for all classes of farmers, and especially for pork makers.

Against Dehorning.

Dr. William Horne, V. S., maintains that the whole animal economy suffers by what he characterizes as the "frightfully painful" practice, and "crime," of sawing off the horns of cattle; and the effect is, in his judgment, especially detrimental to the prepotent powers. He reports, through "The Country Gentleman," cases of suffering and injury which deserve attention amid the many current—and some of them interested—expressions on the other side of the question:—"I know of total ruin in one case from dehorning a Jersey bull. One stockman had sixty cows dehorned, and in seven weeks the milk fell from thirteen to nine pounds, and he says that many of them are ruined entirely. I know of quite a number of animals whose heads are nearly rotted off. Five absolutely breathe through the enlarged apertures whence the horns came off. I know of twenty-seven animals which were dehorned; five of them came near dying, two did die, and all the rest degenerated."

The same paper has published other similar statements of experience or opinion. Dr. E. Moore, a veterinarian, declares it to be "horribly cruel and unnecessary." Mr. A. W. Porter, who witnessed the operation on a number of cows, says they "crouched down and bellowed as though suffering intense pain, quantities of blood flowing." Another correspondent regards the practice as not only cruel but "destructive of the milk properties of the cow;" and on no account would he use a dehorned bull.

The Dairy.

Gassey Curds.

BY PROF. JAS. W. ROBERTSON.

I write a brief account of a visit made to one of our leading cheese factories in the west. The first milk-waggon arrived soon after 6 a.m. Our first task was to test the quality of the milk delivered. Out of 71 lots we found only one of rather doubtful quality; previously the milk of the same patrons had been examined and about one-half of the lots were held to be wanting in fat. Thanks to the beneficial influence and work of dairy inspectors, there is a general improvement in the quality and condition of the milk supplied to cheese factories. After the milk was all weighed, attention was turned to that in the vats, which meanwhile had been heated to 86° Fahr. By reason of the cold of the previous night, it was found to be in a condition too sweet for the immediate addition of rennet; one vat was heated to 90°, the others to 86°, and left to mature for from one and a-half to three hours. The degree of ripeness, or maturity of milk, can best be ascertained by its odor. If a large dipperful be lifted from the vat and poured back into the bulk of the milk from the height of a foot or two, the odor given off by that method of disturbance, can easily be discerned. Gassey curds and porous cheese frequently result from the setting of immature milk. There is much advantage in properly ripening the milk, before the addition of rennet. Warmth and frequent stirring, or any other suitable method of aeration are the means best suited to bring about the required state. The use of sour whey is objectionable since it frequently introduces some sort of bad flavor. In the cold weather of fall, a quantity of old milk, kept in a pure atmosphere and not at all thickened will serve the purpose; while during the summer months, heating in a vat and airing by stirring will suffice. Cheese makers have not paid enough attention to that matter. In point of the time required, it is better to wait for an hour or two on the ripening of the milk than twice as long at a later stage on the ripening of the curd. But to come back to my narrative. Coloring for each vat at the rate of 1½ oz. per 1,000 lbs. of milk was first diluted in a pailful of water and then thoroughly mixed with the milk. Rennet extract at the rate of four ounces per 1,000 lbs. of milk was used in a similar way. There has been a good deal of timidity on the part of cheese-makers in the matter of using rennet. In hot weather and with tainted milk, or milk from which gassey curds are likely to come, a very liberal use of rennet leaves less risk of inferior quality. Tainted milk is always difficult of coagulation; and cheese made from milk in which all the caseine has not been thickened will quickly go off flavor. Firm coagulation will cause the retention of more moisture in the curd. Moisture retained by such means will favor the mellowing of the curd and prevent the tendency to a "corky, pinholey," condition. With milk sufficiently ripened, as already recommended, enough rennet should be used to effect coagulation firm enough for cutting in at least forty minutes at a temperature of 86°. With tainted or "gassey" milk thirty minutes is a better limit. A larger yield and superior quality will be obtained by allowing the curd to become quite firm before commencing to cut it. For cutting, the horizontal knife should be used first and

lengthwise. The perpendicular knife may then be used crosswise and afterwards lengthwise. With knives of ordinarily fine gauge between the blades, three cuttings are sufficient. In the case of a quick running curd, four cuttings will promote the drying of the curd, while the heating up proceeds. The use of the horizontal knife first, leaves the curd in a state less likely to cause it to run into lumps during the heating. The cutting was carried on continuously until completed, and the stirring began immediately thereafter. The hands were used for two rounds to free the curd from the sides and bottom of the vats. Then, to save the back, a common hay rake with its handle cut off short was used to continue the stirring; when handled with care, the curd can be kept in motion and free from matting by the use of the rake, with less damage and waste than by using the hand. After ten minutes of steady slow stirring, steam was turned on; the stirring was continued for fifteen minutes after the limit of heating (98°) was reached. About this time an odor threatening a "gassey" curd was detected from one of the vats. I will describe the treatment of it only. The milk had been set rather unripe, and a consequent delay of two hours or more was the penalty; the temperature was kept at 98°, and rather more than half of the whey was removed. The hot iron test was applied to the curd at intervals. As soon as five hairs over one-eighth of an inch long were discerned, the temperature was increased two degrees and the rest of the whey drawn off; the curd was then dipped into a sink with racks and strainer cloth. It was stirred by hand until fairly free from whey. Rough stirring or bruising of the curd was not indulged in. Even in cases where the curd is unusually soft it had better be turned by gentle rolling of the pieces on the sink than by violent stirring or rubbing. When curds are inclined to be "gassey," it is not desirable to stir them so dry before the matting and packing as in other cases. The moisture favors the development of acid in opposition to the generation of gas, and any excess of it can easily be got rid of after the acid has mastered the cause of the gas formation. The curd was then covered with cloths and left at rest to mat into one mass. When it was firm enough to handle without separating again into particles, it was turned. The turnings were repeated every ten or twenty minutes, and every time the whole mass was packed closer and piled higher until the layers were five or six deep. There was no convenience attached to the sink for heating the curd. Its surface began to cool and present a rather corky and springy body. To prevent further cooling and to correct the other fault, a few pailfuls of water, heated to 125°, were poured over the covering cloths and allowed to percolate through them on to the curd. In every case where a curd becomes gassey it should be kept warm (above 94°) and moist. The use of hot water, poured or sprinkled on it, will be beneficial. A temperature above 94° favors the development of acid much more than the generation of gas, and in cheese-making these two are antagonistic. A temperature below 90° favors the generation of gas, more than souring, and so hinders the "coming on" of acid. With two and a-half hours of such treatment after the dipping the curd was found to be mellow, ripe, or sour enough for cutting. That condition is judged (1) by the velvety, slippery feeling of the curd; (2) by the change of the flakey texture into

a stringy and fibrous one; (3) by an odor like that of freshly churned butter from slightly loppered cream; (4) by the liberation of the butter-fat when a handful is tightly squeezed. After the use of the curd cutter or grinder, hand stirring to cool below 90° and to create the curd will prepare it for the addition of salt. In the case of a very bad "gassey" curd it is beneficial to cut or grind it within an hour after dipping. It should then be created by stirring for five or ten minutes. Hot water may be applied freely, warming the curd to 98° or 100°. It may then be allowed to mat again, and its management and treatment be proceeded with as in other cases. Salt was added at the rate of 2½ lbs. of Canadian salt per 1,000 lbs. of milk. When the curd is sloppy or wet, rather more salt should be used to make up for the waste that goes off with the whey. The curd was put to press within fifteen minutes after the salt was stirred in. A delay at that stage often injures the flavor and prevents the securing of a uniformly solid body. Too much care cannot be exercised in the matter of finishing the cheese with a symmetrical appearance. Edges or shoulders from careless pressing, bandaging or turning are a discredit to any maker's workmanship. The press cloths should be left on the ends of the cheese until within two or three days of the boxing. On the morning of our visit cheese were being shipped, and right tastefully and neatly were the boxes gotten up. It should be always so at all factories.

Depends on the Man.

It is interesting to ask say fifty dairy farmers the following question:

"Have you made any money in dairying during the past season of high priced feed?" A majority, say three-fourths, will declare in the negative. The balance will answer in the affirmative. Of the latter it will be found, on close inquiry that some have made double the money that the rest have, and the reason will be invariably found to be due to their intelligence.

(1) They were intelligent enough years ago to put themselves in possession of a dairy cow, by buying a thorough-bred bull of some one of the dairy breeds, and crossing him upon their native cows they have built up a herd that with the same food will produce fifty to seventy-five per cent. more butter than did the old herd.

(2) They have been intelligent enough to make a study of what constitute real dairy conditions. They have learned that cold stables are very costly in extra feed; cold water the same way. They have learned that they must surround a herd of mothers with true maternal conditions, if they expect from them a profitable maternity.

(3) They being intelligent enough to see that it is the liberal, and not the stingy feeder, that makes money.

And so starting with the proper foundation—the true dairy cow—they have gone along in obedience to the dictates of intelligence at every step, and they are the ones that report that they have made money, even with high prices of feed. One question seems pertinent just here. How did they become intelligent? The answer is a very simple one. They became intelligent just as a lawyer, doctor, preacher, banker or mechanic does. They expended, at least, an ounce of brains to every ten pounds of hard work. They were not conceited nor ignorant enough to suppose that the garnered experience of others such as they could find in papers was of no benefit to them. So they read and studied, and made money. The others have the comfort at least of knowing that somebody made money the past year.—[Hoard's Dairyman.]

Shorthorns as Milkers.

During the last five years a series of experimental tests have been carried on by Dr. Voelcker, under the auspices of the British Dairy Farmers' Association, to determine the milk-giving and butter-producing powers of the several classes entered for milking prizes. These classes were divided into Ayrshires, Dutch or Holsteins, Jerseys, Shorthorns, and any other pure breeds and cross-breeds. A summary of averages, the analyses showing the weight of milk given by a number of cows in twenty-four hours, and the amount of butter-fat and solids, is subjoined:—

Breeds.	No. Samples.	Lbs. Milk.	Fat.	Total Solids.
Shorthorns.....	23	44.91	3.79	12.7
Jerseys.....	19	39.27	4.23	13.6
Guernseys.....	10	25.49	4.80	14.09
Dutch.....	6	46.99	2.97	11.8
Crossbred.....	3	51.66	3.15	12.31

In a work by Mr. J. C. Morton, on Dairy Husbandry, the yearly returns from two dairy farms are given. Fifty Shorthorns on one farm gave 750 gallons per head per year, and on another farm a like number of cattle give 650 gallons. On a good Derbyshire farm 690 gallons per head, for the season of nine months, were reported. On Lord Warwick's farm 735 gallons per cow were recorded for 50 cows in ten months. On the farm of Mr. Tisdall, in 1880, sixty cows produced 948 gallons per head, in a period of ten and three quarter months, under liberal diet, the records of the best milkers in the herd having been taken. Mr. Tisdall says that "probably the mean of these cited cases would be a fair basis to rely upon from well managed Shorthorns." The records of Mr. Burnett, of the Deerfoot Farm Jersey herd, show that the average yield of that herd for a period of seven years, from 1873 of 1879, was 605 gallons per head per annum. Mr. George Simpson's herd, at Reigate, of 29 cows, averaged 11 to 12 quarts per day, and 18 lbs. of their milk gave one pound of butter. Mr. Tisdall thinks that it will be fair to estimate the annual yield of milk for the Jerseys at 500 to 520 gallons, at the same rate of analyses as that of the dairy show data. In Denmark, 300 cows produced 1,100 gallons daily, averaging nearly 9 quarts each. Another herd of 36 cows averaged 548 gallons in the year 1868, and 661 gallons in 1872. In another case 660 gallons per head per annum is reported. It is thought to be fair, therefore, to credit these cattle with an average annual yield of 650 gallons each on the qualitative basis of the dairy shows. Only one test is given of a Hereford-Shorthorn cow; but that indicates that the white-face can be developed into a good dairy animal. One three-quarter Shorthorn and one-quarter Hereford gave 14.1 quarts daily for 9.6 months.

From the above figures the following has been estimated as being the relative value of the produce of the principal dairy breeds:—

Breeds.	Average annual yield of milk.	As Butter, at 1s. 3d. lb.		As Cheese, at 7s. cwt.		As Milk, at 3d. per gal.	
		Gals.	£ s. d.	£ s. d.	£ s. d.		
Shorthorn.....	700	25	10	0	24	13	0
Jersey.....	520	17	7	6	17	5	0
Guernsey.....	460	19	5	0	16	7	0
Dutch.....	650	16	4	0	19	19	0

In the paper from which the above is quoted Mr. Tisdall says that "the first inference from

these calculations is plain and indubitable. All other things being equal, the Shorthorns is by far the most profitable animal for general dairy purposes. Where richness of milk and butter is chiefly desired, the Channel Island tribes seem to fulfill those requirements better and at less cost, their consumption of food being small. Where a town milk supply alone is aimed at and quantity is most in request, the Dutch race, or, better still, the Dutch crossed with Shorthorn sires, produces the desired result at the lowest outlay, but their feeding qualities are not equal to some other breeds. This is the final factor in the problem, "to what base uses may they return?" If the shambles are base they are inevitable, and offer the ultimate test of the flesh-forming capacity of our stock. It may be questionable if the Jersey exceeds the Dutch in this particular, or if the Guernsey much surpasses those other two races, but it is quite unquestionable that in aptitude to fatten and lay on flesh of fine texture rapidly, the Shorthorn and its grades by far exceed all the other dairy breeds. This valuable quality, in addition to their milking propensity, renders them superior to all others for the purposes of the dairy farmer, and all our leading dairy districts attest this fact by using Shorthorns more or less pure bred, or native sorts repeatedly crossed with them.—[Prairie Farmer.

The Ripening of Cream.

In a paper prepared by the late Prof. L. B. Arnold, and read before the New York State Dairymen's Association at Middleton last winter, the ripening of the cream was pronounced an essential item in the making of perfect butter. Prof. Arnold explained the two kinds of changes which go on in cream when ripening, and which are induced by two distinct causes. The change most readily noted is the development of acidity, which is the result of fermentation pure and simple, and is brought about by the growth of organic germs whenever the cream is warm enough to allow them to sprout and grow. The only direct effect of the fermentation is to change the milk sugar in the cream into an acid. The acid, when formed, coagulates the albuminous matters in the cream, separating them into a solid curd and serum. This facilitates churning, but has no effect whatever upon the fatty parts of the cream until the acid becomes strong enough to begin to cut the butter flavor, which is thereby reduced, to the injury of the butter.

It is generally supposed that souring develops butter flavor. No greater mistake could be made. It has no influence upon flavor at all until it becomes strong enough to commence injuring it. Butter flavor is increased while the cream is ripening, but it is effected by the action of the air upon the fat in the cream, and not at all by fermentation.

If a sample of sweet cream is divided, and both parts are kept at a favorable temperature for ripening, and the air is excluded from one and a free exposure given to the other, both will sour at the same time, but flavor will only be increased in the one exposed to the air. Churning the two parts will show this.

The free oxygen of the air under favorable conditions oxidizes at least some portion of the milk fats, with the result of developing butter flavor. Oxidation is most effective while the cream is sweet and at the churning temperature, or about 60°. What is wanted, therefore, for developing highest flavor, is to give the sweet cream the

longest and fullest exposure to the air at a proper temperature.

Those butter makers who add sour milk or buttermilk to hasten the souring cannot have butter which reaches the highest perfection in flavor. The sooner the minds of dairymen are disabused of the idea that the ripening of cream and the development of high flavor in butter lie only in the souring of the cream, the better it will be. The importance of atmospheric influence in the ripening of the cream must be recognized by those who wish to produce the finest quality of butter.

The most advanced butter makers maintain the perfect exclusion of the low cooled milk and cream from the air. Whenever warm air, or air comparatively warm, comes in contact with colder milk, or cream, or water, or any other liquid, the warm air, touching the cooled liquid, is condensed, and deposits moisture in the form of dew on the surface of the cold liquid. With the dew thus deposited go all the impurities the air may contain. In the case of milk and cream, these deposits impair, in a marked degree, the flavor and keeping quality of the butter made from them. It is not essential that air should be excluded from milk until its temperature falls to the temperature of the surrounding air, but when it drops to that point, exclusion from air is important.

Churning should be done at the first appearance of acidity. Do not wait until the cream gets intensely sour and stale. In churning, the butter should be granulated in the churn, instead of being gathered into a lump. It should be cleansed of buttermilk by washing and not by working. After lightly salting, it must be worked into a solid condition with the slightest working that will effect that end.

Cream Separation.

At the Bath and West England shows, recently held in Britain, fourteen gallons of milk were given at eleven o'clock to several competitors, (each representing a different system of skimming the milk). One of them, representing the Victoria cream separator, which is worked by steam, separated the cream at once. But the others allowed it to remain standing till eight o'clock, the next evening, when the skimming was done. The cream was then kept under lock and key, in water surrounded by ice for nearly four days. Then it was churned, to bestow the certificate of merit to the deserving candidate. The test produced the following results, with the weights:—

	Weight of Butter.
1. The Victoria Cream Separator.....	lb. oz.
2. Jersey Creamer.....	4 13
3. Rymer Pan.....	4 12
4. Shallow Pan.....	4 9
5. Devon Creamer.....	3 15
6. Churn Creamer.....	3 14
7. S. S. System.....	3 10

From this it will be seen that the large separator driven by steam gave nearly one pound of butter more than the creamery can, or, in other words, it gave 24% more butter than the latter system. And the old despised shallow pan gave 11 oz. or 17 1/2% more than our much esteemed (?) creamery can. Our advice is do not forsake the shallow pan system until you can procure something better.

The small Hand Separator, which has been frequently referred to in the ADVOCATE, will give about the same results as the larger ones driven by steam.

The machine will, no doubt, save much labor,

and butter; cause the calves to be much more thrifty—owing to the better condition of the skim-milk; and in various other respects add to the comfort of the farmer, his stock, and the consumer of butter. It has, however, been estimated that at its present price, about \$1.50, it would not be very profitable with herds of less than ten cows. For the benefit of those who have not read our remarks on this machine, or those who would like to hear the opinion and experience of others on this subject, we quote the following from the pen of G. H. Whitcher, Agricultural College, Hanover, N. H.: "I have run a DeLaval Hand Separator for 5 months, morning and night, separating on an average 200 lbs. of milk per day. That it is a complete success no one can doubt if he has ever seen it work. A perfectly steady, uniform speed is easily kept up by either one or two men, as is most convenient. I have repeatedly separated 100 pounds of milk with no help except that of the men who were milking and who keep the milk tank filled up. The following figures may be of interest to your readers: Average time required in getting up full speed of 7,000 revolutions per minute, 2 minutes; time required to separate 100 lbs. of milk, 22 minutes. My machine first took out 20 per cent. of the whole through the cream tube, but I was satisfied that this was too much, so had it adjusted to take out 12 per cent, which in my opinion is about right.

"Our separator is in the grain room adjoining stable. Two men milk, and then separate the cream. The skim milk is immediately fed to calves or hogs fresh and warm, within an hour of the time it left the udder. Instead of having to carry 100 pounds of milk to the dairy room, we only have 12 pounds of cream, and instead of handling ice to cool 100 pounds of warm milk, and then furnishing fire to warm 88 pounds of skim milk from 40 degrees to 80 degrees, we feed this skim milk before it has ever been cooled. I think we get more of the fat out of the milk; we certainly get as much. Experiments are being made on this point. The Hand Separator extracted the cream which made the butter that took first prize at the New Hampshire Dairymen's Association, Feb. 1-2, 1888. It is a thoroughly practical machine, and but for its high cost would find a large sale in New Hampshire."

Drying Off Cows.

The following novel method is recommended by an English authority:

"Get water from a smithy where iron has been cooled for some days. Give your cows a dose of salts, and two days after, a pint and a half of linseed oil. Warm your smithy water, and bathe their udders three times a day commencing immediately after you give the salts. If the milk is not away in three days, rub the udder with vinegar."

It has been proved that the administration of iron compounds tends greatly to the lessening of the flow of milk. A dose twice a day of one dram of iodine of iron will help greatly to dry up a cow. It is a good thing also to bathe the udder with tincture of camphor and water. If the cow is very hard to dry off feed dry food and lessen the daily ration of water.

Some men are naturally good milkers. They have a firm yet gentle hand and a way of winning the cow's confidence. No man can be a good milker who is indifferent to the cow's comfort, or who is continually startling the animal by hasty words or otherwise.

Garden and Orchard.

Paper on Fruit Growing for Canning Factories.

BY W. BOULTER, PICTON, ONT.
(Read at late meeting of the Ontario Fruit Growers' Association.)

As all fruits used in hermetically sealed cans require to be fully matured naturally before delivering at the factories, the advice given bears more directly in that direction than to marketing otherwise. First, we will take the

STRAWBERRY.

In selecting varieties agents will attempt to show excellence in many new high-priced and untried varieties. I do not nor will I attempt to argue even on the many tried varieties suitable for eating fresh or adapted for different markets. For hermetically sealing, preserving its natural color, flavor and shape, none will bring so much money at my factories or sell for as good a price when put up as the old-fashioned Wilson's Albany. Many others have been tried but none will so far compare with it.

Strawberries will grow on any kind of well-drained soil, provided the season affords the requisite moisture. A sandy or clay loam is the natural home of this plant. Do not confound a moist soil with a wet or springy one; better a dry soil, that would suffer during a drouth, than springy land, as it would generally prove a failure. Land sloping to the south will produce earlier berries, but would not be of any advantage in growing for factory purposes; for early marketing it would have some advantages. The ground must be thoroughly tilled the season previous by a hoed crop, such as potatoes or beans, or early crops, so as to get it off early in the season; then plow as many times as possible before frost sets in, care having been taken to put a heavy coating of manure on before the hoed crop is put in, it is hardly possible to get too much manure on the land, at least thirty wagon loads to the acre would not be too much.

Get good plants from the first growth of the previous year's setting, and particularly from a reliable grower who has kept his patch clean—*be particular concerning this.* The plant must be put firmly in the ground as deep as possible without covering the crown. The small roots shooting out from the main roots of the plant must not be disturbed. Once a plant is firmly set it must not be loosened; if it is, possibly it might recover, but the chances are against it. Cultivation must be attended to soon after the plant is set. Hoe very shallow near it; many hoe too deeply near the plant, cutting off the small roots that should remain. The ground must be cultivated so that no weeds will show themselves. As soon as the ground is frozen hard enough to bear the weight of the wagon, cover your plants with straw about two inches deep—the object is to keep the ground from freezing and thawing with every change of temperature. No particular time for removing the straw in the spring can be given definitely. It should remain on the berries until there is growth in the ground, but the plants should not be allowed to grow under the straw. If your patch has been properly cultivated the previous year as described, keep yourself and everything else off it until the berries are ready for picking, and they will likely be clean and free from sand; strawberries that have to be washed before hulling are nearly worthless for canning purposes.

The same soil that will grow good strawberries will grow

RASPBERRIES.

The land should not be so heavily manured as for strawberries, if it is it will produce a rapid and long-continued growth of canes, which will likely be injured by the frost during the winter.

In reds, a dark colored, firm berry is required. So far with me, as an all round variety, the Cuthbert fills the bill. Many of the new varieties may be equally as good after being thoroughly tested.

In blacks, the Ohios for early and Mammoth Cluster for late have given good satisfaction. Although the Gregg is some later than the Cluster, and Souhegan and Tyler are the earliest so far tried in this locality. *Not many black raspberries are required, there is very little demand for them,* the reds being principally enquired for.

Cultivation—In reds select ordinary suckers of one year's growth; in blacks, the tips. In reds, set in rows seven feet wide and about eighteen inches in the row, unless party fancies hill culture; from experience I prefer hedge rows. In setting out I run a deep furrow, pressing the dirt firmly about the plants, finish by plowing two furrows on each side of the plants; many loose their plants when the dry weather comes on by not having covered them deep enough. After cultivation is about same as for corn—keep the cultivator moving. Tomatoes can be profitably grown between the rows the first season. Last year Mr. Wallace Woodrow, near here, from two thousand tomato plants, which would fill about three-quarters of an acre, four feet apart, picked four hundred and twenty-five bushels of ripe tomatoes, grown in this manner, besides a large number of green ones, which make splendid feed for cows, increasing the flow of milk. Should a vigorous growth of cane take place the first season, clipping off the ends in August and September will be beneficial. In the autumn plow through the rows, throwing the furrows towards the plants. In the spring cultivate the land thoroughly as soon as it is fit, hoeing them frequently; keep them clean; do not allow them to become matted. Never throw manure under the rows, keep it in the centre so that any weed seeds it may contain can be destroyed by the cultivator. Unlike the strawberry the more you hoe and dig around the red raspberry the faster it fills up in the rows. As soon as berries begin to form cease cultivating. If the season is likely to prove dry, using clean straw is advisable for mulching your ground. Cut out the canes that bore as soon as the berries are picked. Do not let the rows get too wide as they would generally grow so rank as to exclude the sun and air, which will detract much from the flavor. In blacks, as soon as the new growth gets about three feet high, nip off the ends. Shoots will spring out, then nip these off again, and you will soon get a large and vigorous bush. The old cane must be cut off at the ground every year, either after picking or early in the spring. The secret of success in growing raspberries is cultivation. They cannot grow if choked up by weeds or quack grass.

If you are near a factory it will pay you well to put out red raspberries. Much of the cultivation can be done with the horse, although forking up in the spring is a great advantage. So far we cannot get enough of them. If you wish you can fit your ground up early in the autumn, and set your plants in September or October, or before

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freezing; many have succeeded well then.

In other fruits, such as red and black currants and gooseberries, so far the supply has been so limited we have packed very few. They are principally used for jams and jellies. Grapes are packed largely in California, so far there is very little demand here for them. In

PEARS,

we can only sell the Flemish Beauty, Clapp's Favorite, or varieties similar in taste. Bartlett's are also in demand. So far we have had to import largely the latter variety from the U. S.

APPLES

are used now for canning purposes, the demand has grown largely in the past few years; the well-known early and late fall varieties being used. The best flavored varieties are the best, as whatever flavor it contains when peeled is retained when hermetically sealed. Do not pick up and bring to a canning factory wind-fall or bruised apples; they are useless; no man can use them successfully. In

PLUMS

none excell the Blue Damson, the large varieties generally cook to pieces, they will remain natural. Green Gages and Egg Plums are also in demand. So far the demand in Canada is limited for plums, but steadily growing.

PEACHES

in fruits, like tomatoes in vegetables, are the staple, but Canada so far has not produced enough peaches, not being a peach-producing country east of Hamilton. To sum up, bring only the best that grows.

Make up your mind that you are in partnership with the packer; what is his interest is yours. By the growing of vegetables and fruit combined many comforts can be added to your homes, and you will be much better off financially than in the past, when attempting to depend entirely on grain growing.

That Little White Grub in the Cherry.

No doubt many of our readers have frequently seen and been annoyed by a little white grub, which makes its home in the cherry. The grub is no other than that which destroys annually such a large proportion of our plums, viz.: the plum curculio (*Conotrachelus nenefor*). When the plum is attacked by this insect it falls generally prematurely to the ground, and can then be destroyed together with the insect foe; but when the cherry becomes the victim of its attack it remains on the tree and ripens together with the remainder of the fruit, and therefore some other mode for destroying this insect must be found if possible.

During the past season, Mr. Clarence M. Weld, of the Ohio Experimental Station, has made extensive experiments in this line, and has found that spraying the trees with London purple, shortly after the blossoms have fallen, has had a very beneficial effect. Owing to a heavy rain shortly after the spraying was done, it was repeated in six days and being again washed off, four days later it was again applied, for the last time, but again washed off by a heavy rain the following day. Careful examination of the fruit, when nearly ripe, showed that the spraying had saved fully 75% of that which would otherwise have been affected by the curculio. Or in other words, while the loss on the trees not sprayed, but in all other respects similar to those dressed with the poison, was on an average 14%; the loss

on those sprayed was only 3%. Half a pound of the poison was mixed with 50 gallons of water, and applied as a fine spray by a force pump. No injury to the leaves has been noticed.

Lime applied in a watery spray (mixed in the proportion of four quarts to fifty gallons of water), until the leaves were whitened, had the effect of saving 40% of the fruit liable to the attack of the curculio.

Fruit Transportation and Canadian Carriers.

The members of the Fruit Growers' Association and shippers present at the recent meeting held at Picton, Ont., were unanimous in expressing their disapproval of the careless and rough handling to which their goods were subjected by our public carriers. The national loss from this cause is great and should be remedied at once. Many of our dealers claim that entire carloads and frequently larger quantities are rendered unprofitable, and sometimes causing heavy losses, the goods arriving at their destination in such bad condition that they do not bring enough to pay expenses. This is a very serious matter to growers as well as to shippers, and one which deserves immediate attention. In a very able speech the President, Mr. Alex. McD. Allen, of Goderich, Ont., said:—

"Experience has taught leading shippers of apples that upon the whole better facilities are afforded and safer transport insured by New York than by Montreal for the British and continental markets. Our Canadian roads utterly refuse to alter their mode of handling, which is much to be regretted, and the manner of shunting at way stations in making up trains is, perhaps, more injurious to the fruit than anything else. It has been suggested to our roads that they should place buffers on all cars used for fruit similar to those used in Great Britain. The companies complain of the expense, and refuse to add this for the shippers, although we know it would save the greater percentage of breakage of barrels and bruising of fruits.

"Then again our steamship companies should favor shippers by placing all fruits either in the fore or aft part of vessels in order to keep away from the heating by engines. They should also place a cold atmospheric blast through the fruit compartment and thus keep these fruits in perfect order on the voyage, but they all utterly refuse to take this trouble so far, although many of the lines from New York grant these privileges most readily.

"American railroads, when requested, send fruits on direct trains to avoid shunting damage, and they handle with much more care in transshipping than our roads. Bills of lading can be obtained by American lines guaranteeing delivery to any inland market in Great Britain or the continent, and where requested they will give their own count of cargo; whereas our roads and steamship companies will only give bills of lading to ports in Great Britain, and then only on shippers' count. Even express companies are not free from censure. The experience with our express companies when sending our fruits to the Colonial Exhibition in London, England, affords a proper instance of their method of handling. It is a notorious fact that these fruits were largely bruised and unfitted for exhibition purpose. Soft fruits, such as peaches, plums, early apples, pears and grapes, were mostly pounded to a jelly. Care was taken by those who prepared these fruits for shipping to place them in small half-bushel boxes that could be handled

easily. Labels were placed upon every box showing that they contained fruit for the Colonial Exhibition. 'Handle with care,' 'This side up,' made no difference. It was unfortunate that such was the case. Our Government purposely sent all by express and paid them high charges in order to get good handling and safe delivery. Our experience was that the breakage damage was done by our express companies. We watched the delivery to the steamships, and although remonstrating at the rough handling, the evils went on, our appeals were unheeded.

"Unless our carrying companies will listen to reason, they must lose these freights. We want to deal with our own companies, and yet hope that they will reconsider matters and grant our requests, which we think are reasonable. Competition is keen in the markets, and we desire to place our goods in competition in as perfect order as possible, in order to hold the leading place as against all other nations for excellence of apples especially. Our apples are the best in the world, and with care by our carrying companies, along with equal care by our shippers in culling and packing, we will assist in building up for ourselves and our country a name for honesty and superiority in this branch of industry."

Ontario Fruit Growers' Association

As previously announced the summer meeting of this Association took place at Picton, Prince Edward County, on July 11th and 12th.

Several valuable papers were read by leading horticulturists from all over the Province. Much valuable information was imparted by those who took part in the discussions. The President, Secretary and members of the Board earnestly endeavored to make this meeting a success, but the inhabitants of the vicinity, though largely engaged in fruit growing, paid little attention to the meetings, nearly all of those present coming from a distance. Strange to say the local newspapers gave but a meagre report of the proceedings. These Associations belong to the farmers, and are conducted for their benefit; by attending them they will receive much benefit, but if they are not attended it is so much money wasted. Some complain that sufficient notice is not given. The Secretary claims that the meetings are always fully advertised, but we think more attention should and will be given to this particular in the future. Wherever the meetings are to be held, a good live advertising Committee should be secured in that section, who will under the direction of the Secretary thoroughly work up a local interest, always remembering that business half done is labor and expense entirely lost.

The reason that the meetings are not continuously held in one central place, is the desire of the promoters to benefit the various sections by personal contact.

Many of our farmers depend on reading the reports of these meetings; this is all right, but personal interviews with men of experience cannot be over estimated. At the close of the sessions, the members of the Association and press were treated to a trip down the beautiful Bay of Quinte as far as the Lake of the Mountain, which is a curiosity, being on an elevated plateau about 200 feet high. The shores of the lake are only a short distance from the sides of the mountain, which shadows the waters of the bay. This lake has no visible inlet or outlet; the scenery is very beautiful; it is a fashionable

summer resort. At the foot of the mountain, just below the lake, there are large grist mills and manufacturing establishments, which obtain their power from the waters of the lake, which are conducted down the mountain in iron pipes. No better or cheaper water power than this can be obtained; the supply seems to be unlimited. Returning to Picton, we were the next day driven some ten miles through the country, to the famous Sand Banks, another curiosity and beautiful summer resort. Several hundred acres of fine farming land is now covered by these mountains of pure sand, which are constantly becoming larger, and slowly but surely covering a greater area each year. The sand is washed up out of Lake Ontario, becomes dry and is drifted up into heaps and hills like snow. These banks vary in height from 75 to 150 feet. A grand view of the surroundings can be had from their tops.

After spending some four or five hours here, we again returned to Picton by another road. The land in this country is generally good. The barley produced here has long been noted as the best grown in America, but this year the crops are very light owing to the drouth from which they have suffered, during the last two seasons. The farmers in this section, have not bred and fed as much live stock as they ought, but have continued to crop their land year after year, and have not returned a sufficient quantity of manure. The result is most obvious, land that has been heavily cropped and lightly manured, cannot stand drouth. Though not possessing large herds or flocks, the farmers here make a specialty of finely bred drivers, and a considerable number are each year sold to foreign buyers. The interest in dairying is growing; cheese factories are being established in several places, also two creameries, one at Picton and one at Ameliasburg.

Fruit growing is extensively carried on; immense quantities of apples, pears and plums being grown, also small fruits to a considerable extent. Canning fruits and vegetables is a prominent industry. The members of the Association were invited to visit the Bay of Quinte Canning Factory, where all the different varieties of fruits and vegetables are put up, those not grown in Ontario are imported. The utmost cleanliness and care is observed throughout this establishment. All the different processes were fully explained, and cases which had been prepared for shipment were opened by the members present, the different kinds of goods were tested, and found to be in splendid condition and well put up, the natural form and flavor of the fruit being preserved. The Lion Brand, so well known all over the country, is put up by this firm; 175 hands are employed during the season, and about \$50,000 of goods are annually packed, the principal market being the Northwest—twenty-three cars were shipped to Winnipeg last year, and five to British Columbia. Five car loads have also been sent to Great Britain.

The farmers near these factories find it profitable to grow fruit and vegetables for them. Mr. Boulter, the proprietor, has on his farm 2,000 apple trees, 450 pear and plum trees, and about fifteen acres of raspberries, besides quantities of sweet corn, peas and tomatoes. He claims that peas or beans picked green, and forwarded in the pods, will yield from \$50 to \$75 per acre, green corn in the husk \$25 to \$30, and strawberries when well cultivated about \$300, other products in proportion. Before closing we must say, that if Mr. Boulter had not vigorously interested himself in the meetings of the Association, and the entertaining of the delegates, the time which was very pleasantly and profitably spent, would have been rendered very dull indeed. We found him a thorough business man, highly respected by his fellow citizens, generous, energetic and able.

Veterinary.

Cattle Disease in the County of Bruce.

BY C. H. SWEETAPPLE, V. S.

The reported outbreak of "contagious pleuro-pneumonia" near Tara, in the county of Bruce, has now been definitely settled to have been a false alarm.

The gentlemen appointed by the Government to investigate the disease have, after careful investigation, reported it to have been a "blood disease due entirely to local causes, and not contagious pleuro-pneumonia," and the alarm has apparently subsided. In this alarm I never participated, and cannot too strongly deprecate reports of dangerous contagious diseases in stock being disseminated over the country unless they actually exist.

There can be few subjects of greater importance to the Canadian farmer than the healthy condition of the live stock of the country at large, and when we consider the vast importance of our export trade in live cattle, we cannot but congratulate ourselves on possessing a complete immunity from the fatal contagious diseases amongst cattle that have been so prevalent in other parts of the world, and of which *contagious pleuro-pneumonia* from its insidious character, and the length of time it may lay latent in the system before its symptoms are developed, is undoubtedly the disease we have most to dread, and which must be most particularly guarded against. Your readers are no doubt well aware that it is only in consequence of Canada's ability to show a clean bill of health that she is allowed free access to British markets with her live cattle, and that our trade in live cattle, both to Great Britain and our neighbors of the United States, is a most important item in our exports. A few years ago, in consequence of a false alarm, our freedom of access to British markets was in imminent danger, and it was only by the energetic action of the Dominion Government and the representations of Sir Charles Tupper, who was then in Great Britain, that the trade was then retained; and it is certain that were contagious pleuro-pneumonia found to exist in Canada free access to British markets for our live cattle would be at once denied us. In consequence of this last alarm the Washington Government at once took action, and placed an embargo on cattle imported into the United States from the County of Bruce. But pleuro-pneumonia having been shown not to exist the embargo has been since removed.

Seeing the importance of this export trade—the risk of losing it should false reports of disease gain credence, and the loss to the country to a greater or less extent, at even its temporary suspension, too much care can scarcely be evinced in disseminating hastily considered and ill judged reports of contagious diseases said to exist in our live stock. Still, should an outbreak at any time actually be found to exist any attempt at concealment would be decidedly wrong, as the more fully the truth is known the better prepared would we be to guard against the extension of disease, and also the easier it would be found to adopt effectual measures for its suppression.

It may be well to remark that contagious pleuro-pneumonia and swine plague, or *hog cholera*, as it is sometimes called, two diseases

that we have especially to dread, are considered to arise from contagion or infection only. That although it may be in many cases difficult or impossible to trace the direct origin of an outbreak of a contagious disease, that in the event of a suspected outbreak, every effort should be made to discover some possible or probable way in which the *virus* of the disease (the contagious principle) has been introduced; that hastily formed conclusions should be avoided, and all matters in connection with the outbreak carefully considered, and that a number of animals in the same locality affected at the same time with the same disease must by no means be considered as conclusive evidence of the contagious character of the disease.

Some few years ago district veterinary inspectors were appointed by the Ontario Government with the view of having the machinery prepared for a proper investigation in the event of an outbreak of disease among live stock. These appointments have, I believe, never been cancelled, but the inspectors' duties were never defined. Had they been instructed how to act, much time might be saved in making investigations, and false reports would probably be "nipped in the bud."

To Prevent Forging.

We have always advised farmers to let their horses go barefooted as much as possible, but when they have to use them on the roads it will frequently be impossible to avoid shoeing, and as a consequence many diseases, inconveniences, accidents, etc., are liable to follow; among them the subject of our remark, viz., forging.

This habit, as it is termed by some, consists in striking the shoes of the front foot by those on the hind limbs, caused by too much action of the latter compared to that of the former. Using short shoes on the front feet has sometimes been resorted to with the hope of being a remedy for this habit, but instead of having the desired effect it is liable to cause corns to appear on the feet to which these short shoes have been applied. "Artistic Horse-shoeing," when speaking on this subject, says:—

"When shoeing a forging horse use heavy toe-weight shoes on the front feet, to make the horse reach out further with these. After the front shoes have been nailed on, take a rule and measure the distance from the coronet to the bottom part of the toe, observing the slant of the foot. Measure the hind feet in the same way, in most cases it will be found to be from one-quarter to one inch the shorter, and the shorter the hoof the quicker it can be raised. Now, by placing the shoe upon the hind foot so that it will project enough to make the distance from the coronet to the bottom of the toe the same as in the front feet, and letting the shoe project well behind, making it a little heavy, the foot will not be raised so high that it will be thrown forward so far as to strike the front foot, and, therefore, forging will be prevented. This is a very simple procedure, and one that can be ordered by any farmer who is troubled with forging in his horses, and if found successful, will save an unnecessary annoyance."

"I honestly think," says T. D. English, "that a healthy and able-bodied toad, of industrious habits, will get away with and digest his own weight of insects during twenty-four hours. If you be of an insecticidal turn of mind, turn out by daylight, and watch the toads getting breakfast. It is entertaining."

The Apiary.

Clipping Queens' Wings.

Some bee-keepers, who appear unable to place themselves in the position of a farmer, or in fact anyone who has but little practical experience with bees, and yet keeps a few hives for pleasure and profit, will often advocate the clipping of queens' wings. Now let us look at the question in detail. The object of clipping a queen's wings is briefly to prevent her leaving the hive with a swarm. The queen, by an experienced hand, may be caught at the entrance and caged. The old hive may be removed and the new one put on the old stand, and the queen placed in a cage and put upon the combs or foundation in the new hives. The swarm finding that they have lost their queen will return to their old home, or rather the place where their old home was, and which is now occupied by the new hive, and they joyfully enter and remain with the queen. All this is well, and the ease with which the swarm has been hived pleasing, but we are supposing that all will be rightly done. But how is it with the novice? How many find it difficult to detect a queen even in the hive when all is quiet, and how many will point to a drone even and say, "There she is." Let the reader answer for himself. Enough to say there are many who will not be able to detect the queen as she issues with the swarm, and not being able to fly she will hop or run out from the hive and be lost from the swarm, and often the swarm returns having lost its queen. Again, as one must watch the bees all the time, the presence of the bee-keeper is required when the swarm issues, and he must be there to tell from which hive the swarm issues, or he may again lose his queen. In this way valuable queens may be lost, and the swarm returning to the hive, has to wait till the young queens may emerge from the cell, when a dozen young queens may go out with the swarm, and the bee-keeper has after all to have his swarm with the queen; for her wings will not have been clipped. The colony has lost the use of a laying queen from the time that a swarm emerges until the young queen has become fertilized and is laying. This latter may or may not prove a disadvantage, depending upon the time the bees swarm and the duration of the honey season. If the queen is lost four or five weeks before the honey season closes it is a loss, as the worker bee hatches in 21 days and becomes of use one or two weeks after she hatches.

Of course there is an advantage in clipping, it may be argued, and the advantage is that should a swarm issue and not be seen, the queen may be lost but the swarm will return. So it will; but what then when the young queens hatch the swarm may leave with them, and you may all the time be lulled into false security and think the clipped queen is still in the hive.

Clipping queens' wings is all right if you are an experienced hand and can watch your bees and look for the queen the moment a swarm commences to issue. Under these circumstances clip by all means, and now how shall you clip? The bees are very keen at detecting a foreign scent, and especially dislike it if on a queen, therefore you should avoid touching her person any more than necessary. Therefore, after having found her take her by one wing and clip it half off if you can. If you cannot, to advantage, cut

this wing cut the other half off. Some will, without thinking, imagine the wings clipped on both sides would be better, but such is not the case. If the bees show an inclination to pile on the queen to sting her to death, smoke them and shake all bees off a comb and let the queen run on it; by the time the bees reach her she will be calm and normal in her movements, and all danger will be passed.

It will also be remembered that a queen is impregnated when on the wing, and only once in her lifetime. Cases have been known where a novice has clipped a virgin queen's wings to keep a colony from leaving the hive. This means the destruction of the colony, for the queen cannot take wing to be impregnated, and she being unable to produce anything but drones, the colony must perish; therefore, be sure your queen has been fertilized before you clip her wings.

Poultry.

Feed.

Now that chickens are a few months old they may be safely fed all the milk, sweet or sour, that they will make use of. There is no better so'd food than wheat; give the growing birds a plentiful supply of it. Pullets that are expected to lay early should not have corn or any other fattening food, as it retards the development of the organs, but chicks intended for the table may be fed bountifully with it. Milk is an excellent egg producer.

Disappointments

Very many, indeed, are the victims of *hea fever*, and it is very amusing to note the progress of the victim. He sees a neighbor selling a pair of fowls for five or ten dollars and concludes that is about the easiest and shortest road to wealth he has seen or heard of; counts on a hundred pairs of fowls for five hundred or a thousand dollars. Of course, any person can raise fowls, and if you suggest poultry literature to him, it is ridiculed. Well, what is the result? He gets a setting of eggs or a pair of fowls, and by the end of the second year he has a large stock of pure bred fowls for sale; but, alas, time passes and no sales. He has, if he advertises, frequent applications, but his replies betray an ignorance of poultry breeding that leads anyone, but the very novice, to the conclusion that his stock is inferior, and if a *true fancier* tells him where he stands, he decides at once that Mr. Fancier is jealous of his fine stock, and when the selling season is over he decides that there is a ring in the poultry business, and that unless a man is in it there is no money to be made. There is not one man in ten that has the taste requisite for a successful fancier, but there is no valid reason why any person, not too lazy, should not be successful with fowls for eggs and market. The duties in connection with the latter are more mechanical. The fancier is not generally as successful in egg production as many farmers, as he has such a love for his fowls he is very apt to overfeed them, and thus, to a great extent, destroy their usefulness. There are ten failures among fanciers of fowls due to overfeeding where there is one from not feeding enough; while with the farmers it is the reverse, or, at least, the failures are in the other direction, they do not feed enough. To get the best results from fowls they should have unlimited range in the warm weather, and in the winter warm quarters which are absolutely dry, moisture being very conducive to roup and kidney diseases. We find the lack of care is the cause of most of the disappointments to the farmer.

Correspondence.

NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. If an answer is specially requested by mail, a stamp must be enclosed. Unless of general interest, no questions will be answered through the *ADVOCATE*, as our space is very limited. 3. Do not expect anonymous communications to be noticed. 4. Matter for publication should be marked "Printers' MS." on the cover, the ends being open, in which case the postage will only be 1c per 4 ounces. 5. Non-subscribers should not expect their communications to be noticed. 6. No questions will be answered except those pertaining purely to agriculture or agricultural matters.

Correspondents wanting reliable information relating to diseases of stock must not only give the symptoms as fully as possible, but also how the animal has been fed and otherwise treated or managed. In case of suspicion of hereditary diseases, it is necessary also to state whether or not the ancestors of the affected animal have had the disease or any predisposition to it.

In asking questions relating to manures, it is necessary to describe the nature of the soil on which the intended manures are to be applied; also the nature of the crop.

We do not hold ourselves responsible for the views of correspondents.

An Enemy of the Currant—What Strawberry Shall I Use?—**Strawberry Fertilizer.**—1. Please tell me of a preventative or a remedy for the currant worm, not the one which attacks the leaves, but a small white maggot which is found in the fruit, causing it to rot and fall to the ground. It has infested our currant bushes for the last seven or eight years, causing a great loss of fruit. 2. I have the "Sharpless" strawberry. It grows very large here, some of the berries measuring seven and a-half inches in circumference, but it does not keep well. Is there any other variety which equals it in size and flavor, and is as good a keeper? What is the best fertilizer for strawberries?—M. E. T., Murray Bay, Q.

[1. The insect is probably the one commonly known as the gooseberry fruit worm, which, besides attacking the gooseberry (as the name indicates), is very destructive to the currant. The remedies for this pest are described in Prof. Saunders' "Insects Injurious to Fruits," as follows:—"The most satisfactory method of destroying this insect is by hand-picking, and its habits are such that its presence is easily detected. Any berries found coloring prematurely should be carefully examined, and, as the larva slips out and falls to the ground very quickly, watchfulness is needed to prevent their escape in this manner. Where neglected they often increase to an alarming extent, and in some instances half the crop or more has been destroyed by them. It is recommended to let chickens run among the bushes after the fruit has been gathered so that they may devour the chrysalids. Any leaves or rubbish under the bushes should be gathered and burned, and a little lime or ashes scattered over the ground in their place. Dusting the bushes freely with air-slaked lime early in the spring, and renewing it if washed off by rain, will also, in a great measure, deter the moths from depositing their eggs on the young fruit then forming." 2. We do not know of a strawberry equaling the "Sharpless" in size and flavor and surpassing it in other respects. Read our article on strawberries in next issue. 3. As a general rule the strawberry, being a gross feeder, requires a general fertilizer, such as compost or farmyard manure. On soils which are rich in vegetable matter, a dressing of bone dust and ashes, in the proportion of one part of the former to three or four parts of the latter, is a very good application. The heavier the soil is the less of the ashes will be required.

Transplanting Grapes—Quack Grass.—I transplanted three large grape vines this spring, as described by you in the *ADVOCATE*. They are all growing, two of them doing extra well, and one of them likely to ripen fruit this season. Enclosed find a specimen of grass, which I call Quack Grass. 1. Is it very troublesome? 2. How can I get rid of it?

[1. It is one of the most troublesome weeds that Canadian farmers have to fight. 2. Read our answer to E. T., Clinton, Ont., in this issue.]

The Condition of the Scotch Farmer.—I have again received a copy of the *ADVOCATE* for another year. It has not such a hold in the household that I think it will be the last paper parted with, and I therefore enclose once more an order for one dollar. The British farmers are still laboring under hard times. Our prices are always very low, but more steady. Our income is now fully one-third lower than it was four years ago. This is telling heavily on the country. Our proprietors are giving back a small percentage of the rent in order to encourage the tenant. A large number cannot pay full rents now, and are simply giving what they can; but I am afraid that there will be a day of reckoning soon which will throw a great many into bankruptcy, and until we get new land laws instituted we can never get on.—**JOHN ALLEN, Aberdeen, Scotland.**

Sow Thistle-Twitch Grass.—1. There is a weed growing on my farm which I have been trying to eradicate without success. It made its appearance about six or seven years ago on the side of a little knoll where the soil was damp. It grows about a foot high; the stalk contains a milky juice; the lower leaves lie flat on the ground, choking out all other plants; the stalk has from six to twelve heads, which are yellow, when in bloom, downy, and when mature full of seeds. The roots run under ground and send up shoots every few inches. We have always cut it before the seeds were ripe, and have had the field in meadow and pasture for four years. This seemed to have killed it almost entirely, but this year, the field being plowed up and sown to oats, they have revived and seem worse than ever. At first it only occupied a few square feet, but at present it has spread to as many rods, besides cropping up here and there in other portions of the field. I have tried to kill it with salt, but a two-inch covering had but very little effect on it. I would sooner have the Canada thistle or even the wild oat to deal with than this terrible weed. 2. There is also a grass growing on my farm which I first thought was the Old Country Rye Grass, but having seen an illustration of Couch Grass in the August issue of the *ADVOCATE* for 1886, I thought it might be this grass. I first noticed it at the foot of an apple tree, from there it spread all round the place. I send you a specimen of both plants, and would be thankful if you could tell me their names and a way to get rid of them.—**E. T. Clinton, Ont.**

[1. The weed is the perennial sow thistle. It resembles very much the annual sow thistle. The leaves are, however, a little narrower and less spiny, but the principal points of difference are that the perennial weed has a creeping root, and little yellow bristly hairs just below the flower head, both of these are wanting in the annual variety. The only way to get rid of them is to cultivate the field thoroughly, and if possible let none of them see daylight. 2. This weed is, as you expected, the Couch Grass. The principal point of difference in the appearance of the head of the weed and the Rye Grass is that the head of the latter is flatter. The spikelets of the head of Rye Grass are arranged edgewise, while in the Couch Grass they are cross-wise. The creeping root of the Couch Grass also serves to readily distinguish it from the Rye Grass. Repeated thorough cultivation during hot, dry weather has been found very successful in eradicating this weed, but this plan, wasting much of the soil fertility, is not considered by us as valuable as the "buckwheat plan." This consists in thorough cultivation in spring, two plowings if possible; sowing the field to buckwheat, plowing it under with a chain when in bloom; sowing to buckwheat again, plowing it under again; keep it clean in fall and following spring, and sowing a hoe crop. The buckwheat should be sown very thickly, as one of its principal functions is to choke out the weed. Read our article on Couch grass on page 166, volume 23, June, 1887.]

Instrument for Testing Quantity of Butter in Milk.—I would be much obliged if you could give me some information as to testing cows for butter. Is there any way by which we can test a cow's milk from a small sample, so as to form an idea of her butter value? Suppose I was wanting to buy a cow for butter and took a sample of her milk, how would I go about to find out how much butter it would make, or the percentage of butter? Of course I know it can be done by a chemical analysis, but of other than that, how should it be done? I want to get a few good butter cows, and would like to be able to know what they can do before purchasing.—**H. J. M., Quebec, Q.**

It has been found, by numerous experiments, that the butter fat contained in milk stands in very close relation to the butter which can be obtained from such milk. It is true that some of the fat remains in the skimmed as well as the buttermilk, but this loss is more than counterbalanced by the water, casein and other constituents of the milk (other than fat), which find their way into the butter. There are many different methods for determining the fat, but several of these are entirely

unreliable, and among these, notwithstanding its general use, is that known as the cream gauge, for the quantity of cream is no guide for the quality of the milk. The quantity of cream will even vary very materially at times when the milk has been taken from the same cow and banded in apparently identically the same way. The best instrument which the farmer (and even the factorymen) can use to determine the percentage of fat is the lactoscope. This instrument can be easily handled, and is very accurate (varying but a small fraction of a percent. from chemical analysis). Last year we frequently tested the milk in large cheese factories with it as fast as it could be taken in and weighed. Messrs J. S. Pearce & Co., of this city (London), are the only dealers we know of handling these instruments in Canada. They sell them for \$4 each, and complete directions how to use it accompanies the instrument. They are packed in a neat little box about ten inches long, two inches wide and two inches high. They can, therefore, be easily carried about.

How to Eradicate Willows.—I noticed in the July issue of the *ADVOCATE*, that you ask if any of your readers have been successful in killing the willow. We have killed quite a number on our place by girdling them about the middle of June, (some say the full moon in June, but I take little stock in the moon), and they will die in a very short time; if near water, it takes longer, but it will kill them. It has been very dry in this locality for the last two seasons, and there has been very little clover seed taken. How would it do to plow out-stubble and sow with timothy this fall; also the best time for sowing it? The land is clean and in good heart.

[It will answer very well to sow the grass on the well plowed out-stubble in fall; if sown in the first part of September, it will make growth enough to stand the winter. Harrow your meadow, which did not catch well, with a good sharp harrow and seed again.]

Commercial.

FARMER'S ADVOCATE OFFICE,
Aug. 1, 1888.

Another month of the farmer's busy and anxious season has come and gone. In some localities the country has had abundant showers, while in others these blessings seem to have been withheld, and crops are light and poor, but we are happy to be able to say that these sections are not very large in area, and on the whole we think the prospects are favorable for a good harvest, but such will depend on the next two weeks.

WHEAT.

The weather the past month has been very favorable for the maturing of the fall wheat crop and we think the sample should be plump and nice. Markets are quiet, with little change to note, and there will not be much activity in the trade till the harvest is pretty well secured, and farmers are ready to market their crop. It is certain, we shall not have the amount of wheat, either in Ontario or the United States that there was last year.

A year ago the outside price for winter wheat in Liverpool was 6s. 6d. per 100 pounds. At \$4.80 per £ sterling, this equals 93½c. per bu. The water freight thence was 13½c. per bu., leaving 80c. to Toledo. The Toledo price was 74½c. To-day Liverpool price outside is 6s. 10d., which equals 98½c. per bu. The water freight thence is 8c. per bu., leaving 90½c. to Toledo. The Toledo price is 86c. per bu.

Reports from Kentucky and southern Indiana, where the new winter wheat is being marketed, say that the sample has filled well and average fair. Further north in Ohio and Indiana, etc., the quality is reported less favorable, being decidedly below the standard in weight per bushel.

LIVE STOCK.

Live stock markets are quiet, and on the whole easier. The *Montreal Gazette* gives the market as below:—

There has been a change for the worse in the condition of the British live stock trade, and the decided strength that has prevailed since the end of June has been displaced by a weaker feeling, in fact it would not be surprising to see further weakness, as receipts promise to increase for a week or two. Our special cables to-day quote half a cent lower but are not depressed, although it must be conceded that the strength has gone out of the market. The weather at some points was reported hot and unfavorable for the handling of stock. Receipts from Canada and the States have been light, but supplies from elsewhere have reached full volume, and the market has sagged off, although demand at Liverpool to-day was about steady at the decline. Prime Canadian steers were at 13c., good to choice at 12½c., poor to medium at 11½c., and inferior and bulls at 8½c. to 10c. Sheep have been in heavy supply, with prices tending downward, but ruled irregular. Our cable from Liverpool to-day quoted best sheep 13c.; secondary grades, 11c. @ 12c.; merinos, 10½c. @ 11½c., and inferior and rams, 8c. @ 9½c. These quotations are calculated on the basis of \$1.80 in the £. A private cable from Liverpool says:—"Markets lower with prospects worse. Best cattle and sheep 6½d." Another says:—"Prospects and prices fair. Sheep, 6½d. Mixed shipments of Canadian cattle, 6½d.; do. States, 6½d." Refrigerated beef is cabled as follows:—Liverpool, hindquarters, 6½d.; fore-quarters, 4½d. per pound; London, hindquarters, 4s. 2d.; fore-quarters, 2s. 10d. per 8 pounds by the carcass. Following were the prices of prime Canadian steers in Liverpool on the dates mentioned:—

	1885.	1886.	1887.	1888.
July 23.....	12½c.	12c.	11½c.	13c.
July 16.....	14c.	12½c.	11c.	13½c.
July 9.....	14c.	12c.	10½c.	13½c.
July 2.....	14½c.	13c.	10½c.	13c.
June 25.....	15c.	13c.	11c.	12c.
June 18.....	14½c.	13½c.	11c.	12½c.
June 11.....	13½c.	13c.	12c.	13c.
June 4.....	14c.	14½c.	12½c.	12c. @ 12½c.

CHEESE

has ruled quiet the past two weeks, with prices decidedly easier and very little business doing. June make is well cleared out, although there are a few lots yet unsold. The July make is firm, and the keeping qualities will be much above the average for July goods. We shall not be surprised to see the July make go out at lower figures than June. There was too much money paid for June, and this is now reacting on the market and interfering with the consumption of these goods. Had June cheese been allowed to go out at 8½c. @ 9c. we should now see July cheese going forward at 9½c. @ 10c. Factorymen are holding for 9½c. @ 10c., and buyers are offering 9c. @ 9½c. The first half of July are ready to move and should be on the way to market.

The cable advices are no better, and the bids received for next week's shipment were below the average of what holders would accept at present. The cable was at 46s. The *New York Commercial Bulletin* says:—"The turn of the market is just a shade steadier, without any positive gain on quotable value. Yesterday afternoon and this morning two or three shippers bought a fair bunch of stock, and with moderate receipts holders appear inclined to make something of a stand again for a little fuller figure than the majority of buyers are willing to pay, especially as the weather is reasonably favorable for carrying stock. We report 9½c. for an outside quotation on colored in view of actual sales made at that rate, and in recognition of the fact that some of the stock is held even fractionally higher, but 9c. is practically all that can be depended

upon for nine-tenths of the supply, and would have to be accepted on any manifestation of a desire to realize. It is also a full extreme for white if sold alone, and a shade less has been accepted on goods that would not be considered faulty on a quick market. Most advices from abroad are tame and make 9c. an extreme limit."

MONEY AND RATES OF INTEREST.

This is a subject that should engage the attention of the farmers, as well as any other class of the community. Money is a very important commodity, and the amount in circulation, and the rates of interest at which it can be borrowed by farmers and the mercantile community, is a very important factor in the business prosperity and success of any country. That the rates of interest on money are too high in proportion to the price of farm produce, we think is patent to anyone, and the farmer who is paying more than 4 @ 5 per cent. for money, is simply working for the money lender, and paying him more than his just dues. Some even contend that 3 per cent. is enough, and that the day is not far distant when money can be borrowed at that rate. The operations of the English Chancellor of the Exchequer will do much to bring about this very desirable rate of interest. The reduction of the rate of interest on consols has had the effect of making the class of steady investors look out for something that would pay a better rate of interest, and willing to incur the risk of other forms of investment than those they have been accustomed to. This has thrown upon the market large sums of money at very low rates of interest, and made it easy for governments and railways to borrow in London at very reasonable rates. The mercantile community are now getting the benefit of this in a reduction of rates of discounts on good accounts. The next move we hope to see is reduction of the rate paid on deposits. There appears to be a disposition on the part of the banks to await action on the part of the government in the way of reducing the rate in its savings' banks. Whether they are disposed to take this action seems doubtful. The organs of the Government are constantly claiming that the class of persons who deposit in the Government Savings Banks are not the class that deals in the banks. This we do know, that many rich farmers and monied men have their thousands in the Government Savings Banks, but as they can only invest or deposit one thousand dollars in their own name, this is got over by depositing in the name of the several members of the family up to four and five thousand dollars. This is one cause that tends to retard the reduction of the rate of interest to the needy farmer and mechanic who needs to borrow money. If one-quarter or one-third of the Government Savings Bank deposits were withdrawn, and thrown into other channels of investment, we should soon see a marked change in the circulation of money.

There appears in certain sections of the government circle, a disposition to make a sort of pit of this savings bank system, and to treat it, not on its merits, but as a sort of benevolent department of the Dominion Government, rather than one of practical finance, and hence the hesitation on the part of the authorities to take action in this matter. This department should be managed and rates of interest adjusted with a view to benefit all classes of the community, but more especially the man who needs to borrow money. The man who has money to lend, and who does not want to have any trouble, or take any risk in the matter, can much better afford to take a low rate of interest, than he who wants to borrow can afford to pay a high rate. The Government professes to be the friend of the laboring man and the farmer, then by all means let them do all in their power to adjust matters, so that these, their special friends shall get their money at the lowest possible rate of interest.

Family Circle.

The Old Rail Fence.

[America.]

Let others in their song rehearse
The beauties they may see,
And build a monument in verse,
So that it fitting be.
But I will raise my voice to sing
A fact without pretence,
That much despised old-fashioned thing,
The homely old rail fence.

What would our dreams of childhood be
Without its zig-zag path?
And there what flowers we used to see
Before the aftermath
The fields are there; like grass ablaze
The firewood flaunts from thence,
But almost gone from our our gaze
We find the old rail fence.

The rapid march of progress has
Erased the landmarks old;
It is to-day a thing that was,
A story that is told.
The pruning knife of Time has cut,
With energy intense,
With other childhood relics, out
The honored old rail fence.

It was the squirrel's safe retreat:
The chipmunk's chattering oft
Made us advance with hurrying feet
Where he was perched aloft.
Where Nature stored her wealth away
And oft we carried thence
A thousand jewels in a day
Found by the old rail fence.

Arbutus, mullein, golden rod,
Felt its protecting care,
And though with hands full home we trod
We had a world to spare.
Life gives, I know, so much to-day
The past to recompense,
But with sweet memories laid away
I keep the old rail fence.

OLD MR. CONROY'S LADY-COMPANION.

September 13th, 1888.—I am seventy to-day, and feel very depressed and out of sorts. The fact is I am a lonely old man—not through any fault of mine, but all owing to Dick's confound obstinacy and selfishness—two of the most abominable vices that disfigure human nature. If a beggar in the street is wretched, it seems only natural and what one might expect; but that I should be unhappy is not only aggravating—it is ridiculous.

To begin with, I am the head of a good old English family which has never been accustomed to be put out of its way or worried in any matter. Go into the old church down below there in the village, and you will find a chapel almost as big as the church itself—a chapel with its walls covered all over with brasses and florid old mural tablets, its floorumbered by flat-topped tombs whereon lie knights in effigy, and its stained glass windows bright with the herald's art. Whose family do these things glorify? Mine. Whose name furnishes a sign for the village inn? Mine. Whose house is "the house" of the whole country-side? Mine.

It is a home fit for a duke, large, stately, many-gabled, ivy-clad—the outgrowth of wealth and luxury enjoyed by my forefathers for many generations. It is a house that would be a show-place if I would only show it; but I do not mean to do so. I detest the notion of having a lot of vulgar people prying about the place on Bank Holidays, or any other days, so far as that goes. I don't want to go poking my nose into poor people's houses, and why should they want to come sniffing about mine?

As to the park, it is as nice a little park as you will find in all England—none of your jump-up enclosures, but a thoroughly well timbered, well chosen bit of upland and hollow, with broad acres beyond that bring me in as good a rental as one can expect in these Socialist land-nationalising times. And I married well too, for, though I held a good stretch of land before that event, it brought me more. She was the Honourable Priscilla Phipps—a trifle needy perhaps, but possessed of a red-groove that was like an Atlantic cable for length. My marriage was an illustration of how judgment can triumph over sentiment.

I don't know whether I have mentioned it, but I am firm—astonishingly firm. My heart never had a chance with my head; and it was just because of this that I was able to give up all thought of Connie and marry Priscilla. Let me see—did I speak about Connie before? No, oh, well, she was a sort of youngster at a house where I visited when I was a youngster.

Alb, but she was pretty—exquisitely, absolutely pretty! I am positive about it, because I am a judge of that kind of thing. I always was. I know the points in a pretty woman just as well as I know them in a horse. Why, I am fond of them row—women, I mean—and can make myself pleasant to them too, I can tell you!

Well, the drawback to Connie was this—she was just nobody. She was the daughter of people who came from nowhere, and did not even know where that was. She was poor, as a matter of course; but I think I could have overlooked that objection, but I think I could have overlooked that objection. It was the "nobodyism" that settled the matter.

Yet I loved her dearly, and, had I been a selfish man, should have married her. As it was, I remembered my position and took Priscilla.

From this you will see that it is no idle boast when I saw that unselfishness and firmness are the two strongest points in my character.

One day I told Priscilla about Connie, and she told me about a Cavalry officer who proposed to her with only two hundred pounds a year; and we both laughed till the butler came and asked if we were ill.

I was very happy with Priscilla. She always adopted my views, did just what I told her to do, and went my way—not because I exercised my authority over her, but because she felt that I knew best. She was a most sensible woman, and so of course I lost her just as Dick was born.

I was a most indulgent father. I used to toss the baby for five minutes together, and kiss it when its mouth was dry. But it was very obstinate. When you put it on the floor, it would crawl towards the door or the fire or somewhere where you did not want it to go. I have seen it refuse milk and whole-some things to eat while trying its hardest to swallow marbles and bite the paint off a doll's face. It was a perverse baby, and grew into a troublesome little boy. By-and-by came the school-days and fresh disappointments.

I sent Dick to Eton, and begged him to be careful about the companions he made. What was the result? He formed but one fast friendship, and that was with a fellow of the name of Jack Hobson, the son of a manufacturer of starch or mustard, or something of the sort, while he was at some pains to give the cold shoulder to a son of my neighbor Lord Esk. Of course I argued the point with Dick, but it was not of any use. He merely said that Hobson was a "brick" and Esk's son a "cad," and told me he meant to choose his own friends.

Later on came the question of college; and I was fool enough to ask Dick which he would prefer, Oxford or Cambridge. He immediately chose the Junior University. I explained to him that it was more Radical in its tendencies than Oxford; but this did not move him in the least, and only elected the remark, "Bully for Cambridge!"—an untranslatable vulgarity of American origin. Well, he went to Cambridge. He did more—he went to the deuce.

He never took any kind of degree, but went in for boating, boxing, and developing his muscle at the expense of his mind. Added to all this, Hobson turned up at Dick's college almost as soon as he arrived there; and Dick spent the whole of his time with this precious chum. The whole of his time, did I say? Well, not quite, as you will presently discover.

It was about half through one of his terms that the blow fell—for it was a blow, I can tell you, because I was really very fond of Dick. You see, he was an uncommonly good-looking young fellow, and could ride well, shoot well, dance well, and sing well, and was at all times good company—in fact, he was remarkably like what I was at the same age, except as to obstinacy; and where he gets that from is more than I can tell.

The blow came in the form of a letter, and a letter from Dick. It was a rascally letter; it— But there—I'll read it to you. Just listen—

"Dear Dad—Hobson's people have been staying here for a little time, and I have been showing his sister about the place. She is the prettiest and altogether the most scrumptious little girl I ever met, and awfully sensible too, so I asked her to go to a wedding with me, and she has been good enough to agree. The old people seem very pleased, and so is Hobson. I proposed to bring her down for your blessing and all that sort of thing next Saturday. I'm sure you'll like her, dad—in fact, if I wasn't sure, I shouldn't propose to marry, because of course I know that if you were to cut up rough and stop supplies I should be regularly cornered."

"Always yours affectionately, Dick."

"P.S.—I forgot to say that old Hobson's business has burst up, and that Hobson—my friend will have to go out as tutor. So the sooner I can marry the sister the better for her."

I dare say you think I flew into a passion when I got this letter, but I didn't. I have a wonderful command of my temper; it is most remarkable. I just passed the facts of the case in review, as it were, and their enormity fairly staggered me.

I said to myself, Dick proposes to unite himself to a girl without breeding and without money, and whose plebeian name is tainted with bankruptcy. Will you as a father sanction such folly? Never!

My mind was made up on the instant, and I wrote to Dick by return of post. I kept the draft of my letter, and here it is—

"Dear Dick—I have just received your idiotic letter. If you like to give up the young women you mention at home again. If you do not give her up, my doors shall be closed to you from this day forth, and not only my doors, but my cheque-book. I hope you understand."

"Your affectionate but outraged Father."

I despatched this letter with full confidence that it would bring Dick to his senses, because I felt certain that the boy loved me, and reckoned on his sense of filial duty. It is the mistake I have made all through life—the giving of others credit for the same feelings of unselfishness and filial duty that I myself possess. My faith in human nature was destined to receive another shock. The only answer Dick sent to my affectionate appeal was this short note—

"Christ's College, Cambridge."

"Dear Dad—As you call on me to make my election between love and seven hundred pounds a year

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—my present allowance—I must chose the former. In the circumstances I should be a cad to do anything else. At the same time I'm very sorry to upset your apple-cart, for you have always behaved like a brick to me. Good-bye, dad!

"Always yours affectionately, "Dick." There's big-headed obstinacy for you, and selfishness too! Fancy a young fool thrusting aside parental affection and his bread-and-butter, all because he mus' have his own way! Well, he had it. It cost me many a pang, but I did my duty—I shut Dick out from my berth and thrust him from my mind. I never—or very rarely—thought of him at all.

September 1st, 1884.—About six months after I had closed accounts with Dick, and some three after my seventieth birthday, everything began to go wrong. The gout in my right leg became positively excruciating, the village swarmed with poachers, there was swindling going on in the stables—which I could not get out to see after—and the servants got stupider and stupider, and selfish and obstinate beyond all belief.

Nobody reminded me of my medicine or tried to amuse me. It was like being buried alive. I tried to mend matters by engaging a private secretary—in fact, I had a succession of them—but they were either fearfully slow and dull or pig-headed and bent on having their own way; and I sacked them one after the other.

After this I got a notion that I should like a young-lady nurse and companion, and mentioned the matter to the parson. I made sure he would have a fit. His eyes crossed, his sherry went the wrong way, he became purple—indeed his symptoms were so very alarming that I felt justified in slapping his back; and I did it so well that I slapped him clean out of his chair.

When he was better, he gasped out that he was afraid he could not help me; and then, when I glared at him and asked him "Why not?" he stammered out—

"I—I—I don't think it would be proper." An old "buff-head," as Dick used to say. But that's the world all over—hard, censorious, cold!

My other neighbours were just as silly, and all agreed that, if I insisted on being waited on by a young woman, I must get an old one into the house as well.

So I sent for Maria. Maria is a second cousin of mine; she is almost stone-deaf, and cannot see without her spectacles, which she is always losing. She never comes down to breakfast until lunch-time, and always goes to bed at dinner-time; consequently she does not bore one much. When she was fairly installed with me and had begun to feel at home and lose her spectacles, I advertised for my young-lady nurse and companion, avoiding any disclosure of my sex by merely describing myself as an invalid. I arranged that Gould, the bookseller at Stanbury, should receive the answers. They came in shoals, for the salary I offered was good; and in cases where I thought the girls might be nice I sent for them to come and see me and paid all expenses. Gould seemed to think all was not as it should be, and looked quite frightened every time I saw him on the subject.

The sixth maiden that came was "Miss Right," and I chose with her off-hand. She brought only two letters of recommendation; but one was from a Cabinet Minister and the other from a Bishop. She was "the sort of thing to sit next," as Dick would say, with small fine features, large earnest eyes, a delicate yet not unhealthy colour, nut-brown hair, and a compact little figure. She was in all respects a lady, had a sweet low voice, and made no pretence of being anybody in particular—by which I mean that she did not tell any yarns about aristocratic connections, sad reverses of fortune, *et-cetera*. I do not believe she would have come if Maria had not been with me. Her name, she told me, was Constance Denham. She came down here with her traps about a week after we had arranged terms, and fell into our ways at once.

It was just about tea-time when she arrived, and, on hearing that tea was nearly due, she wiped off her wraps in a twinkling, and came down from her room in time to make it. And she made it just as I like it made. Maria was rather stiff with her at first, but she managed to make the old lady hear without squealing or roaring at her, and that placed Miss Denham on a pinnacle from which she never afterwards fell.

I never knew a girl to fit into one's life as she did. She always remembered my medicine and my gouty leg. When one wanted to be quiet, she would bring out some rags of work and sit as still as a mouse, or, if cheerfulness was at a premium, play and sing until the "blues" were put to flight. And one of the most extraordinary things about her was that she knew all Dick's favourite songs and sang them perfectly.

It was a goodly sight to see her scratching about among the flowers before breakfast in her deliciously fresh trim morning-gowns, attended by a retinue of enslaved and devoted does, and singing bright snatches of song to herself. Equally pleasant was it to have her sit by me on the terrace while I read the day's lesson from the *Times*, and to note the ingenuity with which she extracted amusement from that somewhat ponderous leading article with quaint little moralisings of her own

(TO BE CONTINUED.)

Enclosed please find my subscription for 1888. You owe me nothing. I get more than my dollar's worth. G. F. FLANKLAND, Toronto.

The Household.

Virtue in Onions and Beef.

What is the most strengthening food for a convalescent? Well, you know, the beef tea theory has been exploded. The most life-giving and digestible food that can be given to one just recovering from an illness is chopped beef. Just take a pound of the finest round of raw beef, cut off all the fat, slice two onions, and add pepper and salt. Then chop the onions and meat together, turning them over and over until both are reduced almost to a pulp. Then spread on slices of rye bread and eat as sandwiches. People talk about celery being a nerve, but let me tell you that there is nothing which quiets the nerves, without bad results, like onions. The use of them induces sleep, and much strength is obtained from them. That is my ideal food for those convalescing or for any one who is in a weak state of health.

A Mistake of Young Married People.

It would be amusing, were it not for the serious aspects of the matter, to observe the complacency with which many young married people set out with the undertaking to reform each other, in regard to more or less serious faults and habits. "He loves me," says Mary to herself, "I am sure he will give up that odious habit for my sake." And, "She loves me," says John in his heart, "I am sure she will heed the very reasonable request to give up such a practice." Poor little innocents! And so they set about reforming each other. They meant to be very kind and tender and win the point by love alone. They use caresses and honeyed words and tender pleading, but down deep in their hearts, whether they know it or not, is an iron determination of each to bend the other to his will.

Out of regard for Mary's wishes, John may stop smoking for a week or a month; but the habit is strong, because it is a part of himself now, and so he goes back to it, trying to appease his conscience with the reflection that if Mary had due regard for him she wouldn't require such a sacrifice of his pleasure. And it is the same on the other side. Perhaps Mary isn't as neat as his mother, and he talks to her about it; but if she keeps the kitchen apparently clean for a week, he'll find dirt lurking in the corners—and she is no easier to reform than he. She begins to think that John needn't be so particular, and that it is cruel to compare her to his mother. If a woman has it in her to be slovenly, the chances are that she'll be slovenly to the crack of doom. But, not content to drop these matters as a kind of moral stone wall against which there is no sense in butting their heads, they begin to reproach each other, and the ball is open for bickering and fault-finding, and perhaps quarrelling, which are only too well known in some families. No man or woman need marry with the idea that he is going to reform the partner of his joys in any respect. The only way is to study and decide beforehand whether one is willing to take a certain person just as he is, without any mental reservations regarding reform in any particular. When he is of a marriageable age, his habits and manners and convictions are so much a part of himself that he cannot change without "pulling himself up by the roots," and such an undertaking on the part of anyone else is always resented. To make some people over into what they ought to

be, would require not only that they should be borne again, but that they should be brought up again by more sensible parents. It is probable that a slow development of the better side of our nature during time and eternity will eradicate all these bad things and bring us to perfection; but during the short span of this little world, those married people will, in general, be happier if they accept the situation without attempting very much in the making over line.

Silver Weddings.

I see that some one wishes to know how silver weddings should be conducted, also how invitations should be issued. I will tell what I know about it. The invitations issued for this wedding should be on the finest note paper, printed in bright silver, with monogram or crest upon both paper and envelope in silver. They may vary somewhat in the wording, according to the fancy of the writer, but they are all similar. They should give the date of the marriage and the anniversary. They may or may not give the name of the husband at the right hand side and the maiden name of the wife at the left. What the anniversary is should always be indicated. The following form will serve as a model:

1863-1888.
The pleasure of your company is requested at the
SILVER WEDDING RECEPTION
of
MR. AND MRS. CYRUS JENNINGS,
On Thursday evening, June 18th,
at nine o'clock
25 Jackson Avenue.
R. S. V. P.

A proper variation will make this form equally suitable for any other wedding anniversary.

If presents are offered by any of the guests, they should be of silver, and may be the merest trifles or expensive articles, according to the means and desires of the giver. If no presents are wanted, enclose a card, "Preferred that no gifts be offered."

Happy and Home Loving French.

I assert that, to those who will look at them without bias, they must appear in their true light the happiest and most home loving people among modern nations. That provincial life in France is narrow, I have admitted, but what a very dove cote is almost every home! If the time to be happy is now, and the way to be so is to make all those around us happy, then are the French the most enviable people on earth, for they put that theory into practice. In what other land will you find so many households whose members are of three or four generations? Parents and children cling together to the exclusion of all the world outside. Not a boy is brought up with a view to emigration. The thought of the young birds leaving the nest is dreaded. I know girls who have refused splendid offers of marriage and preferred humbler ones because the latter gave them a chance of living near papa and mamma, and parents who have put themselves to any amount of inconvenience to make room for daughters-in-law rather than part with their sons.

A French father would think you mad if you told him that you left your family at 7 in the morning to return to them at 7 or 8 in the evening, as so many Americans do; and that on Sunday, your only day at home, you were too exhausted to enjoy your children's prattle or to take a walk with your wife. The little French provincial tradesman, who locks his shop door while he spends a joyful hour at dinner with his family, has come nearer solving the problem of happiness than the Anglo-Saxon jockey in the race for ducats.

The Mausoleum of the Scindias at Lashkar.

The ashes of the first Scindias repose in the Royal Necropolis at Lashkar. The mausoleums are constructed on the plans of Hindoo temples, and the sanctuary is surmounted by a graceful pavilion, crowned with a dome, with a thousand pinnacles of great beauty, above which rises a lofty spire. It is astonishing to find such remarkable originality in monuments of so recent a date. They are built of very hard grey sandstone, which takes such a high polish that, unless closely examined, it has all the appearance of marble.

Offensive Breath.

It is very unpleasant to converse with those afflicted with a bad breath. They are a nuisance in a crowd, at church, in private conversation—anywhere. It is a kindness to get them notified through some more intimate friend of their fault, for they may be well nigh unconscious of it themselves. The most common cause is unclean teeth. No one is of strictly good habits who neglects to cleanse his teeth daily. Dentists would be without an occupation if people cared for their teeth or inherited sound ones from parents or grandparents who cared for their teeth and their digestion. Clean your teeth

with a soft brush, if possible, after each meal, at any rate, in the morning on rising. A wooden toothpick will answer the purpose after a meal, if you cannot do better—not a pin, which ought never to be put into the mouth.

Another frequent cause is catarrh of the nose or throat, or more commonly of the passages between the two. Such people would avoid bad breath to an extent by a gargle of warm salt water, or milk and water, each morning on rising. But such a trouble cannot be cured without the

use of internal medicines also. Do not be led into wasting time with patent catarrh snuffs and "cures," for by the local irritation they produce on the lining membrane of the nose and throat, they only confirm the trouble you wish to cure. Only once in a hundred cases or more do they do anything more than give temporary relief.

Another common cause of bad breath is dyspepsia. No one with a sour stomach can have a

Women as Trained Nurses.

One of our contributors in this number suggests that women, desiring to take up some lucrative employment, would find a good field in the care of the sick, as trained nurses. This is undoubtedly one of the best and most lucrative employments now open to women; but it demands good ability, conscientious work and long training. It cannot be taken up on short notice as an easy

makeshift for earning a little much needed money. In good training schools, from one to three years of study and practice are required, the student sometimes receiving a small compensation for her services after sufficient study and experience to make them valuable. There is a great demand everywhere for those who are really competent to take care of the sick, and very good salaries are paid. A common nurse without much experience here receives ten dollars a week, a good nurse, fifteen, and an extra trained nurse, who is almost a physician in knowledge, can command from twenty to twenty-five dollars per week. And yet, in this city, at least, it is often simply impossible to get a nurse at all trustworthy or competent to take care of the sick. There are plenty of coarse-grained, ignorant, unskilled women who would like to earn the money; but the neat, deft, soft-voiced nurse whose presence is rest and quiet and cordial to the irritated nerves of the sick per-



THE MAUSOLEUM OF THE SCINDIAS AT LASHKAR.

good breath. Therefore begin by treating the stomach. Physicians know that offensive breath may also, in rarer instances, be indicative of trouble with the lungs or more serious mental and nervous conditions. The vast majority of people can make themselves much more agreeable to their fellows by looking after their teeth, their noses, throats and stomachs.

"Kathleen Mavourneen loans" are those of an uncertain kind, that "may be for years and may be forever."

son, can seldom be found for love or money. Thousands of young women every year turn to the irksome grind of the school-room, for which they have neither taste nor talent, who would much better take up this newer employment in which there is room for a good and philanthropic work, which is also both "lady-like" and remunerative. A first-class nurse is never treated as a servant in a family but as a companion and an equal. Every large city has one or more training schools, and it is quite as easy to learn this business as any other which requires time and skill.—[The Housekeeper, Minneapolis.]

Beds and Bedding.

That part of household furnishing, upon which so much of the comfort or discomfort of a family depends, demands extreme care from the housewife, in all the details.

In this day of cheap materials, housekeepers of limited means, can, with tact and care, have bed supplies sufficient for the comfort and health of their families. The bedstead, whatever the style or pattern, should have a level and firm surface. If I had now in use the old-fashioned cord bedstead, I should have grooves cut in the side frame, in which to insert slats to replace the cords, which could never be kept a flat unyielding surface.

Good springs are a desirable addition to the bed and are of many patterns and cheap.

A good hair or wool mattress makes the best foundation, but a tick made of strong material, filled with clean straw which is always kept evenly and smoothly distributed in the tick, as it wears down by use, is a good substitute for a mattress; and some even prefer a straw bed, because they can replenish it with fresh straw frequently, and they consider it more conducive to cleanliness. The feather bed, once considered indispensable, is now, from choice, discarded by many. I consider it, however, a most essential attribute to the comfort of old people in cold weather, and many will continue to use it from habit. Its place is well supplied, and always should be in the summer, by a cotton comforter or mattress. One made of ticking just the size of the bed surface and containing ten or twelve pounds of cotton, tied with cotton yarn, or sewed with a few stitches of coarse thread, in squares six inches each way, looks well and is serviceable. Pillows, thirty inches in length, and twenty-two inches in width, containing five pounds of feathers to the pair, are good shaped and comfortable. Pillow-cases, made of forty-five inch cotton, finished with either a plain hem or trimmed, can be always kept in a presentable condition. Three pairs should be allowed to a bed.

Five yards of heavy, unbleached muslin or two and one half yards of the seamless sheeting, is enough for one sheet, and should be made with a wide hem at one end and a narrow one at the other, with some mark to designate the bed to which it belongs. Four sheets for a bed make a convenient quantity for change and cleanliness. When sheets are partly worn, they should be ripped through the middle and the outer edges sewed together, thus securing double wear, and for that reason I think the yard-wide sheeting preferable. [Better use the double width and not sew that long seam; get eight yards of it for three sheets. — Ed.]

To those who can get woolen blankets for cold weather, I would say, have them by all means. Get them in white, or light colors, and wash and use them carefully. Keep them from moths in the summer, and they will last years. To wash woolen blankets, soak them in cold soap suds for a few hours or over night, wring them and rub or pound them through lukewarm, soft water, which takes the suds and dirt out; then rinse in lukewarm water and, if white, add a little bluing. Washed in that manner, they will neither shrink nor discolor. For summer use, I always kept a light, woolen blanket on my beds for cool nights, in preference to cotton quilts or comforters, for the reason that they do not confine the perspiration, as quilts do, and are more easily aired and washed.

Comforters and quilts can be made of any material to suit the taste or convenience. White and light colors are preferable for all bedding, as they can never deceive you into thinking them clean when they are not. Seven yards of calico, cut in three equal lengths, will make one side of a comforter. Three or four pounds of cotton will be needed for a light one; put on frames and tie in any form desired, after which sew the edges together. Over one end baste a "wash-guard" and your comforter will be satisfactory and inexpensive. Some people use six or eight pounds of cotton for a comforter. I much prefer two or three lighter ones, as they are easier to handle and easier to stow away when not in use. The best grade of cotton batting is the most economical, as the cheaper grades pull apart in handling the quilts, mat into bunches and soon render the comforter unserviceable.

Fanciful patch-work quilts, lined with light colored print, wadded with one thickness of sheet wadding, and quilted closely, make a pretty outside cover, and seems to be regaining much of their old-time favor; but the most tasteful and desirable outside cover for a bed is a white counterpane, of which there are many inexpensive varieties. Home-made ones are very pretty and cost little.

A "foot-puff" for cold weather is a most grateful covering for cold feet, and is lighter and warmer than a folded quilt. To make one, sew into a tick, three yards of unbleached sheeting and put into it one and a half or two pounds of goose down, or fine goose or duck feathers; sew it up and make a case or cover of bright colored print, with a ruffle one and a half inches in width of plain turkey-red print entirely around the edges; sew in a seam and turn. Insert the puff, placing each corner in the corner of the cover and fasten with a small safety pin. Make a bag of the same material as the cover, with a shirring at the top, in which to put the puff when not in use. Draw the strings and hang out of the way.

And now we have the necessary furnishings for a comfortable and sweet resting place, after the fatigues of the day. The expense has been small, the labor of planning, executing and coming into possession of it all, has been a delightful task; but the painstaking and care has just begun.

I once knew a very particular housewife, who always gave this charge to anyone making up her beds, whether her help or her guests: "Please take two chairs to lay the bed clothes on, and don't let the quilts touch the floor," and I have often since been reminded of her carefulness, when I have seen quilts dragged on the floor, trodden upon, and otherwise carelessly handled.

Comforters and quilts, when not in use, should never be left hanging over the banisters, on a trunk or chair or anywhere just as it happens. Instead, take out and air and dust them; and, if the "wash-guards" are soiled, rip them off, wash and replace them; then fold smooth and stow away in some dark place, where they will be free from dust and mice. If no better place is at hand, pack them in a dry goods box and nail securely. If necessary to have a quilt around for an invalid, choose one that is pretty to look at and can be easily washed. Keep for each bed its own set of furnishings.

Beds that are in constant use should be frequently aired on sunny days, even to the mattress, and replenished with at least one clean sheet and clean pillow-cases every week. They should always be made up every morning, not

once a week or longer. Take every article off singly, shake it free from dust, smooth and draw the mattress into place, and replace the sheets with the wide hems at the head, and the right sides facing each other. Blankets, quilts and counterpanes, lay on evenly and tuck in neatly; turn the upper sheet over the quilts a few inches, at the head, and lay the pillows in good shape against the headboard, not as if they had been dumped on from across the room; smooth out all uneven places—in short, make your bed look just as nice and inviting as you can every day.

Never let a bed become a "catch-all" for wraps, clothing and odds and ends. It soils the counterpane, gets the bed out of shape, and is often the means of helping bed bugs to emigrate. The outside decorations, such as pillow spreads, the sheet sham and fancy foot spread, we will leave to the taste of the housewife. C. R. A.

Nervous Sleeplessness.

This subject has been hinted at several times in the "Talks" in answer to many inquiries from subscribers, but only hints have been given. Those who enquire of the doctor generally fail to give him any history of their condition or any clue to the causes of the complaint. The trouble most often arises in both women and men from worry. "Worry kills many more than hard work." Worry on account of household cares, business, family relations, and a thousand things drive away sleep from both fathers and mothers. It is a fact that the great majority of the insane in American hospitals come from those who live outside of the cities. The ceaseless routine of farm life, without any recreation or social pleasure whatsoever, leads many of both sexes to that sad condition. And the most common precursor of many forms of insanity is continued sleeplessness. Everyone thus afflicted need not infer that he is on the road to the insane asylum, but such should draw this moral. The social pleasures, the holidays, the picnics and sociables, are by no means to be despised as affording variety in life and an antidote to one continued mental routine. Even though you are worried about this debt or that mortgage, or the many details of the household, the work that is "never done," do not let such care take you entirely from your family, or lead you to be less of a kind father or mother. This is for your own sake and not on moral grounds alone. You will sleep better for a game of croquet or a romp with the children, or a walk in the woods.

Then, too, bathing, i. e. keeping the skin clean, is by no means a small factor in inducing sleep. A cool sponge bath will make the night's rest sweeter, in more sense than one. If you find yourself awake and restless in the night, rise and bathe your face and hands in cold water briskly, wipe them thoroughly and expect to be far more successful in courting "tired nature's sweet restorer, balmy sleep." If, after an evening's hard mental work you do not feel like sleep, take a short walk in the cool night air, endeavoring to think of nature or something out of the usual line. Late and hearty suppers are not conducive to good sleep. Omit the bit of cheese or pie before retiring. Think over your habits and reform them, remembering that a good conscience also aids proper sleep.

Asters are desirable because they come into bloom after the greater portion of garden flowers have passed their prime.

Minnie May's Dep't.

MY DEAR NIECES.—With this letter I will conclude my hints to you regarding making a little money for yourselves. At a small outlay of time and labor, and in this last enterprise it will be necessary to exercise the utmost care and attention, as well as neatness. Always remember that whatever is worth doing is worth doing well. Attend to all the details most carefully, and success will crown your efforts. Every farm has its fruit garden, and canned fruit, delicious jam, or tempting pots of jelly will find a ready sale, for few know how many city housekeepers purchase all these things from their grocer. Value your fruit according to the market price, and your sugar too, then allow enough to make for yourself a fair profit. Pears, quinces, peaches, plums, apples and cherries are easily done and are old favorites. Use only the ripest and most perfect fruits; peel and core, keeping the pieces in cold water to preserve their whiteness until all are finished. Have your cans well washed in soap suds or soda and water, and place them in boiling water with the tops and elastic bands; use one-fourth of sugar to one pound of fruit, and place all in a preserving kettle over a slow fire for a time until the sugar becomes dissolved; you need not add water; if you stir constantly for a time the juices will be in sufficient quantity to cook them; granulated sugar is best; boil until the fruit is soft, which should be in fifteen minutes; remove from the fire and fill the bottles at once. When all are filled screw them down while still hot. Next day give them another screw, making sure all are air tight. It is needless to label canned fruit, as it can be seen through the glass. When making jam watch it closely to prevent sticking to the kettle and spoiling the flavor. A wooden spoon is the best to stir jam, or fruit of any kind with. Do not boil jam too much, the color changes and it becomes too solid. Roll each of your glass jars in paper when cold, and if not wanted to dispose of immediately cover them up with nice clean sawdust. If you put up jelly for market the jars should be all the one size; so with catsup or sauces. It is best to purchase the bottles or pots from a dealer, and get several dozen at once; use new corks and pretty red wax to seal them. In fact do everything that might attract, or make them look more tempting. When offering for sale, place them in a new basket and cover with a clean fresh white cloth. Many grocers would be glad of a consignment of nicely made catsups or sauces, for they sell readily. One young woman, who makes quite a business of mushroom and tomato catsups could dispose of far more than she does, and not only because her articles are of the best, but she gives strict attention to all these little details, even to pasting a pretty ornamental label on her bottles.

MINNIE MAY.

Minnie May offers a prize of \$2.00 for the best original essay on "The Art of Entertaining." All communications must be in by the 25th of August. Also a prize of a silver napkin ring, with the winner's name engraved thereon, for the best tried recipes for pickles, catsup, sauces, etc., to be in by the 25th of August.

Mother—And the serpent, as a punishment for tempting Eve, was made to crawl all the rest of his life. Bobbie—Well, mamma, how did he get along before?"

"Yes."

Composed by Miss Maggie Ham, of Port Perry.

Tell me not in idle jingle Marriage is a happy dream: She who weds had best stay single. For men are not what they seem.

Man is neither true nor earnest, Just amusement is his goal: To deceive whome'er he earnest Has been taken as his role.

Trust no suitor howe'er pleasant, Guard each fluttering, tender heart: Laugh and jest in the merry present, But beware of Cupid's dart.

Lives of married folks remind us There are troubles in that state, Let us smiling leave behind us All the trials of their fate.

Let us then be up and doing, Let each heart be blithe and gay, Let us keep them still pursuing, But the "Yes" we'll never say.

June 20th, 1880.

Recipes.

GREEN BEANS.

Put alternate layers of beans and salt into an earthen crock or butter jar. When full press down and cover with an old plate to keep them under the pickle. When wanted for use, wash the quantity you require for use over night in clean cold water and boil as green beans.

BANANA CAKE.

Six eggs, one-half pound sugar beaten together until light; stir lightly in half-a-pound of flour sifted; place in two lightly buttered square pans and bake in a slow oven until done; remove from the pans and place on a large dish. Pound two bananas in a mortar with one tablespoon of sugar; spread over one layer, and place the other on top; ice the top with boiled icing, and when cold cut into squares.

BAKED ONIONS.

Wash and peel; wrap each onion in a square of greased paper and bake in a slow oven until tender. One hour will be enough for a medium sized onion; serve with melted butter poured over.

BAKED TOMATOES.

Wipe the outside and place in a shallow pan with a small piece of butter on the stem end; bake until soft; serve on a slice of toast.

CAULIFLOWER.

Cut off all green leaves and separate the blossom into pieces and boil in plenty of water; when tender remove to a vegetable dish and pour over a few tablespoonsful of white sauce, or grate some cheese over and set in the oven to brown.

BEETS.

Wash clean, boil until tender; rub off the rind with a towel, slice into a dish and pour melted butter over.

CARAMEL CAKE.

Half teacup butter, one teacup pulverized sugar, one and a-half teacups flour, half teacup sweet milk, whites four eggs (well beaten), one teacup baking powder. Mix flour and baking powder together dry, and stir all ingredients to a smooth batter. Filling: Now the particular part is making and applying the filling or the caramel. Have your layers ready baked separately. Cook in a clean smooth skillet three and one-half cups sugar ("C" coffee), three-fourths cup of cream, and one tablespoon melted butter. Boil all together, stirring only a little to prevent scorching. To ascertain when it is cooked enough, let a drop fall into a cup of cold water; when it rubs to a pasty condition between thumb and finger, take from the fire and stir to the consistency of very thick molasses, when it may be placed between the layers and over the top and sides, forming a most delicious cake.

For the Fly Feet of a Wash Book.

It is well known that the fly feet of a wash book are a great nuisance, and that they are very difficult to get rid of. The following recipe will remove them from the wash book, and it will also keep them from coming back again.

Source of Pope Leo's Revenue.

Pope Leo XIII. derives revenue from three sources, namely: (1) the interest from the money left in the papal treasury by his predecessors, Pius IX., which amounts to \$200,000 a year; (2) the Pope's personal contributions, which will average yearly about \$100,000; (3) the papal chancery, the receipts of which include money received for titles, decorations, privileges of the altar, etc., and which amounts to \$100,000 annually. The aggregate of these three sources amounts to a net annual income of over \$400,000.

Fashion Notes.

While August can hardly be said to belong to one season or the other, many of its fashions will be popular all through the year. Fancy colored shoes, a larger liberty in hatery, hats and bonnets of every conceivable shape and color, the gown that cannot be too original in design, brilliant caps of gay colored silks, or crepe instead of white stuff or lace, loose jackets of delicate, light and sober colors and with an end of lace and ribbons upon them, add new charms to personal appearance, and give employment to the cunning fingers of home-workers. Bonnets and hats of tulle, net or lace made so light that one scarcely feels their weight, are given a special vogue just now. Bright red is certainly not a cool color on a sunny day, yet small bonnets or hats made of red crepe seem to meet with general approval; all the trimming required being a bunch of red or black ribbons, or a bunch of ivy leaves. The black net hats are smart and perfectly tidy like there seems to be a fancy for having them all black or decorated with pink roses or yellow flowers. The fashionable veil is of delicate tulle with black, brown, blue or gray. A pretty decoration for a lace bodice is a wide band of white ribbon sewn into the right shoulder seam with two small plants, then brought across the bust full width under the left arm, where it is allowed to hang, being fastened securely at the waist line. The end is sometimes fringed, and often drawn together and finished with a pompadour tassel. On chilly summer evenings a little wrap is needed for the shoulders, and for this, one will do well to get a long stripe of crepe de chine in pale rose, or better still, clear yellow; this is fitted at the shoulders and is knotted prettily, and with some carelessness, so that the ends fall down to on the skirt; it may be finished simply with a hem; it may have a scallop down in front the same shade, or it may be replaced on top by a border of gold braid; this little wrap is very picturesque. White muslin parasols have made their appearance, and they are especially suited to a back ground of trees and flowers; but on the skin it is most trying, because it seems to absorb some quality out of the sunshine, and, like the electric light, gives the complexion a most unnatural and ghastly look. So, my dear girl, unless you intend to carry your dainty white parasol closed, by all means add a rose colored lining.

When too large flower pots are used there will be more foliage than flowers.

11-TRANSPOSITION.

Het essa car tique hwno eht dwini svige 'ero,
Os laem ear ew hwno saploss rea on roma,
Rof htno ew wkno ohw avni ti saw of sobat
Fo hlnegfe githsn, os tercian of eb sohl. [Laserel
HENRY REEVE.

Answers to July Puzzles.

- 1.—
CHEAT
HEAT
EAT
WHEAT
HEAT
HEAT
BLEAT
LEND
END
SWEAT
WHEAT
EER
TREAT
RENT
ENO
AT
T
- 2.—Nurse not a grudge nor feed a spite,
Freely forgive each other,
Your prayer will never go aright,
The while that you hate your brother.
- 3.—Let us, with you a fair future devining,
Hope that but joy may around you enfold,
So that, at last, when life's sun is declining,
Ne'er you'll regret love's sweet story was told.
- 4.—Life is but the twilight of joy and of sadness,
Mingled together the worst and the best,
Love, looking forward, sees nothing but gladness,
Time can alone answer who are the best.
- 5.—It is the mind that makes the body rich.
- 6.—Puff. 7.—
ZERO
ENEMA
REFIND
OMINOUS
ANOINT
DUNCE
STEM
- 8.—Silent.
- 9.—Pink, aster, cocks:
comb, cowslip.
- 10.—Noted.

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

Henry Willson, A. Russel Ross, E. Eulalia Farlinger, Helen Connell, Emma Dennee, W. R. Anderson, Robert Wilson, Amos Howkins, Dora Lawlor, Libbie Hindley, Henry Reeve, A. T. Reeve, Carrie Sheeres, Cecelia Fairbrother, Jessie Stuart, Geo. H. Greene, E. A. Ferguson, Jane Campbell, Anita S. Cote.

NEW ADVERTISEMENTS.

SPECIAL NOTICE.

THE FARMER'S ADVOCATE refuses hundreds of dollars offered for advertisements suspected of being of a swindling character. Nevertheless, we cannot undertake to relieve our readers from the need of exercising common prudence on their own behalf. They must judge for themselves whether the goods advertised can, in the nature of things, be furnished for the price asked. They will find it a good rule to be careful about extraordinary bargains, and they can always find safety in doubt cases by paying for goods only upon their delivery.

DAIRY FARMERS' CONFERENCE

Will be held in the DAIRY TRNT on the Provincial Exhibition Grounds KINGSTON,

WEDNESDAY and THURSDAY, SEPT. 12 and 13 for two hours each day, commencing at 2 p.m.

The Hon. Chas. Drury will preside.

- FIFTEEN-MINUTE TALKS BY PRACTICAL MEN.
- Ensilage Corn, illustrated with specimens, by John Sprague.
 - Breeding Dairy Cattle, illustrated with living animals, by Messrs. Nicol and Smith.
 - Shelter for Dairy Animals, plans and drawings, by Thos. Shaw.
 - Milk Production, black-board demonstrations, by Prof. Robertson.
 - Grass and Fodder Crops, illustrated with specimens, by H. J. Graham.
 - Pigs, Breeding and Feeding, illustrated with animals, by Dr. Ormsby, V. S.
 - Dairy Influence in Agriculture, black-board demonstrations, by James Cheesman.
 - Marketing Dairy Goods, by President D. Derbyshire.

Further information from JAMES CHEESMAN, Ontario Creameries' Association, Toronto.

JERSEYS AT AUCTION.

As I am giving up farming I will sell by auction AT KINGSTON, (at the time of the Provincial Exhibition), ON SEPTEMBER 14TH OR 15TH, my herd of Jersey cattle, comprising over forty head, all registered in A. J. C. C. and which are of Stoke-Pogis, Signal and other choice strains. Every animal will be sold for what is bid for it, so that bargains may be expected. Time given for portion of payment if desired. Catalogues ready last week of August, and will be cheerfully mailed to all applicants. Address 272-1f GEO. H. BREMAN, Napance, Ont.

ONTARIO Agricultural College

RE-OPEN ON THE 1st OCTOBER.

The object of this institution is to give a thorough insight into the theory and practice of Canadian farming, and for that purpose nine breeds of cattle and seven breeds of sheep are kept on the farm, also horses and pigs. A full and thorough practical course of instruction is given in:
1. Agriculture, Live Stock and Dairying.
2. Veterinary Science—The structure, diseases and treatment of farm animals, judging of horses etc.
3. Chemistry, Geology, Botany and Zoology, with special stress on the study of insects and the best means of preventing their ravages.
4. English Grammar, Composition, Literature and Political Economy.
5. Arithmetic, Mensuration, Mechanics, Levelling and Book-keeping.

TERMS OF ADMISSION

The same as to High Schools.

COST FOR BOARD, WASHING AND TUITION

to an Ontario farmer's son, \$45 to \$61 a year; if he be a country student, \$25 to \$40 a year. For circular giving full information apply to JAMES MILLS, M. A., President. 272-b

BUTTER WANTED.

The HELLMUTH LADIES' COLLEGE want immediately tenders from Dairymen or Creameries, etc., for 200 lbs. first-class packed butter, which will keep for a considerable length of time. Or would make arrangements to receive 100 lbs. weekly the year through. Address, REV. E. N. ENGLISH, M. A., LONDON, ONTARIO. 272-a

Ontario Experimental Farm.

SALE OF LIVE STOCK.

The surplus thoroughbred and grade stock, cattle, sheep and pigs, of the Ontario Experimental Farm, will be sold by public auction at the Farm ON THE 5TH SEPTEMBER.

For catalogue apply to JAMES MILLS, President. 272-a

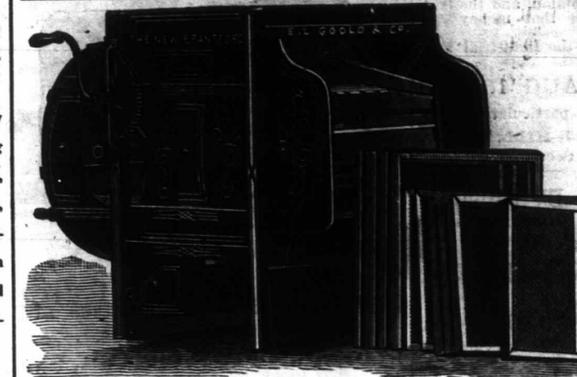
THIS IS THE MONTH When the demand for the Dandy Patent Bagholder begins to get lively. Applicants for unoccupied territory should write at once to O. W. ALLEN & CO., World Building, Toronto. Sample (free by mail or express), 75 cents. Wholesale agents:—J. H. Ashdown, Winnipeg; Wm. Ewing & Co., Seed Merchants, Montreal; H. F. Coombs, St. John, N. B. 272-a

CANADA BUSINESS COLLEGE HAMILTON, ONT.

Resumes for its 27th Year on the 3rd September, 1888. The largest and best equipped Business College in Canada. Write for handsome illustrated catalogue to E. E. GALLAGHER, Principal. 271-y

F. C. B. C.

THE many frauds practiced upon the farming community by sharpers teaches you the necessity for a thorough drilling upon all kinds of business papers. A course in the Forest City Business College, London, Ont., will be the best investment of your life. We have a course special for farmers' boys. Handsome catalogue free. WESTERVELT & YORK. 272-f



FARMERS! It will pay you to give the NEW BRANTFORD Fanning Mill

a trial before you buy. It is the STRONGEST, HIGHEST, LIGHTEST, EASIEST, and best in every way. Thousands will testify to their superiority. Valuable improvements for 1888. E. L. GOULD & CO., MANUFACTURERS, BRANTFORD. 272-b

FALL WHEAT

PRIZE LIST

FOR
September, 1888

To any subscriber sending us one new subscriber for 1888 we will send a four-oz. package of a most promising variety of winter wheat, viz., FARMER'S ADVOCATE WHEAT No. 38, which bids fair to surpass the kinds now in cultivation. Any person who is not a subscriber may have a package by subscribing himself and sending us one additional subscriber; or the person sending the new subscriber may, if he prefers, have four four-oz. packages which he may select from the following, viz.: Scott, Clawson, Democrat, Tully, Garfield, New Cross, Manchester, Redger or Farmer's Red, or the sender may have one pound of any one of the last named varieties.

WESTERN FAIR

INDUSTRIAL & ARTS EXHIBITION,

LONDON, - CANADA,

SEPT. 20TH TO 29TH, 1888,

NINE DAYS

\$25,000 Appropriated for Prizes, Attractions, Etc.

\$132,000 Invested in New Grounds and Buildings.

\$200,000 Machinery Display.

\$500,000 Live Stock Exhibit.

The forthcoming Fair will be grander, more instructive and more attractive than ever. Entries for live stock received up to September 15th, for all other exhibits to September 18th. For prize lists and all other information apply to the Secretary.

A. W. FORTÉ, President.
GEO. McBRROOM, Secretary.

CANADA'S GREAT

Industrial Fair

AND

Agricultural Exposition.

TORONTO

SEPT. 10TH TO 22ND.

GREATER THAN EVER

The largest prizes in the Dominion, and the best and newest special attractions that money can secure.

Over 300,000 people attended the Industrial Fair last year.

ENTRIES CLOSE AUG. 18TH.

For prize lists, forms and all particulars address

J. J. WITHEROW, President.
H. J. HILL, Secretary, Toronto

43RD PROVINCIAL EXHIBITION

WILL BE HELD IN THE

CITY OF KINGSTON,

FROM

SEPTEMBER 10th TO 15th, 1888.

Prize Lists and information can be procured by sending post card to

HENRY WADE, Secretary, TORONTO.

271 b

PRIZES.

\$700 WORTH OF STOCK

GIVEN AWAY!

For Procuring New Subscribers to the FARMER'S ADVOCATE.

The Most Liberal Premiums Ever Offered

BY ANY PUBLISHER IN CANADA.

CONDITIONS:

- 1st. Cash must accompany all lists of names.
- 2nd. In all cases to secure these prizes the names sent in must be new subscribers. Renewals will not count.
- 3rd. Competitors may send in their lists weekly if they so desire. The party who first sends in the full number of names will secure the prize.
- 4th. A Cash Commission will be allowed to all who are not prize winners: From 10 to 20 names, 25cts. each; 20 to 50 names, 35cts. each; 50 to 100 names, 45cts. each; 100 to 200 names, 50cts. each.

All the animals we offer are of good quality, and are registered or capable of being registered. All are of good families and have good ancestors. The Poultry will be equally good.

Hereford Bull--Value \$150.

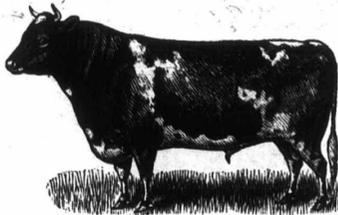


For 200 New Names, accompanied with \$200, we will give a pure-bred Hereford Bull, of fine breeding and quality, bred by

R. J. MACKIE.
Springdale Farm, Oshawa, Ont., who is an extensive breeder and importer of
HIGH QUALITY AND FASHIONABLY BRED HEREFORDS.

For a description of his herd see June number of the FARMER'S ADVOCATE, page 166. The bull given will be one of Mr. Mackie's finest young animals, and will be fit for service when shipped.

Ayrshire Bull--Value \$100.

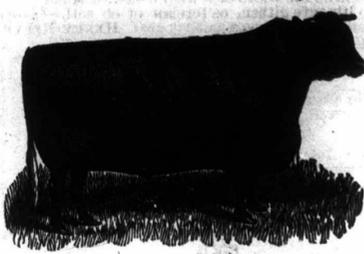


For 150 New Names, accompanied by \$150, we will give a first-class Ayrshire Bull from the noted prize-winning herd of

THOMAS GUY,
BREEDER OF
Ayrshire Cattle, Leicester and Southdown Sheep, and BERKSHIRE PIGS.
SYDENHAM FARM, OSHAWA, ONT.

A review of his herd will be found in the August number.

Shorthorn Bull--Value \$150.



For 200 New Names, accompanied with \$200, we will give a pure-bred Shorthorn Bull, bred by

JAMES GRAHAM,
Fort Perry, Ont., a very extensive breeder of

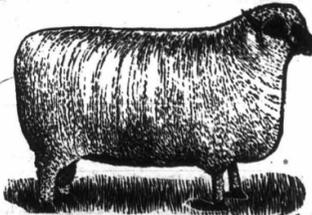
SHORTHORNS and COTSWOLDS

His herd now numbers upwards of 100 head.

Highly bred milking strains are his specialty

The bull we will give will be one of his best young animals, and will be highly bred, of good quality and fit for service when sent out. For particulars of this herd see September number of the FARMER'S ADVOCATE.

Shropshire Ram and Ewe Lamb--Value \$40



For 80 New Names, accompanied with \$80, we will give a first-class pure-bred Shropshire Ram and Ewe Lamb, bred by

MESSRS. JOHN MILLER & SONS, BROUGHAM, ONT.,
the extensive Breeders and Importers of

CLYDESDALES, SHORTHORNS, SHROPSHIRE.

For many years Mr. Miller, sr., has been one of the most famous breeders in America.

Shropshire Ram Lamb--Value \$25

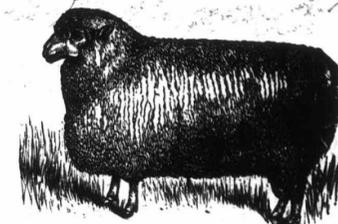
For 50 New Names, accompanied with \$50, we will give a good pure-bred Shropshire Ram Lamb from the famous flock of

John Dryden, M.P.P., Brooklin, Ont

Importer and Breeder of

Cruickshank Shorthorns, Clydesdales, Shropshire Sheep and Black Minorca Fowls. Show animals always on hand. See May ADVOCATE, page 138 for description of this herd.

Yearling Cotswold Ram--Value \$40.



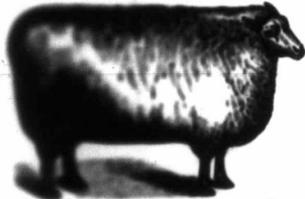
For 80 New Names, accompanied with \$80, we will give a show Yearling Cotswold Ram, or a first-class pair of Lambs, as the winner may wish, from the well known Cotswold flock, the property of

JOSEPH WARD, MARSH HILL P. O., ONT.,
Breeder and Importer of first-class
SHORTHORNS, COTSWOLDS, SHROPSHIRE

For many years Mr. Ward's flock has been one of the best in Ontario.

Cotswold Ram Lamb--Value \$16.

For 20 New Names, accompanied with \$30, we will give a pure bred Cotswold Ram Lamb, bred by
Samuel Havel, Greenwood, Ont.,
Breeder and Importer of
COTSWOLDS, SHORTHORNS, COTSWOLDS
For description of herd and stud see June number of the FARMER'S ADVOCATE, page 187.



For 20 New Names, accompanied with \$30, we will give a pure bred Leicester from imported stock, bred by

ARMAND JEFFREY, WHITBY, ONTARIO,

BREEDER OF
Clydesdales, Shetlands, Shorthorns and Leicester Sheep.

Best Bred Ram Lamb---Value \$30.



For 20 New Names, accompanied with \$30, we will give a pure bred Dorset Horned Ram Lamb, bred by

Capt. Wm. Ralph, Markham, Ont.,

BREEDER AND IMPORTER OF
JERSEYS

OF THE BEST BRED FAMILIES; also breeder of
Clydesdales, Shetlands and Dorset Horned Sheep.
For description of his herd see July number of the FARMER'S ADVOCATE, page 202.

Hampshire Ram Lamb--Value \$30.



For 20 New Names, accompanied with \$30 we will give a pure Hampshire Ram Lamb of good quality, bred by

MR. JOHN ADAMS, PORT PERRY, ONT.,

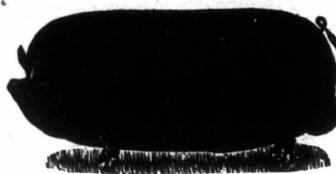
BREEDER OF
Shetland, Clydesdale, Shropshire & Hampshire Sheep

and **BERKSHIRE SWINE.**
For description of Ambicoid Farm in July number, page 322.

Black Minorcas---Value \$7.

For 12 New Subscribers we will give a pair of Black Minorcas, bred by Mr. John Dryden, M. P. P.

Berkshire Boar--Value \$30.



For 20 New Names, accompanied by \$30, we will give a Berkshire Boar, fit for service, bred by

J. G. SNELL & BRO., EDMONTON, ONT.

They have for sale a good lot of young pigs from two to three months old by the prize-winning boars

RARE SOVEREIGN (490),

LORD DERBY (486),

BARON VON BISMARCK (426).

And out of first-class recorded sows. Prices right. In the last six years their Berkshires have won three-fourths of the first prizes offered at the leading shows in Ontario.

BERKSHIRE SOW--VALUE \$30

six months old, or a pair of Berkshire Pigs, eight weeks old, same value, presented by

J. C. SNELL, EDMONTON, ONT.,

Importer and Breeder of

Shorthorns, Cotswolds and Berkshires

whose motto is "A good beast with a good pedigree." Mr. Snell ships stock to order and guarantees satisfaction. See August number of the ADVOCATE for a description of Willow Lodge.

Pair of Pure Berkshire Pigs--Value \$40.

For 20 New Names, accompanied by \$30, we will give a pair of pure Berkshire Pigs bred by

WM. LINTON,

AURORA, ONT.

BREEDER AND IMPORTER OF HIGH-CLASS

Shorthorns, Berkshires and Cotswolds.

Also for 10 New Names, we will give a pair of Black-breasted Red Game, from imported stock.

See illustration of bull and history of his herd in August number.

POULTRY.

For 10 New Names we will give a pair, and for 5 New Names one Cock, of any of the following varieties:



Light Brahmas, Dark Brahmas, Langshans, W. F. B. Spanish, Colored Dorkings, Golden Sebright Bantams, Roussins, Bowers Ducks, Pekin Ducks. Valued at \$7 per pair.

For 20 New Names, we will give a pair, and for 12 New Names, one Cock.

Mammoth Bronze Turkeys--Value \$9.

ALL BRED BY

WM. HODSON, BROOKLIN, ONT.,

for twenty years a successful breeder of the popular varieties of land and water fowls. Send to him for prize and price lists.

White Fantail Pigeons--Value \$7.

For 12 New Subscribers.

we will send to any boy or girl a beautiful pair of White Fantail Pigeons directly descended from Mr. Hodson's pair which took the Silver Medal at the American Centennial of 1876.

ALBERT COLLEGE

BELLEVILLE, ONT.,
Is being greatly enlarged and improved at a cost of several thousand dollars. Students in attendance from **British Columbia, Manitoba, Michigan, New York, Vermont, Ontario and Quebec.** The commercial course is practical and thorough. Tuition—\$10 per term of 10 weeks, or annual scholarship, \$25; life scholarship, \$35. Parents, send your sons where they can have the advantage of a Christian home, and the best educational advantages as well. Send for circular, address
272-c **REV. W. P. DYER, M. A., Principal.**

FALL TERM OF THE
ST. CATHARINES BUSINESS COLLEGE
OPENS MONDAY, SEPT. 3rd.

This is by far the most practical school of commerce in the Dominion. Send for opening announcement.
W. H. ANGER, B. A.,
272-1f **PRINCIPAL.**



A PERFECTLY CONSTRUCTED
SUMMER AND WINTER HOTEL
costing a quarter of a million dollars, situated on the line of the
CANADIAN PACIFIC RAILWAY
near the summit of the
ROCKY MOUNTAINS
—IN THE—
CANADIAN NATIONAL PARK.

The house is electric lighted and has every comfort and convenience found in city hotels of the highest grade. The numerous hot sulphur springs in close proximity vary in temperature from 80 to 121 degrees, and perfect bathing facilities are supplied. Testimony to the wonderful curative properties of the waters is plentiful. A first-class livery of driving and saddle horses forms part of the establishment, and there are excellent roads and walks in all directions, built and maintained by the Government. The house is 5,000 feet above sea level, and is surrounded by magnificent mountain peaks 5,000 to 8,000 feet high. In grandeur of scenery and purity of atmosphere the region is immeasurably superior to any similar health resort on the continent. The hotel rates are from \$3.50 a day upward, and special terms for longer time may be had by addressing **GEORGE HOLLIDAY, MANAGER, Banff, Alberta, Canada.** For further information and for excursion tickets apply to any Canadian Pacific Ry. Ticket Office, or at 110 King Street West, Toronto. 272-y

"BELL"

PIANOS ARE THE ORGANS
LEADING INSTRUMENTS
FOR PURITY OF TONE
& DURABILITY
CATALOGUES FREE
W. BELL & CO. GUELPH, ONT.

Notices.

The reports of the Fruit Growers' Association of Ontario and of the Fruit Growers' Association and International Show Society of Nova Scotia have arrived at our office. Both are very creditable productions, containing a large amount of useful information.

The Canada Pacific Railway intend giving a cheap excursion to Moosomin, Man., on August 7th, good to return until 7th October. Fare for the round trip \$28. This will give the public a good opportunity to see the country, and an excellent time of the year to visit their friends.

THE ONTARIO MUTUAL LIFE.—We direct attention to the annual report of the Ontario Mutual Life, which appeared in the July issue. The record of this Company is one which reflects great credit on its management, and which should commend the Company to the hearty support of the insuring public. It had at the close of 1887, 8,605 policies in force, amounting to \$11,081,090.38, and it held a reserve of \$1,004,505.64. Its cash income for the year was \$356,104.80, and its total assets reached \$1,098,448.27. We like the manly tone which runs through its report. Unlike some other companies it does not make comparison with its rivals, which, in many instances, are neither fair nor honest, but depends on its own merits as its best passport to public favor.

SUMMER TOURS.—Round-trip excursion tickets at low rates are now on sale via the Burlington Route, C. B. & Q. R. R., from Chicago, Peoria and St. Louis to Denver, Colorado Springs, Pueblo, Salt Lake City, Ogden, St. Paul, Minneapolis, and resorts West and North-west. The "Burlington" is the only line running sleeping cars from Chicago to Denver without change. It is the only line by which you can go from Chicago to Denver and be but one night on the road. It is the picturesque line to St. Paul and Minneapolis. It runs daily "fast trains" to Kansas City, St. Joseph, Atchinson, Council Bluffs, Omaha, Lincoln, Cheyenne and Denver. Fine Government Lands are located on its new lines in Nebraska. It is the best line by which to reach all principal land points in the West and Northwest. Tickets via the Burlington Route can be obtained of coupon ticket agents of connecting lines. Send in postage to Paul Morton, Gen'l Pass. and Ticket Agent C. B. & Q. R. R., Chicago, Ill., four cents for a copy of the Burlington Route Guide, or six cents for an illustrated book about Colorado and the Garden of the Gods. advt. 272a

STOCK GOSSIP.

The Ontario Experimental Farm will hold their annual sale of surplus stock on Sept. 5th, as advertised.

Farmers and dairymen should read the advertisement requiring butter tenders, by the Hellmuth Ladies' College, in this issue.

The P. E. Island Provincial Exhibition of live stock, farm and garden products and local industries, will be held in Charlottetown, October 3rd and 4th.

Geo. M. Beeman, of Napanee, Ont., advertises in this issue his entire herd of Jerseys for sale on September 14 and 15. This promises to be an excellent opportunity for those wishing to buy Jerseys.

The fourth semi-annual auction sale of the Wyton Stock Breeders' Association will be held on October 3rd. About forty pure-bred Holstein bulls and heifers will be offered for sale. See advertisement in other columns.

The Executive Committee of the American Shropshire Record have extended the time for registering American born sheep. The new rule reads thus: All American bred sheep born after January 1st, must be recorded on or before August 15th, 1888.

The prize lists of the Central Canadian Exhibition, held at Ottawa, Ont., and of the Great Central Fair, held at Hamilton, Ont., have just been received in the office. Both lists are well arranged and offer liberal prizes. Hamilton gives the largest prize to poultry of any Canadian Association whose list we have received.

FOURTH SEMI-ANNUAL AUCTION SALE

—OF—

Thoroughbred Holstein Cattle

—BY THE—

WYTON STOCK BREEDERS' ASSOCIATION,

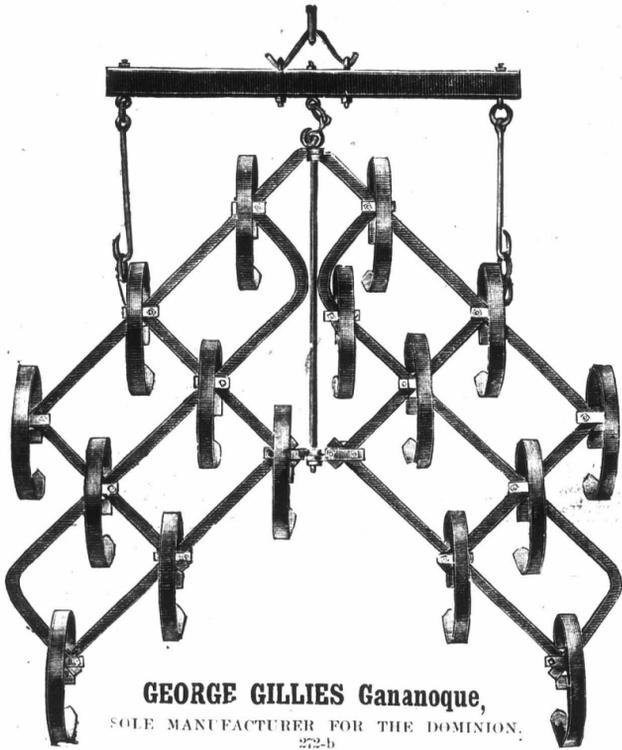
—WILL BE HELD ON—

OCTOBER 3RD, 1888,**AT 12.30 O'CLOCK.****About 40 Bulls and Heifers Will be Offered for Sale.**

In order that the buyers may see the sires and dams the sale will be held at Wyton, a station on the Grand Trunk Railway, between London and St. Mary's. For further particulars and catalogues address

W. B. SCATCHERD,

Secretary, Wyton, Ont.

LaDOW'S Improved Patent Float Spring-Tooth HARROW**GEORGE GILLIES Gananoque,**

SOLE MANUFACTURER FOR THE DOMINION.

272-b

Many improvements have been made on this harrow during the past year, making it now the best Spring-tooth Harrow before the public. It is made in two sizes, 16 and 18 teeth respectively, with and without runners. All steel frame, no wood to rot or wear out. See one of these Improved Harrows before buying any other, and write for full descriptive circulars of them. All implements guaranteed for one year.

Dates of Principal Fairs to be held in Canada and United States.

NAME.	PLACETO BE HELD.	DATES.	SECRETARY.
43rd Provincial Exhibition of Agriculture and Arts Association of Ontario	Kingston	Sept. 10th to 15th	Henry Wade.
Eastern Townships	Sherbrooke, Que.	" 4th to 6th	E. Winn Farwell.
Industrial Exhibition	Toronto	" 10th to 22nd	H. J. Hill.
Southern Fair	Brantford	" 11th to 13th	R. M. Wilson.
Guelph Central	Guelph	" 12th to 14th	H. Mackenzie.
Southern Counties	St. Thomas	" 17th to 20th	John A. Kains.
Western Fair	London	" 20th to 24th	Geo. McBroome.
Great Central Fair	Hamilton	" 24th to 28th	Jonathan Davis.
Bay of Quinte	Belleville	" 25th to 28th	Wm. Smeaton.
Great Northern	Collingwood	" 25th to 28th	T. J. Crawford.
North Lanark	Almonte	" 25th to 27th	Wm. P. McEwen.
Ontario Central	Port Perry	" 25th to 28th	H. Gordon.
Quebec Provincial	Belmont	Oct. 2nd	E. C. Stevenson.
South Dorchester	Pictou	" 2nd to 3rd	Wm. Black.
County of Prince Edward	Chatham	" 2nd to 5th	Thos. Bog.
Peninsular Fair	Charlottetown, P. E. I.	" 3rd to 4th	John Tissiman.
Provincial Exhibition	Buffalo, N. Y.	Sept. 4th to 14th	A. McNeill.
Buffalo International	Toledo, Ohio	Aug. 27th to 31st	C. W. Robinson.
Tri-State	Columbus, Ohio	Sept. 4th to Oct. 19th	John Farley.
Ohio Centennial	Jackson, Mich.	" 10th to 14th	L. N. Bonham.
Michigan State	Hamline, Minn.	" 10th to 15th	J. C. Sterling.
Minnesota State	Grand Rapids, Mich.	" 17th to 21st	H. E. Hoard.
Western Michigan	Indianapolis, Ind.	" 17th to 23rd	James Cox.
Indiana State	Omev, Ill.	" 24th to 28th	Alex. Heron.
Illinois State	St. Louis, Mo.	Oct. 1st to 6th	Chas. F. Mills.
St. Louis			Arthur Uhl.

STOCK GOSSIP.

We recently had the pleasure of looking over Mr Nicholl's herd of Ayrshires, at Catarqui. He has a number of very choice animals, which are looking well, notwithstanding the great drought that prevailed throughout this district. At the present time he is milking fifteen cows, the cream and what milk that is not required for the young stock is disposed of in Kingston.

The Messrs. Bollert Bros., of Cassel, Ont., report the demand for highly bred Holsteins, continually increasing. They have lately sold a cow and yearling heifer to Wellington Minsiner, Esq., of Port Robinson, Ont.; bull calf and pair of yearling heifers to E. Mott, Esq., of Norwich (who by the way is a practical dairyman of large experience); a yearling bull to Mr. Edgar Pearson, of Cassel, and yearling bull to D. N. Eckstein, of Newstadt. Their herd now numbers 34 head, all of which are doing very nicely. Their 2nd prize cow at the Provincial; in 1876, has lately dropped a beautiful marked bull calf, sired by Barton (winner of 1st prize and silver medal at same exhibition). This undoubtedly is a very valuable youngster.

The Edgemount farm is comprised of 300 acres near the enterprising and flourishing city of Brantford. It is the birth place of the present occupier, Mr. Geo. Ballachey, jr, who advertises some choice stock in this issue. He has for many years devoted himself to the improvement of live stock. His Shorthorns, comprising some of the best milking and beefing blood in the country, are mostly from the well-known herds of Messrs. Green, Innerkip, Gibson, Delaware, and Douglas, Onondaga, headed by the excellent Bow Park bull, 25th Waterloo Duke. This bull is descended from the herd of Mr. Handly, Milnthorpe, England. Mr. Ballachey has lately purchased from Mr. Dryden, M. P., a choice lot of imported Shropshire ewes which have all produced twins. He has an excellent lot of Berkshires, descended from the Swanwick's famous Sallie family.

We are also in receipt of the prize list of the Western Fair Association, of London. We note with pleasure that liberal increases have been made again this year in the prizes for live stock. We congratulate the Directors on being the first to introduce the "Indian Department" in their prize list. Six classes are provided containing nearly 100 sections, with liberal prizes in Agricultural and Horticultural products, dairy goods, goods manufactured from wood, leather, bark, etc., also fine arts and ladies' work. This will give the Indians a grand opportunity to compare notes, and we believe will foster a healthy spirit of emulation and rivalry among them. An International Bench Show of dogs will also be held at the forthcoming fair, and many of the leading prize winners of Canada and the United States have signified their intention of being present.

It is of interest to note that, while the English Royal Agricultural Society's meeting is of growing importance to British agriculturists, it is also being looked upon, in an increasing degree, as the annual meeting-ground of purchasers of pedigree live stock, agricultural implements and appliances from all parts of Europe, America and Australasia. This year the sales for exportation have far exceeded those of previous years, and in the case of live stock the prices have been materially enhanced. During the last few days of the show the purchases completed for Canada included the first prize Cotswold shearing ram and the champion sheep in the yard. It was secured by Mr. Main for Mr. Joseph Snell, of Ontario. Mr. Main also purchased the pair of first prize Cotswold aged ewes, the first prize pen of lambs, and second prize yearling ewes, as well as the first prize aged boar and sow and first prize boar of the Essex black breeds. Mr. George H. Hastings, of the Deer Park, near Toronto, bought the celebrated Hackney stallion "Young Derby." Numerous other purchases were made of horses, cattle and Shropshire sheep, a number of which will be shipped by the Beaver Line steamer Lake Superior, sailing the 20th of July. This steamer will also carry upwards of 230 pedigree stallions for Quebec; and the other steamers sailing to the St. Lawrence are carrying a full complement of pedigree live stock.

SPECIALTIES - FINE ART & LIVESTOCK MECHANICAL

WOOD ENGRAVING

HIGH CLASS

TORONTO ENGRAVING CO. BRIGDEN MANGER REMOVED TO 53 KING ST. W. COR. BAY TORONTO

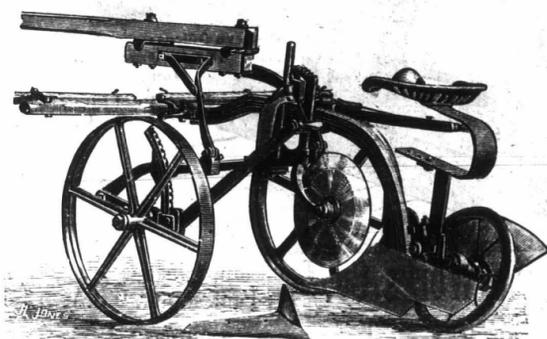
TO BRICK AND TILE MAKERS

I MANUFACTURE THE CELEBRATED

Spiral Roll Clay Crusher and Stone Separator.

The best, strongest and cheapest in the market, fully guaranteed on trial. Send for circulars, cuts, and price list. Address **F. ALDRED, Glenora, Ont.**

COCKSHUTT'S J.G.C. RIDING PLOW.



MANUFACTURED EITHER

SINGLE OR DOUBLE FURROW

In Manitoba, Ontario or Scotch Series, adaptable for all styles of plowing. It is the best Riding Plow on the continent.

Descriptive catalogue mailed free on application.

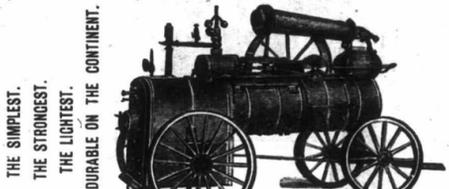
COCKSHUTT PLOW CO. (Ltd.), Brantford, Ont., Canada

THE JOHN ABELL ENGINE AND MACHINE WORKS, TORONTO,

HEADQUARTERS FOR STEAM and HORSE-POWER THRESHING OUTFITS, STRAW-BURNING, PLAIN and TRACTION PORTABLE ENGINES



"THE TORONTO ADVANCE," IS THE MOST PERFECT THRESHING MACHINE MADE.



"THE TRIUMPH ENGINE," THE WINNER OF 13 GOLD MEDALS.

VALUABLE IMPROVEMENTS FOR 1888.

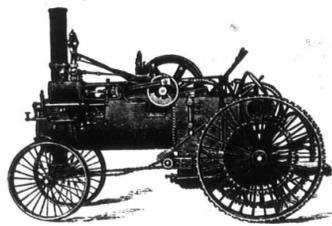
Send for Catalogue. **JOHN ABELL, TORONTO, CANADA.**

BRITISH AMERICAN BUSINESS COLLEGE
ARCADE
 Yonge St. TORONTO

WILL RE-OPEN MONDAY, SEPT. 3, 1888.

For circular, etc., address C. O'DEA, Secretary.
 271-y

KING OF THE TRACTIONS.



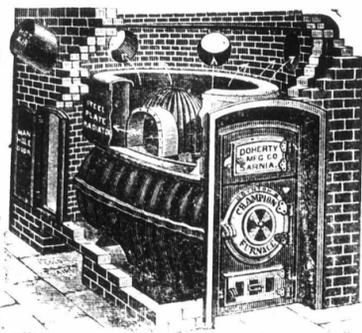
The most Powerful and Complete Traction and Portable Engines. Fitted with the latest improvements. Threshers will find our Engines first-class machines. Send for Descriptive Circular.
N. C. PETERSON & SONS,
 SARNIA, ONT.
 269-d



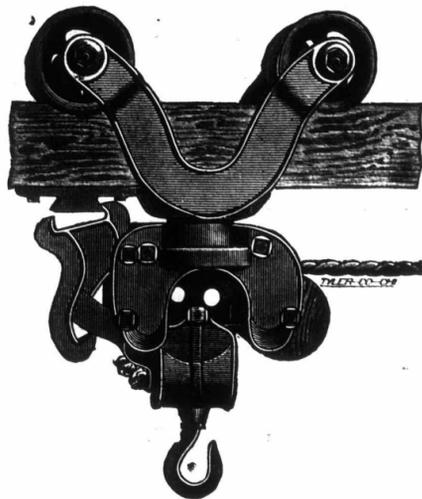
PROVIDENT LIFE & LIVE STOCK ASSOCIATION
 Chief Office 47 Arcade, Toronto.
 INCORPORATED--A MUTUAL BENEFIT ASSOCIATION

In the Live Stock Department, two-thirds the loss by death of the live stock of its members through disease or accident; also for depreciation in value for accidental injury. Those interested send for prospectuses, claims paid, etc. Reliable Agents wanted.
WILLIAM JONES,
 SECRETARY.
 269-y

THE BOYNTON
Champion Hot Air Furnace



Especially adapted to Heating Churches, Schools and Private Dwellings. The newest and best in the market. Send for catalogue, prices and estimates for heating. Headquarters for Stoves and Furnaces.
DOHERTY MANUFACTURING CO.,
 SARNIA, ONT.
 269-11



ONTARIO PUMP COMPANY.

—MANUFACTURERS OF—
 Wind Mills, Feed Grinders, Haying Tools, Iron and Wood Pumps. Also Ornamental Water Supply Material.

The accompanying cut represents the **STANDARD SWIVEL CARRIER**
 The Best Swivel Hay Carrier Made.

This Carrier may be changed to run in either direction at a moment's notice, and without leaving the barn floor. It has the Wood Bushed Wheel, and the same Locking Apparatus as the Standard Four-Wheel Carrier. It is strongly made, easily operated, and is guaranteed to work perfectly. (Bear in mind this carrier is malleable iron.) Send for Descriptive Catalogue of our full line of Haying Tools before purchasing elsewhere.

ONTARIO PUMP CO. (Ltd.),
 TORONTO, Canada.
 270-a

NEW PATTERN ENGINES.

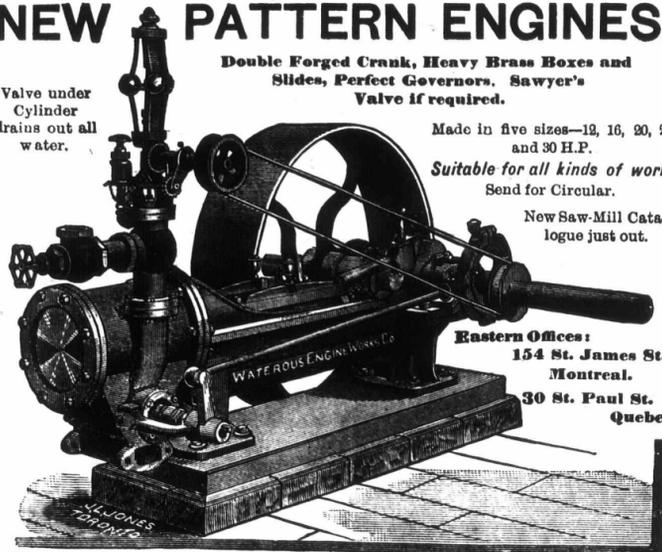
Double Forged Crank, Heavy Brass Boxes and Slides, Perfect Governors. Sawyer's Valve if required.

Valve under Cylinder drains out all water.

Made in five sizes—12, 16, 20, 25 and 30 H.P.

Suitable for all kinds of work. Send for Circular.

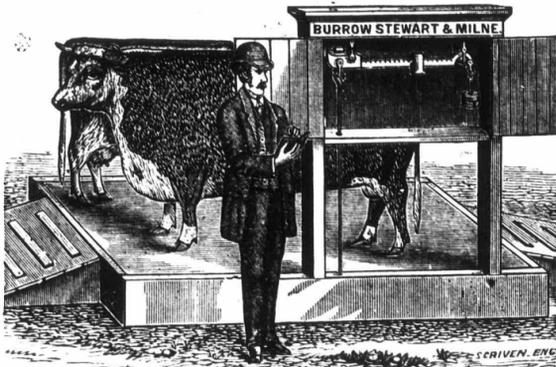
New Saw-Mill Catalogue just out.



Eastern Offices:
 154 St. James St. Montreal.
 30 St. Paul St. Quebec.

Waterous Engine Works Co. Brantford, Canada.
 St. Paul, Minn., U.S.A.

SCALES! SCALES!



The Platform of this Scale is 6 feet by 4 feet.

No Farmer, Stock Raiser or Produce Dealer should be without one.

It weighs accurately from half pound to 4,000 pounds.

DAIRY SCALES,
SPECIAL FAMILY SCALES,
COUNTER SCALES,
PLATFORM SCALES,
HAY SCALES,
 &C., &C.

Quality, Accuracy and Beauty of Workmanship unsurpassed.
 271-y

BURROW, STEWART & MILNE, Hamilton, Ont.

ADVERTISE IN THE ADVOCATE.
 IT WILL PAY YOU TO DO SO.

J. F. QUIN, V. S., BRAMPTON ONT
 Ridging horses successfully operated upon; write for particulars.
 261-y

**ENGINES AND BOILERS
FOR ALL DUTIES.**

Latest Designs and best Workmanship. **Automatic Cut-off Farm Engines.** Something entirely new. Saving 20 to 50 per cent. of fuel and water of the common styles. Write for catalogue.

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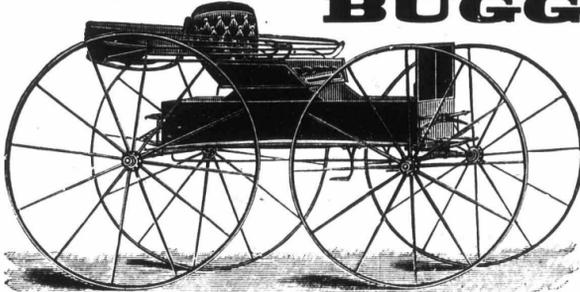
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D. POTTINGER, Chief Superintendent, Railway Office, Moncton, N.B., 28th May, 1887. 267-y

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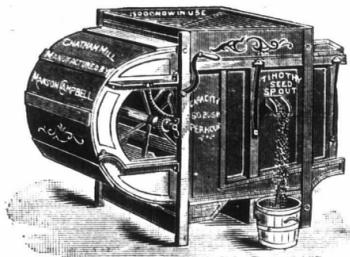
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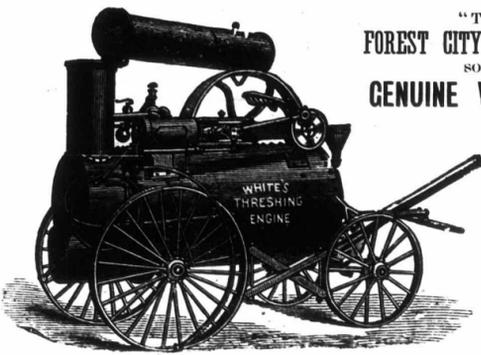
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Winnipeg, 1st Dec., 1887. 269-a