

78

Library of Parliament Jan 94

# THE FARMER'S ADVOCATE

AND HOME MAGAZINE

PERSEVERE AND SUCCEED  
FOUNDED 1866

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

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

VOL. XXVIII:

LONDON, ONT., AND WINNIPEG, MAN., DECEMBER 15, 1893.

No. 348



## CANADA VICTORIOUS.

World's Columbian Exposition, Chicago, 1893.

EDITORIAL.

To Our Subscribers.

This issue closes the twenty-eighth volume of the FARMER'S ADVOCATE. The year now closing is notable as one of the most disastrous, financially, experienced by the present generation. Our neighbors, particularly those to the South and West of us, have suffered severely. The failure and closing of many banking institutions depressed trade in every line. Canada has suffered, but not so severely as some of the neighboring States. The price of farm produce is very low; no immediate improvement in this line is anticipated. The remedy is only to be found in improved methods of production. We must reduce the cost of production in every possible way. The Experimental Farms, the Institutes, the Live Stock Associations, and the Agricultural Press are destined to fill a larger place than ever before. We, as farmers, must study our business closely and benefit by the experience of others. In a recent report, the judges of prize farms in Ontario in dealing with this subject wrote:—

"As we went from place to place, we observed that the men who read and think much are the most progressive and prosperous. We met many farmers who work early and late, but were not successful, because their efforts were not well directed; they were behind the times in every department. Yet these very men told us that they had no time to read or go to the Institute meetings; or they affirmed that they knew more than the agricultural writers or speakers did, and consequently were not going to fool their time or money away on any such nonsense. Poor fellows, they were neglecting opportunities and slaving to little purpose."

What would we think of a doctor or lawyer who neglected to take his medical or law journal, as the case might be? Would not we think twice before entrusting an invalid or an important legal action to such hands? Science is moving with such mighty strides that new methods are introduced every day. What the world was ready to accept as facts a few years ago is now questioned or perhaps set aside altogether. To keep ourselves abreast of the times we must read live papers and associate with live men.

During the past year the ADVOCATE has been very successful. Our circulation has steadily increased. We are now mailing over 45,000 copies per month. Our circulation in Manitoba and the N. W. Territories has largely increased. In Manitoba we have the largest circulation of any paper, political or otherwise. In Ontario and the Maritime Provinces our circulation is three times greater than that of any other agricultural paper. Our subscribers in the United States are constantly increasing. We send papers to no less than thirty-seven American States.

We thank our old subscribers for past favors, and crave a continuation of their support. Our staff, our experience and usefulness are constantly increasing. We hope to issue a better paper in 1894 than ever before. We are anxious to double our subscription list. Lend us a hand in the good work; renew at once, and send us the name of a neighbor as a new subscriber. The larger our circulation the better paper we can give our readers.

We wish all our friends a merry Christmas and a prosperous New Year.

Our Clubbing Rates for 1894.

We offer our subscribers papers at the following rates:—

THE FARMER'S ADVOCATE AND HOME MAGAZINE	
Winnipeg Weekly Tribune	\$1 75
Toronto Weekly Mail	1 75
Daily	6 00
Weekly Globe	1 75
Daily	6 00
Weekly Empire	1 75
Daily	6 00
London Weekly Free Press	1 75
Daily	4 25
Weekly Advertiser	1 75
Montreal Weekly Witness	1 60
Family Herald and Weekly Star	1 75
Weekly Gazette	1 50
Cosmopolitan Magazine (Monthly)	2 25

Remit by Post Office order or registered letter. Post Office order is cheapest and best.

The reports regarding tuberculosis at the Guelph Experimental Station are so conflicting that we have determined to learn the facts before communicating with our readers. It is quite evident the party papers on both sides are endeavoring to make capital out of this question.

CANADA VICTORIOUS.

Summary of Awards for Live Stock and Poultry.

Class.	Breed.	COMPETITION.				N. OF AWARDS.		AMOUNTS.		MEDALS.		Remarks.
		Can.	U. S.	Can.	U. S.	Can.	U. S.	Canada.	United States.			
1	Shorthorns	47	151	18	32	\$2370	\$5221	3	2	3 Medals	2 Medals	1st, 3rd, 4th and 5th prized aged bulls won by U. S., but bred in Canada. Nearly all 1st prized animals won with imported stock.
2	Herefords	19	70	3	36	135	5060				2 Medals	
3	Aberdeen-Angus	11	40	2	40	95	3030			1 Medal	2 Medals	
4	Galloways	13	32	11	36	820	3250			1 Medal	1 Medal	
5	Devons	12	36	12	26	455	1580				2 Medals	
6	Jerseys	1	85		54		2035				2 Medals	
7	Holsteins	8	20	6	24	180	1250			2 Medals		Prizes not duplicated by American Association. A few special prizes. Canada not allowed to compete.
8	Ayrshires	67	40	48	5	1885	150					
9	Gurnseys	2	46	1	43	20	2015				2 Medals	
148	Fat Cattle—Shorthorns	4	12	3	10	140	670					Judging most partial.
HORSES.												
23	French Coach	6	57	3	39	125	3730			2 Diplomas	3 Medals	
22	Thoroughbred	13		13		2250				2 Medals		
21	Standard Trotting	2	71	1	75	125	3750				2 Diplomas	
25	Cleveland Bay	3	43	1	36	50	2925				3 Medals	
26	Percheron	9	118	1	53	25	4275				2 Diplomas	
27	Clydesdales	48	99	6	51	615	8250				2 Medals	
31	Suffolk Punch	1	24	1	23	35	2790			2 Diplomas	3 Medals	
32	Hackneys	9	21	13	19	720	1360			2 Medals		
35	American Arabs	5	8	5						2 Gold Medals	5 Medals	
SHEEP.												
40	Cotswolds	38	45	19	28	475	635				1 Silver Cup	These prizes were not duplicated.
41	Leicesters	42	5	35	2	940	35			1 Silver Cup		
42	Lincolns	53	5	42	2	1085	45			1 Silver Cup		
43	Southdowns	57	87	31	14	1695	550			1 Silver Cup		
44	Shropshire-Downs	36	87	15	34	1115	2195				1 Silver Cup	These include the duplicated prizes.
45	Oxford-Downs	40	65	11	33	480	1790				1 Silver Cup	
46	Hampshire-Downs	5	63	4	40	180	1465					
50	Dorset-Horn	39	86	38	18	945	750			1 Silver Cup	4 Diplomas	Value \$100. by the Cooper Sheep Dip Co., England.
171	Fat Sheep	42	35	53	21	716	276			9 Diplomas	11 Silver Cup	*One judge (an American), and most unsatisfactory.
SWINE.												
60	Essex	18	60	11	40	480	2400					
	Improved Yorkshire	42	11	45	1	743	11					
	Tanworth	7	12	7	10	66	134					
	Suffolk	1	13	1	11	12	147					
POULTRY AND PET STOCK		1147	2453	501	671	2633	3286					

Our Subscription Prizes.

In our advertising department, page 491, will be found a description of a number of subscription prizes. All goods offered by us are warranted as represented, first-class in every particular. The rings are solid gold and the stones of good quality and well-set. The watch is a curiously cheap device, but a substantial time-keeper, and we believe will give good satisfaction. The live stock offered will be selected from the herds and flocks of the most reliable and capable breeders. The other premiums are meritorious. Our subscription pictures, "Canada's Columbian Victories" and "Canada's Pride," are fine works of art, not cheap prints or chromos. We ask every old subscriber to send us at least one new name.

An exchange speaks of the largest creamery in the world, which it says is at St. Albans, Vt. The capacity is 22,000 pounds per day. The cream is brought to the place by railroads, which get it from the separators that are located all over the state. The milk from 15,000 cows is used, and 3,000 pigs are fed with the buttermilk. This is truly buttermaking on a gigantic scale. When any part or development of agriculture is summed up in this way, one realizes how large a share of the business of the world the farmers have. Farmers should respect their own profession—for it has come to be that—and speak of it as it is, and not as one that is unprofitable, in which a man by hard labor barely makes a living. Speak of it as the one business in which a man is thoroughly independent, and one on whose prosperity depends the prosperity of all others.

The bye-elections in Huron and Bruce have opened the eyes of both political parties. The Patrons have shown strength and organization. The farmers in other counties should take heart and go and do likewise. We as farmers can rule this country and should do it. There are now too many highly-paid officials sapping the financial life-blood from our veins. The platform laid down by the Patrons deserves the hearty support of every farmer in Canada. The old party bonds should be thrown overboard. Let us work unitedly for the good of our country. Is it not strange, in an agricultural country like this, that not a farmer sits in the Dominion Cabinet, and only one in the Ontario? 'Tis true that farmers occupy several seats in both houses, but unfortunately they are, with few exceptions, bitter partisans, useful to their party but useless to the farmers. Men are wanted who will forsake party lines and work only for the interests of Canada.

Lord Derby's Tribute to Sir John Carling.

Lord Derby, the late Governor-General of Canada, addressing a representative meeting of Lancashire agriculturists at Preston, said that he believed the county councils ought to imitate Canada's policy of establishing experimental farms. He testified to the very great benefits accruing to the Dominion from these farms and the institutes connected with them, instancing the fact of their testing the value of the soils and of recommending the best kinds of manure for improving them. The meeting unanimously passed resolutions in favor of Lord Derby's advice.

Lord Stanley of Preston, the present Earl of Derby, during the five years of his Governor-Generalship of Canada, took a lively interest in the affairs of the Dominion Experimental Farm, and looked carefully into its operations. Lord Derby is well posted in agriculture and looked upon as an authority, and his remarks show his appreciation of the work so successfully developed by the recent Minister of Agriculture. This meed of praise to Sir John Carling is well merited. It can be truly said, we believe, that he did what he could in the interests of the Canadian farmers, and Canada's welfare would be better served by Sir John than the lawyer now occupying the position, whom the Government made a mistake in appointing Minister of Agriculture to meet political exigencies.

Bulletin 45 of the Purdue University Experiment Station contains information of interest and importance concerning wheat grown in Indiana. The following are some of the important points brought out in the bulletin:—

1. Among the best varieties tested may be named: Velvet Chaff, Brown Bearded, Michigan Amber, Jones' Winter Fife and Early Red Clawson. Experiments covering ten years with some varieties do not indicate any tendency to deteriorate or "run out," provided proper care is exercised.
2. No wheat has proven entirely rust-proof. Early wheats are generally less injured by rust than later kinds.
3. Eight pecks of seed per acre have given the largest yield of grain.
4. The value of rotating crops, as compared with constant grain cropping for seven years, shows an average gain of 5.7 bushels per acre per year in favor of rotating.
5. Greater profits have resulted from the use of stable manure than from high-grade commercial fertilizers. Fresh horse manure has generally returned its cost in the first crop, and the improved condition of the soil for future crops adds something more to the credit of the manure.

**THE FARMER'S ADVOCATE & HOME MAGAZINE**

THE LEADING AGRICULTURAL JOURNAL IN THE DOMINION.

PUBLISHED BY  
THE WILLIAM WELD COMPANY (LIMITED),  
LONDON, ONT., and WINNIPEG, MAN.

JOHN WELD, Manager. F. W. HODSON, Editor.

1. The Farmer's Advocate is published on the first and fifteenth of each month. It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for farmers, dairymen, gardeners and stockmen, of any publication in Canada.
2. Terms of Subscription—\$1.00 per year in advance; \$1.25 if in arrears; sample copy free. European subscription, 6s. or \$1.50. New subscriptions can commence with any month.
3. Advertising Rates—Single insertion, 30 cents per line. Contract rates furnished on application.
4. Discontinuances—Remember that the publisher must be notified by letter or post card when a subscriber wishes his paper stopped. All arrears must be paid. Returning your paper will not enable us to discontinue it, as we cannot find your name on our books unless your Post Office address is given.
5. The Advocate is sent to subscribers until an explicit order is received for its discontinuance. All payments of arrears must be made as required by law.
6. The Law is, that all subscribers to newspapers are held responsible until all arrears are paid, and their paper ordered to be discontinued.
7. Remittances should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.
8. Always give the Name of the Post Office to which your paper is sent. Your name cannot be found on our books unless this is done.
9. The Date on your Label shows to what time your subscription is paid.
10. Subscribers failing to receive their paper promptly and regularly will confer a favor by reporting the fact at once.
11. We invite Farmers to write us on any agricultural topic. We are always pleased to receive practical articles. For such as we consider valuable we will pay ten cents per inch printed matter. Criticisms of Articles, Suggestions How to Improve the ADVOCATE, Descriptions of New Grains, Roots or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.
12. Replies to circulars and letters of enquiry sent from this office will not be paid for as provided above.
13. No anonymous communications or enquiries will receive attention.
14. Letters intended for publication should be written on one side of the paper only.
15. All communications in reference to any matter connected with this paper should be addressed as below, and not to any individual connected with the paper.

Address—  
THE FARMER'S ADVOCATE, or  
THE WILLIAM WELD CO.,  
LONDON, ONTARIO, CANADA.

**CONTENTS.**

- EDITORIAL:—  
473—Illustration. 474—To Our Subscribers; Our Clubbing Rates for 1894; Canada Victorious; Our Subscription Prizes; Lord Derby's Tribute to Sir John Carling. 475—Freeman's Potato Contest for 1893; Poultry Exhibition; Road Improvement. 476—The Cattle Trade; The Stock Breeders' Association Sale at Guelph; The Tenth Ontario Provincial Fat Stock Show at Guelph. 485—Contributors Wanted.
- STOCK:—  
478—The Winter Care of Cattle; The Export Cattle Trade; Canada's Export Cattle Trade; Southdown Sheep—Their Claims to Public Favor. 479—Canadian Short-horns at Chicago; Feeding Grain to Hogs; Chatty Stock Letter from the States; Clydesdale Meeting; The Ontario Agricultural College Sale. 480—Our Scottish Letter. 481—Utility vs. Fancy.
- GARDEN AND ORCHARD:—  
481—Protect Your Trees from Injurious Insects; East Middlesex Farmers' Institute.
- FARM:—  
482—Popular Geology—No. 3; How Best to Keep Up and Increase the Fertility of Our Soil; Improvements in Farm Machinery.
- DAIRY:—  
483—Marketing Cheese in Western Ontario.
- QUESTIONS AND ANSWERS:—  
483—Veterinary; Legal.
- VETERINARY:—  
484—Dentition and Dental Diseases of Farm Animals. 485—Anthrax and Blackleg.
- POULTRY:—  
486—Poultry on the Farm; Keep Only Paying Hens.
- APIARY:—  
486—Mr. Ferguson's Rejoinder.
- FAMILY CIRCLE:—487.  
MINNIE MAY:—488.  
THE QUIET HOUR:—489.  
UNCLE TOM:—489.  
NOTICES:—492.  
STOCK GOSSIP:—492.  
ADVERTISEMENTS:—490 to 491.

Co-operative dairying is increasing largely in New Zealand. New creameries and factories are reported at frequent intervals in various parts of the islands.

The Russian government has issued new regulations concerning the manufacture and sale of margarine and all artificial substitutes for butter. Special inspectors, who have received technical and medical education, will visit these establishments and analyze the products, with authority to impose fines or close the works, for infringement of the regulations.

**Freeman's Potato Contest for 1893.**

Last year when we reported the Freeman Potato Contest, the proprietors of the fertilizers used notified contestants that they would again offer the same premiums this season. It has again been left with us to decide which of the competitors is entitled to the premium for 1893.

The past summer has been very similar to that of 1892, except that the drouth was more severe, and for this reason the results were not as satisfactory as they would have been had a more favorable growing season been experienced.

In testing the benefit to be derived from any manure, be it stable manure or special fertilizer, much depends on moisture. It does not matter how rich the soil may be in plant food, or how much manure in the most favorable state has been applied, without moisture the growing plants cannot derive the necessary sustenance. Because of the parched condition of the land during the long-continued drouth of last July and August, many crops suffered to such an extent that yields were terribly diminished. Potatoes are perhaps more susceptible to drouth than any of the hoed crops. Just in the most critical stage of their growth the dry weather was most severe; the fall rain came too late to be beneficial. Under these circumstances we consider the yields in this contest very good. When nature is not willing to fulfil her part, there is the more need of artificial help, and it is right here that the skill of the agriculturist comes in. This contest proves that, with sufficient shallow cultivation, by which the soil may be kept moist, and with a plentiful supply of plant food, in the form of a reliable special manure, fairly good results may be obtained, when the most unfavorable climatic conditions have to be contended against.

Freeman's Potato Manure is manufactured for a specific purpose. It is composed of the elements needed by the potato plant in all stages of its growth, and is put up in the most soluble form, so that it is ready to give nourishment as required. It is thoroughly reliable, having been tested by the Government analyst, who attests to its high fertilizing quality. Another firm has endeavored to push the sale of a manure which is altogether inferior. Those intending to purchase a supply for next season should see to it that they get the genuine brand, with trade mark attached, as given in our advertising columns.

The most successful competitor in this season's contest was Mr. M. J. Mullock, in the township of East Flamboro, in the County of Wellington, who grew 347 bushels and 32 pounds upon one measured acre of land. His soil was a sandy loam, which for the three previous years had grown hay, which had been cut and drawn from the field. The only preparation that this land received was, that it had been plowed six inches deep on the 3rd day of June, 1893, just before planting. It had, however, received a thorough working with a disk harrow, which was run over the ground four times. The drills were then marked three feet apart and three inches deep, in which were planted 1,200 pounds of seed, consisting of whole and half potatoes of Rural New Yorker No. 2. One thousand pounds of Freeman's Potato Manure was then applied in the drills over the covered sets. The after cultivation consisted of three times cultivating with Planet, Jr., and hand hoeing three times. The ground in this case was kept nearly level. Very favorable weather throughout June was experienced for starting the plants, but the extreme drouth of July and August greatly lessened the yield. September proved more favorable, and the rains during this month revived the crop, which was harvested on the 21st and 22nd of October, with the result mentioned above. The crop was dug with forks by hand, five men being employed in the work, who gathered, weighed and stored them in the cellar. Mr. Mullock states that he never before had so large a crop. He has already disposed of a large quantity for seed.

The second largest yield was produced by Mr. J. R. Hodgins, of the Township of Adelaide, of the County of Middlesex. This acre consisted of a sandy loam, on which the three previous crops had been corn, to which eight loads of manure per acre had been applied, in 1890, oats in 1891 and hay in 1892. The ground was plowed in September, 1892, harrowed with a common harrow twice and cultivated May 12th, 1893. The ground was marked four inches deep and thirty inches apart each way; the sets planted in hills; 720 pounds of seed per acre; two varieties planted were Empire State and Green Mountain. In this case the seed was cut two eyes to the set, twelve days previous to planting. This acre was planted May 20th, and the plants appeared above ground the 8th of June. One thousand pounds of Freeman's Potato Manure was applied, of which 600 pounds was sown broadcast and 400 pounds placed around the hills. The after cultivation consisted of four times cultivating with a horse hoe and hand hoeing twice and hilling up with a plow. Very dry weather was experienced throughout July, August and September. The crop was harvested October 5th with potato forks, and 160 bushels was the result.

The third most successful contestant was Mr. Francis Peck, of the Township of Ameliasburg, Prince Edward County, Ontario. His land was chiefly clay loam, which had been in timothy and Alsike clover two years, followed by peas. The land was plowed on the 30th day of May, previous to being planted and harrowed twice with an iron harrow. The drills were made six inches deep and thirty-six inches apart, and the seed was covered two inches deep. Six hundred pounds of Freeman's Potato Manure was then applied in the drills after the seed had been covered, and 400 pounds had previously been sown broadcast on the land. In this case 645 pounds of seed was used, cut two eyes to the set, the variety being Munro's Seedling. The after procedure included three times cultivating with a horse hoe, the drills kept free from weeds by hand hoeing. In this section the weather was very dry. There were only three slight showers between the 15th of June and the 29th of August—at the latter date there was a heavy rain. The crop was harvested on the 7th of October with an Improved Junior Potato Digger, the produce being 147 bushels and 14 pounds. There was no sign of blight, but on account of the dry weather a large proportion of the vines died before August 20th. The others kept green until digging, and from these the bulk of the crop was produced.

We have awarded the \$50 prize to Mr. M. J. Mullock.

**The Poultry Exhibition.**

The twentieth annual exhibition of the Poultry Association of Ontario will be held in New Hamburg, Ont., Jan. 1st to 6th, 1894.

This exhibition promises to be a grand success, the officers having spared no pains to make the show for 1894 the best on record.

The handsome sum of \$1,500 is offered by the Association in prizes, while in addition to this, those interested in the work have come generously forward and offered a large number of substantial special prizes, which include consolation prizes for exhibitors coming the longest distance east of Toronto, and also to the one coming the longest distance west of London.

The annual meeting of the Association will be held on Thursday, Jan. 4th, at 1 o'clock, for the election of officers and general business. There will also be an evening meeting. We regret that we have not as yet received the programme. We are, however, informed that a number of valuable papers will be read and addresses, delivered by prominent visitors and members, on subjects pertaining to the poultry industry in all its branches. All interested in poultry raising should make a special effort to attend this exhibition. They will find much to instruct them in all of the different phases of the poultry interests, besides meeting with live men from all over the country. Reduced rates may be obtained on all railroads. The fare will be from one and two-thirds to single fare, according to the number who attend the exhibition. Be sure and ask the agent at starting point to give you a certificate stating you purchased a full-fare single ticket, which, when signed by the secretary, will enable the holder to obtain whatever reduced rates are offered.

All exhibitors must become members of the Association. Members' tickets will admit them at any time during the exhibition.

Entry and membership fees must be remitted to the Secretary, Mr. Thos. A. Browne, London, with entry form not later than Monday, Dec. 25th. Entry forms may be obtained from the secretary. We congratulate the society upon having the most complete, simple and concise entry form we have seen, and one which we heartily recommend to other associations.

Express companies will charge full fare on fowls to the exhibition, and will return them free of cost.

Birds from the United States will be admitted free of duty, provided that they are not sold.

Exhibitors from a distance may send their birds direct to the exhibition, where they will be received by the superintendent and properly cared for, and at its close promptly returned, or otherwise disposed of, as the owner may direct.

**Road Improvement.**

The Canadian Institute has taken up the question of road reform, and has passed a resolution which reads as follows:—"That the Canadian Institute, having followed the various steps which have been taken in the past few years to awaken an interest in road reform, and recognizing the inestimable benefit to the community arising from improved and well-constructed roads; be it resolved, that the Canadian Institute issue an invitation to all persons interested in road reform to meet in convention at an early date for the purpose of forming a National Road Improvement Association."

Invitations will be issued shortly to all County Councils, Farmers' Institutes, Dairymen's Associations, Patrons of Industry, and others, asking them to meet in Toronto early in February.

### The Cattle Trade.

In another column will be found an interesting letter from Mr. Robt. Ironsides, M. P. P., member of a leading firm of Manitoba cattle exporters, Gordon & Ironsides. Mr. Ironsides speaks most encouragingly of the cattle trade, and in so far as he advises the *thorough feeding of good steers* we are with him.

The average of 3½ cents of cars in Winnipeg for the 9,000 head shipped during the past season appears to us above rather than below the mark, but be that as it may, under this "blessing in disguise"—"embargo," which Mr. Ironsides so strongly favors, he can only hold out as a prophecy 3½ cents for prime shippers next spring. Certainly not a very brilliant outlook, but then, as Mr. Ironsides points out, the manure would be left on the farm, which must henceforth be looked upon as an item of very considerable import. But in the face of such rather discouraging prospects, let no one conclude that the feeding business is "done," for "it's a long lane that has no turning," and cattle-feeders have now been travelling this lane for a long time. England has suffered from a severe drought, and in consequence thousands of the plainer females will be hurried to the shambles. The great ranching States to the south and west of us have been pouring "she" cattle into the stock yards at Kansas City, Omaha and Chicago for years past, to us every year lessening their producing power. The tide is bound soon to turn, and then fortunate will be the farmer who is loaded with the right kind of "stuff." Now, however, is the time to prepare; *cull out, CULL OUT, CULL OUT!* Away with the scrub, his day is past. Never again can he pay his fare to the world's markets. Use nothing but pure bred-sires—they can be bought cheaper now than ever before in the history of this Province, and get the right kind of one while you are at it. A Herd Book certificate is not sufficient unless accompanied with a strong constitution and a well-rounded-out, thick-fleshed carcass. It don't matter so much about "color," "a tail a wee bit high," or "a horn a trifle heavy." Get the substance, never mind the shadow.

Then shelter must be provided and good use made of the feed-bucket. Shove the youngsters right from the start. It's young beef that's wanted. The Englishman does not now want the roast of a five-year-old that will reappear upon the table day after day for a week, but calls for the small young roast that can be disposed off at a sitting. And on supplying the demand there will be profit, but only well-bred, well-cared and well-fed steers can ever fill the bill.

### The Stock Breeders' Association Sale at Guelph.

On Thursday, the second day of the Fat Stock Show at Guelph, the recently organized Stock Breeders' Association held their sale. As time was limited, this sale had to be commenced before that of the Agricultural College had finished. However, there was a full attendance in the Drill Shed, the building in which it was held being crowded to such an extent that it was difficult for intending purchasers to see the animals.

The bidding was spirited when Shorthorn bulls of merit were brought into the ring, and we understand that quite a number changed hands at fairly good figures.

In a letter received from Mr. G. B. Hood, he writes:—

"With reference to the sale, I wish to say that it was in the 'Galloway' and 'Herefords' that the sale was disappointing, there being very few buyers for these classes. In Shorthorns the demand was good, a large number of buyers being present from all parts of the Province. Some of the animals offered were not first-class and sold at low prices, but good animals realized good prices, from \$80 to \$100 being readily paid. Quite a number more could have been sold at these figures, as many buyers had to go unsupplied. Considering the dull times, the scarcity of money and the short time the breeders had to prepare their animals, it certainly was not a failure, and the Directors feel satisfied that it was a step in the right direction, which if followed up will be to the advantage of the breeders of the Province."

Some interesting experiments on the nitrification going on in the soil under different conditions have recently been published by the well-known French investigator, M. Deherain. Among the results of these experiments, the most interesting, from a practical point of view, was the striking effects that stirring the soil had in increasing the production of nitrates. In the experiment two equal quantities of the same soil were kept for six weeks under precisely the same conditions, except that the one portion was left untouched, while the other portion was stirred. At the end of the period it was found that the nitric nitrogen formed in the stirred soil was enormously in excess of that formed in the portion which was left untouched. The experimenter is of the opinion that the process of nitrification in soils would be greatly increased by the introduction of implements more suited for pulverizing the soil than those commonly in use.

### The Tenth Ontario Provincial Fat Stock Show at Guelph.

The Tenth Annual Provincial Fat Stock Show, held under the joint management of the Agriculture and Arts Association, the Sheep and Swine Breeders' Associations, and the Guelph Fat Stock Club, opened December 6th, under most favorable conditions. Two difficult factors to contend with, the weather and the roads, were at their best. The temperature being pleasant, the business of the show went along with comfort to all concerned, while the capital sleighing was a great advantage to those who had heavy loads of swine and sheep to move to and from railway stations.

To say that the Show was a success in point of number of entries is a very mild way of putting it, but the heavy Christmas cattle, that were the centre of attraction in former years, were neither allowed in the prize list nor are they to be found in the herds of those who used to take a pride in bringing out monster beevés.

The fact is the utter uselessness of this class of beef on the block, its unprofitableness to the feeder, and its neglect by the consumer will probably prevent us again seeing steers of 2,400 lbs at Fat Stock Shows. It is true they are an acquisition to the show ring, but the fact is that these cattle were chiefly composed of useless hulks of blubber entirely beyond the digestive capacity of the average consumer, and buyers of Christmas roasts got tired of paying two prices for what they could not eat, therefore the three-year-old highly-finished steer with his 2200 or 2300 avoirdupois is now a thing of past history. In his place, however, feeders are aiming to produce steers under two that will turn the scale at 1400 or 1500, with much better satisfaction to the three parties interested, viz., the feeder, the butcher and the consumer.

It is true that the Guelph Show did not bring out many real good steers, but there were a few of a right good sort, while heifers were as good a class as we ever remember seeing.

The show of fat sheep was acknowledged on all hands to be the best ever seen on this continent, not only in point of numbers, but in the wonderfully uniform quality and high finish of the animals brought out. This was true of all the breeds in the building. We did not see a single inferior specimen, while the classes were filled to overflowing with sheep brought out in the pink of condition. In all there were something over 300 entries, which taxed to the utmost the capacity of the space allotted to this department. Swine were also forward in vast numbers, and the quality of those on exhibition is an evidence of the vast resources we have for producing pork products suitable to supply the demand from the better class of consumers abroad. Champions of each particular breed evidently had endeavored to build still higher the reputation of the variety in which they were most interested, and this resulted in an exhibition of prime porkers such as never has been seen at any previous Canadian Fat Stock Show.

The Sheep and Swine Breeders' Associations are to be congratulated upon the success that has attended their efforts in furnishing such a grand exhibit in the two departments which have developed so surprisingly under their fostering care. If we could venture to find fault with the management, it would be in endeavoring to crowd too much work into the short space of time allotted to them: for what with judging the different classes, the very full and interesting breeders' meetings, the two sales, one of the surplus stock of the Ontario Agricultural College and another of the Breeders' Association, much of the work had to be carried on simultaneously. This is unfortunate, for many visitors came with a view of seeing and hearing all that transpired, and of necessity missed much that otherwise would have interested them.

Among the cattle classes, grades and crosses were first ordered out for inspection, with Mr. Thirlow, of Barrie, to tie the ribbons. Steers over two and under three hardly answered the description defined for this section, and rather a motley lot, consisting of six, all ages, answered the call. Here a plain but well-fed roan steer shown by James Riddock, Everton, carried first, while a thick-fleshed yearling shown by James Oke & Sons, Alvington, was placed a strong second. The third ribbon was sent to a yearling entry shown by Thomas Russell, of Exeter, while the highly commended was given to Henry McGurk, Colville, who had forward a grade Hereford in only ordinary condition.

The class for steers over one and under two was a vast improvement and a striking contrast to the previous ring. Here eight right good, thick-fleshed, beautifully-formed steers responded to the call. James Oke & Sons were awarded the first for a grandly fed red, with capital meaty top. He had such crops as are rarely seen in a yearling. This was a steer wonderfully even-fleshed, and of capital character—certainly one of the best finished beasts in the show.

The second ribbon was sent to Stewart Bros., who had forward a large, well-grown steer, pos-

sessing plenty of natural flesh, well-covered top and grand neck veins, but as he was a bit rough at the tail head he was rightly placed second.

Messrs. Bolton Bros., Armstrong's Mills, won third place with a well-developed steer of good, even form, but he lacked the thick, heavy, natural flesh and prime finish of his two more successful competitors.

To A. A. Armstrong was given highly commended on a steer of fourteen months, which from a breeder's or feeder's standpoint was equal to anything in the ring. He is grandly coated, well formed, with plenty of character and feeding capacity. He is of superlative excellence, but is six to eight months younger than those placed before him.

The ring for calves under one year consisted of a quartette of exceedingly promising youngsters; for the first time we had to join issue in the allotment of the ribbons. The judge placed a good, thick, meaty calf, bred by D. D. Wilson, Seaford, first. A. & F. Bolton were placed second with a nicely formed youngster of six months, while the best calf of the three, to our mind, was given third. This one was also shown by D. D. Wilson, and like his other entry was the get of his prize-winning imported bull Prime Minister. In this case the third prize calf was beautifully formed, with grand meaty top and very showy make-up. He was scarcely as fat as the first, but more promising.

The call for grade cows and heifers in the section over three years old brought out seven good specimens, but it was not long before all eyes centered upon a three-year-old heifer shown by James Rennie, of Wick. In fact, it is seldom that such a beautiful specimen is presented. She possesses a well-nigh perfect conformation, a wonderful wealth of flesh, and all her beef points were covered to perfection. She is remarkably fine in the bone and especially light in offal, while her prime finish made her appear every inch what she was, a butcher's beast *par excellence*.

In this section the second ribbon went to a beast of entirely opposite type in a heifer shown by J. R. Caldwell, Fergus. This entry was a strong, upstanding heifer with rather heavy bone, but she had a good touch, and was both well fed and thickly fleshed.

D. D. Wilson was given third place with a neat, smooth cow whose frame carried a lot of good roasts. She had a good, thick, meaty top, and gave evidence of killing out a lot of good beef.

In grade and cross-bred heifers under three a handsome quartette faced the judge, led by a right good one from the Oke contingent. This heifer had wonderful crops, good rib roasts, capital neck veins, and was evidently another candidate for sweepstake honors. She also out-scaled the other competitors, and was the ripest beast in the section.

To James Rennie was sent second for a nicely-fed two-year-old, but she lacked in the scale in comparison with the previously mentioned entry.

A beautiful yearling heifer was shown by Mr. Rennie, which only required age to make her fully equal to anything shown. She is a most superior yearling, with wonderful development for her age, possessing any amount of flesh and in handsome conformation was the equal of anything in the show.

Wednesday evening was chosen as the time to tie the ribbons in the pure-bred classes, and the work began by calling in Shorthorn steers over two and under three years, to be inspected by Mr. Ellis, of Galt. Only one steer of this age was forward; this, however, was a right good specimen, shown by W. B. Cockburn, Aberfoyle. In addition to being the heaviest beast in the show, this beautifully-formed white son of Indian Chief gave evidence of dressing out an exceedingly good carcass of edible beef. He had a goodly proportion of flesh on all the more highly prized parts, while from a breeder's or feeder's standpoint he was all that could be desired.

In yearling steers a grandly-bred and grandly-formed steer was forward in the entry by H. & W. Smith, Hay. This was Village Hero, by the stock bull Blake, and of the celebrated Village Hero family. Under his white coat he carried sufficient evidence of the most toothsome roasts, which a year's feeding may make a bit rich for ordinary palates, but his form and character are such that whoever lives to see him another year may expect to find him a hard nut to crack.

The remaining steer was a good one, but had neither the quality or the form of the entry from Hay, although much larger. A nice red calf shown by Adam Armstrong was the last of the four pure-bred steers.

Whatever Shorthorn steers lacked in numbers was made up in the large entry of heifers and cows of this breed. However, so strong were a few of the tops in this section, all did not answer the call. The first ribbon was sent to J. R. Caldwell, who had a beautiful maiden heifer four years old, which, barring a bit of roughness about the shoulder blades, was as near a model of perfection as we ever saw. This heifer was particularly smooth and evenly finished, with a vast depth of flesh which betokened killing out beef that might be a trifle too rich for dyspeptics, but would make a fine showing at the Christmas shambles.

W. B. Cockburn was awarded second for Rose Leaf, a useful four-year-old cow bred by Hon. John Dryden.

To an entry by Thomas Russell, Exeter, was awarded third for another four-year-old maiden heifer, Bracelet, out of imported Bracelet, and got by imported Mariner. This was a wonderfully thick-fleshed beast that some who ought to know declared would kill out better than anything in the building.

W. B. Cockburn also showed imported Daisy Flower, a grand eight-year-old matron, the only one in the ring that had ever produced a calf; she was given a highly commended ribbon. This award was strongly objected to by many visitors who loudly declared in her favor, and doubtless, from a breeder's standpoint, the strongest arguments were in her favor. She had more substance by all odds than anything in the building, but of course was not as good from the block standpoint, as she was extremely fat.

Two Herefords faced the judge, one a rather meagrely-fed two-year steer shown by Henry McGurk, while in the cow class a smoothly-fleshed matron of ten summers was all that represented the female Herefords. This was a useful cow shown by F. A. Fleming, of Weston.

James Bowman, Guelph, elected to champion the Polled-Angus alone with a cow only in ordinary breeding condition, while D. McCrae, Guelph, did the same for Galloways with two cows that required a little more feeding to class as Christmas beef.

W. J. Rudd, Eden Mills, brought out a Devon steer and heifer which were awarded first in their respective sections.

It was a right good ring of nicely-bred cattle that were brought out to contest for sweepstakes, in which a number of winners from the different classes took a hand. Here both judges officiated, and in quick order a short leet of five was drawn, comprising Jas. Rennie's grand three-year-old heifer, W. B. Cockburn's two-year-old Shorthorn steer, J. R. Caldwell's four-year-old Shorthorn heifer, James Oke's grade yearling steer, and the two-year-old grade heifer from the same herd. After a sharp contest the coveted ribbon was placed on the Rennie heifer, although one of the judges stood out stoutly for the two-year-old Shorthorn steer from the Cockburn stables.

SWINE.

The display of hogs at the Provincial Show at Guelph was a decided improvement on that of former years, both as to number and quality. The energy of the Dominion Swine Breeders' Association must be credited with being a prime factor in bringing about this result. The liberal list of prizes offered in the last two years has led more of our farmers to enter the field of competition, and we have to congratulate the Association upon the success of its well-directed efforts. The Association should not, however, rest satisfied with present attainments, but should seek to draw out more competition by still further increasing the amount of the prizes, which are not yet sufficiently liberal or tempting to bring out the best results. The prime object of a fat stock show is not to be reached by allowing breeding stock to enter for competition, and the sooner we get down to a show of real butchers' stock the sooner we shall be found in our proper sphere. To this end we submit that the highest prizes and the greater number of prizes should be offered for steers, wethers and barrows. This will encourage a more general castration of male animals not up to the standard for breeding purposes, and will give us a better fatstock show in the lines which ought to be encouraged.

To exhibitors we would say that if it is worth while to make a display at these shows, it is worth while to do it well. We are led to this remark by the fact that many excellent animals were shown in a half-fat condition, which would have taken higher rank if they had been in higher flesh. They were evidently taken up too late to give them time for preparation for the show. The proper time to begin to prepare for next year's show is now, by selecting good ones and keeping them going on regularly, so as to bring out their best possibilities at the next show. Breeders should regard it as in their interest to show the public what their favorite breeds can do when properly brought out. A brief review may serve to bring out the most noticeable features of the show in these classes:—

BERKSHIRES

were shown by the Messrs. Snell, of Edmonton; George Green, of Fairview; D. Farham, Corwin; W. E. Wright, Glanworth; Thos. Watson, Springvale; P. McGar, Guelph; R. D. Addison, Otterville; and W. & F. Row, Avon.

In the section for barrow over 9 and under 18 months, Messrs. Snell had an easy victory with their popular Sam, a son of imported Enterprise 1378 and imported Saverlake's Daughter.

This was a hog of medium size, but so full of quality that he was admired by every one who saw him. His outline was nearly perfection, his flesh smooth and evenly distributed, his back well covered, his sides deep and his lower line straight. He had all the indications of a strong constitution, stood well upon his feet, and was well brought out.

Mr. Green had a good second in his Royal, a lengthy, symmetrical hog with many strong points, but not fat enough to show to best advantage.

Barrows, nine months and under, were a good lot, Mr. W. E. Wright's Black Joe being an especially good one, large for his age, smooth in his flesh, and well brought out. He was easily placed first, and Mr. Green got second and third prizes with good straight pigs, which were not as fat as they ought to have been.

In sows over nine and under eighteen months, there was keen competition, and Mr. Green was awarded first prize for his Clip, a sow of great length and with grand hams. Mr. Watson's Haldimand's Queen was placed second, but a good many onlookers thought she might have headed the list, judging by a fat stock standard at least. She was evidently younger, and had a fresh appearance, with a well-covered back and smooth, even flesh, standing well on her feet. She was a typical Berkshire and much admired. Mr. McGar stood third with a very good sow, well prepared.

Sows, nine months and under, made a very strong section. There were ten entries, and their ages varied so much that they were not an easy lot to place. Mr. Addison was awarded first prize on a young sow of fine quality, and smooth, even flesh, on short legs and of an easy feeding sort.

Messrs. Snell got second place with a lengthy, strait, smooth, upstanding sow, more like the pork packer's type. The third prize went to the same owners for a sister of the second prize sow and of similar type.

For the best three pigs, offspring of one sow and bred by exhibitor, first place was given to the Messrs. Snell's exhibit, which included the first prize barrow in the section over nine months and two younger pigs of good quality.

Mr. Green got second place with a good even lot, and Messrs. Snell third prize.

POLAND CHINAS

were shown by W. M. and J. C. Smith, of Fairfield Plains; W. & F. Row, Avon.

The only entry in barrow over nine months was that of Messrs. Smith, and he was certainly a good one, very large and broad, with immense hams and smooth flesh, somewhat wanting in firmness, and a slight slackness behind his shoulders. He was, however, one to admire, and a good representative of the breed.

Messrs. Row made a strong show in the section for barrows nine months and under, with two hogs of the same litter and of the same type, with strong, well-covered backs, smooth flesh and such as would show light off when slaughtered. These were awarded first and second prizes. Messrs. Smith got third prize with a strong hog of the older type of Polands.

For three pigs, produce of one sow, Messrs. Row had a clear first in a smooth, even lot. Messrs. Smith showed a strong lot with the large hog Dandie in it, but wanting in uniformity.

YORKSHIRES

were shown by J. Featherstone, M. P., Streetsville; J. E. Brethour, Burford; and Robert Chadwick, Burnhamthorpe. The number shown was less than usual, partly owing to the fact that the two first-named exhibitors had their best things in quarantine, returning from the World's Fair, where they had been very successful.

In the section for barrows over nine months, Mr. Featherstone had the field to himself, and showed two very good ones, Holywell Y. and Prescott Prince, which were typical of the breed and fairly well prepared.

For sow over nine months, Mr. Chadwick had the only entry and was awarded first prize for Nora, a sow of fine character and superior quality.

Mr. Brethour had the field for sows under nine months, and got the three prizes on a very fine trio of smooth, lengthy, straight sows of good Yorkshire type. The same exhibitor also won first place for best three, produce of one sow.

CHESTER WHITES

were shown by R. H. Harding, Thorndale; H. George & Sons, Crampton, and W. E. Wright, Glanworth. The class was well represented by strong, useful animals, true to type and well up to the standard.

Mr. Harding got first place in the section for barrow over nine months with his Sir John, a lengthy, straight, well-fleshed hog, standing well on his feet, and showing strong breeding character.

Messrs. George won second prize with Jumbo, a big, useful hog, well brought out.

The same exhibitors won first in section for barrow under nine months, Mr. Harding following next with a close second.

Sows over nine months were an exceptionally good lot, and Mr. Harding scored first with a very fine specimen, well named Elegant, Messrs. George taking second and third prizes with really good ones.

For sows under nine months Mr. Harding was again first in a strong class with Bessie, a very straight, smooth, well-formed sow of fine quality. The other two prizes went to Messrs. George for good, even young sows not so highly fitted.

Pens of three offspring of one sow were a really good lot, and made close competition—Mr. Harding getting first place with a strong lot, and his competitors taking the other two prizes.

TAMWORTHS AND JERSEY REDS

were classed together. The latter were represented by only a few specimens, but they were very good ones.

The Tamworths were out in considerable numbers, both as pure-bred and in the class for grades and crosses. The exhibitors were John Bell, Amber (Tamworths); Ellery & Stevens, Salford (Jerseys); Isaac Holland, Avon (Tamworths); and Thos. George, Mount Elgin (Tamworths).

Mr. Bell had the only entry for barrow over nine months, and showed a typical specimen.

In barrow under nine months Mr. Holland scored first with a straight, smooth, well-fleshed hog. The same exhibitor got second prize, and Mr. Holland third prize with a well-prepared hog of fine quality.

The Jerseys came to the front in the section for sows over nine months, Ellery & Stevens taking first and second prizes with good specimens of the breed—long, deep and well-portioned animals; Mr. Bell taking third place.

Ellery & Stevens came in first again for sow under nine months with a young sow of pure quality Mr. Bell taking second with a straight sow, rather light below, and Mr. George third prize on a good sort of sow.

For three pigs, produce of one sow, Mr. Holland won first prize with an uncommonly good trio of Tams, with shorter heads than the breed usually shows, and long, smooth, well-proportioned bodies; Ellery & Stevens second, and John Bell third.

SUFFOLKS.

This class was well represented by specimens from the herds of Messrs. Featherstone, Dorsey and Frank.

Mr. Dorsey took first and second prizes in the section for barrow over nine months with two good hogs of true Suffolk type, that were brought out in good condition.

Mr. Featherstone was first for sows under nine months with a good one, and Mr. Dorsey won second and third prizes. Mr. Frank was highly commended, and has a good one.

For three pigs from one sow, Mr. Dorsey had a very uniform lot, and was placed first. Mr. Frank's entry had second for a good, even lot, and third for another pen that were well up to the standard.

SWEEPSTAKES.

The championship prize for best barrow, any age or breed, brought out the prize-winners in all the classes, and it made a very interesting contest. The judges in all classes united to make this award, and after careful consideration and comparison placed the badge of honor upon the fine Berkshire hog Sam, owned by the Messrs. Snell.

GRADES AND CROSSES.

This was one of the most interesting features of the show, and brought out the largest entry of any class, while the character of the exhibits was of a high order of merit.

Barrows over nine months were represented by only two entries. Mr. Green showed a grade Berkshire of fine form and with good quality, but not in high enough flesh to show to best advantage.

Mr. Bell showed a grade Tamworth and Berkshire, black and tan, with a white blaze—a big, strong, well-fleshed hog on top, but rather light in hams and lower lines. They were placed reverse of the order named.

Barrows under nine months brought out sixteen entries. All did not enter the ring, but a good lot faced the judges, and first prize went to a Yorkshire and Poland-China cross, shown by Mr. Barber, of Guelph; second to a Yorkshire and Berkshire, owned by James Goodger, Walmer.

Sows over nine months were a good lot, and first prize went to Chas. Austin, Mossboro; second to D. G. Hamner; third to H. George.

Sows under nine months were also a good, even lot. Mr. Goodger got first on a very smooth Yorkshire-Berkshire cross; second and third to Albert Barber.

SWEEPSTAKES, SILVER MEDAL

for best grade hog any age, was awarded to Mr. Chas. Austin, Mossboro, for a Berkshire grade of fine form and flesh—a true type of a farmer's hog.

GRANT PRIZE.

The special prize offered by J. I. Grant & Co., pork packers, Ingersol, for best pair of pigs under nine months, suitable for the export trade, brought out a good display. They were judged by the rules laid down by the donors, and the prize went to Mr. John Bell, Amber, for a pair of Tamworth grades—long, smooth, fleshy pigs.

A report of the sheep shown will appear in next issue.

An Australian farmer has adopted a very peculiar method of making silage. Having eight acres of corn, which yielded a heavy crop, he laid the entire stalks, uncut, in three stacks, taking care to lay them all one way, without crossing. Then he weighed the stacks down with logs and stones. When it had settled he covered the whole with earth two feet deep, raised to a crown on top, which he thatched with cornstalks. The silage came out in good condition, and was greedily eaten by the cattle.

STOCK.

The Winter Care of Cattle.

When the farmer has provided good, warm, comfortable stables and sheds for his live stock, he is apt to think that he has done all that is necessary for their comfort, forgetting that, perhaps, in his anxiety to keep his animals warm, he has neglected to provide proper ventilation, and has thus shut in his stable, in the form of impure air, a more dreaded enemy than even Jack Frost. Mr. Smith, in Hoard's Dairyman, writes the following on the care of cattle:—

Those who have built good, warm barns and sheds have taken one of the most important steps in order that their cattle may have healthful winter quarters. Yet good buildings are not all; cleanliness about stables and sheds, and all other buildings in which animals are housed, is just as important to the health of the animals as cleanliness about the house is important to the health of the family. The ventilation of stables and cattle sheds should especially receive attention. Dr. N. S. Townshend says: "No disease is spreading more alarmingly among our better bred and most carefully housed cattle than tuberculosis. No cause of this disease is believed to be more potent for mischief than keeping the stock where there is insufficient air space, and where the air must of necessity be breathed over and over again. Yet how rarely do we find a shed or stable where the whole air of the interior is not laden with animal odors, the products of respiration or of other secretions." About most farm buildings throughout the winter, means of disinfection need to be used occasionally. Sulphurous acid gas, obtained by burning brimstone upon shavings, is given by those of experience as probably the best disinfectant for all buildings that can be tightly closed, although chloride of lime will, in some cases, be more convenient and perhaps equally effectual. To prevent the spread of contagious diseases, not only must disinfectants be used, but rigid separation and isolation are necessary.

Again there are hundreds of farmers whom it will pay to spend some leisure time in refitting their barns and sheds, nailing on loose boards as well as fastening up cracks about the stables to shut out the cold and make them comfortable. There are still others who own large herds of cattle which they do not expect to shelter, and will feed sparingly. This class make no pretence at winter dairying, and are not able to do much at it in the summer. It is sad to witness the suffering of the animals, and it is strange why some practices are continued where they are not only cruel to the stock, but the owners lose by them thousands and thousands of dollars. It is hard for the western farmer or herdsman to realize that, although the dairy cow may live through the winter, unprotected from the winter's blast, and poorly fed, yet she cannot be of profit, for the shivering cow cannot produce a bountiful flow of milk, neither will the little that she does give contain the amount of butterfat that it would if the donor was warmly kept.

The importance of having stables ventilated in accordance with correct principles of hygiene is generally admitted. That the supply of fresh air should be ample is frequently insisted upon, but the need of the abundance of light is not so generally recognized. On this subject the London Live Stock Journal has the following pertinent remarks:—

Some stables are at mid-day in a state of semi-darkness—a condition, to say the least, anything but conducive to the well-being of the horse. No animal enjoys the light of day more than he. In his wild state he frequents the open plain or mountain side in the full light of day. Wild horses are never found to inhabit gloomy forests or dark ravines. The horse is a child of light, and he should be treated accordingly in domestication, if he is to be kept in perfect health and spirits, with his eyesight unimpaired. The frequent transition from a dark stable into the full glare of day cannot fail to act prejudicially on his visual organs, and so also must almost permanent gloom and darkness. If we studied only his comfort, we would give him at all times a stable full of cheerful light as well as refreshing air.

Mr. A. L. Crosby, in a recent article, makes some pertinent remarks. In connection with feeding dairy cows, he says: "It is easier to tell what a dairy cow does with her feed than a steer, for we have the milk as a daily guide, and when we find that one of our cows is a heavier feeder, and puts most of her feed into rich milk, that is the cow to tie to. She is a steam boiler that can be worked under heavy pressure, and if we watch the gauge and try the cocks we can afford to shovel the fuel into the fire box, knowing that there is no danger of loss of fuel or of bursting the boiler."

The Export Cattle Trade.

Mr. Robert Ironsides, M. P. P., member of the well-known firm of cattle exporters, recently favored us with the following interesting letter in reply to an inquiry as to the past season's cattle trade:—

"We have shipped 9,665 cattle to the Old Country market from Manitoba and the Northwest, the season of 1893, and paid on an average 3½ cents per pound for choice export cattle, weighed off cars at Winnipeg. The cattle were from two years and six months old up to five years old. Cattle, after they are six years old, are classed as oxen in the Old Country markets, and sell the same as bulls, stags and cows, etc. I believe this trade, as yet in its infancy in this country, is bound to grow to enormous proportions. As to the "embargo," I maintain, as I always did, that it will benefit Canada in the long run by compelling farmers to stall-feed and fatten their stock at home, and by applying the manure to enrich their land. Take, for instance, the experience of N. W. Balwin, Manitou, who feeds considerable stock every season. Last winter's manure from the stable was put out on part of a field and barley sown on the same. The yield of the portion manured was forty bushels per acre, while that part of the same field not manured only yielded twenty-five bushels per acre—an increase of fifteen bushels per acre from the manured portion, and if followed with wheat will show as great a difference in the yield, besides being of better quality. Therefore, I contend that it will pay a farmer to feed, even though he gets no more for his labor than the manure. One load of such manure is equal to a barn-yard full of rotten straw. Farmers are alive to the situation, and intend feeding large numbers for the spring trade. They are safe in stall-feeding, and will get 3½ cents per pound weighed off cars at Winnipeg (buyers to pay freight), for all choice export cattle in spring of 1894. I strongly advise them to do so, as they will make at least sixty cents per bushel out of their wheat, if fed, and receive the benefit of the manure on the land, which will yield ten to fifteen bushels per acre more grain with the same work, seed, etc. We would like to hear from the farmers (during the winter), in all portions of the Province as to numbers, feeding, and quality of same, so that we can arrange for handling them to best advantage when navigation opens in the spring. In conclusion, I would suggest that every influence be brought to bear on the Dominion Government to induce them to make an effort to have the senseless quarantine regulations existing between Canada and the United States removed, so that Manitoba and the Canadian Northwest may have the benefit of railway competition in shipping stock."

Canada's Export Cattle Trade.

The following item is clipped from a review of the past season's cattle export trade in the Montreal Witness, and will be read with interest by our readers:—

"The live stock export trade has been a disastrous one to the cattle shippers, many of whom have already gone under in consequence. There has been a heavy falling off all round. The failure of crops in Great Britain forced the British farmers to put their stock on the market just at the time that the best class of our cattle were going forward. This resulted in a reduction of prices and a consequent loss to shippers from America. The embargo which put a stop to the stocker trade is also responsible for the season's failure. It was not possible under this regulation to send over any lean cattle to be fed, or to send any fat cattle to be held for good prices. Our cattle, like those from the United States, had to be slaughtered at the port of debarkation. The result of this system was a loss of several hundred thousand dollars both to the Canadian shippers and the British farmer.

The falling off in the export of sheep has been much more marked than the cattle. This is owing to the large quantity of frozen mutton from Australia, which is being offered in the British markets. The following figures show the differences in the shipments for the last four seasons. It will be noticed that there has been a steady decline:—

	Cattle.	Sheep.
1890.....	123,136	43,372
1891.....	109,150	32,042
1892.....	98,731	15,932
1893.....	83,322	3,743

There has also been a decline in the shipment of horses and hogs, and of the latter what were sent across were shipped at a loss.

The great importance of the live stock trade may be understood when it is stated that \$6,312,572 were turned over in the business this year. Of this amount \$5,414,760 was paid to the farmers for their cattle, \$230,000 went to the railway companies for transportation, and the stock yards received \$11,650. Over \$50,000 was paid for attendance to 3,380 men shipped during the season. There was disbursed for feed \$125,100, most of which went into the pockets of the Quebec farmers. The cost of labor for putting up stalls, etc., reached the sum of \$145,782, while the steamship companies received nearly \$1,000,000."

Southdown Sheep—Their Claims to Public Favor.

[Read by Mr. John Jackson at the meeting of the American Southdown Breeders' Association, Chicago, Ill., September 27th, 1893.]

It has been said of sheep that they are the most valuable of all the animals that contribute to the wants of man, and are closely associated with his history, vicissitudes and progress from the earliest time. The origin of sheep is unknown; it may be traced back through vast ages into the mist of time's dark obscurity, and probably before the advent of the human race upon earth, for we find it associated with the son of the first created man—"Abel was a keeper of sheep." Search the Scriptures, and how closely we find it associated with the material and spiritual welfare of mankind, adopted as a symbol of purity in Christian belief, an emblem of patience, docility and forbearance. A careful observer, who would calmly survey the vast world of animated nature, would note the teeming millions of sheep, which contribute so much to the wants and comforts of mankind.

The thoughtful mind wanders from the scene around him, when contemplating this useful animal, how it has been developed and adapted to conditions opposite and extreme: be it upon the high, bare, desolate mountain, or the scorched plains of Africa, sheep are found suitable to the conditions of soil, climate and man's requirements.

Modern civilization has not rendered sheep less important now than they were at earlier periods; they form the most essential of all food, and their wool is one of the most important materials connected with trading, manufacturing and pastoral industries of mankind. If this applies with more force to any one breed of sheep than another, I think it is the Southdown.

To realize the largest margin of profit should be the aim of every keeper of sheep. There are several breeds of sheep that are valuable for mutton and wool, and owing to the fact that different classes of wool are required to manufacture different sorts of fabrics, it will be necessary to continue to breed the various kinds of sheep.

What would seem to me the strongest claims which any breed of sheep can make for public favor would be their ability to return the largest possible value in mutton and wool for a given amount of food consumed. The question is not what a single fleece of wool or carcass of mutton will bring in the market, but rather how much is realized per acre when the product is fed to sheep.

The late Mr. Jonas Webb, who did so much to improve the Southdowns and bring them into public favor, built upon this very solid foundation. Before deciding upon which of the different kinds of sheep he would breed, he made careful and extensive experiments with the leading breeds of his day, till he was fully satisfied in his own mind that Southdowns would return more money in wool and mutton for a given amount of food consumed than any other sheep. This was what led him to breed Southdowns. It gave him unbounded confidence in the breed, and gave him encouragement through all the years in which he did so much for the breed, and to make for himself a name that is familiar wherever the Southdowns are known.

Southdown sheep may claim public favor by reason of several points in which their superiority can be shown. It is a well-established principle that the best results are obtained from animals that are given to early maturity—one of the predominant characteristics of the Southdown. They also produce a superior quality of both wool and mutton, which command a higher price per pound than that of other breeds.

By their early habits of having to travel long journeys in search of food on the rather bare hills in Sussex, they developed a high degree of endurance, with a strong constitution and plenty of muscle, and on account of their thick, even coat of wool they will stand exposure to storm, let it be rain or snow, better than most other breeds. In fact they are not hot-house plants. They were brought up to endure hardship, and to-day many of the flocks in England are exposed the year round to all the inclemencies of the weather, winter and summer, without shade or shelter.

They are prolific breeders; mature earlier perhaps than any other breed; will make a pound of flesh with as little, if not less, food than any other, and more of it on the most valuable parts of the carcass. This is where the profit comes in.

The fact that Southdowns possess all the most valuable points in a mutton sheep, coupled with unquestioned purity of breeding for centuries back, makes them most valuable for crossing on common sheep to improve their mutton qualities.

They have played an important part in improving all the other Down breeds, and the valuable qualities they possess largely depend on how much of the Southdown blood courses through their veins.

Southdown sheep, when placed in competition with other breeds on either side of the Atlantic, have more than held their own. In this country, however, the superior quality and value of Southdown mutton, as compared with that of other breeds, is not as well understood as it is in England, where the different mutton breeds have been so much longer known.

I shall, therefore, refer to the records of that country to establish beyond question the correctness of what I have claimed for this breed of sheep, and will quote as my authority the prize list of the Smithfield Club for 1891, in which there is published

a summary of champion prizes awarded, extending over a period of sixty years. We could produce evidence showing the victories Southdowns have won at other large shows in England, in Canada and in this country, when placed in competition with other breeds, but we consider the results or awards at the Smithfield the most reliable and highest authority attainable.

At that greatest fat stock show in existence, where all the breeds are brought out in the very pink of condition, from the year 1832 to 1861 there was offered yearly a gold medal for the best pen of wethers in the short-wooled classes; from 1861 to 1873 a silver cup was substituted for the medal, making a period of forty-two consecutive years that a prize was offered for the best pen of wethers in the short-wooled classes. The result was Southdowns won it forty-one times. (In 1872 it was won by Hampshires.) The only wonder is that Southdowns should lose it once out of forty-two years. (Possibly an error of judgment.)

At the same show, in the year 1860 there was added another prize; this was a champion prize of the value of fifty pounds for the best pen of sheep in the show, of any age, breed or sex. This was continued, with the exception of the year 1874, up to 1889—a period of twenty years—and the result was, Southdowns won eleven times, Oxfords three times, Lincolns twice, Hampshires twice and Shropshires twice, so that Southdowns won more of these champion prizes than all other breeds combined. And this was done where the quality and value of the different breeds was well understood.

Now, with regard to that very valuable characteristic, "early maturity." It is generally admitted that the sheep that gives the most profit is the one that goes to the butcher under one year old. Breeders make claims for their favorite breed; none will dispute the quality of the Southdown. Some have said "he is rather small." Facts and figures are stubborn things, and comparisons are the best way to arrive at correct conclusions. In this case I will take for comparison two other breeds, a long-wool and a short-wool: First, the Leicester, because this breed was about the first to attract much attention by its being improved by Bakewell, and commanding very high figures in that early day; second, the Shropshire, being a nearer relative of the Southdown, and a sheep that of late years has gained more popularity in America, perhaps, than any other breed. We take our figures from the official catalogue of the Smithfield Show.

For this comparison I have taken the twelve heaviest lambs of each of the three breeds at the show, and find the average weight as follows:—In 1885, Shropshires 145 pounds, Leicesters 160 pounds, Southdowns 175 pounds; in 1887, Shropshires 142 pounds, Leicesters 160 pounds, Southdowns 166 pounds; in 1890, Shropshires 162 pounds, Leicesters 145 pounds, Southdowns 167 pounds—or for the three years, Shropshires averaged 149 pounds, Leicesters 158 pounds, Southdowns 169 pounds. This shows the Southdowns have the advantage in actual weight of twenty pounds per head over the Shropshires, notwithstanding he has been dubbed as "rather small."

**Canadian Shorthorns at Chicago.**

The Hon. H. H. Hinds, Commissioner in charge of the Shorthorn herd at the World's Fair dairy trials, in his official report makes the following reference of special interest to Canadians:—

"To our Canadian brethren I desire to express thanks. I wish they would move their country over and all become Yankees. They have rendered me substantial and valuable service. They sent to my barn, charges prepaid, five excellent cows. At the close of the contest I had three strapping calves ready for the feed-lot to accompany them. They took the eight head back to Canada at their own expense, I only sending a man with the cattle as far as the quarantine station. I need not commence calling names, but in connection with the Canadian contingent, Mr. Richard Gibson, who selected the cows, and Mr. H. Wade, Secretary of the Canadian Herd Book Association and of the Ontario Commission, have placed me under personal obligations. In contrast, I have received no aid or comfort from any State Commission. The Illinois Commission say they will some time pay the freight to Chicago on the three cows from that State participating in the tests. Some of the other State Commissions have intimated that they would pay something to the owners of these cows, but up to date no dividends in that direction have been declared. I have applied to all the State Commissions having animals in my herd for aid in this connection. I did not want them to feel offended because I had slighted them. I have not, however, seen the color of any of their coin. Did we sacrifice, injure, or impair any cattle to this Moloch, the Columbian dairy test? No. One cow was killed in transit by the railroads, and another died within a few hours of parturition. Both causes kill cattle in this country almost daily. Neither cow had any part in the contest. The other cattle placed in my charge have all reached their home or Canadian quarantine. All are in the best of thrift and condition, and all are carrying more 'cow meat' on their backs than when I first looked them in the face. Many desirable sales of Shorthorns have already been effected, traceable directly to the creditable work of our cattle in this contest."

**Feeding Grain to Hogs.**

Mr. John Cook, one of the most intelligent and progressive farmers in Mersea, claims that even at the present price of wheat the farmer can make a good profit by feeding it. From his experience, he estimates that if it is fed to hogs it can be made to net nearly, if not quite, one dollar per bushel. He makes up his profit and loss account from feeding coarse grains as follows:—

3,000 pounds shorts.....	\$ 22 50
160 bushels wheat at 60c.....	96 00
80 bushels rye.....	40 00
150 bushels peas.....	75 00
50 bushels beans and oats.....	25 00
925 bushels corn in the ear.....	190 00
	\$418 50
Live hogs sold, valued at.....	\$720 00
Lard.....	9 00
Pork used for home consumption.....	50 00
	\$779 00

Thus making a total profit on the operation of.....\$330 50

In addition to the above profit he has opened up a home market for his grain, and has saved the cost of drawing it to market, and has made 70 per cent. on the value of the grain consumed. Another writer, after charging for his wheat \$1.25 per bushel, finds that he has still a slight profit left. In addition to the above, there is another gain in the manure which is left on the farm, for both science and practice agree that there is no surer way of impoverishing a farm than by selling wheat and other grains.

Chemical analysis place the amount of valuable plant food—nitrogen, phosphoric acid and potash—in a ton of wheat or coarse grain as considerably above that in a ton of live swine. Now, if for the sake of illustration, we say that they are even, and take the calculations from the Ottawa Experimental Farm, which show that five pounds of frozen wheat will make a pound of pork—and good wheat should do better than this, but if we take this amount as the standard—then five tons of wheat will produce one ton of pork. Therefore, when we sell one ton of pork we keep the fertilizing material of four tons of wheat on the farm. Now analysts say that at the present price of fertilizers these four tons of wheat will take \$20 worth of nitrogen, phosphoric acid and potash from the soil.

From this it is easily seen, in feeding wheat to swine, that for a ton of live weight sold, the farmer saves in plant food that which, if he had to buy at current prices, would cost him \$20.00.

Each farmer should consider this question thoroughly and then decide for himself when everything is taken into account, whether it will pay him to sell his wheat to the dealer, or if at present prices it would not pay better to dispose of it to his hogs on his own farm, and thus save both the cost of marketing and the fertilizing material contained in the wheat.

We would like to have the experience of a few more intelligent and observant farmers. Why should not every farmer send in his experience in feeding hogs and other stock. We can all learn from the success or failure of others. Let us hear from you.

**Chatty Stock Letter from the States.**

FROM OUR CHICAGO CORRESPONDENT.

The Christmas cattle sales are averaging better than a year ago, although the extreme top prices of last year have not been exceeded. In these so-called hard times the following prices for holiday beefs look quite encouraging: Fourteen Herefords, 1712 lbs., \$675; 31 Shorthorn, 1713 lbs., \$665; 30 Shorthorn, 1721 lbs., \$655; 15 Angus, 1467 lbs., \$650; 27 Angus and Shorthorn, 1740 lbs., \$625; 30 Angus, 1386 lbs., \$600; 27 Herefords, 1427 lbs., \$600. Distillery steers, 1376 lbs., sold during the week at \$5, and 1451-lb. distillery stags at \$4.65. Most of the cattle sold above \$5.90 were Shorthorns. Fifteen loads sold above \$6 and eighteen loads at \$6 in one week, showing a pretty good quality of offerings. Common 1327-lb. native steers sold at \$3.55, some choice 980-lb. steers at \$4.25, and 1373-lb. Herefords as high as \$5.70. Extra fine 1225-lb. steers sold at \$5.50, yearlings averaging only 1145 lbs. as high as \$5.50, and "double extra" 1056-lb. steers at \$5.25.

The hog market has joggled along on a \$5 and \$5.50 basis. The packers thought they had it all their own way but were somewhat mistaken at the small receipts. Farmers are selling hogs freely to raise cash, but the "visible" supply of hogs now ready for market is certainly small for this season of the year.

Supplies of sheep have been too heavy lately, and the market has been much depressed.

The Christmas Fat Stock Show consisted of about four carloads of cattle, one of hogs and one of sheep. Like the one held last year, it was merely a made shift, and was a "walk-away" for the few exhibitors represented. Something adequate in the live stock exposition line is expected to be presented by the Illinois State Board of Agriculture next year. The only Canadian was Wm. Rutherford & Son, of Roseville, Ont.

Prizes for sheep were awarded as follows: Pen Southdowns—First premium, J. H. Potts; second, William Rutherford, Shropshire—First premium, William Rutherford, Oxfords—First premium, William Rutherford, Cotswolds—First premium, William Newton & Son, Leicesters—First premium, William Newton & Son, Merinos—First premium, William Newton & Son. Cross-bred—First premium, William Newton & Son.

**Clydesdale Meeting.**

The Annual meeting of the American Clydesdale Association, as heretofore announced, was held at the Grand Pacific Hotel, Chicago, Tuesday evening, November 21st, 1893.

The membership in attendance, or represented by proxy, was about one hundred and fifty, which is less than one-half the number of stockholders. There was no lack of interest in the meeting on account of the limited attendance, and the enthusiasm resulting from Columbian victories was a marked feature in the proceedings.

President Clarke, in calling the meeting to order, congratulated the membership on the unusually large amount of new business transacted during the past year, and referred to the grand show of Clydesdale horses made at the World's Columbian Exposition.

The report of the Treasurer, William Moffatt, showed a balance in the treasury of \$2,933.83, after paying all the current expenses of the year, the publication of Volume 7 of the Stud Book, and the settling of the prizes for the Columbian Exhibit of Clydesdale horses, amounting to \$4,350.00.

The Clydesdale Association, since its organization, has given encouragement to the breeders of Canada and the United States by offer of premiums exceeding \$15,000, which unprecedented offer by a draught horse association has had much to do with the great and growing popularity of the Clydesdale horse. No better investment has been made by the Clydesdale Association than the liberal prizes, amounting to \$5,000, that brought to the Columbian Exposition the grandest lot of Clydesdale horses ever exhibited together.

The members in attendance at the late annual meeting decided upon a number of new and important measures that will doubtless encourage breeders to improve their stock, and in the near future increase the claims of the Clyde as a leading candidate for popular favor as a serviceable and attractive draught horse.

The unanimous adoption of the plan favoring advanced registry for superior specimens of the breed will do much to aid in directing the attention of breeders to the best class of stallions and mares.

The matter of advanced registry has been referred to a special committee, consisting of Robert Ogilvie, Madison, Wisconsin; Robert Holloway, Alexis, Illinois; and Robert Miller, Brougham, Ontario. The report of the committee giving an outline of the plan to be pursued in the selection of sires and dams worthy of admission to the approved class will be published hereafter.

The association voted to publish in Volume 8 and succeeding volumes of the American Clydesdale Stud Book, without charge to the owner, a list of the duly recorded Clydesdale stallions and mares awarded first prize at the leading agricultural exhibitions of the United States and Canada during the current and subsequent years.

Reference will be made hereafter to a number of new and popular features adopted by the association.

The following officers will serve the association during the ensuing year, viz:—President, N. P. Clarke, St. Cloud, Minnesota; Vice-President, R. B. Ogilvie, Madison, Wisconsin; Secretary, Charles F. Mills, Springfield, Illinois; Treasurer, William Moffatt, Paw Paw, Illinois.

The officers named above and the following constitute the Board of Directors: Robert Holloway, Alexis, Illinois; L. B. Goodrich, State Centre, Iowa; and Robert Miller, Brougham, Ontario.

**The Ontario Agricultural College Sale.**

On Thursday afternoon, the second day of the Provincial Fat Stock Show, the authorities of the Ontario Agricultural College held their annual sale of surplus stock, comprising pure-bred cattle and swine.

Room had been allotted them in the Victoria Rink, the building in which the Fat Stock Show was held, and intending purchasers had ample opportunity to inspect all classes of cattle and swine before the sale began.

Some good things were offered and the stock generally was in better condition than at any of the previous sales. Good specimens were in demand both among the beef and dairy breeds of cattle, and pigs of all kinds sold well when fair representatives were offered.

The following is a summary of the prices realized:—

	Average.	Total.
Two Shorthorn bulls sold for \$90 and \$105, respectively.....	\$ 97 50	\$195 00
One Hereford bull.....	70 00	70 00
One Aberdeen-Angus bull.....	30 00	30 00
One Galloway bull.....	105 00	105 00
One Devon bull.....	36 00	36 00
Two Holsteins, one bull and one heifer, \$22 and \$35.....	28 50	57 00
Two Jersey bulls, \$31 and \$50.....	40 50	81 00
Three Ayrshires, two heifers and one bull, \$33 to \$290.....	89 33	268 00
Two Berkshires, farrowed Nov. 6, 1892, sold for \$30 and \$41.....	35 50	71 00
Nine Yorkshires farrowed March 28th, 1893, sold from \$12 to \$20.....	17 77	160 00
Five Yorkshires, farrowed May 24th, 1893, sold from \$8 to \$16.....	12 00	60 00
Eight Yorkshires, farrowed June 2nd, 1893, sold from \$10 to \$20.....	15 32	122 56
Five Yorkshires, farrowed June 30, 1893, sold from \$8 to \$14.....	11 40	57 00
Seven Yorkshires, farrowed Sept. 21st, 1893, sold from \$7 to \$12.....	9 71	67 97
Three Tamworths, farrowed April 19, sold from \$8 to \$24.....	13 33	40 00
Two Tamworths, farrowed Sept. 10, 1893, sold from \$9 to \$10.....	9 50	19 00
Two Tamworths, farrowed Sept. 20, 1893, sold from \$8 to \$10.....	9 00	18 00

### Our Scottish Letter.

Work is so pressing just now, that I have no time to do justice to the readers of the FARMER'S ADVOCATE by writing anew. The following extract from a lecture delivered lately at West Calder, on Clydesdales from 1871, may be of interest to some Canadian readers:—

"In the year 1873, the Highland Society held a very fine show at Stirling. The late Alexander Galbraith's great chestnut horse Topsman (886) was first aged stallion, followed by a horse of quite a different type, the late Samuel Clarke's Young Lorne (997). The produce of Lochfergus Champion were figuring in the showyards about this date. He was not a sire who created sensations, but for steady, plodding, enduring work he takes very high rank in the Clydesdale records. His representative on this occasion was the late Peter Crawford's Young Scotsman (1030), own brother to the same owner's Scotsman (759), which was three years older. The two most notable horses at this show, however, were not amongst these; they were the third prize three-year-old and the second prize yearling colts. Their names respectively are Time o' Day (875) and Darnley (222). The former was beaten by both Prince of Kilbride (660) and Prince Arthur (623), two big horses; but not many remember them while the little fellow, as he might have been called, can never be forgotten. He was during that season the Falkirk premium horse. In the two following seasons he was the Glasgow premium horse, and in 1875 he was first at one of the grandest shows of the Highland Society ever held in Glasgow. Time o' Day was a horse which made himself look big whenever he came into the show-ring. He never stood wrong. Like his granddaughter, Moss Rose, he understood the business, and faced his audience, meaning to win. He was none of your loose-kneed gentlemen who want a blow under the lower jaw every now and again to make them keep up their heads. He was not over big, but he had the right sort of feet and legs and action, and he lives, while the two big fellows that beat him are all but sunk into oblivion. The dam of Time o' Day was Lily of Drumshang, one of the best mares in Ayrshire, and a well-known prize winner. His sire, Ivanhoe II., was the son of a son of Sir Walter Scott and London Maggie, and a Knockdon prize mare named Brisk. He was the sire of Rosebud, the dam of Moss Rose, of Hatton Bella, the dam of Lord Erskine, of Scottish Princess, the dam of Lord Blantyre—the best stallion bred in Scotland during the past fifteen years, if he were sound—of the Kenmuir Mature, the dam of Gallant Lad, Crown Royal, and the Canadian Bessie Belle, and of the Whittlebury, now the Edengrove, Flora Macdonald, as well as her full brother, the tight, well-coupled, active horse Blantyre. Concerning Darnley, I have nothing more to say than to summarise all that can be said—he is up to this time the greatest Clydesdale stallion of the nineteenth century. The problem before any and all living horses is to break Darnley's record as a prize horse, as a sire of prize winners, and as the sire of the sires and dams of prize winners. It is a threefold cord by which Darnley's record hangs. One strain may go, but still it endures; all must snap before it falls. The mares in 1873 were almost as good as the horses. Keir Rose, a noble mare, but, as I have already hinted, of unknown breeding, was first in the brood class. I cannot say that ever I saw her; but one of the best specimens of a draught mare ever seen by me was her daughter, Keir Young Rose (3658), one of the first of the numerous progeny of Darnley, and dam of the magnificent mare Keir Rose III., so well-known to visitors to Keir as the dam of the stud horse Ethiopia (5750). The Darnley mare had all the wealth of form and substance, and that mysterious breeding-like character so easily recognized in the female progeny of her sire. A gelding of the same age, also by Darnley, was a well-known member of the Keir stud for many years, and his match is more eagerly sought for than found. Ethiopia has good blood in his veins, from his maternal ancestors. Several of the prize winning mares at the show of 1873 were from the Keir stud, and there were also numerous other females of note in the prize list. The first brood mare was the celebrated Knox Rossie, with Dunmore Prince Charlie a foal at foot. Young Darling, half-sister to Prince of Wales, and owned by Mr. Drew, was second brood mare, and the same gentleman was third with a breeder-unknown mare, and fourth with London Maggie, although then fifteen years old. In the mare in foal class Mr. Archibald Johnson, Lochburnie, was the owner of the first three-year-old filly Maggie of Lochburn (800), a superior mare got by Young Campsie (929); but probably the female Clydesdale which attracted most attention was the first two-year-old filly Maggie Craig, exhibited by Mr. W. Craig, Craig Villa, New Cumnock. She was got by the well-known Kintyre breeding horse Largs Jock, and was out of the same dam as a powerful big stallion which subsequently claimed some attention—namely, Ferguson's King William (437). Maggie Craig was unfortunately, for this country, sold for exportation to Australia, and consequently we can only speculate on what she might have done. The first yearling filly was probably the best show mare ever bred in the Lothians. She was bred by Mr. Hardie, Borrowstoun Mains, and eventually becoming the property of Mr. Martin, is perhaps commonly remembered now as the

Auchendennan Rancee, although she ended her days at Montrave. The show of 1873 was the first at which Mr. Drew exhibited mares of unknown breeding, and presumably of English origin. In what time remains to me now, I purpose passing under review the majority of the mares of this class which afterwards appeared in the national showyard, leaving detailed reference to all other prize stock until a more favorable opportunity.

The mare and filly of this class, with which Mr. Drew gained third prizes in 1873, I have not been able to identify. It is not, however, I think, going beyond fair criticism to say that, had they afterwards distinguished themselves as breeding mares, their identity would not have been lost. The tenant of Merryton was not an exhibitor, but he was a judge at the show held at Inverness in 1874. That meeting is probably chiefly noteworthy now, so far as the female classes are concerned, as being the first at which Mr. Andrew Montgomery was an exhibitor. He was third in the class of mares in foal with the good old mare Nanny, bred at Rattray, and got by Lochfergus Champion. At the show held at Glasgow in 1875, Mr. Drew was well forward in the battle, and two of his exhibits were undoubtedly amongst the best mares he ever imported. The first brood mare with foal at foot was the massive short-legged chestnut mare Mary, the dam of the Lord Harry which on the same day was first in the class of yearling colts. Mary was a good example of the best class of English mares—the class, the purchasing of which somewhat extensively by Mr. Drew, first gave the breeders of Shires in Derby and the Midlands, generally, a hint of the type of mares to aim at and breed from. There was something about mares like Mary which, in spite of characteristics not quite after the Scottish pattern, caused them to be viewed with favor by Clydesdale breeders. There was certainly no attempt to boycott them in the Scottish showyards. Often unpopular in color, as we shall see, Mr. Drew's mares never suffered on that account in the show-ring. If today we can trace comparatively little of their influence in our breed, it was not because they were at all handicapped in show competitions. I do not know of any descendants of Mary worthy of recognition in good company, except a mare by Newman, owned by Captain Stewart, of Knockrioch, which has been shown at Ayr; and her companion mare at Glasgow in 1875 I have not been able to identify.

Mr. Riddell gained first prize in every class of stallions at Aberdeen in 1876, his horses being Baron Keir (34), Luck's All (510), King of the Princes (2203), and King o' Scots (1172). Mr. Drew was not an exhibitor—his name does not occur in the catalogue, and I am not able to see that any of the female prize winners came through his hands. The first prize winners were great mares—namely, Garscadden Maggie (41), perhaps the most typical Clydesdale of her time; Mr. James M'Nab's Princess, from Glenochil, a first-class mare, daughter of Prince of Wales and a Tintock mare; the world-famed Kelso Maggie (420); a beautiful Time o' Day mare named Maggie, owned by a veteran breeder, Mr. John Anderson, Smithstown, Cumbernauld; and lastly, the all but invincible Auchendennan Damsel. The show of the Highland Society, held at Edinburgh in 1877, has always been regarded, and justly, by the advocates of an English cross in the Clydesdale as their Flodden. On that occasion Mr. Drew undoubtedly played some of his strongest cards, either directly or indirectly. In the class of mares in foal, three Merryton mares took tickets—namely, first and second prizes, and the very highly commended. He also took the very highly commended in the class of three-year-old fillies, and the fourth prize in the class of yearling fillies. The animals thus decorated were in order—(1) Keir Netty, which at the preceding Merryton sale in April had been purchased by Mr. Alexander Young for Sir Wm. Stirling Maxwell, Bart., at 650 gs., for long the highest price paid for a draught mare at public auction in Scotland, but now eclipsed; (2) the big chestnut mare Sheba, which in the following year was first in the brood mare class at Dumfries, with St. Vincent, a foal, at foot; (3) the best of all the English mares brought into Scotland, namely, the roan mare The Queen; (4) the black three-year-old mare Beatrice; and (5) a brown yearling filly. I have said that this was the Flodden of the advocates of the English blood in Scotland, and here is the proof. The mare which stood third to Netty and Sheba was Garscadden Maggie—be it observed, however, that she had a foal at foot competing with yeld mares. The first prize winners in the other classes were Rancee (244) in the brood mare class, Coltness Sally (170) in the three-year-old class with the champion of the succeeding year, Lochwood Jess (144) second, the Auchendennan Damsel, and a Strathmore yearling filly registered as Duchess of Glamis (653); and to crown what seemed to be the disasters of the day for the Clydesdale, the judges recommended that Netty's portrait should be painted and hung in the Board room of the Highland Society, and there it is unto this day. I only wish that portraits of Netty and Garscadden Maggie had been taken ten years later, and hung alongside of it. I even wish these portraits could be taken now. Had this been done there would have been less ink spilled writing about the events of 1877 at Edinburgh. Scotchmen are not easily beaten. On this Flodden battlefield the Clydesdale Stud Book was founded.

Between 1877, and his death in 1884, Mr. Drew continued to show mares of the same class. Netty never again appeared in a showyard. Sheba, as has already been said, won at Dumfries in 1878, but subsequently passing into the hands of the late Provost Waddell, she died at Inch a few years later. The Queen continued to be shown with growing popularity at all the shows, and as late as 1883 was first in the brood mare class at Inverness. Of all her class, she offered to breed the best. A yearling colt out of her, and by Prince of Wales, was first at the Glasgow Summer Show in 1881. He is still regarded as perhaps the best yearling exhibited within the past twenty years. Unfortunately, he died shortly after the show in question. At the Merryton dispersion in 1884, the old mare herself was sold to Mr. Alex. Weir, Campbelltown. She bred several foals for him, one of them at least by Prince of Avondale, but none of them has been able to get as far forward as first at the local show. Sheba's only progeny known to me was the big powerful horse St. Vincent, by Prince of Wales. He left useful stock in Cumberland. Netty bred several foals. The best was a dark-brown filly by Newstead, which took prizes at Maryhill and other shows round Glasgow and passed into the Londonderry stud, where her descendants are still to be found.

None of the other English mares imported by Mr. Drew attained to the eminence of those to which reference has just been made. One which attracted more than an average share of attention was a two-year-old filly named Bonnie, which he showed at Glasgow Summer Show in 1876, where she won first prize. Like many more of the same class she became the property of Provost Waddell, but one searches in vain for almost any of the descendants of these mares amongst the prize winners of the past ten years. Time does not admit of fuller details being given, but Merryton mares that deserve honorable mention, ere we proceed to sum up, are—Minnette, the dam of Mr. MacGibbon's Minnie, which stood second to Moss Rose in 1884; Ruby, the dam of Rosebery; Juno, the dam of Prince of Avondale, Pearl of Avondale, and others; Topsy, a London cup winner, the grand-dam of Castle-reagh; that other mare, probably Bella, the grand-dam of Royalist, Darnley's Last, Queen of Hearts, &c.; Jessie Brown, the dam of Prince George of Wales, Prince Imperial, Lord Douglas, and other prize stock, the second best breeding mare of the Merryton class; and Flora, by Lincolnshire Lad, now known in Mr. Lockhart's possession as Galloway Lass, the dam of Grand Duchess, Premier Prince, Clarendon, Princess Royal, Pandora, and Orraland, the best breeding mare ever brought to Scotland from England. There were also several mares got by Tagg's Lofty, otherwise Samuel Clark's Young Lofty (987), brought from Derbyshire, where he travelled for many years. Chief amongst these may be named Countess and Baroness, the former the dam of a filly by Duke of Hamilton (2074), which gained first prize as a two-year-old at Glasgow in 1882, and was exported to Australia. Other mares doubtless there are to which reference might be made, but these are the chief, and the closing question is—Considering their pre-eminence in the show-ring, the character of the horse with which they were mated, and the high positions which the immediate progeny of more than one of them have taken in the showyard, do the results amount to a demonstration that without this outside influence the Clydesdale breed of to-day could not have existed? Observe the question. We are not discussing whether the good stock descended from these mares are really good, but whether as good stock could not have been bred within the Clydesdale family as any which claim kindred with them. The evidence that the reply to this inquiry must be that they have been more indebted to the Clydesdale than the Clydesdale has been to them, seems overwhelming. Possibly there may be exceptions contrary to this proposition, but I cannot recall them. The proposition is—The outstanding good stock tracing descent from Mr. Drew's mares are either in-bred (see Prince Lawrence) or they have a double Clydesdale cross, and of necessity a cross of the Darnley blood. Castlereagh, Royalist, Darnley's Last, Handsome Prince, and Mains of Airies all come under this category. The fillies by Prince of Wales, out of these Merryton mares, appear to have bred much better than the horses. Prince of Avondale may seem an exception to this rule, but his reputation as a breeding horse rests on three animals, all of which are out of typical old-fashioned Clydesdale mares, and the best one of the lot is out of a Darnley mare. In like manner all the prominent stock out of Merryton Prince of Wales mares are by well-bred Clydesdale horses, and nine-tenths of it by Darnley. In fine, it is not too strong an assertion that, taking prize stock and breeding stock as the test, without Darnley the Merryton race of horses would have sunk into oblivion. And therefore the conclusion is inevitable, that the Clydesdale could have survived and reigned supreme without extraneous aid, but the aliens would have gone out of sight but for the Clydesdale. To anyone disposed to make trial of the same methods as the late Mr. Drew, I would not say—Do not attempt it; but I do say that the experience of the past clearly shows that if he means to have any success in his work, and do any good to his neighbors, it is a preliminary *sine qua non* that the experimenter have Clydesdales of a high standard of purity existing alongside of the results of his experiments. SCOTLAND YET.

**Utility vs. Fancy.**

The test of practical utility has been applied to most breeds of cattle within the last few years—in Shorthorns, perhaps, more severely than any other—and without doubt the effect is beneficial to the breed to which this test is applied. The Scottish Farmer, in the following quotation, hits out hard at the Ayrshire breeders. From what we have seen of Canadian Ayrshires at the recent great exhibitions, we think there is no tendency among them to run to either extreme, but that all are breeding for a heavy flow of milk coupled with a robust condition. Still this shout from across the water will be read with interest:—

"An Ayrshire cow is either the best all-round dairy cow known in Great Britain, or she is nothing. Probably the Scottish Farmer has said this before, but it is one of the things he means to say pretty often, until he convinces the judges who officiate at cattle shows that an Ayrshire cow with a fancy vessel and neat teats, which won't fill the pail, is trash. Now, that is plain speaking, but it is necessary. The Ayrshire became an object of regard to a number of fancy judges; they bred cattle with udders about the size of that carried by an old ewe, and teats which no self-respecting dairymaid cared to handle, and they call these precious impostures good cattle. It was the action of these fancy judges which made it necessary for the party of gentlemen, to whom we have referred, to acknowledge that the Scottish dairy cattle had not shared in the general improvement which has characterized Scottish stock in the past twenty-five years. A tight vessel carried well forward, and well-set teats of a reasonable length, should be encouraged, but only in cattle which make a good milk record. Furthermore, they should be encouraged, but only in cattle with some space for containing lungs. In other words, the milking competition and the taste for good vessels should go hand in hand. It will not do to allow either of them to rule alone. If the milking competition were to be the only test of merit, we should soon have unsightly cows with their udders amongst their feet and their bellies on the ground; and were the fancy vessel and well-set teats the only test, there would be great danger of the extinction of the dairy reputation of the Ayrshire. We are glad to understand that amongst the younger generation of Ayrshire farmers these views are becoming more popular. They are not so enamored of winning the Ayr Derby with a cow with a fancy vessel and an infinitesimal milking record as some of the older men, and the milking competition will, without doubt, become a much more important item in the programme at dairy shows as the years roll on."

Too many farmers mistake good, fair treatment of live stock for pampering and coddling. They think that to let the stock run out around the straw stack, or lie in the shelter of a barbed-wire fence, will make an animal healthy, hardy and vigorous. Such men will even starve the mare that worked hard all summer and fall, and is now carrying a foal. When feed of all kinds is as low as it is at the present time, there can surely be no excuse for such wanton cruelty to dumb animals. A decent ration of grain and fodder will grow into good stock that sells for a fair price. A course of abuse will reduce the most highly improved breed to the lowest depths of scrubbiness in a short time.

See to it that good pathways are made between the house and the woodshed, from the house to the barnyard, and from one stable or shed to another. A little time, a little lumber and a few nails will accomplish this, and make the journey between the several places much shorter and pleasanter. These pathways need not be costly. Two feet of walk is ample. Making these will neither involve much loss of time nor cost, whilst the result will be comfort and cleanliness in the house and buildings.

**GARDEN AND ORCHARD.**

**Protect Your Trees from Injurious Insects.**

Fruit-growers are now compelled to recognize the fact that, in order to raise good, clean fruit, and to make fruit-growing profitable, they must protect their trees from the ravages of insects, that are every year becoming more numerous and destructive.

This can be done very easily if done intelligently and at the right time. Proper protection will increase the annual yield of our apple orchards fully 75 per cent.

If you want to destroy an insect enemy you must study its life history. You will find it has certain habits that make it comparatively easy of destruction. This is especially true of the Codling Moth (apple worm). Anyone at all familiar with its habits is aware that after the first brood of worms leave the apple, nature compels them to seek a hiding place on the trunk of the tree, where they will be removed from the moisture of the earth, and here they change from the worm to the moth. At the time the worm is seeking this hiding place it is easily led into a trap, if the trap furnishes the hiding place for which it is so anxiously seeking, and common sense teaches the fruit-grower that this is the time to destroy it, as it remains in this trap for two weeks, unable to move. The early brood of moths appear on the wing

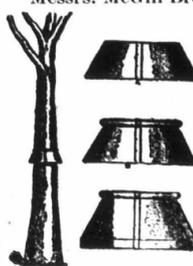
the large number that escape where hogs are kept in the orchard to eat the fallen fruit."

As a remedy, Prof. Saunders says:—"The most effective method yet devised is to trap the worms when going up the tree. This is best done by a band placed around the trunk."

E. A. Ormerod, the eminent English entomologist, says:—"The best means to reduce the number of this moth is to trap the larva (worm) of the first brood on its way up the tree, by placing a suitable trap or band around the trunk."

Riley, Treat, Linn, and all other entomologists also recommend trapping the worm.

Messrs. McGill Bros, London, have patented and are manufacturing a very effective trap. Cut No. 1 shows this device in different sizes, also how it appears when fastened on the tree. Not only is this new device useful when employed to destroy the codling moth, but it protects trees against the ravages of numerous other insects which attack them. The inventors claim that it is useful in combating the Tussock moth, climbing cut worms, canker worm and cut caterpillar. Care should be



NO. 1.

taken when adjusting these protectors that the juncture with the tree be very close. The practice is to tie a piece of tow around the trunk and over

this place the protector. This tow furnishes a suitable place for certain insects to pass from one stage to another. No. 2 shows a photograph of a tow band after being removed from a tree in the orchard of Mr. A. G. Deadman, Delaware, Ont. This is but a sample; many similar bands have been received. The protector was placed on the tree July 20th, 1883, and removed October 16th. The insects shown in the illustration are the larvæ of the codling moth. The proprietors of this device have shown us a number of testimonials sent them by practical men.

**East Middlesex Farmers' Institute.**

A very successful meeting of the above institute was held in the Court House, London, on Saturday, the 25th of November.

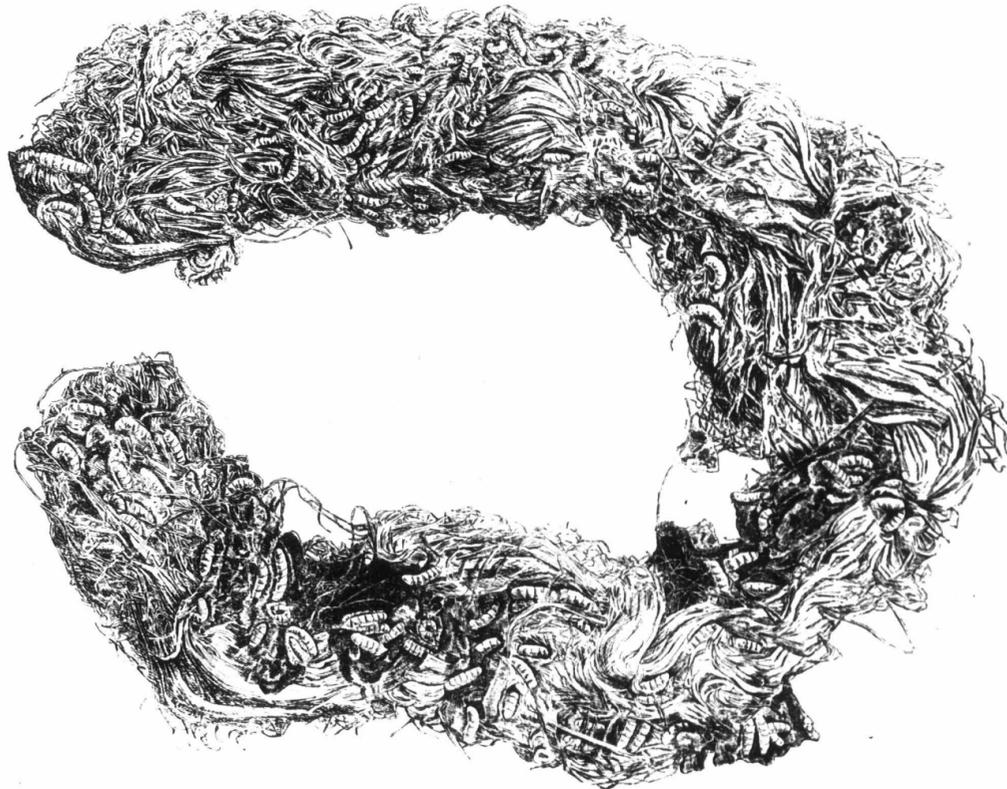
President O'Brien, in his opening address, reviewed the work of the institute for the past year, and congratulated the members upon the

prosperity and general advancement which had been made. He then referred to crimes which had been committed against farmers in the immediate vicinity, in the way of stealing grain and live stock, and said that the punishment imposed was entirely inadequate to the enormity of the crimes committed. He felt that the judges were not doing their duty to the farmers, and that a heavier sentence should be meted out to such offenders, in order to give greater protection to the farmer.

The chief officers elected for the coming year were: President, Mr. John Elliott; Vice-President, Mr. Joseph Wheaton; Secretary-Treasurer, Mr. A. Munro.

The President then introduced Mr. W. L. Brown, of the London Free Press, who read a very interesting and instructive paper on "Smut and Chess in Wheat." He proved, by means of statistics, the great loss to the country which is annually caused by the ravages of this fungus disease. He then showed the great success which had attended the use of copper sulphate as a remedy, and urged all farmers to take united action, for in this way only could the disease be entirely subdued.

In his address on chess, he proved the distinct character of the two plants, wheat and chess. On this point a spirited discussion arose, which showed that a considerable portion of the audience still held to the old idea that wheat could degenerate into chess.



NO. 2. LARVÆ OF CODLING MOTH.

during the fore part of June, a little earlier or later, according to the season. Usually at the time it appears, the young apples are already set and are about the size of a hazel nut. The female deposits a single egg in the eye of the apple, flying from one to another until her stock of eggs, amounting to probably three hundred, is exhausted, when she falls to the ground and dies. In about a week the egg hatches out, and the young worm begins at once to bore into the apple, feeding as it goes, but making its headquarters near the core. In about three or four weeks the worm is full grown, and shortly before this the infested apple generally falls to the ground, and the worm makes its escape out of the fruit through a large hole in the side, which it has bored a few days before for this purpose, and makes at once for the trunk of a tree, up which it climbs and spins around itself a silken cocoon of a dirty white color in any convenient crevice it can find, the crotch of the tree being a favorite spot. Here it transforms into the pupa state, and toward the latter part of July, or the fore part of August, bursts forth a perfect moth, and at once begins to lay her eggs for the late and destructive brood, which causes the wormy, full-grown apples.

Prof. Saunders says that "when the apples do not fall the worm lowers itself to the ground by a silken thread which it spins at will, and starts up the trunk of the tree." Prof. Theo. Wood says:—"The fall of the apple and the escape of the worm usually takes place at night, which accounts for

## FARM.

## Popular Geology.—No. 3.

BY J. HOYES PANTON, M. A., F. G. S.

At the rate of an increase of 1° temperature for every 60 feet descent, a temperature sufficient to fuse metals would be reached in about 30 miles. This is allowing the increase to be uniform; but such may not strictly be the case. However, the crust of the earth must be comparatively thin, compared with the rest of the material of which it is composed. There can be no question but vast masses of molten material exist in the interior, ready to escape when communication is made with it. With this eruption of molten material, volcanoes and earthquakes are associated. The origin of volcanoes is accounted for as follows:—

1. The union of chemical elements in the interior of the earth, which lead to a rupturing of the earth's crust and the ejection of so-called lava.

2. Settling of the earth's crust, causing cracks and the generation of intense heat.

3. The accession of water to the heated interior, its sudden change to steam, and a rupture of the earth's crust. This last theory has much in its favor, when we consider the location of volcanoes near the sea and the volumes of steam they emit during action. Earthquakes are closely connected with volcanoes.

The result of volcanic eruptions is the formation of mountains of *eruption*, which are simply deposits from the *crater* or mouth of the volcano. Great internal force is followed by upheavals, sometimes extending long distances, and giving rise to mountains of *elevation*.

Most mountain chains have been developed in this way; in other words, they result from a crumpling and elevation of the earth's crust, and afterwards become worn by the action of the atmosphere into the variety of forms we see them assume. There is another kind of mountain we may mention here, viz., mountain of *circumdenudation*, which results from the material once around it all being removed, so as to leave the mountain only.

We have, therefore, three forms of mountains:—  
I. *Eruption*, chiefly volcanoes. 2. *Elevation*, mountain chains. 3. *Circumdenudation*, single forms.

II. Aqueous rocks, also called sedimentary and stratified.—These have been deposited in water as sediment, and afterwards solidified by agencies to be referred to afterwards. They are not so hard as the igneous; are in layers, showing a sedimentary structure, and usually contain fossils. Lake Winnipeg affords us a good illustration of how this sediment may collect. The Red River contains very muddy water by the time it reaches the lake into which it empties—so muddy that the water of the lake is muddy for 200 miles. It then appears clear, and passes out into the river at the north as clear water. What has become of the mud? It has settled in the lower end of the lake, so that vast deposits are collecting there, which in time will no doubt become solidified and add something to the earth's crust for future geologists to examine. Lake Geneva, in Switzerland, also furnishes an example of a lake into which muddy water is emptied and clear issues from the other side, leaving the deposits in the lake bottom. Most of our great lakes illustrate how aqueous or sedimentary may be formed. Aqueous rocks occur over wide areas in thick masses, and very little disturbed from their original position. They embrace our limestones, sandstones and clay beds. Some have estimated that the earth's crust is made up of 50 miles igneous and crystalline rocks, and three miles aqueous.

The following belong to this division:—

Chalk, largely formed from the decomposition of shells and corals; marl, a lime deposit in places once covered with water. This is very common in many parts of Ontario. It, too, is largely formed from shells. Stalactites, formed on the roofs of caves, and stalagmites, upon the floor, together with gypsum, coal and salt, are placed among aqueous rocks.

III. Metamorphic rocks include rocks which seem to have undergone great changes since they were first deposited, as many suppose, like aqueous rocks. They are very hard, bearing a close resemblance to igneous rocks. They occur in layers, and usually have no fossils.

From their stratified structure, it is inferred that they have been originally deposited as aqueous rocks and afterwards changed.

These rocks occur in large masses throughout Muskoka, Quebec, east side of Lake Winnipeg, and scattered over our fields as *boulders*, often called *hard heads*. They were likely derived from the first rocks that came into existence, and hence we might naturally expect to find them of much the same composition.

Examples of them are seen in our beds of *slate*, *mica*, *talc*, *marble*, *graphite*, *apatite*, *quartzite*, *iron ores* and *gneiss*. This last is a very common rock, made up of feldspar, mica and quartz, the same composition as granite; but in gneiss these minerals are in layers, while in granite they are

mixed together in a confused mass. Most of the boulders in our fields are gneiss. It has been observed that, where a stream of lava flows over beds of clay, coal or chalk, they have a tendency to change to slate, graphite and marble.

Hence the conclusion regarding the origin of metamorphic rocks is, that, after their deposition as ordinary aqueous rocks, they were submitted to the action of *heat* in conjunction with *moisture*, under great pressure.

## How Best to Keep Up and Increase the Fertility of Our Soil.

This is a question of paramount importance to every tiller of the soil, be he gardener or farmer. The importance of this will be more readily seen when we remember that it costs just as much in labor and expense to raise twenty bushels per acre on poor land as it does to raise forty bushels per acre on good land. In the former case we may pay expenses; in the latter case there is room for a handsome profit. One of the first steps to be taken is to increase the amount of stock kept on our land. I believe that system of farming is nearest perfection in which the greatest amount of the farm produce is consumed on the spot, and the revenue is derived almost wholly from animal products. The class of stock to be kept will, of course, depend very much on the natural tastes of the farmer, for, while one man can make a success of dairying, another would make a failure of it, simply because his tastes did not lie in that direction, consequently he lacked the ability to apply himself so closely to detail as is necessary for ultimate success. The adaptability of the farm should also be considered, for while one farm may be of little use to the cattleman, it may be the very thing that the shepherd would delight in. So, in deciding the class of stock to be kept, the tastes of the farmer and adaptability of the farm must alike be consulted. But it may be urged that most farmers are carrying more stock now than they are able to feed and care for properly. Then, I say, increase the stock-carrying capacity of your farm by raising such crops as will supply feed in greater abundance than those you have been accustomed to raise—such as turnips and corn, or roots of any kind.

It may be said that few farmers have a root-house or a silo. Well, build a root-house—a very good one can be built for a mere trifle, and as for the silo, I am not inclined to look upon it as a necessity by any means, but rather as a convenience. I have been very diligent in reading up all the best authorities on the silo question that I could get my hands on, and I have arrived at the following conclusion: First, that the feeding value of the article placed in the silo is not increased in any way, excepting the advantage of feeding it in a succulent state; second, there is considerable risk of waste, even in the best managed silos, for while a man may be able to feed his ensilage without wasting a pound one year, the next he may not be so successful, and will find his ensilage spoiled around the sides and in the corners, resulting in a serious waste. But then it must be admitted that the silo is the most convenient way in which a large quantity of bulky fodder can be preserved, both as to economy of space and labor. By its use the corn can be hauled in and placed in the silo as soon as cut, and you get it off your hands in a very short time; whereas with the fodder, it has to be bound and shocked and then hauled in, and the greatest care taken to keep it standing straight in the barn. Then it can be run through the cutting-box only in small quantities at a time, for fear of its moulding. The farmer who has not a silo, and does not feel able to afford the outlay necessary in building one, will be making a long stride in the right direction who raises a goodly quantity of fodder corn, and a good supply of roots to feed with it. One acre of corn, if it is a fairly good crop, will produce as much winter feed as five acres of hay, and, if properly handled, it will be fully equal to, if not better, than the best timothy hay.

Another good fodder crop for cattle or horses is peas and oats, sown very thickly and cut green. On fairly good land it will produce three tons of excellent hay per acre, fully better than timothy. Moreover, it is an excellent crop for cleaning the land, especially of Canada thistles. The land for this crop need not be plowed until after the thistles get a good start in the spring; this of itself gives them a check, and then the crop grows so thickly that it fairly smothered them out, so that when you cut it you will find only a few yellow, sickly-looking thistles among it, and cutting them at this stage materially weakens them again, so that by proper fall cultivation they will be so thinned out as to give little trouble the next year.

Another good way of increasing the stock-carrying capacity of our farms is by decreasing the amount devoted to pasture and sowing a few acres of soiling crops, to come in at different times and furnish a succession of green feed for the summer. Ten acres of soiling crops will keep as

much stock as thirty acres of pasture. So if it required fifty acres of pasture to carry your stock over the summer, you might decrease it to twenty-five, and sow say ten acres of soiling crop. This would carry over the same stock as the fifty acres did before, and leave fifteen acres more to raise winter feed on. Of course, all this means work, but it must be remembered that no good thing can be had without work.

Another way of keeping up the fertility of our farms is by a proper rotation of crops. While I do not say that the fertility can be increased by this means, I do say that soil exhaustion is very materially diminished. There is a wonderful analogy between the animal and vegetable world. Now any farmer knows that all classes of farm stock are not nourished by the same kind of food, and the same is true of the vegetable world. For instance, wheat requires a large amount of nitrogen for its growth, and is therefore a nitrogen consumer. Clover or peas, on the other hand, are nitrogen collectors, and leave the soil richer in this important element than they find it. It is evident, then, that by judiciously alternating a nitrogen consumer with a nitrogen collector, better results will be obtained than if each were grown on separate fields year after year. No fixed rotation can be given that would give equally good results on all soils. In this the farmer must be guided by his own judgment. For instance, a rotation that would suit a dairyman might not do for a man who followed a different line of husbandry, so that not only the soil but the requirements of the farmer must be taken into consideration in mapping out a rotation. Then, again, the market must be considered. For instance, a few years ago barley was the most profitable crop of grain we could grow, but since the bottom went out of the barley market we were compelled to change our rotation so as to devote a smaller area to barley and increase the acreage of some of the other crops. I do not recommend the adoption of a certain rotation and then sticking to that through thick and thin and trying to adjust the circumstances to the rotation, but rather the adjusting of the rotation to the circumstances.

Still another way of maintaining the fertility of the soil is by drainage. Not only can the fertility be maintained by this means, but it can be considerably increased. This last statement sounds a little strong, and perhaps I had better take it back and modify it a little, for drainage adds nothing to the soil, and therefore, strictly speaking, cannot add to its fertility; but it renders available the plant food already in the soil, and so increases the production, so it amounts to the same thing in the end, for plant food in the soil is of no use to the farmer unless he is able to convert it into a marketable product. Drainage makes this plant food available by removing the surplus water, and as all nature abhors a vacuum, when the water is taken out the air gets in, and, by its chemical action, so changes the composition of the soil that elements of plant food that were before of no value are now in a condition to be utilized by the growing crop. Draining also raises the temperature of the soil, so that vegetation is much earlier than before. There are other ways by which draining helps to improve the productive ability of the soil.

A. P. K.

## Improvements in Farm Machinery.

Many implement manufacturers at one time well known to the farmers of Western Ontario have, owing to keen competition, quietly dropped out of the race.

We will not stop to inquire the cause of these changes, but will briefly review the history of one of the most pushing and energetic implement concerns in the Western Peninsula. We refer to the Thom's Implement Works, of Watford, Ont. This factory has been in operation about nineteen years; for the past fourteen it has been under the direct control of Mr. D. Thom, to whose practical knowledge, business ability and careful supervision the success of this firm is largely due. Being of an inventive turn of mind, Mr. Thom soon began making improvements in farm machinery. His early farm training taught the needs of the farmers.

The fruit of his efforts can be seen in the many valuable improvements in farm machinery which this firm have made. Many of these improvements are covered by both Canadian and American patents.

Among the inventions which this firm has been the first to manufacture are the following:—That notable improvement in corn and root cultivators, the lever extension movement; the Watford Riding Plow, the only one having an adjustable draft clevis and gang wheel movement, regulating the width of the furrow from the driver's seat. Next came the Ripper Feed Cutter, a machine entirely new in principle and construction. Nearly one hundred machines have been already sold in Ontario, the most of which are in the hands of prominent stockmen, who claim that the Ripper has no equal in preparing cornstalks for food for live stock of all kinds.

To supply the ever increasing demand for their machines, this firm has found it necessary to put in a new engine and boiler, and to extend their premises by building a large brick addition. We would advise our readers to send for descriptive circulars. Address Thom's Implement Works, Watford, Ont.

DAIRY.

Marketing Cheese in Western Ontario.

The cheese season for 1893 is about over. The year is closed completely for the manufacturing of cheese; but the business of the year is not over yet, and many of the factories in the west have their fall makes still unsold. The cold weather of the past fortnight is having the effect, however, of making the factorymen anxious to get rid of their stocks. Consequently they are ready to do business and to dispose of the balance of the season at reasonable prices. All the cheese boarded on the London market on Saturday was sold at eleven cents. This is considerably less than the factorymen were looking for a month ago. At that time none would have sold less than twelve cents, and many would have been very loath to let the fall make go at that figure, as the great shortage in the makes of August, September and October led many to believe that fall cheese would command an exceptionally high figure. However, 11 cents is a good figure for cheese at the factories, and will return the farmers a good profit. The bulk of the fall goods in the Listowel and Oxford District is still held by factorymen. In all probability they will be sold at the markets this week, and by Christmas will be *en transit* to the consumer in Great Britain.

As usual towards the close of the season, preparations are made for the next year's work. There will probably be some changes in the operation of the markets next season regarding the selling of cheese. At present there is an agreement among the members of each local Cheese Board of Trade, that no one be allowed to sell his cheese except by the regular call system on the day the market is held. This regulation is very good as far as it goes, and enables each member to keep track of the factories sold and the prices received. There are some disadvantages, however. A great many of the factorymen only use the market as a kind of "feeler" to find out how things are going, and dispose of their goods between markets to the buyers who do considerable business by telegraph or telephone. It is a very common thing for the factorymen to give the buyers the refusal of their cheese at a certain figure at a definite hour on the day following the market. In fact, it often occurs that one salesman will give four buyers the refusal of his cheese for the following day. The change proposed is to compel everyone who joins the market not to sell his cheese between the markets at all, but to dispose of them only at the regular markets. To carry out this scheme committees have been, or will be, appointed at all the markets to meet in conjunction during the Dairymen's Convention in Ingersoll, in January, and draw up rules and regulations to govern the markets in Western Ontario with this end in view.

This new regulation will have many advantages. It will enable the members to know at each market what cheese are sold and the prices received. It will also be of considerable benefit to the buyers, as it will enable them to buy all their cheese on the market, and will do away with the expense and worry of looking up salesmen between markets, when they are anxious to sell. There will be some opposition, no doubt, on the part of factorymen who have the buyers in easy reach. In these sections they are more inclined to withhold the sale of their cheese on the markets, and prefer to "button-hole" the buyer in his office, thinking they will get a little more than they would on the market. It often happens, too, that the buyer is quite willing to give a shade over the prices offered at the preceding market, for the sake of securing the cheese. It is hoped, however, that these parties will agree to the proposed change, and assist in adopting such regulations in our Western markets as will be beneficial to both buyers and sellers.

Another change was proposed some time ago in regard to the weighing of cheese sold on the markets, but did not meet with the same degree of success. At present, the regulation in regard to weight is that every cheese shall hold out good up-beam weight at the point of shipment. The proposed change was that every cheese be weighed so as to give one-half pound up-beam weight over the weight marked on the box at the point of shipment. A great many salesmen strongly opposed this, on the ground that it was not legal, and was only a scheme of the buyers to get a little more cheese. Such an opinion is erroneous, however. Nearly all the buyers in the west are buying on commission for English houses, and consequently, any change that will lessen the quantity of cheese bought will lessen their profit in the transaction. The motive for advocating this new method of weighing is to place the shipper in the West on the same footing as the shipper in the East. All the cheese east of Toronto are sold subject to holding out good up-beam weight in Montreal. This gives the Eastern men a considerable advantage over the Western men, and the English houses, who buy their cheese subject to the weight at the point of shipment, prefer to send their orders where they can get the best weight. A few years ago the quality of the Western cheese, or "Ingersoll's," was much superior to the Eastern goods, and

orders would come this way in preference to remaining in the East. But there has been a great improvement in the quality of the cheese manufactured in Eastern Ontario and Quebec during the past decade. The dealers, therefore, prefer to send their orders East, as they can get goods of as good quality and better weights than in the West. The Western men are, therefore, at a decided disadvantage as compared with their competitors in the East, and, as they have no longer the superior quality of their cheese to fall back on, will either have to be content with about one-eighth of a cent per pound less for their cheese, or adopt some plan, similar to the one discussed, in reference to the weights of cheese, that will place their goods on a par with Eastern goods, and enable them to overcome the serious disadvantage to which they are put in being so far from the seaboard.

QUESTIONS AND ANSWERS.

Veterinary.

ANSWERED BY W. A. DUNBAR, V. S., WINNIPEG.

JOHN CLARK, Baldur:—"My mare had her shoulder rubbed by the collar a few days after fall work was done, and while resting a swelling the size of a man's fist came on. I have it reduced now to a lump the size of a walnut, but cannot get that away; it is hard and hurts her when pressed; it is on the point of the shoulder. Please tell me how to treat it."

The most expeditious way of removing the lump is to dissect it out with a knife, and apply daily to the wound until healed the following ointment: Sulphate of zinc and carbolic acid, of each three drachms; vaseline, four ounces. If you are not within reach of a veterinary surgeon, and do not feel disposed to use the knife yourself, we would advise you to use a strong tincture of iodine: Iodine, one and one-half drachms; iodide of potass., one drachm; alcohol, one ounce; mix. Paint the lump with the tincture once a day for three days, and then allow one week to elapse before next application. Repeat until the lump disappears.

SUBSCRIBER, Langrubby, Assa:—"I have a cow with a lump in her throat; she has a very distressing cough; her appetite is good, but she does not thrive at all, but gets thinner. I have also a three-year-old steer that has had a bad cough all summer; he is also very thin."

The few symptoms you have mentioned are strongly indicative of tuberculous disease, a disease that has so far resisted curative measures. We would advise you to separate the two affected animals from the rest of your stock, and if possible have them examined by a competent veterinary surgeon.

E. J. H., Cardiff, Assa:—"Some weeks ago I had a horse go lame in the off hind leg. He has been running out all fall, and we concluded that it was simply a slight sprain and left him out. Last week we noticed that the horse had failed terribly, also that a large, hard lump had formed to the right of tail. We lanced same, and it discharged a quantity of matter, since then the whole leg has swollen up terribly to hock, and although I lanced it twice lower down there is no discharge. What is the best treatment?"

It will be advisable to make, if possible, a dependent outlet for the matter. Keep the parts soft by frequent fomentation with tepid water, and inject the pus cavities twice a day with lotion composed of carbolic acid and sulphate of zinc, of each four drachms; water, one pint. Give internally in bran mash every night for two weeks, hyposulphite of soda, half an ounce.

H. E. CHURCH, Dewdney, N. W. T.:—"A two-year-old gelding is very much swelled in the belly, with his coat rough and staring; the colt is very poor also. He has been this way for twelve months now. He eats well and does not seem in any pain. Last winter he was fed hay, and was running on the grass all summer. What is likely to be the matter, and is there any chance of curing it? His belly looks to be full of wind; his legs and head are perfectly free from any swelling; he passes dung freely."

The symptoms indicate that the unthrifty condition of your colt is due to worms in the stomach and intestines. Give, when the stomach is empty, in one dose, raw linseed oil, ten ounces; turpentine, six drachms; fluid extract of male fern, four drachms. Follow this up by giving morning and evening in small bran mash for ten days: Sulphate of iron, nux vomica and nitrate of potass., of each half a drachm.

ANSWERED BY DR. MOLE, 290 ADELAIDE ST. WEST, TORONTO.

BARRENESS IN SHEEP.

JAMES DAWSON, Odessa, Ont.:—"Can you advise me how to cause my high-bred Shropshire ewe to breed? She slipped her lamb last year, and since that I have never seen any period. Will you please inform me what will bring about the desired end?"

No doubt that in your case the slipping of the lamb has caused her miss breeding. This animal being so small very little mechanical aid can be given, but almost any veterinary surgeon can prepare a good "uterine stimulant," which will often produce the desired effect.

JOHN CAIRNS:—"Will you be kind enough to inform me what can be done for an old sore on my horse's shoulder. Every few weeks it gathers, breaks and discharges matter, and I would like to have it cured."

There is no doubt that your horse's shoulder has been bruised very deeply and severely, causing a small fibrous tumor to form; this, acting as a foreign agent, sets up the inflammation as you say periodically. Your best plan will be to consult a qualified veterinary surgeon, and allow him to make a deep incision and remove the small piece of fibrous tissue; this will allow of complete recovery in about fourteen days.

Legal.

A MANITOBA SUBSCRIBER:—"A number of German settlers in our vicinity some years ago received money from the 'Canada Settlers' Loan and Trust Co.," for which they gave a mortgage on homestead, stock and implements. Now they cannot return the money and are willing to throw up everything the Company have any claim upon, take another homestead and make a fresh start, providing they can get clear of the company. Can the company take anything from them upon which they hold no claim? If they can, the men say that they will throw up everything and leave the country; if otherwise, they will stay here. This company has sent a good many settlers from here. Please answer this in next paper if possible, as our neighbors are anxious to know whether they have any more show in this country or not."

We cannot answer the question with certainty without better particulars of the company's claim. Generally speaking, the company would be entitled to have their claim settled out of everything covered by their mortgage, and anything else the settlers may have over and above their exemptions, but they would be entitled only to the amount of their claim. The settlers, too, are entitled to any exemptions they have which are not covered by the mortgage. We would advise the settlers to endeavor to make some arrangement with the company before doing anything else. Employ some one who is capable of seeing that they get their rights in the settlement.

Please answer in your legal column the following question:—"I leased a house and lot to a tenant by the month, who was to pay rent monthly and to pay the taxes. The tenant recently left the premises without paying his rent up to date, and without paying this year's taxes. Also he left the premises very much out of repair, having let his cow run loose for some nights in the garden, thereby badly injuring some of the fruit trees and small fruit shrubs, etc.; and besides, he knocked the cellar door off its hinges and burnt part of the back porch, and left some windows with the glass broken out. What are my rights, and how can I enforce them?"

Your rights are to have your rent, and to have the tenant pay his share of the taxes for the current year, and to have damages from the tenant for the injury done to the garden caused by the cow, if the tenant did not take reasonable precaution to prevent the cow from getting into the garden. And you are entitled to damages for the injury to your house to the extent of what it would cost to put it in a reasonable state of repair, compared with its state of repair at the time of renting it to the tenant. You can only proceed against the tenant now by action for the rent and damages. Any right you had to distrain for the rent is lost by your having allowed the tenant to move his goods away, which he appears to have done openly and deliberately, and not secretly for the purpose of depriving you of your right to distrain. The collector cannot, either, in this case, now distrain for the taxes by following the goods. As before said your remedy is by action, but as you say the tenant is worth nothing, and works for a small salary, we are very strongly of the opinion that the best thing to be done in the case is "do nothing."

A. S. JOHNSON, Willowdale:—"Kindly let me know through your legal column what the law is in Ontario as to hogs running at large. 1. If hogs escape from their owners field and do damage, is the owner liable for the damage? 2. Are hogs allowed to run on the highway?"

An owner of hogs and other animals must take care to see that they do not escape from his property to any other person's property, and he must keep up such fences as will prevent them from trespassing; and no matter whether the animals get into a neighbor's property through the owner's or the neighbor's line fence the rule is the same, and the owner must make good the loss, providing the neighbor's line fence is the lawful fence. The municipalities have power to pass by-laws declaring what sort of fence is a lawful fence, and there is probably such a by-law in your township. 2. As to hogs or other animals running at large upon the highway, the municipalities also have power to pass a by-law to restrain them being allowed to run there, and probably there is a by-law also as to this in your township; but whether there is such a by-law as last mentioned or not, the owner of animals who lets them stray or run upon the highway in Ontario is liable for damage done by such animals straying from the highway upon another's land and doing damage there.

## VETERINARY.

## Dentition and Dental Diseases of Farm Animals.

BY DR. MOLE, M. R. C. V. S., TORONTO, ONT.

(Continued from Page 445.)

## DENTITION AS INDICATIVE OF THE AGE OF FARM ANIMALS.

From three and a-half to four years old the horse casts his lateral incisors, which are replaced by permanent ones. We generally find that the crown of the second molar comes off before the first, or they may both come off at the same time.

When young animals suffer from retarded dentition they lose flesh, the abdomen becomes tucked up, long, shaggy coat persists, tight skin, evil necked, thin thighed, a listless gait, with occasional diarrhoea, all evidence of mal-nutrition. In such cases, examine the mouth and remove the crown, if present, give a small dose of laxative medicine, and thus remove the cause.

When four years old he casts eight temporary teeth, and receives in their place twelve permanent, but horses do not seem to suffer so much at this period of their dentition as they do at an earlier age, although trainers of race horses say that a four-year-old cannot stand as much work as a three-year-old. When any animal is not doing well at this age, examine the mouth and, if necessary, remove the shells; the lower ones come off sooner than the upper. In many of these cases a small quantity of food has lodged between the shells and the permanent teeth, giving rise to a foetid smell of decomposed tissue very similar to the smell from diseased bone. The horse at four years old has the lateral permanent incisors in apposition, and the third and sixth molars are level, or nearly so, with the other teeth. The tusks of the horse appear through the gums at four years of age, but they are not well up before five and a-half years. We do not attach much importance to these teeth in intimating age at this period.

This drawing represents the state of the horse's mouth at the completion of his fourth year.



FIG. 8—4 YEARS OLD.

Between four and five years old the corner teeth are removed, and the permanent teeth occupy their place and are in apposition at their anterior edge, but their edges do not meet until the fifth year is completed; this can be seen by separating the upper and lower lips at the side of the mouth. The shell-like character of the corner permanent teeth is the special indication of five years old. The appearance of the mouth now indicates the approach of maturity. The inferior margin of the lower jaw still feels more full and rounded, and gradually becomes, from this time onward, sharp and angular, and the horse is what we term full mouthed. With the exception of young horses casting their teeth, and old horses with worn, uneven surfaces, on hard work, which do not crush or bruise their oats, give them whole, so that the animal can have the pleasure of grinding them, thereby getting the full benefit of the salivary juices and their action on the starchy matter.

In the next figure (Figure 9) the condition of the incisors in a five-year-old mouth is shown, and it is evident that the corner permanent incisors show but slight indications of wear, except on the anterior edge. The tables of the lateral incisors are fully formed by the central cavity being surrounded by a line of worn surface in the central incisors; the cavity has become extremely shallow. This completes the permanent dentition of the horse.

After the completion of permanent dentition the horse occupies an exceptional position among the animals of the farm in respect to the evidence of age which is indicated by the teeth. All animals exhibit distinct signs of wear in their teeth as age advances, but owing, as we have said before, to the composite arrangement of the structures of which the teeth are formed, the horse alone gives definite

evidence, which can be interpreted by a careful observer up to an advanced period of the animal's life.



FIG. 9—FIVE YEARS OLD.

In the preliminary observations on the growth of teeth we pointed out how as age advanced the teeth took on a different shape—from being oval became square, the long axis of the first being horizontal and the second vertical. After five years, evidence of age is to be obtained by the inspection of the tables of the incisor teeth. At six years old, the tables of the lower central incisors have lost their mark, the cavity or infundibulum is worn out, and they are becoming elliptical or oval in form. The corner incisors are well in wear and the tables of all the incisors are well formed, the cavities in the laterals are shallow, the tusks are larger, sharp pointed and shelly. The horse's age is judged chiefly by the amount of wear which the corner teeth have sustained, although other marks are worthy of notice as confirmatory evidence. The corner teeth have lost their shell-like character (see Figure 9 compared with Figure 10) and a line of worn surface surrounds the central cavity, the line of wear is broader at the anterior than the posterior edge, and the cavity is still of considerable depth.

All of the above characters are shown in Figure 10.



FIG. 10—SIX YEARS OLD.

At seven years old the tables of the corner teeth are perfectly formed and the cavity in each tooth is very shallow. The central enamel is well defined and forms an elliptical figure, which is nearer to the posterior than the anterior edge of the tooth; these teeth are also a little deeper from front to back than they were at six years of age.

The mark is becoming a thin line instead of a broad cavity.

The central incisors at seven years old have their sides elongated so that the table approaches the figure of a triangle, the mark is very near to the posterior edge of the tooth, the central enamel in the laterals is also altered in form, becoming more flattened, the tusks more blunted and worn.

Between the seven-year-old and eight-year-old mouth the difference is not very marked. Some care is required to be accurate, as more disputes arise about the teeth at this age than any other



FIG. 11—SEVEN YEARS OLD.

period. The observer should examine every well authenticated age, and look rather closely at the tables of the incisors, the shape of the central enamel, and especially at the corner teeth, to get an acquaintance with their appearance, for in some cases the corner teeth show great wear; but if the difference in the length and the general aspect of the position of the teeth as they emerge from the gums is taken into consideration, a good and accurate opinion can be given.

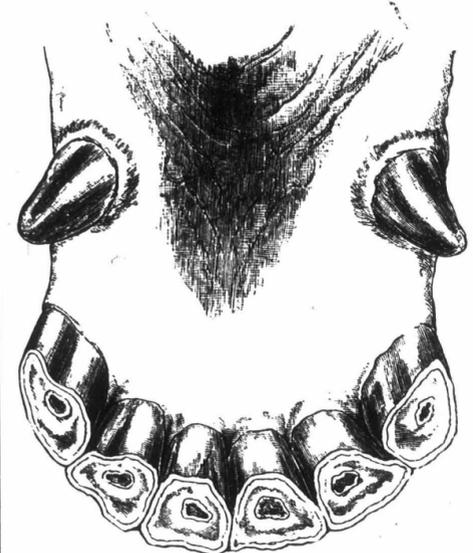


FIG. 12—8 YEARS OLD.

In the eight-year-old mouth, the form of the tables of the incisors, the shape of the central enamel being only a small dot, affords very satisfactory indications of the age, the central teeth are more distinctly angular than they were at seven years, the central enamel is also triangular, all the tables of the incisors are worn as level as the different degrees of density will allow, the cavities are very nearly or quite obliterated by being filled up with tooth tissue, the central white enamel is well defined, the gum of the corner incisor has lost its circular form and become square, the tusks are quite blunted at the top. This is well marked in Figure 12.

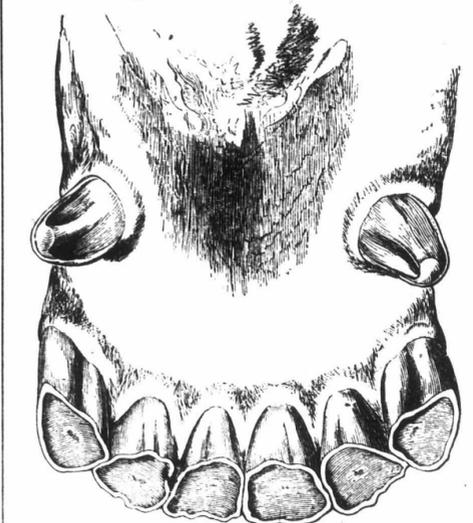


FIG. 13—AGED NINETEEN.

From eight to ten years old the changes occasioned by the wear to which the teeth have been subjected are not sufficiently regular to enable anyone to speak positively as to the exact age, but during this period the cavity in each lower central incisor and the centre circle of enamel remains to indicate its position, and a groove on the outside appears which is the mark of the fang or root of the tooth. After this the age of any animal becomes a matter of opinion, and the evidence of the teeth is not definite enough to warrant a positive opinion as to the animal's age.

The next illustration, Figure 13, indicates the appearance of an animal at nineteen years old. The teeth form an acute angle, but so many differ that no accurate signs can be pointed out.

Many men profess to be able to accurately judge the age up to twenty, from the evidence of the length of groove on the outside of the incisor teeth. To distinguish the difference between the length of this groove from ten to eleven, which would be about an eighth of an inch, is possible, but it will take a lifetime of observation. One must devote himself especially to the study of the subject, and have numerous opportunities of correcting his observations, to judge the age at such an advanced period of life.

### Anthrax and Blackleg.

BY GEORGE P. WELLS, D. V. S., CALGARY.

This disease has become of such an alarming nature of late years in the Northwest, and particularly in some localities during the last year has it assumed such a serious aspect, that a short account of its history, characteristics and preventive measures should be directly interesting to stock-raisers.

I find that erroneous ideas exist as to its cause, etc., and it is a common remark among cattlemen where Anthrax exists: "Your stock must be too fat"—the idea being that the disease is caused by the extra good condition of the animal.

Now, while we find that it is a general characteristic of the disease to attack young stock, and it usually seems to be the best, it would be well to eradicate from our minds the idea that these conditions are essential to the disease, for they are not.

Anthrax will attack young and old, lean and fat, in any season of the year, although its ravages in this country have been nearly confined to young stock.

Anthrax under different names has one of the oldest histories; it has been studied more than almost any other disease, and can be traced in ancient history for centuries.

At different periods it was attributed to different causes, but it was not until about the middle of the present century, after it had been studied by many of the eminent scientists of Europe, that a very minute microscopic germ was observed in the blood of animals which had died of the disease; since which time this small individual, which is the cause of so much loss and is known as the "*Bacillus Anthracis*," has probably occupied more of the time of such great pathologists as Pasteur, Koch, Sanderson, and a score of others, than any other disease germ. From the observations of these men the following conclusion has been arrived at, and is now generally accepted:

"That Anthrax (and diseases of an Anthracoid nature) consists primarily in a special alteration and change in the blood, brought about by the extremely rapid development of a small organism known as the *Bacillus Anthracis*."

Now, the question will be asked, "Where does this germ come from?" This is unanswerable, except that we know it exists, and under conditions which favor its development will propagate the disease.

In opposition to the germ theory, other observers maintain that the disease, in cattle and sheep, is due solely to errors in feeding, either from a poor diet to a rich nitrogenous one, or vice versa; but, whereas this may have an influence in causing changes in the blood favorable to the reception and development of the germ, it is not now accepted as the source of the disease.

The other influences which favor the spread of anthrax are climatic changes from great heat to coldness and humidity, persistent rains and fogs.

Low-lying lands, morasses, the beds of dried-up lakes, along river banks which overflow, and low surfaces of land which may be inundated, all seem to be the places best adapted to the existence of the *Bacillus*, and the history of the disease demonstrates that it is in such localities it is most frequent.

Anthrax assumes a variety of forms, those not being Anthrax Fever proper being termed "*Anthracoid Diseases*."

It may be divided into two classes, viz.:

1. Anthrax or Splenic Fever—Without any external eruptions.

2. Those forms which are characterized by tumors and other eruptions for the outlet of the poison from the system, and which are not so rapid nor fatal as the first form.

To the latter class are given many names in different localities, such as Blackleg, Blackquarter, Quarter Ill or Evil, Gloss Anthrax (attacking the throat), Trembles, Texan Fever, Braxy in sheep, etc.

### SYMPTOMS.

In the first form (Anthrax Fever), the disease is very rapid, and the animal rarely recovers. Indeed, the first intimation that is received is very often the dead carcass, but death is generally preceded by the animal going off its feed, standing apart from the others, rough staring coat, glassy eyes, shivering and gradually becoming weaker until it assumes a staggering gait, and finally lie down and is with great difficulty made to move.

Stringy saliva will run from the mouth, breathing will become short and panting, very often bleeding from the nostrils, and within a few hours after noticing anything wrong with the animal it will succumb during a convulsive fit or in the quietude succeeding one. In a few cases they may linger for even two or three days, but almost invariably die.

Shortly after death, and often before, the animal will become bloated and the skin will be found crepitous, giving a crackling sound when pressed, caused by the accumulation of gas underneath.

If opened, the *post mortem* signs will be numerous and distinct enough to leave no apprehension as to its being Anthrax. The spleen and liver will be found very much engorged with dark colored blood, the former often attaining a size three or four times its normal one. The whole intestinal tract is congested, with dark colored spots of various sizes on the mucous membranes, mesentery, etc.

This is the form of the disease which has carried off a great many young stock in the Northwest during the last summer and fall, confining itself almost entirely to calves and yearlings.

In the external form, known as Blackleg, etc. the disease is not so fatal. The first observable sign will often be the appearance of the tumor itself on the surface of the body and on almost any of the fleshy parts, although if noticed the animal will be dull and listless and off its feed for some days before. It will often become lame and stiff in some particular.

If the tumors are felt they are found to be hot, hard, and cause pain when touched; the skin will soon become crepitous as gas is evolved, and if the tumor be then punctured it will emit a dark-colored fluid and a fetid smell.

When the tumors occur in the mouth or throat, as is nearly always the case with pigs, the tongue becomes very much swollen, of a dark bluish color, and usually covered with ulcers. The swelling generally causes death by suffocation.

It would take up too much space to enumerate the symptoms and peculiarities of the disease in the different animals, and I will conclude by giving a few hints on preventive measures and care of the sick.

### TREATMENT AND PREVENTION.

In Anthrax proper, the form so prevalent here lately, the animal is not amenable to treatment, for after the symptoms are first noticed it is but a short time until death occurs, and all that can be done is to take preventive measures if the disease is known to be in the locality.

In Blackleg it is often days and even weeks before the patient either dies or recovers. In this form the sores may be kept as antiseptic as possible, but as they are merely the outward manifestation of the existing fever, it is toward the latter that any treatment must be directed.

The chlorate of potash in three dram doses, twice daily, has been found the most successful agent, as it tends greatly to keep the blood viscid. Soft, easily digested and nutritious food should be given, and if the patient convalesces, tonics such as iron, gentian, etc., can be given.

However, in nearly all cases, treatment is of secondary consideration, and it is toward the prevention of the spread of the disease that every effort should be made. In nearly every case that came under my notice, I found that the animals were feeding on low ground or around the beds of lakes which had but recently dried up. The first thing to be done in such cases, and in every case where it is possible, is to have their grazing land changed. If possible, bring them into a new pasture, where they can be watched and gone through every day.

Examine them all thoroughly, and if any show the least symptoms, isolate them entirely, the best plan really being to kill the animals and burn the carcasses as soon as satisfied of the existence of the disease. Setons inserted deeply in the dewlap have been found beneficial as a preventive, as they set up an artificial inflammation, which increases the coagulating properties of the blood—a condition greatly reduced by the disease.

Remedies such as the hypo-sulphite or sulphite of soda may be given with benefit: they are not expensive, and act on the blood as antiseptics or purifiers. Where there is a large bunch to attend, I have found that the only way of administering the medicine is to dissolve a sufficient quantity in the drinking trough.

The following is an instance of the measures taken on one ranch, with the result:—

When the disease was first discovered, it was found that about forty calves had already died on the range, and this must have occurred within a short time. As it was only attacking calves, I had all the rest, with their mothers, brought into a

fenced pasture and examined thoroughly. Four more were found with symptoms, which we immediately isolated, and I might add subsequently died. The rest were setoned and treated to hypo-sulphite soda in their water twice daily, with the result that since then (over three months), out of over 100 head, four only have been lost, whereas if they had been left on the range the whole lot would undoubtedly have died, as happened in several cases that I know of.

The carcasses of those having died of the disease should be burned in preference to burying them, or if the latter be done, they should be buried as deeply as possible and covered with quicklime. Too much stress cannot be laid upon the destruction of the carcass immediately. In one instance that I know of in the past summer, a rancher left a carcass that had died of anthrax lying out all night, with the result that a valuable imported sow and her litter made a meal on it, and were found dead the next day with every symptom of gloss anthrax. It will be unnecessary, then, to state that an animal suffering from this disease is totally unfit for food, and causes in man what is known as "Malignant Pustule" and certain death.

The greatest care should be taken at any attempts at *post mortems*, and it should not be tried without rubber gloves or some such protection.

If any animals die in a stable or building, it should be thoroughly disinfected.

Innoculation for anthrax with the weakened virus or vaccine of the *Bacillus* has been proved a success by the labors of M. Pasteur and other pathologists. The reducing of the virus to an attenuated state for vaccinating has to be accomplished with great care and accuracy, an account of which would be tedious, but its success is undoubted. I will conclude this paper by quoting an extract from a report by M. Pasteur, read before the International Medical Congress in 1881, in which he says, after describing the *modus operandi* of obtaining the vaccine:—

"The method I have just explained of obtaining the vaccine of Splenic Fever (Anthrax), was no sooner made known than it was extensively employed to check the splenic affection. In France we lose every year by Splenic Fever animals to the value of 20,000,000 francs (\$4,000,000). I was asked to give a public demonstration of the results already mentioned. This experiment I may relate in a few words. Fifty sheep were placed at my disposal, of which twenty-five were vaccinated. A fortnight afterward the sheep were inoculated with the most virulent Anthracoid microbe. The twenty-five vaccinated sheep resisted the infection; the twenty-five unvaccinated died of Splenic Fever within fifty hours."

### Contributors Wanted.

We want wide-awake, practical men and women to write on farm topics. We want your own actual experience, not some other person's. Did you ever raise a pig, sheep, or even a hen? If you did, let us hear how you did it. Was the operation a success, financially, or did the venture turn out like that of the Irishman, who, after estimating the cost of everything, decided that he had made on the pig, but that he had lost a heap on the corn! If you were successful, give the reasons for your good fortune, so that other struggling farmers may be cheered and helped.

If, on the other hand, there was a loss, tell them how it occurred, for much can be learned from our failures if only they are analyzed and the true causes discovered. It should then be both a pleasure and a duty to set these facts before our brother farmers, to act as landmarks to keep the ship of the farm from striking on these sunken rocks, and thus causing leaks, which, though they may not sink the ship, will impede progress and perhaps cause the lightening of the ship by throwing overboard a part of the cargo.

Do your cows give more milk than those of your neighbors? Is your wheat crop better? Can you get the top price for all your farm produce? If you can give us the reasons—let us know in what points your methods differ from those of your neighbors. Remember that an interchange of experience will benefit all. Let us have a big basket of such letters in time for our next issue.

All that is wanted is for a few to start, others will then follow, and in this way the value of the FARMER'S ADVOCATE, as a medium for the exchange of ideas on farm topics, will be greatly increased.

Let the ADVOCATE become a sort of family table, around which all the members of the 25,000 homes into which the ADVOCATE finds its way may come together, discuss their work with one another, and this without leaving their own comfortable firesides."

The "Poultry Monthly," published by the Ferris Publishing Company, Albany, N. Y., is one of the most interesting exchanges upon our list. It is devoted to the interests of poultry and pet stock breeders and fanciers, is a large-sized, well-illustrated magazine, nicely gotten up and furnishing monthly the latest poultry news of the East, and has many eminent poultrymen among its contributors. We can cheerfully recommend it to all interested in poultry.

## POULTRY.

## Poultry on the Farm.

BY MRS. IDA E. TILSON, WEST SALEM, WIS.

An acquaintance of mine says he had plenty of fresh eggs one winter, anyway. Being too ill for other heavier work he tended the hens, giving them fine clover hay and hot boiled potatoes freely. I will add that in a mild winter the potato ration overdone would overfatten.

Following is my present programme, based on my main supplies, though I shall add some extras and treats:—First day—Meal pudding, oyster shells, wheat, barley, chopped raw vegetables. Second day—Vegetables, usually cooked, wheat, buckwheat, gravel, corn on cob. Third day—Meat, cooked, charcoal, oats, shelled corn, clover hay.

Then return to the beginning and repeat. Shells and gravel, the grinders, are put with puddings and vegetables, which need their help. Meat is a digester itself, but being laxative is paired with coarsening charcoal, oats and hay. Corn, the most heating and fattening grain, is paired with oats, the least so. One warm, cooked meal is planned for each day, likewise one article slowly eaten furnishing long employment, such as clover, corn on cob and raw vegetables. I lately read of a man who, having neither hay cutter nor fine hay, took an old-fashioned flail to his clover, and thus separated the edible leaves from the useless and cumbersome stems. Clover chaff is relished, scalded as an ingredient of puddings, or dry and clear. I have learned the so-called "germ meal," sold among poultry supplies, is corn, oats, barley and wheat ground together—an admirable combination indeed. I am using the first three ingredients, with which I put shorts, and if bran or ground rye were at hand, should also add some of either or both, because I try to vary puddings like other parts of the diet. Among the sunflowers, an agreeable and valuable feature of my autumn programme, was one American head, ten inches in diameter, and several nearly as large. On comparing notes with other poulterers I often find them feeding a greater quantity, though less variety, but I intend to provide whatever the hens can eat up clean. Whoever expects to get eggs or anything else out of comparatively nothing will, instead, get nothing out of something, since ill-fed hens make no return for even that which they have eaten. In order that my biddies should not inaugurate an "early closing" movement for their laying days, nor the absence of eggs be another kind of autumn leaves, I fed carefully through late summer and the fall, when grass dried and bugs hid. Besides its own appropriate work, each season should see some planning done for the next.

While I write, I am thinking that

"As sure as we're a poet,  
We'll be out before we know it,  
With a big, long-handled shovel,  
Digging ditches in the snow."

Doubtless some Northwestern agriculturists failed to visit Chicago this season, because their wheat did not bring a fair price. But whatever the price, market reports look as though farmers had full crops, and their fowls might have such too. Instead of exporting wheat and importing eggs, thus paying carriage both ways, feed part of the surplus to poultry here. The poultryman is not seeing "hard times;" it was some other man who said "Not only are dollars scarce, but worse yet, half dollars." For several months poultry products have commanded excellent prices, while poultry supplies remain unusually cheap. I cannot even meet the desires of those who come right to the house and tease for eggs.

Certainly the beginner should keep accounts, and no veteran is harmed thereby. Write the number of eggs gathered each day, also dates and amounts of both sales and expenses, and have on record the number of your fowls, with age and description of each: then, once in a while, or perhaps oftener, seriously sit down and "take account of stock," learning whether and what you are making. Our labors must be wisely directed, as well as earnest and abundant. I sometimes wonder how people make up their averages of egg production. One person, giving me his, said that was what his flock would have averaged, had each hen done her duty. I make monthly averages, then add those monthly ones for the year, deducting nothing for setters or mothers, because other hens, not allowed to set, will still take some "time off" for rest and recuperation. If a week after any month begins I sell four hens, they are considered equal to one hen for the whole month, or six sold midway equal to three throughout. The larger the divisor or number of hens, the smaller average our sum total of eggs will yield. I wonder whether some champion averages divide by the number of fowls left at end of year after reductions through selling and eating, and yet use as dividend a sum total of eggs, including what were laid by those defunct biddies. Burnham's "Poultry Book" calls 140 eggs a piece a year a good average for large flocks. Small flocks do better, because they get in proportion more insects and table-scraps. "Fannie Field" admits that 125 eggs to a hen show good work, but thinks we should aim at 180, which is the maximum.

Poultry well managed will help or entirely support their owner, but cannot do so and carry along a lot of idlers among themselves. Give the best in your flock other beets than "dead beat"

companions. Market or cook the culls, and your remaining birds will profit by increased room. If one enjoys a fine looking flock he will discover how much its appearance is improved by the absence of imperfect specimens. Prices are often best, and, till chickens come again, continue good after the holidays—that season when so many rush in poultry they are apt to glut the market. The recommender of culling should also state that it is wrong to sell a diseased bird. In fact, no sickly fowls should wait around to be sold, because they lead miserable lives, cost time and medicine, and spread disease among their own and human kind. I am sometimes asked whether I ever have sick birds. Yes, but I have learned to get them planted deep in mother earth, where they will produce better crops than when alive. The wife of a purveyor, and later a hotel proprietor, told me they rarely got a lot of hens without some diseased ones, and she had seen so many tumors and unhealthy conditions, she could not relish poultry unless bought of reliable persons.

## Keep Only Paying Hens.

When an account is kept with a flock of hens, the mistake often made is in keeping the account of the whole number, instead of individual hens. It is more difficult to keep account of each member separately. The egg in a nest cannot always be credited to the right depositor. The owner cannot stand by the nest in order to learn which of the hens lays the largest number of eggs.

But each hen will soon make known her faults and vices, even if her good qualities cannot be discovered. When she lays an egg she makes a noise about it, and her comb looks bright and red during her busy season. When she is adding nothing to the egg basket, she sings no song, her comb shrivels and becomes pale. She quietly becomes a back number. Each hen indicates when she is a producer. The farmer or poultryman can select the profitable from those that consume food without rendering an equivalent.

Every flock contains a few hens that are superior to the others. The flock, as such, may not pay for its support, yet it may have in it one or two hens that cannot be surpassed as layers. But the few productive hens may have imposed upon them the task of supporting all the idlers; as the eggs gathered are from the whole number of hens, the idlers soon disgust their owners, who send the whole flock to the market as unprofitable.

If the most prolific hens were retained, and the worthless ones marketed, a great improvement would soon result. It is keeping drones that makes expenses large and receipts small. It is a loss of time and money to feed ten hens in order to secure eggs from only five. A small flock of laying hens is more valuable than a large flock that is "expected" to begin laying. Don't depend on uncertainties. The hens that are not laying during those periods of the year when all the conditions for so doing are in their favor will give but little profit when the conditions are against them.

Keeping a flock of hens on the probability that they are "about" to lay is a great risk. The most deceiving hens in that respect are those that are in a very healthy and thrifty condition, but are too fat. On the principle that "food makes eggs," this class of hens are fed liberally, and while their appetites will satisfy the most sanguine owner, the bottom of the egg basket is never covered. Finally, as time flies on, and the season is well advanced, a little reflection points to the fact that such hens cannot now pay for past favors; even should they begin laying, the accounts place them on the wrong side of the balance sheet. And now, when the hens begin to lay, having been highly fed, the moulting stage comes on, and three months more is taken up by the shedding of their old feathers, and the putting on of a new suit—all at their owner's expense.

There is a wide difference in hens. Some will begin laying in the fall, lay on through the winter and during the summer, losing no time until August or September, when they begin to moult. But moulting is fatal to such hens, as they receive no credit for their good works. If they set an example of usefulness they lead their owners to expect them to so continue, and as soon as they fail to keep on, their heads fall under the hatchet for simply resting from their labors, while the fat, drone hens that have been expected to begin are retained another year in hope that they will do better. Virtue does not receive its reward even among hens. Individual merit is swallowed up in the vices of the whole number.

Early pullets are the most uncertain of all. A pullet that does not begin to lay before she is ten months old should be sent to the market stall. It does not pay to keep pullets to replace hens unless the pullets begin to lay in December, and then lay during the winter. When the pullet is slow in beginning to lay, the cost of her maintenance detracts from the profits too greatly. When early pullets (those hatched not later than April) do not begin to lay in November, it is seldom that they will lay until the opening of the spring.

It is much cheaper to keep the old hens during the three months required for the moulting process, than to sell them off and replace them with such early pullets. The old hens will cost less and pay better. No early pullet will pay for herself until she is at least eighteen months old, as she must return the cost from the time she was hatched

until the time she begins laying—a tribute which the hen has already paid.

The males are another set of drones. The time to dispose of them is when they weigh about three pounds each, as they then bring the highest prices. To retain them until they fully mature is to reduce the price and increase the cost. When keeping an account of a flock as a whole, the useful hens are charged with the support of these unprofitable lords of the poultry yards. They yield to them their choicest seats on the roost, and are crowded by them on the poultry house floor and in the yards. Every flock should be reduced to its minimum, containing not a single drone, male or female. Each hen, when possible, should be carefully observed, in order to know which to retain and which to discard. This is the only intelligent way to manage to procure a profit and avoid loss.

By weeding out the unprofitable stock a higher standard will result. In the observation of the individuals much can be learned. The good hens become pets, and pride in their individual excellence results on the part of the owner. The young stock will be hatched only from the best producers, instead of from eggs taken indiscriminately from the egg basket. No farmer who will carefully cull out the drones need depend on breeders to produce breeds for him. Pure breeds should be used, however, especially pure-bred males. Even with the choicest stock the matter of selection should not be overlooked. There are drones and idlers in aristocratic flocks as well as in flocks of low degree. There is room for improvement in every direction. J. J. L.

## APIARY.

## Mr. Ferguson's Rejoinder.

Heretofore I have always been interested, and often instructed, by what Mr. Pringle had to say upon beekeeping, but I must say that in this little controversy, Mr. Pringle's articles have been more conspicuous for hauteur and proofless assertion than for correct reasoning or sound argument. I think I have given a reason for every statement I have made, which Mr. Pringle does not condescend to do, evidently assuming that his *ipse dixit* should be all sufficient.

In the ADVOCATE of November 1st Mr. P. accuses me of perverting his statements in order to make him appear to contradict himself. I would remind Mr. Pringle that in his article, July 15th, he accused me of contradicting myself, and has never yet shown me wherein. He speaks of obtuseness, but there are none so blind as those who will not see. If Mr. Pringle cannot see that he has contradicted himself, perhaps his readers will not be so wilfully blind, and for their sakes and my own I now propose still more plainly to show wherein I consider I was justified in saying that Mr. Pringle contradicted himself. In his first article on this subject, in issue of May 15th, Mr. P. tells "Subscriber" that "it would certainly be a little difficult to get extracted honey from box hives. You might get strained honey in the manner described in a previous issue of the ADVOCATE." (Why strained honey and not extracted, since Mr. P. tells "Subscriber" subsequently that he can perform this operation readily?) Mr. P. goes on to say: "You want extracted honey, taken with a honey extractor. This machine can only be used on hives with movable frames. You must, therefore, transfer your bees from the old box hives to movable frame hives before you can use a honey extractor on them." Further on in this same article, in giving directions for transferring, he says: "If you have a honey extractor the honey had better be extracted from the combs before you fasten them in the frames or afterwards, as you may find it easier." The reader will notice that above Mr. Pringle says that "Subscriber" could not get, without difficulty, extracted honey from loose comb, here he advises him to do this very thing; and in his second article, July 15th, he speaks very lightly of this operation (extracting from loose comb), mentioning it incidentally in connection with transferring, as though it were the simplest thing in the world, saying: "I advised the box hive man to let his bees swarm as usual, putting the swarm in the new movable frame hives, and in twenty-one or twenty-two days from the first swarm, when the combs would be entirely free from brood, to transfer comb and bees to the new hives, and by extracting the honey from the combs he would have no difficulty;" and again, "But in twenty-one days after the first swarm, when the combs are entirely free from brood, the honey may be extracted readily. I think the reader will see something like a contradiction here.

As for fools, I would say to Mr. Pringle that the readers of the ADVOCATE are quite capable of judging for themselves as to the wisdom or folly of following either his advice or mine. And what I have written will speak for itself.

G. W. FERGUSON.



(PRIZE STORY.)

"Say, girls what is it? What are we to do during holidays? Was that why you were called down?" eagerly questioned Ethel Payne as the girls came upstairs.

"Miss Moore is so fidgety," continued Ethel, "she wouldn't let me go down. Said the draughts might make my throat worse, and here I have just been hovering around the stairway longing to hear."

"You needn't have been so anxious. It's nothing so very pleasant," drily remarked Maud Morris.

"What is it anyway?" impatiently repeated Ethel.

"Oh! I'll tell you if Maud will not," said Rose. "It's just this, we are not to have our annual party."

"It's just too mean," interrupted Bessie Morton, "Uncle Fred wanted me to go up to Salem for my holidays, and I begged mamma to let me stay and have some fun. I might as well have gone to the country as to be buried here with you girls."

"Complimentary to us, I must say! We'll allow you to go yet, and hope the society of the old folks will not prove too exciting, after being so long accustomed to the dullness of ours."

"Don't try to be sarcastic, Susie. You know it is provoking to be shut up here, when one might have got out of it."

"But why is it, girls? Why can't we go?" persisted Ethel.

"Well," said Rose, "Miss Moore is unexpectedly called away, and Miss Burt, who is to be left in charge, requests that there be none, as she feels she is too inexperienced to undertake it."

"She'll be experienced before vacation is over, if I know anything about it," chimed in Clara Millar.

"But, Ethel, we haven't told you all yet," resumed Rose.

"Miss Burt is truly magnanimous and has devised a plan for our entertainment that should make us all perfectly happy. We are each to have the privilege of inviting one young lady to spend Christmas Eve with us. We shall have a simple tea, served at an early hour, and such amusements as we choose to provide for our friends." (Groans from the girls.)

"She hopes we will all take such an interest in this as will ensure a pleasant evening to ourselves, and be an honor to the school. We are to meet her this evening after the other pupils have gone, to perfect arrangements. There, that's all of it. Is it not a delightful prospect?"

"It is mean," assented Ethel, "but it's no use moping over it. We'll have some fun out of it yet. See if we don't."

"Suppose I'll not be allowed to leave my room this evening, but you quietly listen to her plans and then we shall perfect ours."

These six girls, students at "Marley College," near the town of Maine, could not go to their distant homes for the Christmas holidays and so remained at the college.

In former years, Miss Moore, the principal, stayed with them, and did all she could to make it pleasant for them, among other amusements giving a party on Christmas Eve, to which were invited many of the young people of the neighboring town.

This was an event eagerly looked forward to by the young ladies, and did much to reconcile them to a vacation spent in the college.

Miss Moore was now called away by the illness of her mother, and compelled to leave the half-dozen girls who were remaining in charge of Miss Burt, one of the junior teachers, a young lady who had been but a short time in the school.

The teachers had decided that it would be wiser not to have the party in the absence of the principal, and it was the communication of this decision to the girls that occasioned such dissatisfaction.

"Well, now, for details," as the girls gathered in Ethel's room next morning, "I suppose you didn't dare to come in last night, although I was just dying to hear."

"No, indeed, Miss Burt came up with us and remained in the hall until we had each gone to our own rooms."

"What did she say, Rose?"

"Oh! I just about what she said before. She will give to each of us a card of invitation, issued in her name, which we shall inclose with our visiting card in an envelope addressed to the particular young lady we wish to be present."

"She also suggests, that they be accompanied by some small Christmas gift, which our friend can appropriately wear and preserve as a memento of the evening."



SHE THOROUGHLY ENJOYED HER DAILY DRIVE.

"Then, she would like us to prepare a short programme of music, recitations, etc., but will not dictate to us regarding any of the arrangements, but leave it entirely to our own judgment and pleasure."

"How very kind!" exclaimed Ethel.

"Now, girls, I've got the brightest idea. Of course, Miss Burt wishes the evening to be a success, that it may be a credit to the school and reflect honor upon herself. But we'll be even with her."

"Here's my plan. We are not required to let her know whom we invite."

"Oh, no!" from two or three of the girls. "We have perfect freedom of choice."

"Well, then, let us all ask the same one. Let us all invite Jane Huston."

"O Ethel!" in dismayed tones, from the girls.

"Now do, it will be fun. Miss Burt will be ready to receive the elite of the town, and won't she be surprised, when the milk-maid is ushered in."

"We wouldn't dare to!" asserted Susie Brock.

"We would, too! What could be said? We would each have invited one, and would be just obeying the injunction to 'Ask the poor, etc., to the feast.'"

"But Miss Moore?"

"Now, girls, I won't listen to one objection. We must just get the whole thing arranged."

"We might do it," began Clara, "if—"

"Of course, we'll do it," said Rose. "If we can carry it out successfully."

"What's to hinder us? We can slip them to her, when she comes with the milk, Wednesday morning. What will she think!"

"She'll come, of course," said Susie.

"Of course she will. Six times over, if she can," added Maud.

"What about souvenirs?" questioned Bessie.

"Oh! we couldn't miss that," said Rose. "She'll wear them all."

"Let's make something gay. I'll tie a red ribbon through a little bell, and ask her to wear it," said Ethel, laughingly.

"I have a lovely set of glass beads a squaw gave me when I was a little girl," said Rose, "and she shall have them."

"And I," said Clara, "shall make her a fancy rosette of various bright colored ribbons."

"I'll get the fanciest pin that can be bought in town for ten cents, and enclose it."

"A ring to match Susie's pin," called out Bessie.

"The gayest of handkerchiefs, perfumed with musk, shall be my offering," declared Maud.



THEY PRESENTED THEMSELVES AT THE COLLEGE.

"That's good! A fine collection!" exclaimed Rose, clapping her hands. "Each attach a little slip of paper saying, 'Please wear my favor.'"

"The programme next," said Susie.

"That," said Bessie, "must be to suit the capacity of our guest. Miss Moore's rule, you know."

"Jane has a most exalted opinion of our attainments in that direction, so we must try to astonish her," remarked Ethel.

"Let us appoint Rose Taylor and Ethel Payne a committee of two to prepare a programme, and we solemnly agree to take any part assigned us, providing it is not entirely beyond our capabilities," suggested Maud.

"Agreed! Agreed!" called out the others, now thoroughly interested.

"Then everything is settled except our dress," said Clara.

"Oh! but that's the most important point," said Rose. "She has no idea of what constitutes an evening dress, so we must enlighten her."

"Well," said Ethel, "let each one select her own costume, with the understanding that it be the most bewildering she can devise."

"There's the bell warning us it's time to go for our morning walk. I'm glad everything is settled."

Jane Huston was a girl who brought the supply of milk to the college. Life at the Huston farm was rather monotonous, and she thoroughly enjoyed her daily drive in the milk-cart drawn by an old black pony. It was something, to see cart drawn by an old black pony. It was something, to see those girls always so nicely dressed, and so happy-looking, and to hear them describe the grand costumes they wore on festive occasions. I am afraid that the girls, knowing that love of finery was Jane's weakness, sometimes drew on their imagination in giving details of dress, but although half she suspected that they were making fun of her, she did not match care, and was always willing to give them a ride in her cart, or to carry surreptitious notes for them, as she very frequently did.

But now when on the morning of the 24th she received from each of the girls an envelope, bearing no address, but containing the two cards and the gay Christmas gift, she felt sure it was intended as a joke on her so, after considering the mat-

ter for a time, resolved to give them to some young gentlemen of the town to whom she had carried notes on previous occasions.

Having come to this conclusion, she proceeded down town, and distributed them most impartially, giving to the first one on whom she called the note that came first to hand.

The result, as you may surmise, was not all that could be desired. Thus it befell that Mr. Peters, who was engaged to Rose, had to endure the fancied slight of having Mr. Ryde receive the invitation he felt was his by rights, and young Wilton, who was just going down the street to order some



MARY AND ROSE LED.

roses sent up to Clara, felt he could not do less than send them to Maud, when she had been so kind as to remember him. Mr. Young was much pleased to receive the card of Susie, that young lady in general treating his advances rather coolly, while Mr. Harton could not understand how Miss Bessie, whom he had met but once, should have singled him out for her favor, and Mr. Sanders, who was very young and very bashful, was much astonished and rather alarmed at being favored with the card of the sprightly Ethel.

The gentlemen, too, were rather surprised that invitations that had the sanction of the teacher should not have come by mail, but supposed it must be to ensure their prompt delivery.

However they came, they had them, and so, in due time, presented themselves at the college and sent up their cards to Miss Burt.

Much surprised, she went down to greet them, and by skillful questioning, learned how they had become possessed of their invitations, without letting them suspect that they were not expected, and then excusing herself to see if the ladies were ready, she waited on the girls.

One glance at them convinced her they were not expecting the gentlemen, and thinking they could not be more surely punished in any way than by meeting their friends in the style of dress they had chosen to assume, she quietly informed them, that their company had arrived and they must now come down to the drawing-room.

As she stood by the open door for them to pass out, she could scarcely repress a smile at their appearance.

Ethel and Rose led, the former wearing a tweed walking-suit, which was not too long to conceal her white kid slippers, elbow gloves of white silk, loosely drawn over the tight-fitting sleeves of her heavy dress, and a string of pearls above the high, close collar.

Rose had an elaborate evening dress of pink silk, which she had borrowed from an elder sister to wear in a tableau, and with it wore a long sash of gold-colored silk, and a pair of ordinary two-buttoned black kid gloves.

Maud wore a dainty, white dress, that displayed to advantage her gloveless hands and neat fitting walking boots, while Susie, by her side, was resplendent in a bright red tea-gown and a profusion of jewelry.

Clara wore with her blue wool school-dress a most elaborate lace fichu and head-dress, and Bessie a gay, plaid blouse, over a sky-blue silk skirt.

Awaiting in the drawing-room the advent of their guests, Miss Burt glanced over the programme they had just placed in her hand, while the girls, standing around in the room, exchanged meaning glances, and Ethel whispered to Rose, "She's not going to let on she is annoyed, but, of course, she is."

Imagine their astonishment and chagrin, as the door opened and Miss Burt moved forward to welcome the visitors.

They could scarcely return the greetings of the gentlemen, who, having donned their gaudy gifts, came in smiling at their own gay appearance, before they noticed the striking and peculiar attire of the ladies.

Unable to regain their composure, the girls would have fled from the room, had they not been detained by the calm, commanding look in Miss Burt's eye.

The gentlemen attempted to talk, and the girls, feeling they had been out-witted, tried to make the best of it, but conversation was strained and spiritless, and all were relieved when the summons to tea caused a diversion.

Owing to Miss Burt's efforts, the hour spent in the dining-hall passed rather pleasantly, and by the time they returned to the drawing-room the girls were ready to forget their dress and enjoy themselves.

An hour or so passed in pleasant, cheerful chat, and then, to their dismay, Miss Burt advanced to the open piano, with the programme in her hand.

The girls knew not what to do. They looked helplessly at each other, and cast beseeching glances towards Miss Burt, plainly imploring to be spared that ordeal. But she was relentless, and coolly taking her place began—

"That the evening might be spent both pleasantly and profitably, I requested the young ladies to prepare a short programme. They have done so, and I shall now call for the first number."

"Solo—God Save the Queen—Miss Rose Taylor."

The discomfited looks of the girls and the amused looks of the gentlemen alike failed to disturb the serenity of Miss Burt under whose steady gaze Rose felt compelled to come forward meekly followed by Bessie, who was to play the accompaniment.

Loyalty was at low ebb with poor Rose, if the fervor with which she sang the anthem was to be taken as an index,

Then came the rest of the programme, which was as follows:—  
 Reading—"The Night Before Christmas"..... Miss M. Morris  
 Trio—"Three Blind Mice"..... Misses C. Millar, B. Norton and E. Payne  
 Recitation—"How Doth the Little Busy Bee"..... Miss Susie Brock  
 Instrumental Duet—"Jew's Harp and Comb"..... Misses B. Norton and R. Taylor  
 Chorus—"Jack and Jill"..... By Class

The applause of the gentlemen was rather faint. They would doubtless have been more hearty in their expression, were it not for the evident mortification of the girls, who went through each part with a sort of desperation that betokened a total lack of enjoyment.

When the last notes of the closing chorus had died away, Miss Burt arose and said:—

"It is now the hour for us to separate, but before doing so I must thank you for the pleasure of your company, and express the hope, that if anything more than the souvenirs with which the ladies have furnished you is necessary to keep this evening in remembrance, its pleasant memories may be that memento. Wishing you all on the morrow a very 'Happy Christmas,' we will now bid you 'good night.'"

When the 'good-byes' and Christmas greetings had been exchanged, and the girls were left alone with their teacher, Miss Burt turned to them and kindly said, "I wish you, too, could have a 'Merry Christmas' with your dear home friends, but more than that, I wish you could have the 'Happy Christmas' that comes to all who try to act in the spirit of Him who came to bring 'Peace on earth and good-will to men.'"

No other reproof did the girls ever receive. No other was required. The mortification they endured that evening was effectual in preventing them from ever again trying to have fun at another's expense.

## MINNIE MAY'S DEPARTMENT.

### MY DEAR NIECES:—

The world is full of people who cannot understand why they do not prosper like their neighbors. The real drawback to their prosperity is their own extravagance and heedless expenditure. The young housekeeper furnishes twice as expensively as she can afford and adds hired help, not from inability or incapacity on the part of the wife, but from false ideas of gentility or refinement. Ten years afterwards you will find that, while struggling with a double load of debt and children, and wondering why luck is always against them, you have never been true and tried friends do wonder at all, only at their own duplicity in endorsing for them and involving themselves. Look at life from a common-sense standpoint, my dear nieces, and do not let false notions of refinement lead you into debt, for living on credit is wrong, and we should remember it is not our own, and anything so spurious should be spurned by all right-minded women. Do not think your real friends will value you one whit less because you are economical, and trying to live within your means. Your gown may not be the latest color, make, or texture. What of that? You made it yourself, it is all paid for, and you can feel justly proud of it. Take an honest pride in doing anything you can do well. There is a freedom and strength about our life in country homes which we do not value nor appreciate as we should. So often we hear the expression, "It is not woman's work." Make every allowance for the narrowness of the soul who uttered it, and go on, remembering that any work a woman can do that tends to the good of home, family or nation, is her work, so long as it elevates, educates or does good in any way. Try to work with a spirit of cheerfulness. Duties lie before you which may tax all your energies and capacity to properly perform; perhaps these duties are self-imposed, perhaps they have been forced upon you; take them up cheerfully. It is an empty life that has no such work in it, and there is no savor of godliness in grumbling. Do not get cast down nor discouraged; think of the thousands who would gladly take up such cares as yours, had they the health and strength. Let not failures discourage you; the batch of spoiled bread should only be an incentive to better efforts, and out of failures perfection is sure to come. The cold weather of these winter months will furnish opportunities for many an act of benevolence and self-denial, without which no life is perfect. Give carefully, enquiring into each case before relieving it, and do not give grudgingly, for "the Lord loveth a cheerful giver."

MINNIE MAY.

P. S.—I would call your attention to the photograph holders offered as premiums in this number. They are very handsome, and would ornament any drawing-room.

MINNIE MAY.

### Answer to "Subscriber."

Tea Biscuits:—One important point is in having a hot oven, another is, have flour sifted, and roll dough as soft as you can handle; then more baking powder is needed. For each tea-cup of flour take a teaspoon of powder; butter the size of an egg is sufficient for a quart of flour. After rubbing butter and powder into the amount of flour needed, turn in cold water, (milk will do) stirring all the time till the right consistency is reached: salt, then roll lightly and bake at once. They will prove flaky, feathery, delicious, and more nutritious than biscuits raised with yeast.

A READER.

### Mis' Slocum's Christmas Shopping.

Wal, you needn't tell me nothin' about Christmas shoppin', 'cause I know; I've had experience that 'ill last me ter the end of my days," and Mis' Slocum untied her bonnet strings and fanned her excited face.

"You see, my niece Lucindy, who's been in a store in New York fer the past year, told me I mustn't think of shoppin' to ther 'Corners' any more, she sed I could get things so much cheaper in the city, an' all the latest styles, too; so as I wanted to git some toys fer the children, an' all-wool dress fer Elizabeth Jane, and a necktie fer Hiram, I kinder felt I orter hev ther latest styles, 'cause yer see Hiram's Christmas necktie lasts him nigh onto a year, an' it orter to be well in ther fashion ter begin with—so I concluded to resk the city, and started. Lucindy was agoin' with me but she was busy and couldn't, so she told me where ter go.

"Fust thing I ses when I went in a big store, 'Hev you got any toys?' 'Third section to left, take elevator,' ses he. 'I don't want any section or elevator,' ses I. 'I'm lookin' fer toys—Noah's Ark and doll babies.' 'Third section to left, take elevator,' ses he, laughin', an' walkin' away. I was so mad I started to go right out, when a reel pleasant-faced woman ses to me, 'I'm lookin' fer toys, too,' ses she, 'an' I'll show you ther way.' So she took me into a little room fixed up fancy with lookin'-glasses, an' I see right away my bunnet

fifty,' ses he. 'Wal, you won't git me to buy 'em, ses I, though I did want the red one with yaller stripes, 'cause Hiram likes style; but I warn't goin' to hev them city clerks think they could get the best of me, so I started for the wool goods. Wal, I jes' hed to sit down an' wait an' wait. I never see sich a crowd. It 'peared to me thet everybody in the hull country was goin' ter hev a new dress fer Christmas. But bimeby I got holt of a brown piece, an' ses I, 'How much is this?' 'That's all wool and a yard wide, ma'am,' ses he. 'That's jes' what I want,' ses I. Will you believe your ears, Marthy Sutton, it was two dollars and a half a yard! 'Wal,' ses I, 'I kin get all-wool goods ter the "Corners" fer fifty cents.' 'Oh, we hev some at that price, ses he, an' he showed it to me. Sich poor lookin' stuff you never see, an' half cotton, so I ses reel plainly, 'I can git a good deal better nor that at our country store, at ther "Corners," an' I turned on my heel an' walked off.

"Jes' then I see some pretty fancy things on a counter, an' I jes' thought I'd take Elizabeth Jane somethin' from New York, so I walked over toward 'em. As I was goin' along, I see a woman comin' toward me. I stepped aside, and the woman stepped to the same side. Then I stepped tother side, so did the woman; an' then we kept bobbin' back'ards ad' for'ards, tell I got dreffle riled at her fer not knowin' any better, an' ses I to her, 'Be you crazy?' ses I, 'cause you act somethin' like it.' Jes' then one of them dressed-up chaps took hold of my arm, an' ses he, 'Madam, you be atalkin' to yourself in the lookin'-glass.' 'Merciful heavens!' ses I, 'so I be, an' I was jes' so riled up at ther hull business I marched right out of ther store, an' now I'll do my Christmas shoppin' up ter ther 'Corners' from this out, Marthy Sutton, an' if you ever find me agoin' to New York again you kin jes' shut me up in an insane asylum tell I come to my right senses.' C. H.

### Some Virginia Christmas Recipes.

#### OLD ENGLISH PLUM PUDDING.

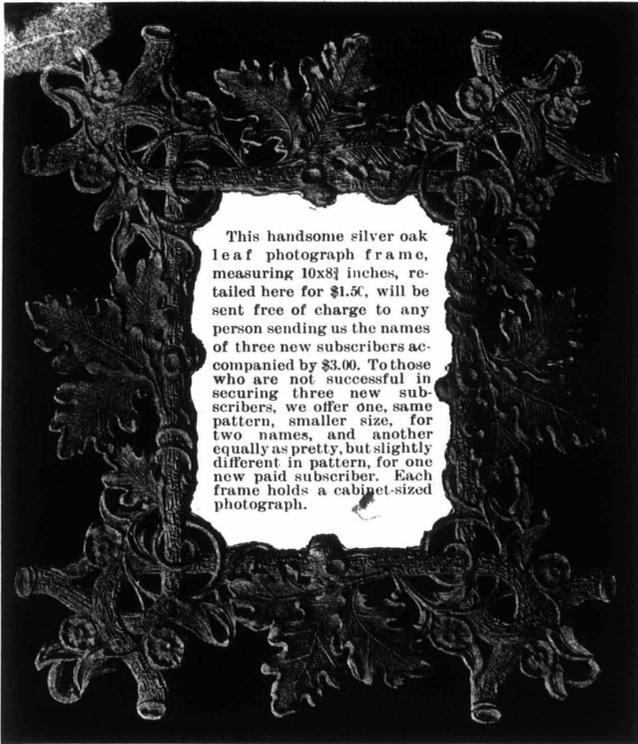
One pound each of grated breadcrumbs, suet chopped fine, currants and seeded raisins, half a pound of citron sliced thin, a grated nutmeg, the grated rind of two lemons, a teaspoonful each of ground allspice, mace and cinnamon, two wineglassfuls of wine and one of brandy, ten eggs well beaten. Dip a pudding cloth in hot water, wring it out, flour and butter it, put the pudding on a plate within it, tying the corners together well. Let the pudding boil four hours. Serve with a rich sauce. It is all the better if mixed several days before cooking.

#### MINCE PIE.

This has ever held a place next in honor to the pudding, and was not the less welcome to Cavalier households because revealed as a "popish dainty" on account of the many fantastic forms—the manger, the Christmas star, etc.—in which skillful house-wives of old England fashioned the pastry. Like its rival, the plum pudding, it gains rather than loses, by being mixed some time before using.

Two pounds of beef, boiled and chopped fine, two pounds of suet, also chopped fine, four pounds of Pippin apples, pared, cored and cut small, two pounds of raisins seeded and chopped fine, the same of currants, (some old recipes use half a pound of dried cherries, with a pound of raisins,) half a pound of citron sliced thin, two grated nutmegs, one ounce of ground cinnamon, half an ounce each of cloves and mace, the juice and grated rind of two oranges, one teaspoonful of salt, one quart of wine and one of brandy, (cider is often used instead of wine,) one wineglassful of rosewater. Our grandmothers were very fond of this delicate, perfumed flavoring.

What can be said new about Christmas? Its delights are many, old and young alike rejoice, but children look forward to that day as theirs, and we go out of our way to give the little folks surprises and pleasure a little beyond the ordinary routine; various devices are resorted to for this purpose, like Christmas trees, Santa Claus, etc., are ever new and ever welcome, and the elders who take part in the frolics seem to enjoy them more than the little folks. Thousands of children all over the land are the recipients of such feasts and festivals, and friends, teachers and parents band together for the purpose of giving them this pleasure, making it the very merriest day of all the year. In the days of old, feasting was indulged in to a brutal extent, as the accounts of the boars' heads, huge barons of beef, saddles of mutton and haunches of venison will testify, all washed down by copious draughts of wine, beer and something stronger. While our celebration of this day is quite as hearty, it is not so coarse, and we have reason to be thankful that every such relic of barbarism is fast disappearing from our life and mode of living. Games of a boisterous nature ended the day long ago, but even now a romping game in which all join is usually the wind up of the day, and sends the little people to bed tired and happy. Surely there must be something more than ordinary about Christmas. We are bound to get better and brighter, whether we will or not.



This handsome silver oak leaf photograph frame, measuring 10x8½ inches, retailed here for \$1.50, will be sent free of charge to any person sending us the names of three new subscribers accompanied by \$3.00. To those who are not successful in securing three new subscribers, we offer one, same pattern, smaller size, for two names, and another equally as pretty, but slightly different in pattern, for one new paid subscriber. Each frame holds a cabinet-sized photograph.

was crooked, an' I thought it was reel delicate of her to take me to a lookin'-glass; so I was straightenin' my bunnet, when I felt the hull floor shake under my feet.

"'Merciful goodness!' ses I, 'it's an earthquake! Let me out.' An' I run ter the door. A man stopped me, an' ses he, 'You can't git out till you git to the second floor.'

"'Second floor!' ses I; 'there won't be no floor in this buildin' in a minit.' Then ther woman took hold of me, an' ses she, 'There ain't no danger, we'll go out now, an' so we did, an' she showed me the toy counter. But land sakes, the women were six deep around ther counter, an' I waited an' waited, an' I couldn't get near enough ter see a thing, so I thought to myself, there wasn't much new styles about toys, anyway, 'cause Noah's Ark was jes' ther same now as it was when I was little, an' I could buy a reel good one at the 'Corners,' so I started fer a necktie. 'First floor, middle section, ses a chipper-lookin' chap, who didn't seem ter hev nothin' ter do but twirl his mustache. He tried ter git me in the little room where the lookin'-glasses were. 'No, thank you,' ses I, 'yer don't git me in there agin. Ain't yer got no stairs to go down like other folks hes?' 'Oh yes,' ses he, smilin' very pleasant, an' he showed 'em to me. You better believe, Marthy Sutton, I walked down them stairs feelin' mighty safe and comfortable. After waitin' a considerable spell at ther necktie counter, I got near enough to make a feller hear me, an' ses I, 'want a necktie fer Hiram, one of your latest styles,' ses I. 'Here they be,' ses the clerk, 'fifty cents apiece.' 'Fifty cents!' ses I, sharp as a needle, 'cause I knew he was cheatin' me. 'Why, I never pay but twenty-five at ther 'Corners.' 'We don't keep nothin' lower than

THE QUIET HOUR.

Christ is King.

Shadows were deepening o'er Bethlehem's walls, The sun had sunk to rest, And the light, which had touched the towering hills, Died in the distant west.

Crimson clouds with their edges bright, Laughed at the heralds of coming night; Though beast and bird with timid fear, Shrank from the shadows dark and drear.

Deeper and deeper the darkness fell, On to the earth with its sombre pall, Till the boasting clouds took a paler light, And mourned at the presence of coming night.

But yonder, over the eastern hill, A new light dawned—see it flash and thrill, 'Tis a star, and the shepherds in it see The birth of a glorious victory.

And hark! the air so silent now, Is filled with voices soft and low; Louder and louder the strains do swell, Till they burst into song o'er Israel.

And the star still rises, its tender light Gleams like a meteor, pure and white, Over the mountain, over the wall, Into the stable, the sheltering stall.

There, 'mid the sound of angels' song, The Christ, the blessed Child was born, And herald angels chant the joy Which had come to earth in the holy Boy.

Away to the north, the south, the west, Spread the joyous news of the great behest, Till the whole earth rings with the new-born song, That chains are broken of sin and wrong.

For this the wreaths are now entwined, For this the temples are sweet with pine, For this the flowers, pure as snow, Keep fresh the scenes of long ago.

The unseen bells, that rang that night, Were moved by spirits pure and bright; And listen! the air is full of the chime, Just as was rung in the olden time.

Then ring out the bells, again and again, Ring them louder still o'er hill and plain, Till their brazen tongues tell the story old, That Christ is King of the whole wide world.

C. Mulligan.

What He Came For.

In displaying some beautiful piece of statuary it is usual to hang it around with dark, contrasting colors, to bring out the perfection of its white beauty. So, in order to realize most clearly the one grand motive of the Son of God in coming to earth, it would be well for you to contrast it in your minds with the things He says He did not come for.

He did not come "to be ministered unto," though well he might; since we were his lawful subjects, He might have come to receive our homage, but He did not.

He did not come "to judge the world"; one day He is to judge the quick and the dead, but that was not what brought him to this world.

He did not come "to destroy the Law and the Prophets," though some readers seem to think that the New Testament has superseded the Old.

What, then, brought our Lord down to earth? Why did He empty Himself of His glory and submit to the humiliation of a bitter death? It was for one grand reason alone—"to seek and to save the lost." All other reasons seem poor and dark in comparison with this glorious purpose, to die for our sins, to suffer in our stead, to ransom our souls, to save us from eternal death.

The Christ Child.

It was in the Babe of Bethlehem that God's character shone forth, that men might not merely fear Him, but trust in Him and love Him, as one who could "be touched with the feeling of their infirmities." It was on Christmas day that God appeared among men as a child upon a mother's bosom. And why? Surely for this reason, among a thousand more, that He might teach men to feel for and with Him, and to be sure that He felt for them and with them. He took the shape of a little child to draw out all their love and tenderness. He took our human nature upon Him, not merely the nature of a great man, but all human nature, from the nature of the babe to the nature of the full-grown and full-souled man, fighting with all His powers against the evil of the world. All this is His, and He is all; that no human being, from the strongest to the weakest, from the eldest to the youngest, but may be able to say: "What I am, Christ has been." To the strong, He can be strongest, and to the weak, weakest of all. With the mighty, He can be the King of kings; and yet with the poor, He can wander, not having where to lay His head.

Rev. Charles Kingsley.

"No Room."

"There was no room for them in the inn."—St. Luke II. 7. "No room," within the dwelling, for Him whose love exelling Towards those who never sought Him, to earth from heaven brought Him. Who counted not the cost to seek the lost. "No room," so to the manger they bore the Kingly stranger, But angel hosts attended, and angel voices blended, Whilst on His mother's breast he lay at rest. "No room;" O Babe so tender, to Thee our hearts we render, Not meet for Thy possessing, yet make them, by Thy blessing, A home wherein to dwell. EMMANUEL.

UNCLE TOM'S DEPARTMENT.

Short Stories Told After Dinner.

I remember the case of a man on shipboard, coming from California in gold times, when there was not half room enough for the passengers. After they had been out four or five days, a man who had not been seen before on deck appeared, and his friend said: "Why, I did not know you were on board! How did you get a state-room?" "Oh!" he says, "I have none, and I will have to sit up all night the rest of the voyage. So far I have been sleeping on top of a sick man, but he has got well and won't stand it any longer."

There was a man in the militia company who was from Nantucket. He was always talking about being from Nantucket—appeared to plume himself particularly on being from Nantucket. That man was not exactly lazy, but he came into the world born tired. He never knew his right hand from his left at drill, and never by any accident succeeded in facing the right way at command. One day the captain, whose patience was nearly exhausted, had his men called off by fours and gave the command, "Right face." This man sprang out about three feet from the ranks, tried to face two ways at one time, and then looked at his commanding officer with a dazed and bewildered air, and said, "Captain, where ought I to be now?" "Back in Nantucket, you idiot," said the captain.

A certain minister's sermons were a patchwork from numerous authors to whom he gave no credit. On one occasion there was a half-intoxicated wag in the audience who had read pretty much everything, and he announced the authors as the minister went on. The clergyman gave an extract without any credit to the author, and the man in the audience cried out, "That's Jeremy Taylor." The speaker went on and gave an extract from another author without credit for it, and the man in the audience said, "That's John Wesley." The minister gave an extract from another author without credit for it, and the man in the audience said: "That's George Whitefield." When the minister completely lost his patience and excitedly cried out, "Shut up, you old fool!" the man in the audience replied: "That is your own."

Some years ago, when sleeping-car bedding was not supposed to be as fat as it ought to be, and the pillows were accused of being constructed upon the homeopathic principle, a New Englander got on a car one night. Now it is a remarkable fact that a Yankee never goes to sleep in one of these cars. He lies awake all night, thinking how he can improve upon every device and patent in sight. He poked his head out of the upper berth at midnight, hailed the porter and said, confidentially, "Say, have you got a corkscrew about you?" "We don't 'low no drinkin' sperits aboard dese yer cars, sah," was the reply.

"Tain't that," said the Yankee, "but I want to get hold of one of your pillows that has worked its way into my ear." The pillows have since been enlarged.

An Ode to Canada.

Awake my country, the hour is great with change: Under this gloom which yet obscures the land, From ice-blue strait and stern Laurentian range, To where giant peaks our western bounds command, A deep voice stirs, vibrating in men's ears, And of their own hearts throbbeth that thunder forth, A sound, wherein who hearken wisely hears, The voice of the desire of this strong North, This North whose heart of fire Yet knows not its desire Clearly, but dreams, and murmurs in the dream, The hour of dreams is done. Lo, on the hills the gleam!

Awake, my country, the hour of dream is done! Doubt not, nor dread the greatness of thy fate, Tho' faint souls fear the keen, confronting sun, And faint would bid the morn of splendor wait; Tho' dreamers, rapt in stary visions, cry, "Lo, yon thy future, yon thy faith, thy fame;" And stretch vain hands to stars, thy fame is nigh, Here in Canadian hearth, and home, and name: This name which yet shall glow Till all the nations know Us for a patriot people, heart and hand, Loyal to our native earth, our own Canadian land!

O strong hearts, guarding the birthright of our glory, Worth your best blood this heritage that you guard! Those mighty streams resplendent with our story, These iron coasts by rage of seas unjarred, What fields of peace these bulwarks will secure! What vales of plenty these calm floods supply! Shall not our love this rough, sweet land make sure, Her bounds preserve inviolate, though h we die! O strong hearts of the North, Let fame your loyalty forth, And put the craven and base to an open shame, Till earth shall know the Child of Nations by her name!

Chas. G. D. Roberts.

Compiled Bits of Household Fact and Fancy.

At Christmas be merry and thankful withal And feast thy poor neighbors, the great with the small. Thomas Tusser.

If the sun shines through the apple tree on Christmas day, there will be an abundant crop the following year.

Christmas is the only holiday of the year that brings the whole human family into common communion. Dickens.

'Tis the season for kindling the fire of hospitality in the hall, the genial flame of charity in the heart. Washington Irving.

Christmas is the time in which the memory of every remedial sorrow, wrong and trouble in the world around us should be active within us. Dickens.

Puzzles.

1-CHARADE. December the month of skating, Has come FIRST its keen, cold clime, And I say not at all overrating, That there is no better time.

For Christmas with its large turkey so grand, And its great rich pudding so fine, Is what are greeted in all parts of the land, Yet it is December all the time.

And what boy could be happy if he lacked his fun, LAST on the surface of the hard, cold ice, Where COMPLETE your skates you cannot run, Yet there is nothing half so nice. THOS. W. BANKS.

2-CHARADE. As through the city great I roved, And gazed on the COMPLETE, I saw a tiny little child A-crying in the street.

"Why weep you so?" I quickly said, "Why is your heart so sore?" "I weep," he answered, just because "I have neither a ONE, TWO, THREE, FOUR." ADA ARMAND.

3-CHARADE. A stately owl sat ONE a tree, And truly TWO owl most solemn was he, FOUR at him gazed intent to see If to more he'd ever try.

"THREE is most strange," FOUR then did say, "To see him sit the livelong day, Nor move a wing, nor leg, nor nay Not even blink his eye. Then up stole FOUR FIVE mischief bent, And gently caught him by the feet; Just then he flew and parting said, "Your brain is in a state of COMPLETE." ADA ARMAND.

4-ANAGRAM. Once on a time a beggar I met, Who this to me did say: "If you would do me a kindness, please, Just give me a cup of RICH TAY." ADA ARMAND.

5-ANAGRAM. Oh! whenever we go up to Guelph, Out to Morden we shall go, To see our cousin Georgie, A Blyth young man you know.

Now, when this fine young gentleman, To Toronto he doth come, He's going to call and see his friend, Oh, my! what a good time we will spend.

Miss Smithson tells us of cargoes, And our attention she does call To halloosing, that festive night, When bad boys do things—well, hardly right.

Now, Tommy Banks, great credit he has won, As all true selves will gladly own; And let us all on Thanksgiving day, Thank Uncle Tom for his picture gallery.

My namesake Harry, surnamed Bobier, Calls Georgie Blyth second mate; His puzzles are good, so now, Harry, please, Send in more puzzles before it is too late.

As for "King" F. B., his duties he is neglecting, A month has passed since from him we heard; Oh! what can be the matter, Surely it cannot be anything like a mustard plaster. HENRY REEVE.

6-DECAPITATION. I come with the happy New Year, I come with Christmas too; I hope I will be welcome here In the ADVOCATE canoe, T. W. Banks has lately joined, And great was his reception, But to get a welcome as TWO was Is above all my conception.

My puzzle ONE time will not be long, But if I'm welcomed here, You'll get some puzzles twice this length, Yet still I have a fear, Because this THREE my first you know You might say things not pleasant; Perhaps even now you are tired of me, So this is all for the present. MORLEY SMITHSON.

7-SQUARE WORD. My FIRST is a figure in drawing books taught, My SECOND an ancient who often had thought Of soaring to Heaven on waxen wings, And beholding the glory of higher things, Who made the attempt, but, alas! fell down, Found death as his guerdon and not renown.

Of things which are rare my THIRD is the best; To make or to shape my FOURTH does suggest; My FIFTH is e'er shed o'er a brave soldier's name In telling his victories, his passports to fame; My SIXTH and my last we should try to secure, If we would our success and our welfare ensure. ADA SMITHSON.

Answers to November 15th Puzzles.

- 1-Own, now, won. 2-Call all. 3-N O B L E 4-Thanksgiving Day. 5-Halloween. O G L E R 6-Cargo. 7-Uncle Tom's Picture Gallery. B L E A R 8-Pakenham. 9-George Blyth. L E A V E E R R E D

Names of Those Who Have Sent Correct Answers to November 15th Puzzles.

Geo. W. Blyth, Addison Snider, Oliver Snider, Henry Reeve, I. Irvine Devitt, Joshua Umbach, A. R. Borrowman, Josie Sheehan, Morley Smithson, Ada Smithson, Thos. W. Banks.

Why Some People are Poor.

Silver spoons are used to scrape kettles. Coffee, tea, pepper, and spices are left to stand open and lose their strength. Potatoes in the cellar grow, and the sprouts are not removed until the potatoes are worthless. Brooms are never hung up and are soon spoiled. Nice handled knives are put into hot water. The flour is sifted in a wasteful manner, and the bread pan is left with the dough sticking to it. Clothes are left on the line to whip to pieces in the wind. Tubs and barrels are left in the sun to dry and fall apart. Dried fruits are not taken care of in season and become wormy. Pork spoils for want of salt, and beef because the brine wants scalding. Bits of vegetables and cold puddings are thrown away, when they might be warmed, steamed, and served as good as new.

# FARMERS OF CANADA

We can save you money! How? Well, we are a wholesale firm, selling direct to the farmers. We buy only from the manufacturers, and we sell only to consumers. We will sell our goods at wholesale prices to any farmer, or any other person who has the spot cash. Our buyers do their work well, and under our rigid spot cash system we are, so far as our profits are concerned, easily satisfied. We would ask you to write to us for our Fall Catalogue or Shoppers' Guide, a book of sixty-four pages, profusely illustrated, and which we will mail free to all who send us their name and address. The farmers of Manitoba and N. W. T. especially will find our prices so low, compared with their local prices, that they will scarcely believe them true.

We sell everything, or nearly everything, that farmers use, so do not hesitate to get our Shoppers' Guide. Here are a few of our prices: One dozen one-inch line or harness snaps, only 15c.; horse collars, \$1.50 each; lightning hay knives, 75c. each; a complete chopper's kit, including a cross-cut saw, axe, and everything required, for only \$5; a first-class gun for \$12.50; rubber coats, \$2; oiled canvas coats, \$2.50; fur coats, from \$15 upwards; fur caps, only \$1.50; farmers' winter choring mitts, only 50c. per pair.

Write for our Catalogue and know just how very cheap you can buy our merchandise.

## STANLEY MILLS & CO., WHOLESALE MERCHANTS,

Hamilton, 336-y-om Ont.

## ULCERKURE

A new Chemical Compound discovered by Dr. Warnock, Member of Royal College of Veterinary Surgeons, England; Fellow of the Glasgow Veterinary Medical Society.

**A NEW DISCOVERY.**  
With a specific chemical action, for the immediate cure of wounds and ulcerated sores on Horses, Cattle, Dogs, etc., such as Barb Wire Cuts, Collar and Saddle Galls, Cracked Heels, Frost Bites, Foot Rot, Rope Burns, Mallenders, Sallenders, Broken Knees, Ring Worm, Scratches, Scalds, Cuts, Burns, and all foul and putrid sores of all descriptions. Recommended by the largest stock owners in Canada.

Pelisko, Alta., Aug. 12th, '93.  
Messrs. A. E. Waldon & Co.:  
Gentlemen,—I have much pleasure in testifying to the efficiency of Warnock's Ulcerkure in the treatment of wounds in domestic animals. We have been constantly supplied with it for more than two years and have never been disappointed with its effects. We have used it for the healing of scratches, collar and saddle galls, barb wire cuts, snags, etc., always with the greatest success. It would seem to have a specific action in removing the poisonous effects from wolf and coyote bites on horses and dogs. For severe cuts on dogs' feet there is no better remedy than Ulcerkure.  
F. S. STINSON,  
Manager Northwest Cattle Co.

Macleod, 18th Oct., '93.  
Dear Sir,—I have used Dr. Warnock's Ulcerkure and have pleasure in saying that I have found it in every way satisfactory.  
ARTHUR R. SPRINGETT,  
Manager Oakley Ranch.

PRICE \$1, OR SIX FOR \$5. Each bottle contains two hundred applications. Sold by all dealers in medicine, or sent to any part of Canada on receipt of price. A single trial will prove the wonderful curative properties of Ulcerkure. Samples free. Send for Dr. Warnock's pamphlet on the treatment of wounds in domestic animals. Address,  
A. E. WALDON & CO., Chemists, Calgary, Alta.  
345-y-om

## Important Auction Sale

In February (date to be given in next issue), when we will sell our herd of Shorthorns, comprising sixty head, among which are twenty superior young bulls.

JAMES GARDHOUSE & SONS,  
Highfield, Ont.  
348-a-om

**Spavins, Ringbones, etc. Cured by Dick's Blister.**  
Dick & Co., P. O. Box 482, Montreal.

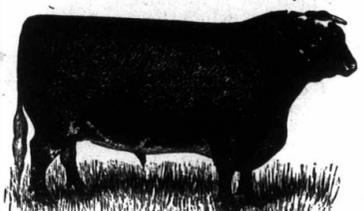
## D. & O. SORBY, GUELPH, ONTARIO,

BREEDERS AND IMPORTERS OF FASHIONABLY BRED CLYDESDALES

We always have on hand a large number of imported and home-bred Clydesdales (male & female) of good breeding & quality, which we will sell at honest prices. Our specialties are good & well-bred horses and square dealing. Come and see us or write for particulars.  
330-2-y-om

ADVERTISE IN THE ADVOCATE

## IMPORTANT SALE OF SCOTCH SHORTHORN CATTLE



W. B. Cockburn, Aberfoyle, Ontario (Wellington County, Seven Miles from Guelph), will sell on Wednesday, January 10th, 1894.

His entire herd without reserve. The best lot of cattle ever offered in Wellington, including the Chicago sweepstakes bull calf Indian Warrior (18106), also Greenhouse Chief 14723, the 1892 champion, and British Chief (11243), the greatest Indian Chief heifer ever sired. Also several Indian Chief heifers, representing such families as Nonpareils, Wimples, Daisies, etc., and other good families as Missies, Village Blossoms, Verbenas, etc., numbering in all twenty-six head. The cattle are all Scotch-bred, and in nice breeding condition. The sheep consist of twenty-two Cotswold ewes and one imported ram (a Royal winner); thirty high-grade Oxford-Down Ewe Lambs. Wait for this sale, as it embraces animals of rare show-yard quality. Catalogues on application.

TERMS: Ten months credit on approved notes, or discounted at the rate of seven per cent. per annum for cash.  
The farm is two miles from Corwin Station, on the branch of the C. P. R., between Guelph and the main line. Parties coming from Toronto or London on C. P. R. must change cars at Guelph Junction, and parties coming from Guelph will find good connections from the G. T. R. to the C. P. R. Trains not connecting will be met. Teams will meet all trains at Corwin.  
347-j-om THOMAS INGRAM, Auctioneer.

## ROBERT NESS, WOODSIDE FARM,

Importer & Breeder of Yorkshire Coachers, French Coachers, Clydesdales, Shetlands and Ayrshire Cattle. Prices to suit the times. ROBERT NESS, Woodside Farm, Howick P.O., P.Q. 329-y-om

I now offer three Superior Young Bulls, sired by Wimple Hero and Doctor Len. Dams are of the Upper Mill and Syme families. Also a few choice heifers of similar breeding.

JOHN MILLER, Markham, Ont.  
349-1-c-om

## WESTRUTHER PARK

Herd of Bates Shorthorns, consisting of Oxford Barrington, Waterloo, Gwynne, Darlington, and other families, has outgrown the place and must be reduced in numbers. Four yearling bulls and a number of females for sale, at lowest prices and on liberal terms. Farm a mile from the station.

JOHN IDINGTON, Stratford, Ont.  
348-y-om

## SCOTCH-BRED SHORTHORN BULLS

Scotch-Bred Heifers, Imported Shropshire Rams, Imported Ewes, Home-bred Rams, Home-bred Ewes.

**FOR SALE!**  
In any number. All of very best quality, and at the lowest prices. We want 500 recorded rams for ranches.

Correspondence Solicited.  
John Miller & Sons, Brougham, Ont.  
Claremont Station, C. P. R., 22 miles east of Toronto.  
306-2-y-om

Three imported Yearling Bulls, bred at Kinellar, including one each of the "Mina," Golden Drop and Bessie families.  
Apply to JOHN ISAAC, Markham, Ont.  
348-2-c-om

## ARTHUR JOHNSTON, Greenwood, Ont.

(SEVENTEEN GRAND BULL CALVES)  
Offers seventeen bull calves, now ready for service, besides two exceedingly good imported yearling bulls and an excellent lot of young cows and heifers, all of which will be sold at moderate prices. Send for Catalogue. Greenwood P. O. and Telegraph Office, Claremont Station on the C. P. R., or Pickering Station on the G. T. R. Parties met at either station on shortest notice. Come and see my cattle.  
332-2-y-om

## Shorthorns, Coach Horses and Berkshires.

Our herd is headed by Daisy Chief=13674=, he by the famous Indian Chief=11108=, and was highly successful in the various Western Ontario fairs of the past season. A few choice young Bulls and Heifers for sale. Also registered Berkshires and a few extra choice Cleveland Bay mares and fillies, the get of Disraeli, Daleman, etc. Write for prices, or come and see us. A. J. C. SHAW & SONS, Camden View Farm, Thamesville.  
336-2-y-om

## Deep Milking Shorthorns

MR. GRAINGER, Londesboro, Ont., offers for sale some exceedingly good cows and heifers. (Fair Maid of Hullett 2nd, now at test at Chicago, is only a fair specimen.) Dams made thirty pounds of butter in seven days. Come and see them; they are good ones. 338-2-y-om

## H. GARGILL & SON, Gargill, Ont.

SHORTHORNS. Two imported bulls are now at the head of our herd. Stock of both sexes and different ages from the best imported and home-bred cows now for sale. 335-tf-om

## SHORTHORNS, BERKSHIRES, Shropshires, Plymouth Rocks & Bronze Turkeys.

Write me for prices on the above. I have a grand litter of Berkshire Pigs now ready for sale. H. CHISHOLM, Montrose Farm, Paris, Ont. 342-2-y

## TOPTHILLS (56656)

First prize at Toronto, 1892; is a good stock getter. Reason for selling: his heifers coming in to breed. Also two young bulls of Scotch breeding, one a Nonpareil. Come and see us, or address,  
S. J. PEARSON & SON, Meadowvale, Ontario.  
One mile Meadowvale S't'n, C.P.R. 347-c-om

## SCOTCH-BRED SHORTHORNS FOR SALE

6 Choice Young Bulls And the Imported Cruickshank Bull

ABERDEEN HERO, Their sire. Also some nice

Young Heifers, From one year old up. Prices to suit times. 322-y-om SHORE BROS., White Oak.

## GUERNSEYS

This is the Dairy breed for ordinary farmers. Large, vigorous and hardy, giving plenty of rich milk. Imported Bull Benefit, son of Vice-Pres. Morton's famous butter cow Bienfaitrice 4th, heads the herd.

Address: SYDNEY FISHER, Alva Farm, Knowlton, P.Q.  
340-2-y-om

## SUNNYSIDE HOLSTEIN-FRIESIANS

Choice animals, either sex, all ages, for sale at any time. Correspondence solicited. Address  
McDUFFEE & BUTTERS, Stanstead, P.Q.  
340-y-om

## THE GREAT MILK AND BUTTER HERD OF HOLSTEIN-FRIESIANS.

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

This is the place to get stock of best quality at reasonable prices. We have seventy-five head, including prize-takers; best strains, cows and heifers, with large milk and butter records young bulls of superior quality. Send for catalogue. 332-2-y-om

HOLSTEIN-FRIESIANS AND TAMWORTH PIGS. Our herd of Holsteins was never so complete as now. Bargains in all ages and both sexes. We have young bulls fit to head the best herds in Canada. We have a choice lot of young Tamworth Pigs ready to book orders. Write at once for prices and catalogue.

A. C. HALLMAN & CO. New Dundee, Waterloo Co., Ont. Shippery, St. Petersburg, G.T.R., and Ayr, C. P. R. 336-2-y-om

## HOLSTEIN-FRIESIAN CATTLE

Netherland, Aggie and Atris blood, along with others all of the best strains of producing blood. Write for particulars. Young Bulls and Heifers of the above tribes on hand. A grandson of Netherland Prince now for sale.

G. W. CLEMONS, 334-2-y-om St. George, Ont.

## PRIZE-WINNING AYRSHIRES FOR SALE



Mine is one of the largest and most successful show herds in Canada. They are finely bred and of great individual merit. Bulls, heifers and cows always on hand for sale; also a few good Leicester sheep. Correspondence solicited. Visitors welcome. Address  
THOMAS GUY, Sydenham Farm, Oshawa, Ont.  
326-2-y

## MUST BE SOLD AT ONCE!

OUR ENTIRE HERD OF..... Ayrshires

They are deep milkers and winners of many prizes. Prices to suit the times.

R. REID & CO., 1 mile from Ottawa. 348-b-om HINTONBURG, ONT.



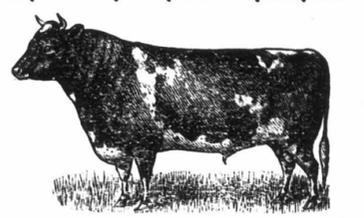
Champion Dairy Herd of Ayrshires at various government tests. Prize winners at the World's Columbian Exposition, Chicago. Write R. ROBERTSON, Howick, Que. 343-y-om

## Prize-Winning AYRSHIRES FOR SALE.

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

## JAS. McCORMICK & SON, ROCKTON, ONT. 344-2-y-om

## DOMINION PRIZE HERD OF AYRSHIRES



We have the oldest established, largest and best herd of Ayrshires in Canada. Choice young stock for sale at liberal prices. Satisfaction guaranteed. JAMES DRUMMOND & SONS, Petite Cote, Montreal, P.Q. 332-2-y-om

## JERSEY BULLS

Two Yearling Bulls; one Bull Calf, eight months; registered; solid color, and from rich butter stock.

J. C. SNELL, 348-a-om EDMONTON, ONT.

JERSEYHURST FARM, LOCUST HILL, Ont. ROBERT REESOR, importer and breeder of A. J. C. C. Jerseys of the choicest breeding, with the bull Jay St. Lambert 32813 at the head of the herd. Stock of all ages on hand and for sale. 340-2-y-om

## GLEN ROUGE JERSEYS

WM. ROLPH, Glen Rouge Farm, Markham, Ont., offers for sale Jerseys of all ages from his famous herd. The world-renowned St. Lambert blood a specialty. Also registered Clydesdale Horses. 343-y-om

## Ingleside :: Herefords.

Herd headed by the Medal Bull of Canada, Young Tushingham 2nd (32398). All stock registered and from prize-winners, combining the desirable blood of HORACE.

ANXIETY THE GROVE 3rd, BREDWARDINE.

Choice young stock of the above strains for sale at reasonable prices.

IMPORTED CLYDESDALES. Prince of Wales and Darnley strains. Saddle horses and stylish drivers for sale.

Station H. D. SMITH, two miles, G.T.R. Ingleside Farm, 342-2-y-om COMPTON, Que.

# PREMIUMS! SECURE NEW SUBSCRIBERS TO THE FARMER'S ADVOCATE PREMIUMS!

We are pleased to announce to our subscribers that we have placed a very large order with one of the leading Canadian ring manufacturers, and intend giving those who will secure us new subscribers the benefit of our close cash purchase. We guarantee the rings to be ten and fourteen karat gold, as represented. To ascertain the size of ring required, take a narrow piece of paper, draw it tightly around the finger, forward same to us, and we will guarantee a perfect fit. The World's Fair Triumph Watch is an excellent timepiece. One of our staff has carried one for nearly a year, and is well pleased with it. We positively decline to give shoddy premiums, and ask as a favor those who secure any of our prizes to be kind enough to show them to their neighbors. We will sell any of these premiums at prices quoted. All articles will be sent by mail or express, charges prepaid.

## CHILDREN'S OR MISSES' REAL STONE SETTING.

- No. 1—Price, \$1.25. 1 Pearl, 2 Garnets. 2 New Subscribers.
- No. 2—Price, \$1.25. 1 Garnet. 2 New Subscribers.
- No. 3—Price, \$1.50. 3 Pearls. 3 New Subscribers.
- No. 4—Price, \$2.00. 1 Pearl, 2 Garnets or Coral. 3 New Subscribers.

## LADIES' REAL STONE SETTING.

- No. 5—Price, \$3.50. 2 Pearls, 3 Garnets. 5 New Subscribers.
- No. 6—Price, \$3.50. 2 Garnets, 5 Pearls. 5 New Subscribers.
- No. 7—Price, \$3.50. 1 Garnet, 2 Pearls. 5 New Subscribers.

## SOLID GOLD KEEPERS.

- No. 8—Price, \$2.00. 3 New Subscribers.
- No. 9—Price, \$2.00. 3 New Subscribers.
- No. 10—Price, \$4.00. 6 New Subscribers.

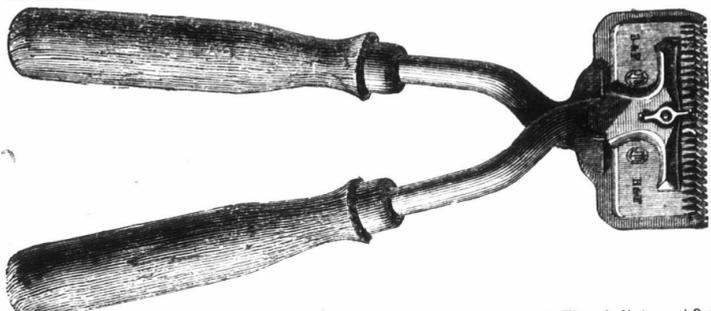
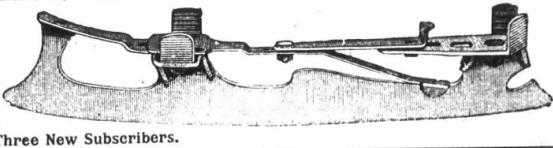
## LADIES' OR GENTLEMEN'S SOLID STONE SETTING.

- No. 11—Price, \$2.00. 1 Garnet. 3 New Subscribers.
- No. 12—Price, \$4.50. 1 Garnet, Suitable for Lady or Gentleman. 7 New Subscribers.
- No. 13—Price, \$2.50. Wedding. 5 New Subscribers.
- No. 14—Price, \$6.50. Beautifully Chased. 10 New Subscribers.
- No. 15—Price, \$7.00. Blood or Sardonyx, Masonic Emblem, 25c. extra. 11 New Subscribers.
- No. 16—Price, \$5.50. 3 Turquois. 8 New Subscribers.
- No. 17—Price, \$10.00. Real Diamond, 14 Karat Gold. 18 New Subscribers.

The above are all guaranteed 10 karat gold, with the exception of No. 15, which is 14 karat.

## GENUINE ACME CLUB SKATES.

It is made throughout of first-class steel all parts accurately fitted, and guaranteed to be thoroughly reliable and serviceable skate in every way. Sizes, 7 to 12 inches. State size required. For Three New Subscribers.



HORSE CLIPPERS.—Best Genuine French Newmarket Horse Clippers, with Thumb Nuts and Set Screws, with Movable Blades, all parts interchangeable. For Five New Subscribers.

## LIVE STOCK

FOR 100 NEW SUBSCRIBERS at \$1.00 each we will give a young registered Bull or Heifer of any of the following breeds, viz.: Shorthorn, Ayrshire, Jersey or Holstein. For 30 NEW NAMES we will send a pure-bred Ram or Ewe Lamb of any of the following breeds: Cotswold, Leicester, Lincoln, Shropshire, Oxford, Southdown, or Horned Dorset, or a pair of young Berkshires, Yorkshires, Tamworths, Poland-Chinas, Chester Whites or Suffolk Hogs.

ALL STOCK SENT OUT BY US WILL BE REGISTERED AND OF GOOD QUALITY. ACTIVE AGENTS WANTED IN EVERY TOWNSHIP.

## WORLD'S FAIR TRIUMPH WATCH

With Gilt Dust-Proof Case, Chain and Charm.

A GOOD TIMEPIECE. -- A DURABLE WATCH.

A good Watch for every workingman in the world. Works of the greatest simplicity.



### DESCRIPTION:

The case is strongly made and carefully fitted to exclude dust. It is open face, with heavy, polished bevel crystal. The movement is covered with a practically dust-proof cap, giving double protection against the ingress of foreign particles. Movement is detachable from case by removing four nuts. Case is plated by a special process, and handsomely finished in gilt, closely resembling gold. Weight of watch complete, 4 1/2 ozs. Cut is an exact representation, three-fourths size.

The movement combines many patent devices, which make the construction the simplest and fully as durable as any watch movement known. It has American lever, lantern pinion, patent escapement; minute and second hands.

Their sale goes on the year around in the city and country to every class of people. The rich and sportive buy it for the novelty, and the poor and sensible buy it for actual everyday use. Just the watch for every boy. It truly fills a long-felt want, and is bound to be the greatest success in this Columbian year. An excellent timekeeper at the price of a toy watch. Sent post-paid for four new subscribers.

## WE HAVE PURCHASED A LARGE QUANTITY OF

## Silverware and Scissors

from a reliable wholesale house. This list of Forks and Spoons are manufactured by the Meteorite Manufacturing Company. They are silver-plated upon white metal, and guaranteed never to tarnish. We will give One Dozen Medium Sized Teaspoons for 4 new subscribers, price \$1.50; or, half-dozen for 2 new subscribers, price 75c.

1 Dozen Dessert-spoons, 7 new subscribers	Price, \$3.00
1 Dozen Dessert-forks, 4 " "	1.50
1 Dozen Dessert-spoons, 9 " "	4.00
1 Dozen Dessert-forks, 5 " "	2.00

The Scissors are the best quality manufactured and handsomely nickel-plated. We will give a pair of 8-inch Bent Trimmers for 4 new names, price \$1.10; 7-inch Straight " 3 " " 1.00; 8-inch Barber Shears " 2 " " .80. We will sell any of the goods at prices quoted above.

## THE AUTOMATIC KNIFE.

The blades are warranted hand-forged of the very finest Sheffield silver steel. The handle is beautifully chased and nickel-plated. Opening device is curious and unique. It is done by pushing a button at the end of the handle, and the blade springs up as shown in the cut. These knives sell for \$1 each. We will give one to any of our subscribers who send us \$2 and the names of two new subscribers.



KNIVES.—Table Knives and Forks in sets, half dozen table knives, solid steel with plated handles, and half dozen forks; one dozen pieces. Four New Subscribers.

CARVERS.—Best quality stag handle carver, Damascus steel, Scimitar blade, best goods made. Three New Subscribers.

SHEEP-SHEARS.—Best English sheep-shears, six-inch blade. Two New Subscribers.

Pruning Shears, or Sheep Toe Clippers.—Good steel clippers. Two New Subscribers.

RAZORS.—Double extra hollow ground barber's razors, best German goods, three-eighths to three-fourths-inch blades. Two New Subscribers.

Pruning Knives.—Joseph Rogers & Sons' pruning knife, with hooked blade; total length nine inches, blade four inches; stag handle. Three New Subscribers.

## DAIRYING FOR PROFIT,

OR THE POOR MAN'S COW.

By Mrs. E. M. Jones. We recommend all interested in butter-making to obtain a copy of this valuable book. In order to stimulate its circulation we will give two copies to each old subscriber who will send us one new subscriber and one dollar.

## BREAD, CAKE AND PARING KNIVES.



The above cut represents one of each of the above celebrated knives. Every household should have them. They are made from the very best steel, and warranted to give satisfaction. Full set will be sent for Three New Subscribers.

THE - GLEN - STOCK - FARM. SHROPSHIRE, AYRSHIRE & LARGE ENGLISH BERKSHIRES.

We have a few good Ayrshire bull calves, 150 Shropshires, and also a choice lot of Berkshires, aged from 2 months upwards, for sale at reasonable prices. Visitors welcome. Write to Whiteside Bros., 333-2-y-om INNERKIP, ONT.

STOCK GOSSIP.

In writing to advertisers please mention the Farmer's Advocate.

Messrs. Gardhouse & Sons, Highfield, inform us that they intend selling their herd of Shorthorns in February. The date of sale will be given later on.

Mr. C. R. Decker, Chesterfield, Ont., has a change of ownership in this issue offering choice young Berkshire boars and sows in farrow, mostly from imported boar.

J. D. Stewart, Russeldale, Perth County, Ont., in this issue offers several A. J. C. C. Jerseys for sale. Read his advertisement. Write him for prices if you want anything in this line.

Mr. John Isaac Markam, who has imported such a number of Shorthorns from the Kinellar herd during the past fifteen years, places an ad. in another column. See what he has for sale and write him for prices.

In this issue R. Reid & Co., of Hintonburg, Ont., offer for sale their entire herd of Ayrshires. The owners write us they are deep milkers, and have won many prizes at Canadian shows. Ayrshires are in demand to-day. Canadian farmers who wish to buy should correspond with Messrs. Reid & Co.

Messrs. R. S. Nicholson, Sylvan, recently sold three Shorthorn cows to Geo. Graham, Ferguson, Ont. These gentlemen report their stock in good condition. Those shown at Chicago have just reached home, and are in fine condition, in fact have gained in flesh while in quarantine. Sales good. Last year young bulls averaged \$1.35.

Mr. Sydney Fisher, Knowlton, P. Q., reports sales of his Guernseys: Yearling bull, Vampire, No. 333, Am. G. C. C. Register, to Circle Agricole of St. Raymond, also Vanessa, his largest milker, a fine cow bought some years ago from Hon. John Abbott's herd. This cow is said to bear an exceedingly good record.

A. Frank & Sons, The Grange, Ont., insert an advertisement of their Improved Suffolk and Southdown sheep in this issue. They report the following sales: 1 boar to David McLean, Perth; 1 boar to Thos. Wilson, Knatchbull; 1 to T. Keast, Hanover; 3 to John McCraff, Coborn Station; 1 to A. Riddle, Hespler; 1 to H. Knott, Kingsboro; 1 to John Leonard, Mitchell; 1 to Jas. McClearen, Toronto.

Through a mistake in our last issue Mr. W. R. Cockburn's (Aberfoyle) Shorthorn sale was dated as coming off on Jan. 17th, instead of which Jan. 19th is the date fixed. The catalogue issued is now before us. It contains the pedigrees of twenty-two pure-bred Shorthorns, fifteen of which are cows and heifers, the remaining seven bulls.

Several of the popular Scotch families are represented. Among the females are two "Kinellar" Wimples, one "Sittytan" Village Blossom.

Mr. John Bell, Amber, Ont., the well-known breeder of Tamworth pigs, Shropshire sheep and Clydesdale horses, makes a change in his advertisement in this issue. He has now for sale a few choice boars fit for service, also sows from four to seven months old. He is booking orders for spring litters, and is wintering twenty grand sows and two imported stock boars. Tamworths are a new breed in Ontario, though long known in Britain. They are hardy, vigorous pigs, well adapted for grazing and particularly suited to fill the requirements of the pork packer. If you desire to give these pigs a trial write Mr. Bell.

ARKLAND FARM.

During our trip east we found that we had an hour to spare at Carleton Junction before the train left for the west. Taking advantage of this delay we walked across the fields to Arkland Farm, the property of Mr. A. C. Burgess. This farm, which is now under the management of Mr. G. O. Burgess, is pleasantly situated on the River Mississippi, just in the outskirts of Carleton Junction. Here are kept a herd of about sixty Jerseys of the choicest breeding, which supply the milk, cream and butter for a number of restaurants on the Canada Pacific Railway. The herd is headed by the well-known prize-winner Carlo, whose cut appeared in the Advocate some time ago. Mr. Burgess is also interested in standard-bred trotting horses. He has a number of young things of the Guy Wilkes and Hermit strains, which he expects to see distinguish themselves on the race track. At this point the whistle of the approaching train warned us that we had no time to spare, and we were forced to leave without having had a chance to look through the herd. We will reserve this treat for some future time.

NOTICES.

EXCURSIONS TO CALIFORNIA.

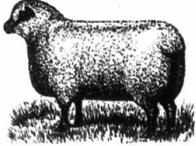
On account of the San Francisco Mid-Winter Fair, the Chicago, Milwaukee & St. Paul Railway Company will sell excursion tickets to San Francisco, St. Jose, Colton, Los Angeles and San Diego, Cal., and Portland, Ore., at reduced rates, good until April 1, 1894. For full particulars call on any coupon ticket agent or address A. J. Fyfe, Canadian Pass-Agent, 87 York St., Toronto, Ont.

POINT ST. CHARLES, P. Q.

Messrs. DICK & CO., Montreal: Dear Sirs:—Have used several packages of your celebrated Condition Powders with unexpected results, my horses having been working on the canal all winter, and become run down. Until within the last month I have had them in town, and used your Powders, which have brought them to a first-class state of health, and I consider them to be worth their full value now. Yours truly, JAS. MAYBURY, Master Carter.

IMPORTED SHROPSHIRE

My stock was selected by myself, and consists of Shearling Ewes and Ewe Lambs from the leading flocks of England, and of the highest quality and breeding. Stock of all ages for sale.



C. W. GURNEY, Paris, - Ontario. 327-y-om

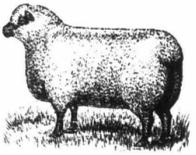
SHROPSHIRE!

Having reduced my flock by recent sales, I have just returned from England with a fresh importation of a very choice lot of shearling ewes, all bred in England to a ram half brother of the ram that Mr. Bowen-Jones sold to Mr. Thomas for \$1,000. I can now offer for sale over 100 imported shearling ewes as good as any I ever imported. W. S. HAWKSHAW, Glanworth P.O., Ont., 7 miles south of London. 326-y-om



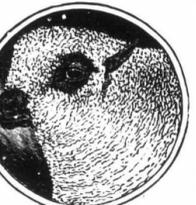
SHROPSHIRE - FOR - SALE

My whole flock of 60 head of Imported Rams and Ewes, a few home-bred Shearling Rams, and a choice lot of lambs of both sexes. Also a choice lot of young Yorkshire Pigs. T. H. MEDCRAFT, Sparta, Ont. 313-y-om



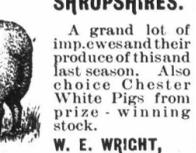
SHROPSHIRE.

A fine selection of Shearling Rams and Ewes by Royal Uffington, also Ram and Ewe Lambs from imported ewes and sired by Royal Marquis. 170 head to select from. Address: J. & J. SMITH, Paris, Ont. 331-y-om



SHROPSHIRE.

A grand lot of imp. ewes and their produce of this and last season. Also choice Chester White Pigs from prize-winning stock. W. E. WRIGHT, Glanworth, Ont. 338-2-y-om



A Bright Lad,

Ten years of age, but who declines to give his name to the public, makes this authorized, confidential statement to us:—

"When I was one year old, my mamma died of consumption. The doctor said that I, too, would soon die, and all our neighbors thought that even if I did not die, I would never be able to walk, because I was so weak and puny. A gathering formed and broke under my arm. I hurt my finger and it gathered and threw out pieces of bone. If I hurt myself so as to break the skin, it was sure to become a running sore. I had to take lots of medicine, but nothing has done me so much good as Ayer's Sarsaparilla. It has made me well and strong."—T. D. M., Norcutt, Kans.

AYER'S Sarsaparilla

Prepared by Dr. J. C. Ayer & Co., Lowell, Mass.

Cures others, will cure you

ADVERTISE IN ADVOCATE

SHROPSHIRE AND SHORTHORN.

Shearling rams and ewes by imp. Thomas ram, and lambs by imp. Bradburn ram. Both these rams were first prize winners in England and Toronto. Also bulls and heifers of choice breeding and quality.

W. G. PETTIT, 337-y-om Freeman P.O., Burlington Stn., G.T.R

1881—SHROPSHIRE—1881

My flock is established since 1881. All my ewes are imported and selected in person from the most noted English flocks. A choice lot of shearlings and lambs sired by a Bradburn ram. Write for prices to JAMES COOPER, 338-2-y-om Kippen, Ont.

DORSET HORN AND SHROPSHIRE SHEEP,

Jersey and Holstein Cattle, SHETLAND PONIES, CHESTER PIGS. ALL THOROUGHBRED. JOSEPH STRATFORD, G. T. R., Brantford, Ont. 325-2-y-om

Farnham Farm Oxford-Downs

Importations for 1893 arrived Aug. 4, and are a grand lot. Won at Detroit International, 1892. Mutton prize for the ten best sheep, over all breeds. Royal winning rams used in flock. Imported and Canadian-bred Rams and Ewes for sale reasonable. HENRY ARKELL, Guelph, G. T. R. Telegraph Office, Guelph. 334-2-y-om Arkell, C. P. R.

LARGEST SHEEP EXPORTER.

1272 PEDIGREE SHEEP, including many Winners of all breeds, landed at Quebec without loss, July 26th, '92, by E. GOODWIN PREECE

Live Stock Exporter, Shrewsbury, Eng., Who has thorough knowledge of all the best British flocks, herds and studs; great experience in shipping, and the privilege of obtaining choicest specimens of any breed for Show and Breeding. American Buyers supplied with SELECTED STOCK AT THE LOWEST PRICES. Those visiting England conducted to inspect the leading stocks to compare merits and prices before buying; also assisted in selecting and shipping, FREE OF CHARGE (5 per cent. comm. paid by seller.) Flock-book Certificate and all documents supplied. Highest references from leading American Importers supplied 1889, '90, '91, '92. All buyers should communicate. Information free. 340-2-y-om

To Stockmen & Breeders.

LITTLE'S PATENT: FLUID NON-POISONOUS SHEEP DIP AND CATTLE WASH.

For the destruction of Ticks, Lice, Mange and all Insects upon Sheep, Horses, Cattle, Pigs, Dogs, etc. Superior to Carbolic Acid for Ulcers, Wounds, Sores, etc. Removes Scurf, Roughness and Irritation of the Skin, making the coat soft, glossy and healthy.

The following letter from the Hon. John Dryden, Minister of Agriculture, should be read and carefully noted by all persons interested in Live Stock:—"MAPLE SHADE" HERDS AND FLOCKS. BROOKLIN, ONT., Sept. 4th, 1890.

DEAR SIR,—I cannot afford to be without your "Little's Sheep Dip and Cattle Wash." It is not merely useful for Sheep, but it is invaluable as a wash for Cattle, etc. It has proved the surest destroyer of lice, with which so many of our stables are infested. I have ever tried; it is also an effectual remedy for foul in the feet of Cattle. I can heartily recommend it to all farmers and breeders. JOHN DRYDEN.

Seventeen Gold, Silver and other Prize Medals have been awarded to "Little's Patent Fluid Dip" in all parts of the world. Sold in large tins at \$1.00. Special terms to Breeders, Ranchmen and others requiring large quantities. Ask your nearest druggist to obtain it for you; or write for it, with pamphlets, etc., to ROBERT WIGHTMAN, DRUGGIST, OWEN SOUND, Ont. Sole Agent for the Dominion. 330-2-y-om

CHOICE YORKSHIRE PIGS FOR SALE.

A number of good young pigs between three and four months old, from an imp. Sanders Spencer sow, and a sow of J. Walker Jones' blood. Price, \$10 each, or for the best, \$16 a pair. RICHARD GIBSON, 348-b-om Delaware, Ontario.

YORKSHIRE PIGS

Of the best type and breeding. Pairs not akin for sale at all seasons. J. M. HURLEY & SON, Belleville, Ont. Box 112. 341-y-om

IMPROVED: LARGE: YORKSHIRES

The largest and most carefully bred herd of this breed of hogs on the continent. Fifty sows are being bred for the spring trade. Stock of all ages for sale. A speciality made of smoothness and uniformity of type. All stock shipped to order are guaranteed to be as described. Personal inspection solicited. J. E. BRETHOUR, Burford, Brant Co., Ont. 327-y-om

J. G. MAIR, Howick, P. Q.

BREEDER AND IMPORTER OF IMPROVED LARGE YORKSHIRES.

I am breeding from nothing but stock imported from the well-known herd of Sanders Spencer. At Montreal Exhibition, young stock of my breeding took all the highest honors. Orders now booked for fall litters. 342-2-y-om

THE MARKHAM HERD

Farm at Locust Hill Station, C. P. R. Registered Improved Large Yorkshire, Berkshire and Suffolk pigs. As we do not intend to exhibit, we will now sell a choice lot of show pigs of each breed. 341-y-om JOHN PIKE & SONS.

H. J. DAVIS, Woodstock, Ont.

Breeder of High-class Large Berkshire and Imp. Large White Yorkshire Swine, Short-horn Cattle.—A grand lot of young pigs ready for shipment of both breeds; also boars fit for service from prize-winning stock. Stock shipped to order. Satisfaction guaranteed. Young Bulls generally on hand. 332-y-om

ISRAEL CRESSMAN, New Dundee, Ont.

Importer and breeder of Large English Berkshires. Young Hogs always on hand; got by imported stock. 328-y-om

BERKSHIRES AND YORKSHIRES.

Choice stock for sale at reasonable prices. Orders filled in rotation. Inspection invited. Write for prices. THOMAS WATSON, Springville, Ont. 348-2-y-om

THE HOME OF THE BERKSHIRES.

J. G. SNELL & BRO., Edmonton, Ont.

S. COXWORTH, GLEAMONT, ONT.

Breeder and Importer of Berkshire Hogs. Young stock of different ages constantly on hand. Pairs supplied not akin. A few good boars of March and April litters by High Clear Prince. Intend exhibiting my stock at Montreal, Toronto and Ottawa, and would be pleased to meet customers. Station and Telegraph Office—GLEAMONT, C. P. R. 332-y-om

LARGE: ENGLISH: BERKSHIRES.

Young Boars and Sows for sale not akin. Three imported sows will farrow in November and December to English stock boars. These imported pigs for sale at eight weeks old. Imported boar, eight months old, for sale, a prize-winner at the Royal Show, 1893. Imported sows in farrow for sale. 318-a-om J. C. SNELL, Edmonton, Ont.

C. R. DECKER, Chesterfield, Ont.

A number of young boars fit for service; also some six weeks old (choice) and some choice sows in farrow mostly from imported boar. Prices reasonable. Call and see stock, or write for prices. G. T. R. Station, Bright, Ont. 339-2-y-om

THE OXFORD HERD OF REGISTERED POLAND CHINAS

Our herd of Improved Poland-Chinas won 36 first, 18 second and 6 third prizes in 1893, including the Herd prize at Montreal and Toronto, for best boar and two sows, any age. Stock, both sexes and all ages. Pairs and trios not akin and sows safe in pig for sale at all times. Correspondence solicited or inspection of herd invited. 339-y-om W. & H. JONES, Mount Elgin, Ont.

CANADIAN BLACK BESS HERD

Of Registered Poland-Chinas. A choice lot of young pigs for sale. Elected = 48 =, the great ribbon winner at the head of herd, assisted by Rht's Chief, who weighs 1,000 pounds. Correspondence or inspection of herd solicited. J. J. PAYNE, Chatham, Ont. 332-y-om

IMPROVED SUFFOLK SWINE, THOROUGH-BRED HORSES, DURHAM CATTLE AND SOUTHDOWN SHEEP.

A grand lot of Suffolk Pigs, all ages, for sale at prices to suit the times. A. FRANK & SONS, The Grange, four miles from Cheltenham Stn., C. P. R. & G.T.R.



TAMWORTHS FOR SALE

I have for sale a few choice Tamworth Boars, fit for service; also sows from four to seven months old. I am booking orders for spring litters. My breeding pens contain twenty typical Tamworth Sows and two imported Boars, all of superior quality. I guarantee all stock sent out by me to be as represented.

JOHN BELL, Amber, Ont.

FOR SALE—Mammoth Bronze Turkeys, Toulouse Geese and Pekin Ducks; also a few young Berkshire pigs, all bred from prize winners. W. J. HAYCRAFT, Boyne Waterfarm, Agincourt, Ontario.

WORLD'S FAIR PRIZE FOWLS

Our record at Chicago: Rose Comb White Leghorns, first on hen and third on cockerel; S. C. Brown Leghorns, third on cockerel; Partridge Cochins, first on cock. Fowls and chicks of this stock, also Buff Cochins and Langshans, BARTLETT & GEORGE, 52 Clarence St., London, Ontario.

Trios only \$4.50!

(Worth \$10.00). Choice cockerel and two fine pullets. All bred from our great prize winners. Mated not akin. For delivery September 1st. Order now and get selection from hundreds. Your money back if they don't please. C. W. ECKARDT, Rippeville, Ontario, Plymouth Rock Headquarters. (Draw P. O. orders on Fonthill, Ontario.)

JNO. J. LENTON, PARK FARM, OSHAWA, ONTARIO, BREEDER AND IMPORTER OF INDIAN GAMES, WHITE, SILVER AND GOLDEN WYANDOTTES.

Stock always for sale. Eggs, \$1.00 per eleven. Sweepstakes at Chicago, 1891. B. and W. P. Rocks, W. and S. Wyandottes, W. and B. Leghorns, and Bronze Turkeys. 300 Toms and Hens, sired by 44 and 47 lb. Toms. 500 Cocks, pairs, trios and pens, mated for best results. Valuable illustrated circular, free. F. H. MÜNGBER, DeKalb, Ill.

BRONZE TURKEYS FOR SALE.

A few good birds from prize-winning stock. Pairs mated not akin. Write for prices. Terms reasonable. R. S. CREWS, Trenton, Ont.

HATCH CHICKENS BY STEAM

With the Improved Excelsior Incubator. Simple, Perfect, Self-Regulating. Thousands in successful operation. Guaranteed to hatch a larger percentage of fertile eggs at less cost than any other hatcher. Lowest priced first-class hatcher made. GEO. H. S. ALLI, Quincy, Ill.

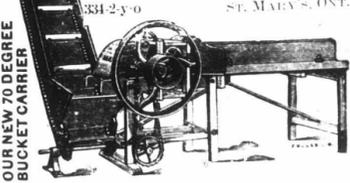
DRS. ANDERSON & BATES, Surgeons of the Eye, Ear, Throat & Nose, 31 North James St., Hamilton, and 5 College St., Toronto. Sole agents for Prof. North's Earphone for the incurable deaf. A large assortment of artificial eyes on hand.

TRY OUR NEW STEEL GANG CHEESE PRESS

All kinds of Cheese and Butter Factories furnished with the latest machinery.

THE "MONARCH" ENSILAGE CUTTER

(Carries any length, angle or direct). Full line of Fodder Cutting Machinery, Horse Powers, Grinders, Root Pulpers and Agricultural Implements. Write for prices. Satisfaction guaranteed. Address, RICHARDSON & WEBSTER, St. Mary's, Ont.



OUR NEW 70 DEGREE BUCKET CARRIER

HOW SHE MADE HER MONEY.

Mrs. E. M. Jones' New Book, "DAIRYING FOR PROFIT," Tells the Whole Story. So anyone reading it can do the same, and secure a comfortable independence. 60,000 COPIES SOLD ALREADY! Orders still pouring in. Price, 30c. by mail; four copies to one address by mail, \$1. ROBT. Y. BROWN, Agent, Box 324 Brockville, Ontario, Canada.

ISALEIGH GRANCE FARM, DANVILLE, P. Q.

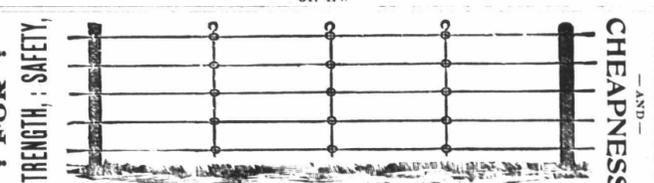
SPECIAL OFFERING. Four grand young Guernsey Bulls— one two-year-old, one yearling and two calves— all winners at the largest shows in Canada. Write quick and get prices. IMPROVED LARGE YORKSHIRES. Orders booked now for fall pigs. We have a grand lot of sows due to farrow in October and November. SHROPSHIRE. A few ram lambs left: all the ewe lambs sold. Also a few choice COLLIE PUPS: Dogs, \$10.00 each; Bitches, \$7.00, from prize stock. Address, J. Y. ORMSBY, Manager.

SPEND YOUR TIME PROFITABLY THIS WINTER TAKE A BUSINESS OR SHORTHAND COURSE IN THE



FOREST CITY BUSINESS AND SHORTHAND COLLEGE, LONDON, ONT. You run no risks. Our reputation is at stake. Catalogue free. Good board, \$2.50 per week. College Re-opens January 2nd, 1894. J. W. WESTERVELT, Principal.

Many Old Farms require so much fertilizing that farms and gardens won't produce a profit. The rich, loamy soil of Michigan Farms produces a fine crop without this expense. The near markets, general healthfulness of climate and freedom from cyclones, blizzards, together with good society, churches, etc., make Michigan Farms the best in the world. Write to me and I will tell you how to get the best farms on long time; low rate of interest. O. M. BARNES, Land Commissioner, Lansing, Mich.



NOTHING CAN APPROACH THE

Locked-Wire FENCE CO'Y, Ingersoll, - Ontario.

Apply to the above for Farm Rights and Agencies to build in any part of the Dominion.

THE RAZOR STEEL, SECRET TEMPER CROSS-CUT SAW.

We take pleasure in offering to the public a saw manufactured of the finest quality of steel, and a temper which toughens and refines the steel, gives a keener cutting edge and holds it longer than by any process known. A saw to cut fast "must hold a keen cutting edge." This secret process of temper is known and used only by ourselves. These saws are elliptic ground thin back, requiring less set than any saws now made, perfect taper from tooth to back. Now, we ask you, when you go to buy a saw, to ask for the Maple Leaf, Razor Steel, Secret Temper Saw, and if you are told that some other saw is as good, ask your merchant to let you take them both home, and try them, and keep the one you like best. Silver steel is no longer a guarantee of quality, as some of the poorest steel made is now branded silver steel. We have the sole right for the "Razor Steel" brand. It does not pay to buy a saw for one dollar less, and lose 25 cents per day in labor. Your saw must hold a keen edge, to do a large day's work. Thousands of these saws are shipped to the United States and sold at a higher price than the best American saws. Manufactured only by SHURLY & DIETRICH, 317 d of GALT, ONTARIO.



W.W. GREENER'S CELEBRATED GUNS



Are the best finished and finest shooting guns in the world. Write for Catalogue. W. W. GREENER, Birmingham, England.



THE LATEST! A MUCH NEEDED INVENTION. THE Fly Trap. WORKS COMPLETE. Guaranteed to remove and secure nine-tenths of the flies on a herd of cattle at a single stroke, 15 minutes for 20 cows. Township and County rights for sale. H. GUTHRIE, PATENTEE, Paris Station P. O., Ont.

FARM WAGONS AND SLEDS



BROWN BROS., DANVILLE, QUEBEC. 346-d-om

WANTED! A sober, industrious man who understands general farming, feeding cattle, raising stock and dairying, to take charge of a farm of 200 acres. Dwelling house and firewood to be supplied. Apply, stating terms, and sending testimonials and experience, to D. J. MCINTYRE, 348-2-b-o LANSBAY.

YOUR HOUSE

Should be painted only with UNICORN READY MIXED PAINTS. If you want it to look the very best. Ask your dealer to show you our card of forty colors. We guarantee them. Take no other. MANUFACTURED ONLY BY A. RAMSAY & SON, - MONTREAL. Established 1842. Leads, Colors, Varnishes, etc. 331-y-om

DONT Buy a Watch or any Jewelry before seeing our New Catalogue. ITR FREE. Write for one to R. B. MOWRY & Co. TORONTO, CAN.



CRADLE CHURN. PAT. NOV. 28, 1892.

Address: R. R. HAMILTON & CO., Neepawa, Man., or to the WATSON MANUFACTURING CO., Ayr, Ont. 337-y-om

POULTRY FOOD

BEST PRODUCER, GROUND BEEF SCRAPS, GRANULATED BONE, ANIMAL MEAL, BONE FLOUR, OYSTER SHELLS. SEND FOR PRICES TO W. A. FREEMAN, HAMILTON, ONT. 333-f-om

BREEDERS' DIRECTORY.

Cards up to six line space inserted under this heading, one issue a month, \$3 per line per annum; every issue, \$5 per line. Payable in advance.

A. & G. RICE, Curries P. O., Ont., breeders of Holsteins of the best butter strains. Write for prices. 327-

ALEX. HUME, Burnbrae, Ont., breeder of heavy milking, pure and high grade Ayrshire cattle and Yorkshire pigs of good quality. 330-2-y

BLACKWELL & McCALLUM, Martintown, Ont., breeders of registered Clydesdales, Shropshires and Yorkshires. 340-2-y

DANIEL BRIMS, Athelstan, P. Q., breeder of Durham Cattle, Clydesdale Horses and Shropshire Sheep. 315-2-y

DANIEL DRUMMOND, Burnside Farm, Petite Cote, P. Q., breeder of Ayrshire cattle. 315-2-y

E. B. BALL, Les Farm, Rock Island, Que., breeder of Standard-bred & Road Horses, Stoke Pogus St. Lambert Jerseys. 340-2-f

FRED. S. WETHERALL, Compton, P. Q., breeder of Jersey Cattle and Shropshire Sheep. 340-2-y

HILLHURST HACKNEYS, - Oldest stud in America. Purest and most fashionable strains. Aberdeen Angus Cattle, Shropshire Sheep and Large Yorkshire Swine. M. H. Cochrane, Hillhurst Station, Compton Co., P. Q. 330-

JAS. HUNTER, Alma, Ont., Canada, breeder and importer of Shorthorn Cattle, Clydesdale Horses and Shropshire-down Sheep. 322-y

JAMES I. DAVIDSON, Balsam P. O., Ont., importer and breeder of Clydesdale horses and Shorthorn cattle from the herd of A. Cruickshank, Esq., Sittyton, Scotland. Stock for sale. 326-2-y

JOHN JACKSON & SONS, Abingdon, Ontario, Importers and Breeders of Registered Southdown Sheep. 323-y

JOHN LAIDLAW, Crosslee Farm, Wilton Grove P. O., Ont., breeder and importer of Border Leicester Sheep. Sheep for sale. Satisfaction guaranteed. 328-y

J. LEASK, Taunton, Ont., breeder of Clydesdales, Shorthorns, Shropshires and Berkshires. 343-2-y-om

JAMES STEPHEN & SONS, Brookhill Farm, Trout River, P. O., P. Q., importer and breeder of Ayrshire Cattle and Yorkshire Pigs. Young stock always on hand for sale. 315-2-y

JOS. CAIRNS, Camlachie, Ont., Breeder of Pure-bred Chester White Swine. 327-y

JOSEPH YULL, Carleton Place, P. O., Ont., breeder of Ayrshire Cattle, Shropshire-down Sheep, and Berkshire Swine. 31-2-y

J. P. PHIN, Breeding and Importing SHROPSHIRE SHEEP a specialty. 322 HESPELER, ONT.

LEVI SKINNER, Tyrone P. O., breeder of Shropshires and Shorthorns. Well-bred breeding stock a specialty. Satisfaction guaranteed. 322-2-y

MAPLE RIDGE SOUTHDOWNS, Guy Carr, jr., Compton Station, Quebec, also breeder of P. Rocks and Wyandottes. 340-2-y

PETER ARKELL, Teeswater, Breeder & Imp. of Registered Oxford-Down Sheep. 345-y-om

ROBERT MARSH, Importer and Breeder of SOUTHDOWN SHEEP. 319-y Richmond Hill, Ont.

R. SANGSTER, Lancaster, Ont., breeder and importer of Scotch Shorthorns. 340-2-y

R. W. STEVENS, Lambeth, Ont., London Station, breeder of Pure-bred Registered Lincoln Sheep. Imported stock. Stock for sale. 321-2-y

SPRINGHILL STOCK FARM, Wilfred Hansel, importer and breeder of thoroughbred Clydesdales. Stock for sale. Correspondence solicited. Thorold P. O., Ont. 322-2-y

THOMAS IRVING, Montreal, breeder of Clydesdale Horses and Ayrshire Cattle. 332-2-y

T. C. McAVOY, Balsam, Ont., breeder of Clydesdales, Scotch Shorthorns, and Cotswold Sheep. Young stock of all kinds for sale. 323-2-y

T. W. HECTOR, Springfield-on-the-Credit, Ont., Importer and Breeder of Dorset Horn Sheep. The oldest flock in Canada. 331-1-y-om

W. P. McCLARY, Glenholm Farm, Compton, P. Q., breeder of Shorthorns. Young stock for sale. 340-2-y

W. H. REID, breeder of Ohio Improved Chester and Suffolk Pigs. Lockton, P. O., Ontario. All stock registered. 322-2-y

W. M. STEWART, JR., Menie Stock Yards, Seymore, Ont., breeder of Ayrshire Cattle and Berkshire Pigs. 323-2-y

W. H. BEATTIE, Wilton Grove, importer and breeder of Shropshire Sheep. A choice lot of Collie Dogs and White Holland Turkeys. 319-y

W. WHITELAW, Guelph, Ont., breeder of Shorthorn Cattle and importer and breeder of Border Leicester sheep. 319-y

W. M. SMITH, M. P., Columbus, Ont., breeder and importer of Clydesdale Horses, Shorthorn Cattle, and Cotswold Sheep. Stock for sale. Terms and prices liberal. 325-2-y

ALMA The leading Canadian College for Young Women. ST. THOMAS, ONTARIO. Graduating Courses in Literature, Music, Fine Art, Commercial Science and Education. The efficiency of Canadian Colleges is conceded by all. 20 professors and teachers. 300 students from all parts of America. Health and home. LOW RATES. Only 3 hours from Detroit. 60 pp. illustrated announcement. President AUSTIN, A. B.

ALLAN LINES

THREE DISTINCT SERVICES FROM MONTREAL WEEKLY.

Mail Service to Liverpool, via Quebec, Rimouski and Derry, or via Portland & Halifax in Winter.

DIRECT SERVICE MONTREAL TO GLASGOW

Direct Service Montreal to London.

These steamers are of most recent construction; are of the highest class, and their record for the safe carriage of cattle is unexcelled. Special attention paid to the best methods of stowing and carrying cheese, apples and other farm produce. For schedule of sailings, rates of passage or other information, apply to 342-y-om H. & A. ALLAN, Montreal.

PILES Radically Cured. W. E. BESSEY, M.D., C.M., 200 JARVIS STREET, TORONTO.

SPECIALTY.—Official Surgery, Piles & Rectal Diseases, Stomach and Intestinal Disorders, Chronic and Nervous Diseases, Genito-Urinary Affections, and Diseases of Women. Private Hospital, with trained nurses. 329-y-om

YOU NEVER HEARD OF THE LIKE BEFORE!

Bargains Beyond Record.

A Large Straw and Ensilage Cutter, made by B. Bell & Sons, St. George, only 45.00

A Thomas Organ, Woodstock, only 75.00

A Karn Organ, Woodstock, only 75.00

We guarantee these goods to be in first-class order. The number we have of each is limited, so order at once if you want them. They cannot be got again at these prices.

GRANGE WHOLESALE SUPPLY CO., 35 Colborne St., TORONTO. R. Y. Manning, Manager. 341-a-o

SOUTH SASKATCHEWAN LANDS FOR SALE.

All choice selections, near SASKATOON, at the gateway of the Great Saskatchewan Country, equal to anything on the Continent for farming purposes. The homesteads are mostly taken up by a good class of settlers. The district produces magnificent crops, and is a good stock country. A branch of the C. P. R. runs through the tract. Every farm within easy distance of a railway station.

GENERAL PRICE, \$3.00 AN ACRE

Title Indisputable. No Restrictions.

OSLER, HAMMOND & NANTON, WINNIPEG, Or C. POWELL, 345-y-om 6 Victoria-St., TORONTO.

EXCELLENT CLEAR LAND---10,000 ACRES

We are in a position to locate a colony of from 50 to 100 settlers on 160 acres each on first-class bottom land, equal to the best land in the Province of British Columbia, and similar to Fraser River delta land. This land is situated on the Coast of the Mainland of B. C., with steamboat communication. This land comprises a large valley, with a navigable stream running through the centre of it. Very little clearing required. This is the best chance offered in B. C. to get a hold of a first-class location very cheap. A party will leave Vancouver shortly to make selections in this desirable locality. For full particulars, address: MACKINNON MACFARLANE & CO., 611 Hastings Street West, Vancouver, B. C. 39-1-y-om

\$2.00 per acre will buy a few farms within six miles of the great W-H-E-A-T shipping town of

PORTAGE LA PRAIRIE

Other choice properties in town and vicinity cheap and on easy terms. Correspond with W. RICHARDSON, Real Estate, Loan and Collecting Agency, Sask. Ave., Portage la Prairie. P. O. Box 753. 42-y-om

ONTARIO VETERINARY COLLEGE

Temperance Street, Toronto. The most successful Veterinary Institution in America. All experienced Teachers. Session begins October 21st. Apply to the principal, PROF. SMITH, V. S., Edin., Toronto, Can. 273-2-y

THE EXCELSIOR LIFE INSURANCE CO. OF ONTARIO, LTD.

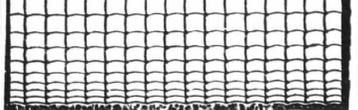
Incorporated 1889. Subscribed Capital, \$354,500

Office: Cor. Adelaide and Victoria Streets, Toronto.

A home company with most liberal and attractive plans and features. Largest Assets in comparison to Liabilities. Highest Rate of Interest on Investments. Lowest for cost of Management, in cost of obtaining new business, and in rate of mortality. Policies non-forfeitable, incontestable, and entitled to large percentage of profits.

GOOD RELIABLE AGENTS WANTED.

E. MARSHALL, 339 L-O SECRETARY. E. F. CLARKE, MANAGING-DIRECTOR.



- RUN FOR A DOCTOR. -

"I am awful sick, and if he'll work cheap I want him." That must be the way some men talk, judging by the letters we get. Such men fence with barbed wire, or anything cheap. Our customers buy because they prefer the best and most efficient article at a reasonable price. Send for price lists.

PAGE WIRE FENCE CO. OF ONTARIO, LTD., WALKERVILLE, ONT. 325-y-om

W. & F. P. CURRIE & Co.

Wholesale General Merchants, 100 GREY NUN ST., MONTREAL

IMPORTERS OF Scotch Glazed Drain Pipes, Chimney Tops, Vent Linings, Flue Covers, Fire Bricks, Fire Clay, Portland Cement, Roman Cement, Canada Cement, Water Lime, Whiting, Plaster of Paris, Borax, China Clay, etc., etc.

MANUFACTURERS OF BESSEMER STEEL SOFA, - CHAIR - AND - BED - SPRINGS A LARGE STOCK ALWAYS ON HAND. WM. CURRIE. 331-y-om F. P. CURRIE



480 BALES BUFFALO : ROBES

THOROUGHLY WELL-LINED AND TRIMMED, HAVE BEEN SHIPPED THIS SEASON BY

NEWLANDS & CO., Galt, Ontario.

The Saskatchewan Buffalo Robe is made in one piece; no seams; easily dried when wet; hair will not come out.

WARM, HANDSOME AND MOTH-PROOF. Write for information. 341-L-o

400—Helderleigh Fruit Farms Nurseries—400 (Four Hundred Acres in Extent.) Established 1882.

There is no place in Canada where the season is longer than here. Hence we get trees brought to the fullest maturity, capable of withstanding the severest cold. Having one hundred acres in fruit, from which cuttings, buds, scions, etc., are taken, I can safely guarantee the purity of my stock to be equal, if not superior, to any other nursery. The soil is specially adapted to produce vigorous, hardy trees, a grand lot of which are now growing and for sale. All the leading sorts of both old and new varieties deemed worthy of propagation. Catalogues free on application. Agents wanted in every township. 337-y-om E. D. SMITH, Winona, Ontario.

UN-NERVED, TIRED

People and invalids will find in CAMPBELL'S QUININE WINE A pleasant restorative and appetizer. Pure and wholesome, it has stood the test of years. Prepared only by K. CAMPBELL & Co., Beware of Imitations. MONTREAL. 331-2-y-om

PATENTS

procured in all countries. Expert in patent cases. Correspondence solicited. 25 years' experience. W. BRUCE, 173 King St., East. 312-2-c Hamilton Ontario.

FARMER'S ADVOCATE

Bound : Volumes

— FOR 1893 —

NOW READY

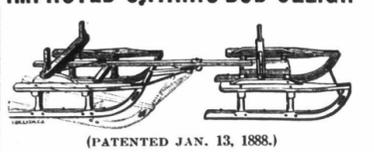
PRICE, \$2.25 EACH

Sent per Express, Charges Pre-paid.

The cheapest and best way to obtain a good agricultural library. We can also furnish bound volumes for years 1880 to 1892, at \$1.60 per volume. Address— The WM. WELD CO. (Ltd.), London, Ont.

BAIN BROS.'

IMPROVED ONTARIO BOB-SLEIGH



(PATENTED JAN. 13, 1888.)

Best Sleigh in the Market!

Because it is the lightest running, shortest turning; never cuts off; is always in line; no wearing of box or rack; no splitting of bolster or reach; never buckles; can be backed like a wagon; built of the very best material; strong and durable.

— WE ALSO BUILD —

Bain Bros.' Improved One-Bench Man. Bobs

With longer runners, faced with two-inch spring steel shoes. These are especially adapted for logging and heavy teaming.

ALSO MANUFACTURE AND CARRY IN STOCK A FULL LINE OF THE

Celebrated Brantford Bain Wagons,

which are so well and favorably known.

— ALWAYS ASK FOR —

BRANTFORD WAGONS and SLEIGHS

326-2-y-om

WEAKNESS OF MEN

Quickly, Thoroughly, Forever Cured

by a new perfected scientific method that cannot fail unless the case is beyond human aid. You feel improved the first day, feel a benefit every day; soon know yourself a king among men in body, mind and heart. Drains and losses ended. Every obstacle to happy married life removed. Nerve force, will, energy, brain power, when failing or lost, are restored by this treatment. All small and weak portions of the body enlarged and strengthened. Victims of abuses and excesses, reclaim your manhood! Sufferers from folly, overwork, early errors, ill health, regain your vigor! Don't despair, even if in the last stages. Don't be disheartened if quacks have robbed you. Let us show you that medical science and business honor still exist; here go hand in hand. Write for our book with explanations and proofs. Sent sealed, free. Over 2,000 references.

ERIE MEDICAL CO., Buffalo, N.Y.

333-y-om

FARMERS REQUIRING :

Stack Covers, or Grain Covers, Binder Covers, Horse or Wagon Covers. :

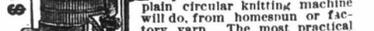
Tarpaulins, etc., or anything in canvas line, can be accommodated by addressing

J. TOBIN, 237 Queen St., Ottawa.

All covers of my make are guaranteed thoroughly water proof and of the best quality at the lowest prices. Send for samples. Hundreds of testimonials. 314-2-f-om

The High Speed Family Knitter

Will knit 10 pairs socks per day. Will do all work any plain circular knitting machine will do, from homestead or factory yarn. The most practical family knitter on the market. A child can operate it. Strong, Durable, Simple, Rapid. We guarantee every machine to do good work. Beware of imitations. Agents wanted. Write for particulars.



Dundas Knitting Machine Co. Dundas, Ontario. 341-y-om

AGENTS WANTED,

male and female. To sell our new Kettle

Boiler, Cake and Pastry Knives, Carver, and Knife and Scissors Sharpener. No capital required. Easy sales, big profits.

CLAUSS SHEAR CO., Lock Box 324, Toronto, Ont. 317-y-om

# CONTENTS

— OF THE —

## FARMER'S ADVOCATE AND HOME MAGAZINE.

VOLUME XXVIII.

<p><b>EDITORIAL.</b></p> <p>A few of the reasons why farmers fail.....322</p> <p>Agricultural outlook—candid opinions on.....370</p> <p>Agriculture and Arts Association of the Province of Ontario.....4</p> <p>Agricultural summer school for teachers.....346</p> <p>Agriculture in the schools.....22</p> <p>Agricultural libraries.....382</p> <p>Agricultural and Experimental Union—the.....24</p> <p>Agricultural education.....102, 262</p> <p>Agricultural depression in Great Britain.....294</p> <p>American Southdown Breeders' Association.....416</p> <p>An unbeaten record.....162</p> <p>Annual sale at the Ontario Agricultural Fair.....416</p> <p>Appointments at the Ontario Agricultural College—new.....397</p> <p>Asparagus.....184</p> <p>Ayrshires—Messrs. Jas. Drummond &amp; Sons.....414</p> <p>Ayrshires—Messrs. David Morton &amp; Sons.....435</p> <p>Auction sales—Mr. T. D. Hodgins.....395</p> <p>Autumn cultivation.....303</p> <p>Autumn care of stock.....347</p> <p>Banish the "Freak" and the "Fakir".....394</p> <p>Bank's Red Gravenstein—the.....415</p> <p>Berkshires—Mr. Coxworth's.....42</p> <p>Binding twine.....245</p> <p>Butter, bogus again.....456</p> <p>Cabbage and Cauliflower.....184</p> <p>Cattlemen appeal to the Government.....244</p> <p>Cattle trade, present and future.....302</p> <p>Cattle quarantine.....64</p> <p>Canada's great fair.....244</p> <p>Canada's favorite exposition, preparing for the World's Fair, Canada at the World's Fair, Chicago.....263</p> <p>Canada's horticultural exhibit.....348</p> <p>Canadian cheese at the World's Fair.....242</p> <p>Canadian Packing Co.....122</p> <p>Canadian cattle trade restrictions.....62</p> <p>Canada records recognized.....223</p> <p>Canadian cattle restrictions.....394</p> <p>Canadian clydesdales, how spoken of by Glasgow judges.....64</p> <p>Canadian Cattle Breeders' Association.....63</p> <p>Canadian sheep record.....242</p> <p>Canada Victorious.....474</p> <p>Cattle trade, the.....476</p> <p>Central Farmers' Institute.....64</p> <p>Chester White and Dorset Horns, Mr. R. H. Harding's.....182</p> <p>Cionmore, record 2:21.....46</p> <p>Clydesdale interests, against Messrs. Devitt &amp; Sons.....322</p> <p>Clydesdales, Shorthorns, J. E. Smith's.....123</p> <p>Coffee humbug, a.....370</p> <p>Colts, feeding.....485</p> <p>Contributors wanted.....162</p> <p>Corn culture.....162</p> <p>Cows, what to feed and how often.....183</p> <p>Cup to be offered at Guelph, a valuable.....436</p> <p>Dairy bulletin, the.....266</p> <p>Dairy test, Chicago.....302</p> <p>Dehorning of cattle, report of the Ontario Commission on.....23</p> <p>Dictionary, a standard.....163</p> <p>Dogs.....82</p> <p>Duties.....82</p> <p>Economical building.....183</p> <p>Editorial notes.....222, 42, 142, 102, 182, 302, 242, 414, 282, 322, 143, 122, 346, 2, 474</p> <p>Ensilage for summer feeding.....435</p> <p>Ensilage, the Robertson Combination for.....123</p> <p>Experimental farm, Ottawa.....415</p> <p>Facts concerning apple spot.....455</p> <p>Farmers tool house, the.....283</p> <p>Fair notes.....303</p> <p>Fall wheat.....184</p> <p>Farm machinery at the Toronto Industrial.....395</p> <p>Farm scales.....242</p> <p>Fat Stock Show, the Ontario.....347</p> <p>Fat Stock Show, at Guelph.....3</p> <p>Fat Stock Show at Guelph.....476</p> <p>Feeding wheat.....394</p> <p>Fencing, economical farm.....202</p> <p>Fencing, as seen at the fairs.....396</p> <p>Fleeces, the.....184</p> <p>Food supplies, gambling in.....455</p> <p>Freeman's potato contest.....475</p> <p>Hackneys and Shires, Mr. H. N. Crossley's.....394</p> <p>Hackneys, Messrs. Robt. Beith &amp; Co.'s stud of.....142</p> <p>Hard times, remedy for.....134</p> <p>Hiring a man for the season.....134</p> <p>Hawks and Owls of North America, and their relation to agriculture.....203</p>	<p>Horse Breeders' Association need-ed, a.....63</p> <p>Horn Fly, the.....222</p> <p>..... fighting the.....282</p> <p>Horse feeding, hints on.....346</p> <p>Horse notes.....370</p> <p>How the tariff affects the Manitoba and Northwest farmers.....223</p> <p>Industrial, Toronto.....370</p> <p>..... fair, Toronto.....322</p> <p>Institute workers.....282</p> <p>Institutes and conventions.....414</p> <p>Lambs, weaning.....282</p> <p>Lathyrus Sylvestris, the new for-age plants.....414</p> <p>Leicesters, Shorthorns and Clydesdales, James Snell's.....434</p> <p>Lincoln sheep, the property of Gibson &amp; Walker.....263</p> <p>Let us hear from you.....454</p> <p>Live stock for the World's Fair.....24</p> <p>..... portraiture.....203</p> <p>..... for the Chicago Exposition, report of the experts.....142</p> <p>Lord Derby's tribute to Sir John Carling.....474</p> <p>Melon growing.....184</p> <p>Millet.....203</p> <p>Montreal Exposition, the.....347, 266</p> <p>Mr. R. A. Lister.....419</p> <p>Mr. N. A. Wrey's address.....24</p> <p>New fruits, worthless or otherwise.....184</p> <p>Ontario Agricultural College, summer course for teachers.....222</p> <p>Ontario Agricultural College, its work and prospects.....347</p> <p>Ontario Agricultural and Experimental Union.....344, 454</p> <p>Ontario's winter show.....435</p> <p>Ottawa Central Fair.....396</p> <p>Our public roads.....43, 64</p> <p>Our clubbing rates.....474</p> <p>Our subscription prizes.....474</p> <p>Oxford Down sheep, Mr. Henry Arkell's.....434</p> <p>Pastures, failing.....362</p> <p>Patrons of Industry, the.....232</p> <p>Pleuro-Pneumonia.....68</p> <p>Potatoes.....133</p> <p>Poland China.....470</p> <p>Poland Chinas, Mr. J. I. Payne's.....370</p> <p>Poultry exhibit at Toronto, report.....396</p> <p>Poultry exhibition.....475</p> <p>Ram sales.....455</p> <p>Rape growing.....162</p> <p>Road improvement.....162</p> <p>Roots.....283</p> <p>Salting stock.....283</p> <p>Seed Grain—frauds in.....243</p> <p>Sir John Carling.....283</p> <p>Scenes from every land.....348</p> <p>Shrinkage of stored grain.....348</p> <p>Shropshires—J. A. S. McMillan's.....202</p> <p>Shropshires—Mr. W. S. Hawkshaw's.....343</p> <p>Spring stallion show—Toronto.....103</p> <p>Southdowns—Mr. John Jackson's.....202</p> <p>Stock Breeders' Association Sale.....476</p> <p>Swine at the World's Fair.....435, 418</p> <p>Tamworths—Mr. John Bell's.....223</p> <p>Tariff Reform.....183, 163, 82</p> <p>Thornton's Circular.....163</p> <p>To our subscribers.....474</p> <p>Valley Home Shorthorns.....62</p> <p>Western Fair.....323, 374</p> <p>Western Fair prize list.....403</p> <p>Winter Show.....348</p> <p>Why is wheat cheap.....62</p> <p>Wood ashes.....419</p> <p>World's Fair, Chicago.....419</p> <p>World's Fair staff—Canadian division.....162</p> <p>Yorkshire coach stallion, Stanford Bridge Swell.....82</p> <p>Yorkshire Coach Stallion, Shilling Light.....22</p> <p>Yorkshire, Berkshire and Suffolk swine, Mr. Levi Pike's head of.....163</p>	<p>Breeding grade stock.....224</p> <p>Calf feeding pen.....207</p> <p>Calves, how I dehorn my.....247</p> <p>Canadian Cattle Breeders' Association.....8</p> <p>Canadian stock at the World's Fair.....349</p> <p>Canadian Shorthorns at Chicago.....478</p> <p>Care and feeding of breeding ewes in winter and spring.....126</p> <p>Care of colts.....326, 26</p> <p>Cattle trade, the.....326, 26</p> <p>Cattle feeding, is it likely to be profitable?.....456</p> <p>Chatty letter from the States.....284, 420</p> <p>67, 8, 224, 350, 83, 264, 377, 304, 245, 397</p> <p>124, 46, 166, 145, 104, 438, 326, 479</p> <p>Chester Whites as bacon hogs.....27, 206</p> <p>Cotswold sheep, grey faces in.....166</p> <p>Cow for more than one purpose.....106</p> <p>Cows sucking themselves, to prevent.....206</p> <p>Cross-breeding for mutton.....206</p> <p>..... experience in.....247</p> <p>Clydesdale Horse Association, the.....65</p> <p>Clydesdale meeting.....479</p> <p>Dairy cows, how I feed.....46</p> <p>Dehorning, homemade chemical.....205</p> <p>Dehorning calves.....247</p> <p>Dorset Horned sheep.....248</p> <p>Duroc-Jersey swine.....206</p> <p>Economy in feeding.....284</p> <p>Encourage local men.....26</p> <p>Export cattle trade, the.....478</p> <p>..... Canada's.....478</p> <p>Fat stock show.....247</p> <p>Feeding animals judiciously.....438</p> <p>Feeding dairy cows for profit.....457</p> <p>Feeding grain to hogs.....478</p> <p>Foal, the.....206</p> <p>Foals, care of.....306</p> <p>Hackney Horse Society, the.....65</p> <p>Herd Book.....286</p> <p>Hogs, feeding.....84</p> <p>Hogs, more wanted.....7</p> <p>Holstein-Friesian bloods meeting.....84</p> <p>Holstein-Friesian cows, the milk of for cream.....105</p> <p>Holsteins as general purpose animals.....397</p> <p>Holstein grades as beef and veal producers.....204</p> <p>How the Jersey strikes our poet.....44</p> <p>How shall we select sires for dairy herds to select sires for.....105</p> <p>Horses, how to feed.....44</p> <p>Horse breeding for a special purpose.....83</p> <p>Horse show at Madison Square Gardens, ninth annual.....456</p> <p>Improved White Yorkshires as bred at Oak Lodge.....104</p> <p>Iodide of potassium.....207</p> <p>Ideas culled from Sheep Breeders' annual report.....458</p> <p>Isleigh Grange.....124</p> <p>..... farm.....350</p> <p>Jersey, a business cow, the.....67</p> <p>Jersey cattle, care and treatment.....44</p> <p>Jerseys for the dairy.....350</p> <p>Live stock show at Chicago, the.....349</p> <p>Live stock exhibit from Ontario to World's Fair.....305</p> <p>Montreal Exposition prize list, 1893.....383</p> <p>Meadowside Ayrshires.....457</p> <p>Ontario Agri. College Sale.....479</p> <p>Ontario Provincial fat stock show.....247</p> <p>Our Scottish letter.....7, 45, 66, 125, 183, 205, 241, 267, 304, 324, 376, 398, 420, 457, 480</p> <p>Pine Grove herd of Poland Chinas.....376</p> <p>Poland Chinas.....376</p> <p>Prize essay—The care and feeding of breeding ewes in winter and spring.....7</p> <p>Quarantining Canadian cattle.....84</p> <p>Report of Secretary S. E. Prayther.....139</p> <p>Royal Show of England, the.....295</p> <p>Selection and care of breeding ewes in Manitoba.....8</p> <p>Scheduling Canadian cattle.....83</p> <p>Sheep feeding and breeding notes on.....295</p> <p>Sheep and swine breeders conference.....436</p> <p>Sheep raising, notes on.....106</p> <p>Sheep at the World's Columbian Exhibition.....416</p> <p>Sheep breeding in Manitoba, the theory and practice of.....7</p> <p>Sheep, practical notes on wintering.....8</p> <p>Sheep and swine men convene.....163</p> <p>Sheep breeding, some notes on.....83</p> <p>Sheep raising on the Islands of the Gulf of Georgia, British Columbia.....84</p> <p>Sheep breeding in Alberta.....398</p> <p>Sheep in Manitoba.....287</p> <p>Sheep husbandry.....47</p> <p>Shire horse, the.....186</p> <p>Shropshire sheep, enquiries re.....26</p> <p>Shorthorn Breeders' Association.....65</p> <p>Shorthorns at Mr. Alexander's Brigden, Ont.....83</p> <p>Shorthorns, Scotch and English.....438</p> <p>Southdown sheep for market.....457</p> <p>Studs, herds and flocks.....164, 246, 264, 285, 304, 325, 352</p> <p>Southdown Sheep Breeders' Association of Great Britain.....165</p> <p>Southdown sheep—their claims to public favor.....478</p> <p>Stock and dairy farm, Woodville.....438</p> <p>Summer feeding of stock.....438</p> <p>Swine, experiments in the feeding of.....284</p> <p>Swine, leaner kinds wanted.....144</p> <p>Tamworth swine.....6</p> <p>Timely topics in feeding.....420</p> <p>..... notes for January.....7</p> <p>To what extent can we in this country follow the English methods of sheep husbandry with profit.....185</p> <p>Toronto Industrial prize list, 1893.....403</p> <p>Utility vs. Fancy.....481</p> <p>Value of malt sprouts.....144</p> <p>Value of fancy points in breeding stock.....5</p> <p>W. C. Edwards &amp; Co.'s stock farm.....421</p> <p>Winter care of cattle, the.....478</p> <p>Woodville stock farm.....438</p> <p>World's Fair butter contest.....353</p>	<p>Garden and orchard.....10</p> <p>Ginseng culture.....422</p> <p>Geology, popular.....422</p> <p>Grains, spring.....85</p> <p>Grain seed.....87</p> <p>Grain seed free.....87</p> <p>Harvesting mangels.....377</p> <p>Hedges.....47</p> <p>Hides, salting.....270</p> <p>Horn Fly trap, the Guthrie.....459</p> <p>How best to keep up and increase the fertility of our soil.....482</p> <p>Insect pests, how are kept in check.....441</p> <p>Irrigation in the territories.....461</p> <p>Lime and Nitrogen.....461</p> <p>Maple sugar making.....88</p> <p>..... P. Q.....88</p> <p>Manure from farm stock.....441</p> <p>Mangels, harvesting.....377</p> <p>Manure, why it is necessary.....68</p> <p>Memorial to Mr. Foster.....328</p> <p>Notable implements at Chester.....354</p> <p>Notes from England.....460</p> <p>Notes, timely.....269, 28, 225</p> <p>Ontario Agricultural Commission findings.....327</p> <p>Piggery, description of a plan.....399</p> <p>..... 398</p> <p>Plowing matches.....47, 354</p> <p>Popular Geology—No. 2.....459</p> <p>..... 3.....482</p> <p>Rape as a cleaning crop for sheep.....188</p> <p>Rape growing for cattle feed.....378</p> <p>Ranching vs. mixed farming.....400</p> <p>Reports from the fall wheat fields of Ontario.....307</p> <p>Roots and the place they should occupy.....166</p> <p>Roots, cultivation of.....167</p> <p>Seed saving.....400</p> <p>..... grain, distribution of.....196</p> <p>..... catalogue for 1893.....127</p> <p>Sir Walter Gilbey.....354</p> <p>Silo building.....307</p> <p>Stabling cows early.....378</p> <p>Tariff reform.....460, 400</p> <p>Tread powers, more information on.....306</p> <p>Tomatoes in Canada.....127</p> <p>Trifolium medium.....30</p> <p>Thistle, sow.....288</p> <p>..... Russian.....355</p> <p>Wagon tires, broaden.....353</p> <p>Weeds.....28, 109, 146, 186, 226, 329</p> <p>What our seedsmen write us.....87</p> <p>Wheat, depression in.....249</p> <p>..... and oats together.....166</p> <p>..... does turn to chaff.....167</p> <p>..... experiments with winter.....356</p> <p>Working for fun.....48</p> <p>World's Agricultural Congress, 1893.....87</p> <p>World's Fair report of the progress of the work of the Canadian section.....69</p>
---	---	---	---

Strawberries, notes on 308
Why every farmer should subscribe for the Farmer's Advocate 442

THE DAIRY.

Babcock test, some notes on the 169
Buttermaking, practical 357
Butter trade, our export 231
Butter, economical production of the 150, 290
Butterfat in cheese, some notes on the value of 250
Butter and cheesemaking both profitable this season 380
Buttermaking, bogs 331
Canadian cows at Chicago 189
Circular to Secretaries and cheesemakers 311
Cows, the champion 332
Cheese factory accounts by the butterfat system 312
Cheese for the World's Fair 312
Cheese improving, the early 235
Cheese branding American 338
Cheese and butter, preparing the, for exhibition 332
Cheese and butter maker, the future 210
Cheese factories, importance of sending monthly statements 331
Cheese factories and creamery, importance of milk for 170
Cheese competition at Chicago 442
Cheese factories, hauling milk and its difficulties 379
Cheese factories, the Babcock Tester for the 89
Cheese factories, Patrons fined for tampering with milk 442
Cheese, Edam and Gouda 379
Cheese for special exhibit, Toronto 312
Cheese markets 332
Cream churning at low temperature 11
Dairy practice, points in 312, 331, 338
Dairymen's Association of Western Ontario 70, 28
Dairying, importance of systematic instructions in 379
Dairy cows, how to acquire good herds of 442
Dairy convention branch 129
Dairymen's Association, meeting of the executive committee of Western Ontario 271
Dairy Associations, Ontario's grant to 272
Dairy butter in the fall and winter, notes on making 443
Dairying, winter and soil exhaustion 11
Dairymen's Association, annual convention of 443
Dairy industry of Ontario 421, 413
Dairy question 150
Dairy trials, World's Fair 310
Dairy farmer should feed well, why the 150
Dairy farmer, fleecing the 210
Dairy, elaboration of milk 27
Dairying in Manitoba 210
Dairy industry, factor necessary to the advancement of the 462
Dairy notes 332, 290
Dairy exhibits for Chicago 338
Dairying, success in progress in 311
Dairy products, Canadian, for the World's Fair 189
Forests, American 231
Foul foot 402
Foods, effects of changing from past to present 290
How to keep "separator" skim milk sweet 211
How cheese factories are supervised in Ontario 110
Importance of attention to little things in dairying 230
Marketing cheese in Western Ontario 483
Milk, making condensed 235
Milk Preservatives 235
Milk production, cost of 231
Milk, economy in production 51
Milk, improving the quality 332
Milk, care of 70
Milk, skimming 461
Ninety days' test 251
Ontario Agricultural College, home dairying at the 462
Ontario Creameries Association 50
Queries regarding paying accounts to test at cheese factories 190
Quick churning 357
Rendering cheese factory accounts by percentage of butterfat in milk 190
Reports of Mt. Elgin Winter Creamery 150
Requirements of our home trade 51
Will it keep 331

POULTRY.

Artificial eggs 251
A correction 249
Dangers in impure water 209
Eggs, how many to the pound 170
Eggs in winter 381
Fifth and lice 463
Henery, how to stock and start 209
Incubators, a word about 71
Keep only paying hens 486

Mrs. Ida E. Tilson 251
Nests, secluded 209
Plymouth Rocks 463
Poultry on the farm 11, 33, 71, 90, 110, 130, 149, 170, 191, 229, 251, 291, 310, 332, 381, 403, 423, 444, 463, 486, 489
Poultry notes 149, 310, 332, 403
Poultry as a branch of Canadian farming 130
Poultry question 130
Poultry terms, meaning of 382
Selecting layers 381
The Advocate appreciated 170
The way to do it 444
Turkeys, how to raise 291
To prevent hens eating eggs 170

THE APIARY.

Apiary, the 72, 90, 111, 130, 149, 191, 211, 230, 273, 289, 381, 421, 461.
Bees, some data for those who keep 171
Honey outlook for 1893 309
Increase by dividing 289
January work 33
Mr. Ferguson's rejoinder 486
North American Beekeepers' Association 424
Preparing bees for winter 402
Transferring, spirited rejoinder 380
Transferring 230

VETERINARY.

Anthrax and blackleg 485
A fine exhibit 11
Bots, the 33
Dentition and dental diseases of farm animals 333, 444, 484
Domestic veterinary treatment of the animals on the farm 32, 111
How can tuberculosis be mastered in farm animals 90
Horse breeding and the treatment of brood mares and foals, a paper on 134
Micro-organisms in health 151
Physiology of locomotion in the horse 72
Tuberculosis 235
Veterinary College, Toronto 11

QUESTIONS AND ANSWERS.

Legal 31, 47, 71, 148, 270, 310, 357, 462, 483.
Veterinary 33, 90, 129, 151, 171, 188, 207, 228, 249, 270, 289, 309, 329, 357, 423, 442, 462, 483.
ENTOMOLOGY.
Apple borers, fighting 310
Clover hay worm 330
Granary weevils 423
Hessian Fly, joint worm and autumn web worm 330
Injurious insects 10, 50, 149

STOCK GOSSIP.

Pages, 16, 37, 38, 56, 77, 96, 97, 98, 117, 156, 178, 198, 217, 218, 237, 238, 296, 318, 338, 341, 410, 429, 468, 469, 470, 492.

THE HOME MAGAZINE.

Minnie May and Uncle Tom's Departments.

THE STORY.

Aunt Grim 172
Aunt Polly's principles 313
A hasty match 91
A lost love 12
A sacrifice 464
Betsey Somerset 192, 212
Christmas Eve at Morley Hall 487
Dr. Marston, a New Year's story 34
Epitaph on an early settler 214
Going to leave home 75
Hymn to the night 254
How Seth caught the salmon 273
Her only son 384
Indian summer 254
Mrs. Goldenrod's boarder 131, 152
My wife's son 334
Poor Yorick 405
Saved from the sea 52
Simcon Pingree's chance 292
The first settler's story 112
The General 292, 232

POETRY.

An Ode to Canada 489
At Thy feet 152
Address to the woodlark 173
A birthday greeting 131
A thought 131
A plea for mercy 53
A solitary way 292
A literary curiosity 427
A storm 93
A Canadian autumn day 407
A sermon in rhyme 407
A morning grievance 74
Beauty 14
Between the lights 173
Be not weary 54
Christ is King 489
Compensation 232
Consecration 54
Cow bells 234
Coming 73
Crossing the bar 93
Days gone by 293
Farmer Brown's letter 427
Flowers 93
For a that and a that 54
Giving thanks 447
God's anvil 384
Hamlet's soliloquy on death 53
Human frailty 133
How our vicar got his deanery 425
Life 34
Love lightens labor 36
Lines 14
My hiding place 448
Mildie's blem 361
Maud Muller 214
Nature 336
Nobody's child 133
No Room 489
Ode on Solitude 214
Ode to north-east wind 174
Oh, for a perfect trust 32
One of these days 272
Opportunity 194
Our commissioner 446
Overwork 194
Perfect peace 425
Popping corn 406
Rapid transit 112
Rock me to sleep 92
Rest 423
Ring out, wild bells 336
Song of death 133
Song of the river 174
The children 313
Two men 313
To-day 91
To a skylark 93, 336
The child on the judgment seat 463
The phoebe bird 93
The penalty of greatness 93
The good old days 14
The fountain in the desert 14
The peace of God 113
The first settler's story 112
The fishing party 124
The old homestead 133
The negro's complaint 133
There's a company coming to tea 172
The skylark 294
The flying years 294
To myself 192
The Bible 405
The Pass O'Drinen 146
The slave mother's lament 51
The heritage 423
The child musician 71
The cross-bearer 273
The port of pleasant dreams 273
The starless crown 234
The dying Christian to his soul 2 1
Your Mission 313
Weeds 31
Words and deeds of heroes 275
Womanhood 336

THE QUIET HOUR

A sunny face 272
Attractions of the Bible 131
Blending atmosphere 192, 212
Ejaculatory prayer 362
Finding one's mission 313
How to begin the day 113
Gems from Phillip Brooks 272
Live for something 173
Lovely workers 334
Our Lord's life a life of health 132
Prayer 152
Readiness to judge 465
Self-seeking—a parable from nature 91
Sorrow in Christian homes 384
The Christ Child 489
The Sabbath Day 292
The road of life 52
The test of the home life 52
The cross 403
The Blank Bible 425
To one in sorrow 292
What hath love wrought 252
What He came for 489
What to fear 334
Winning souls for Christ 116

MISCELLANEOUS.

Answer to "Subscriber" 488
A well-mannered man 154
A picture on memory's curtain 407
An unknown grave 407
An article for mothers 446
About draperies 426
A few remarks on cooking 193
A dainty room 275
A morning scene 467
A peanut hunt 13
A poor policy 385
Bite of a snake, the 253
Books 92
Boys and gardens 154
Breathing cure, the 362
Browning and his mother 31
Blue-eyed people 275
Buck Fanshaw's funeral committee-man and minister 425
Bulbs for window gardens 448
Boys and girls on the farm 387
Cheerfulness 406
Children's letters 447
Consideration and the little ones 234
Color and quality 36
Concentrated lye soap 34
Conversation 386
Christmas 464
Cosy Corner 465
Compiled bits of household facts and fancies 489
Dainty sash curtain 253
Domestic martyrs 314
Dress 132
Enormous search lights 360
Fashion notes 35, 193, 233, 274, 361, 385, 426.
Fashionable furs 53
For roughness of the skin 36
Fun on a camel's back 361
Gaining and losing a day 36
Girls and farm life 233
Girls who are never alone 31
Goodnight night 194
Good manners 362
Grandma 253
Great men and their wives 35
Home dressmaking 114
Honorableness in school 274
How to clean dresses 193
Keep the ovens clean 448
Keeping up appearances 154
Little things 313
Lord Macaulay 234
Managements of lamps 274
Man-eating crocodiles 92
Meaning of the various colors 253
Minnie May letters to the nieces 12
34, 73, 92, 113, 153, 193, 233, 274, 314, 339, 406, 465, 488.
Mis' Slocum's Christmas Shop 488
Mother's crossness 275
Nervous children 427
November work 426
Our Irish letter 113, 132, 153, 173, 213, 293, 384, 406.
Our library table 34, 154, 215, 274, 426.
Page-holder for a music box 465
Patience pays 74
Palace of Fontainebleau, the 233
Personal beauty 447
Pleasure and recreation 12
Punctuality 13
Pretty Christmas gifts 466
Puzzles, 11, 37, 54, 75, 114, 133, 154, 194, 214, 274, 294, 313, 386, 407, 427, 467, 489.
Revised whist rules 233
Sayings by Gail Hamilton 13
Some thoughts on cooking 35
Some Virginia Christmas recipes 488
Scenes in the Northwest 233
Scene at Smith's Falls 335
Self-sacrifice, a talk with mothers 73
Sunshine wanted 386
Short stories told after dinner 489
Table Manners 154
The popular man 235
The three ships of Columbus 362
The World's Fair 339
The pretty woman 13
The shadow on the moon 194
Thoughts for girls on self-support 113
The bright side 447
Too thin 36
To test the purity of water 36
Uncle Tom's letters 14, 53, 174, 132, 213, 254, 294, 385, 466.
Uncle Tom's picture gallery 466
Wenner 73
With the girls 385
Winter scenery 13
White day lily 152
What to read 254
What constitutes happiness? Does it depend on ourselves or our surroundings? 74
Why the boys and girls leave the farm 35
Wise words and true 36
Woman's age 448
What they did in Pompeii 92
Why some people are poor 489

RECIPES.

Angel food 426
Apples, pickled 335, 385
Appledumplings 314
Beer, common and cheap 215
Boiled icing 12
Bon-bons, French 13

Calves liver 193
Catsup, raw 335
Cauliflower, pickled 385
Candy, coconut 153
"dark and light" for halloween 406
Home-made 12
Caramels 153
Carrot pudding 12
Celery vinegar 426
Christmas cake 335
Chili sauce 335
Cocoa nut icing 12
Cranberry sauce 385, 448
Cream sponge cake 335
Custard, baked 193
Chocolate drops 153
Egg preserver 314
Empress pudding 193
Fruit and nut candy 153
Gelatine icing 12
Ginger beer 215
Ginger pop 215
Lemon cheese 426
Lemonade powders 215
bottled 215
Maroons, glaces 153
Mint vinegar 385
Oude sauce 385
Peach, sweet pickle 314
Plums, to keep 314
Raspberry shrub 215
Seed cake 335
Silver-top 215
Spruce beer 215
White fruit cake 335

ENGRAVINGS.

An eastern scene 385
A group of clydesdale horses 321
A flock of Shropshire sheep 241
A group of Lincoln sheep 202
A group of prize-winning Leicesters 454
A group of prize-winning Ayrshires 2
A group of prize-winning Ayrshire cattle 413
A group of prize-winning Hackneys and shires 394
A group of Shorthorns, Kinellar breeding 62
A group of shearing Shropshires 302
A happy family of Tamworth 221
A man-eating Crocodile 92
A scene at Smith's Falls 335
A splinter in his foot 213
Calf feeder 207
Calves' heads 324
Canada victorious 473
Canada's vegetable exhibit at the World's Fair 318
Clover 30
Double hyacinth 356
Going and gone 193
Goethe's house 73
Grandma 253
Fashion plates 53, 114, 426
Fun on a camel's back 361
Hen coops 191
Horn 324
Insects 50, 330
Isaleigh Grange Stock Farm, Danville, Que. 351
Improved Large White Yorkshire sow, Marion's Choice 104
Larvae of codling moth 481
Liszt's house 73
Mrs. Ida E. Tilson 251
Mr. R. E. Leach, Mr. Jas. Elder and Mr. S. A. Bedford 281
Nick-nacks 465, 466
Photo, frame 488
Played out 315
Plan of house 208
Popping corn 406
Prize-winning Berkshires 41
Roots 49, 167
Russian thistle 355
Sir John Carling, K. C. M. G. 243
Specimens of Chester White swine and Dorset Horn sheep 182
Specimens of Clydesdales and Shorthorns 122
Specimens of Poland China swine 370
Specimens of Oxford Down sheep 433
Specimens of Southdown sheep 201
Specimens of Yorkshire, Berkshire and Suffolk swine 101
Standard-bred stallion Clonmore, 2.21 346
The Administration Building 359
The Javanese village 360
The imported Clydesdale stallion, Prince Eastfield 162
The imported Hackney stallion, Ottawa 141
The Palace of Fontainebleau 233
The three ships of Columbus 362
The Woodlark 173
The Yorkshire Coach Horse, Shining Light 21
The Yorkshire Coach stallion, Stamford Bridge Swell 82
Trees 49
Weeds 28, 146, 186, 187, 226
Winter scene 13
Veterinary 114, 145, 333, 484