

FARMER'S ADVOCATE

AND HOME MAGAZINE.

VOL. XV.

LONDON, ONT., JANUARY, 1880.

NO. 1.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

THE FARMER'S ADVOCATE

—AND—
Home Magazine.

WILLIAM WELD, Editor and Proprietor.
The Only Illustrated Agricultural Journal
Published in the Dominion.

SUBSCRIPTION:

\$1.00 in advance; \$1.25 in arrears, postpaid. Single copies 10 cents each.

Subscriptions can commence with any month.
Subscriptions forwarded by Registered Letter or Post Office Order are at our risk.

The *ADVOCATE* is discontinued on notice and all arrears must first be paid.

Subscribers who desire to change their P. O. address will send both old and new address.

ADVERTISING RATES:

Twenty cents per line of nonpareil, and fifty cents per line for special notices in reading column.
Special contracts made for definite time and space.

CONDENSED ADVERTISEMENTS:

Farms wanted, for sale or to rent, under twenty words and not exceeding four lines, 50c. each insertion.
Live stock wanted or for sale, under twenty words and not exceeding four lines, 50c. each insertion.
Stock Breeders' Cards at \$1 per line per annum, in advance.
For Commission to Agents on new subscribers, &c., address THE FARMER'S ADVOCATE, LONDON, ONT., CANADA.

The New Year.

From a true friend in England we have received a beautifully-colored, embossed card. On it is a boat tossed on the stormy billows, the sails set and the helmsman steering to the port. Flowers are entwining the scene. The language the flowers may intend to portray may be "Purity, Duty and Firmness." The following words are worked on it:

WISHES FOR THE NEW YEAR.

Hopes fulfilled, high motives strengthened,
May this New Year bring to thee;
Then I know, beyond all doubting,
Happy will thy New Year be.

We hope every one of our readers will read them again and again, commit them to memory, and that the third, fourth and fifth words may be your golden text for every day of 1880.

And now a word concerning ourselves. During the coming year, as in the past, the *ADVOCATE* will be found unflinchingly furthering the interests of the farmers of this Dominion. Every improvement that is suggested, and that we feel able to accomplish, will be carried out. The best and most practical writers will add to its columns the most useful information obtainable. The pages of the paper will be—as they always have been—open to subscribers to exchange their ideas on agricultural subjects. In regard to party politics or private societies, this journal will not favor any party or sect, but will speak openly, fearlessly and independently, paying every regard to all that really desire the advancement of the position of the farmers and this Dominion. Should any of our subscribers hold opposite views to those expressed, we shall be happy to hear from them.

Duty.

Every one has a duty to perform. We are all apt to shirk or neglect some duties that we ought fearlessly to perform. This neglect or omission is often caused by what some term policy or prudence, for the sake of gaining wealth or office, or to save themselves from trouble. Every true man can stand boldly on his own foundation and look any man in the face fearlessly. There are some—far too many—who have not the moral courage to act for themselves; they depend on others. There are many who have been induced to join the Grange or other secret societies; they feel that their manhood is partially taken from them, as they are bound by the society to aid it, to support and help its members. Some men depend on the protection and aid of such societies rather than on their own abilities. There are many highly honorable men in these societies; on the other hand, there are just as dishonorable men wearing the garb of secret orders as are to be found out of them. Organizations originally good in principles sometimes become perverted by custom, and deviate from the strict intention of the rules until they become an injury to the community. If the good intentions printed in declarations were carried out; if dishonorable and unfit members were expelled; if dishonesty was not countenanced—then secret organizations would be more respected and a higher tone of morality would prevail in them. Every means devisable has been employed to enrol members; high motives have been placarded and the great benefits have been heralded over the land. Thus other verdant persons are entrapped and freedom is gone—yes, gone for ever from many.

No honorable man can take exception to these remarks; but there are many thousands who have lost their independence, who will strongly condemn our assertions. We know that money and influence have been used to check the spirit of freedom shown in this journal. The subject has given us sleepless nights and considerable anxiety, but strength again revives us and says: "Do your duty and fear naught!"

The great exposure made by the Chief of Police of Ottawa must show you that he is either a liar, crazy or correct. There may be a few slight errors in expressions, but the attempt of the Board of Agriculture to cloak it by such explanations as are published in a political paper must show to the public that that journal throws its influence and shield over the misdoings. Can a fair, impartial discussion be given to such charges when this body selects secret men belonging to their Order to cloak their guilty actions? The farmers of Canada are not all in chains. The Chief of Police must be either bought off or choked off, or the farmers must have an investigation made by men not bound to protect and shield each other's misdoings. The time has come when we should all unite and throw off chains, and act for one great and good

cause—honor, honesty, freedom and good government—a Government that will legislate for the farmer's interest, and not for private and secret services. Every independent farmer should, in selecting officers, endeavor to elect untrammelled and free men—not bondsmen that cannot use their influence except to oblige a secret organization or its members.

If we take erroneous views we do not wish that they should be standing records of error. Every subscriber has a fair and impartial paper in which space is always open for any correction, or any useful hint or information that will be of benefit to the farmers, and what is of advantage to them is of advantage to all in this Dominion.

Toronto vs. the Farmers.

The question will come up at the first sitting of the Dominion Parliament—Are the farmers of Ontario willing to expend two or three million dollars to beautify and enrich Toronto, in erecting new Parliament Buildings, tearing down the Asylum, etc.? The sum may be first put at only half a million or a million, but the thin edge once allowed to penetrate, then look out. The farmers of Ontario that have been in Toronto are quite satisfied that the present building is large enough, healthy enough and good enough for all who go there, or all the good that is done there for the farmers; also, they see that we are continually borrowing money and never paying our debts; that Ontario must pay most of the expenses of the Pacific Railroad, and no one can yet tell how many millions that will cost; that many industrious farmers cannot now redeem their farms; that offices and salaries are being too rapidly increased, and the expenses of housekeeping from duties imposed, etc., are also rapidly increasing. We may add that there are poor people struggling to exist who may die of starvation or be frozen to death, and yet to quiet the clamors of the people and the press of Toronto, to enhance the value of property, and to give fat jobs to poor dependents, the Province is required to spend this large amount of money.

Political papers in Toronto, that profess to serve the agricultural interests of Ontario, advocates the squandering of this money, thus making farmers' interests subservient to that of Toronto, putting the heel of oppression on the independent farmers of the country.

For the farmers of Ontario we would ask that this proposition be postponed until the Canadian Pacific R. R. is completed and paid for. We believe nearly every untrammelled and free Member of the Ontario Parliament (who are farmers) will vote against this improper claim being fastened on our farms.

We receive more letters from the real live farmers of this Dominion than any other journal. We know, notwithstanding the good prices, that there is a hard struggle for many small farmers to meet present payments. Also, there is a strong and increasing feeling that we are paying too much to officials; that either the County Councils or Local Legislatures must be diminished. Perhaps in a few years the people will see that one Parliament will be more economical and more efficient than nine Parliaments for four million poor people.

English Letter, No. 9.

[FROM OUR OWN CORRESPONDENT.]

Liverpool, Dec. 1.

The great event since my last letter has been the return of a member of the Agricultural Delegates who left this country for the Dominion in September last, on a tour of inspection. They all appear to be greatly pleased with their visit. Some will recommend farmers to commence operations in your Province and in the Eastern Townships, whilst others are decidedly in favor of Manitoba. At all events it is very pleasing to be able to state that, although those who went to the North-West passed through some of the leading agricultural States of the Union, they have expressed themselves most decidedly in favor of Canadian lands. It is also pleasing to note that the British press, almost without an exception, are pointing to the Dominion as the most promising region for our agricultural emigrants. All this is leading, if I am not greatly mistaken, to such a migration from this country to the Dominion of small capitalists as has never yet been approached. It is with this class that the shoe pinches most severely, and they are consequently looking most keenly for some more certain means of livelihood than English agriculture now presents. I have just seen a letter from a farmer's son in the midlands, addressed to a clergyman in Liverpool, in which he says, "I am a hard-working farmer's son, 26 years of age, and have been helping my father for some years past, but prices and seasons clean beat us here; we have lost a lot of money the last five years, and worked hard all the while." This is in substance the cry of thousands at the present time who feel that they must make a change, and that speedily, if they are to save anything from the ruin which is gathering round them.

The depression in the horsetrade still continues, more especially in the poorer classes of animals. Farmers and others have been obliged, through the pressure of the times, to dispose of their horse flesh, and of course buyers have been proportionately few. I was informed the other day that a tramway in the north was horsed recently at £28 per head. You will observe that at this price there is no margin left for the exporter from Canada. It is anticipated, however, that with the turn of the year, and better weather, this trade will revive again. The second of the fairs inaugurated by the Liverpool corporation took place on the 25th ult. There was some slight improvement in the average of animals offered for sale, compared with the first fair, but nothing calling for special comment. The rough element, so great a nuisance on such occasions, was almost wholly excluded by the charge of two pence per head for admission to the Fair Ground.

Prices for cattle and sheep have improved somewhat, and Canadian importers have again been able to realize a profit.

Another lot of 20 tons of Canadian salmon has arrived in London, is stated to be in the pink of condition, and is being sold freely at from 28 cents to 37½ cents per pound. The trade in this article, as also in lobsters, may reasonably be expected to extend. A great deal of trouble and annoyance has been experienced by Mr. A. C. McDougall, a son of the Hon. Wm. McDougall, formerly Minister of Public Works, and he deserves great credit for the amount of zeal and tact which he has shown in initiating this important new branch of the Canadian export trade. Mr. Frank Buckland, the English Government Inspector of Fisheries, has had samples of this fish submitted to him, and, from experiments which he has made, declares in his journal, "Land and Water," that they are excellent for the table.

The "export fever" from Canada has, I am glad to say, not subsided, nor is it likely to do so. It is only to be regretted that it did not set in years before, and that Canadians had not placed all their eggs in the one basket of a United States trade, relying on the States markets alone. The result was that the crash which came some five or six years ago left Canadians high and dry. It is quite to be hoped and expected that, with the opening out of new markets for our produce on this side the Atlantic, such a catastrophe cannot be repeated. A shipment of cattle has been sent to Antwerp from Montreal, and from what I understand, good results have attended the venture.

To show the extent to which our perishable goods are being sent to the interior here, I observe an advertisement of a Mr. Wm. Glassey, of Liverpool and Birmingham, who, in advertising 5,000 barrels of Canadian potatoes for sale, styles himself importer of fruit, potatoes, poultry, game, oysters and fresh salmon from Canada. What would people have said of such a programme a few years ago?

Enormous quantities of potatoes are just now being brought into the market by the home producers, notwithstanding that the yield must have been vastly less than usual. I expect that this is owing to the scarcity of cash, and the necessity for realising as soon as possible. German growers are also shipping largely before the navigation of their districts closes. The immediate effect is to glut the market and to bring down prices, and I am sorry to say that in to-day's market Canadians only realised £5.10 per ton, with £6 and £7 for a few choice lots. This, however, means a great reaction later on, and there is a good time coming for those who can hold on to new stocks for a while. Canadian exporters who ship potatoes here and draw against them, leave themselves very much in the hands of their salesmen, or, what is worse, of the trade rings which have a hold upon the markets such as it would be hard for a Canadian, who has not had a taste of them, to imagine.

In this relation, I see a paragraph in the papers to the effect that a number of Yorkshire farmers—heartily disgusted with the fact that, notwithstanding the heavy depression in their products owing to the large importations from Canada and the States, the public, through the intervention of the middle-men, are reaping little if any benefit—have determined to establish stores of their own in Manchester, with the view of placing themselves in direct communication with the consumers, and thus securing their legitimate share of the considerable profits which now go into the hands of salesmen and other middle-men who are about the only really flourishing class in this country at the present time.

Though some of Lord Beaconsfield's general remarks at Aylesbury anent the Dominion may have been in a degree erroneous, all that was essential in them has been capped by Mr. Gladstone during his recent assaults on "the heart of" Midlothian. He has evidently the roughest opinion of the resources and probable developments of the Dominion.

Mr. George Roddick, the well-known cable salesman of this town, who has probably had two-thirds of the whole Canadian imports of live stock to this part in his hands, has now in his possession a magnificent dark red Durham heifer, which was bred near Guelph, with which I expect to hear he will astonish the visitors to some of our fat cattle shows. He just missed the 31st annual show at Birmingham, now being held, but I hope to be able to report his success at Carlisle. She is stated to be of extraordinary good quality, and will turn the scale at 2,300 lbs.

One duty and equal pleasure remains, and that is to wish your readers a merry Christmas and a very happy and prosperous New Year.

The Provincial Board of Agriculture.

For years past this journal has condemned the acts of this Board and the injudicious expenditures of money; the unjust acts to exhibitors and the injury they have been doing to the honest farmers of Canada. Many an honestly-earned prize has been unjustly, we might add, fraudulently withheld, from the just and proper deservers of them. Honest men have been compelled to lose their time and money, and have had to pay costs by attempting to have justice done; undeserving men have been intentionally awarded honors that they never were entitled to. Favoritism, designing and cunning have characterized the acts of this Board to such an alarming extent that the real industrious farmers have been and are taxed to a burdensome degree to support a body of men who claim to be and set themselves up as honorable and honest members of society. One shields and cloaks the other's misdoings. They do this knowing that such things are wrong, but they are so bound that they have not the spirit of freemen left in them to act right.

We have informed the Hon. O. Mowat privately of the dangers existing, and have told him that neither the farmers' money nor their interests were safe in their hands, and that their acts should be minutely scrutinized by a fair and impartial public. The following extract from the *London Free Press* of December 17th just gives a slight opening to the show that must follow if the public are to be made aware of facts, and they should be. No barrier should be allowed to obstruct the investigation of this matter, which should be traced to the fountain head. These frauds have been known to have been existing for many years, and others far more glaring and disgraceful are yet to be unearthed—such as will astonish and disgust every honest man in the Dominion. The following is the extract referred to:

THE DOMINION EXHIBITION.

DISCLOSURES OF SERIOUS FRAUDS ON THE PART OF EMPLOYEES AND THE GREAT CARELESSNESS OF THE MANAGERS.

The Ottawa Chief of Police has published a full report of the investigation into the alleged frauds in connection with the recent Dominion Exhibition in this city. It is as follows: "1st—There seems to have been no check kept on either keepers of gates or turnstiles. 2nd—That, despite the statement of the President and officers of the Association that it was against the orders that gate-keepers should receive a cent of money for admittance, from personal observation and from information received from reliable sources, I know that more people at the gates passed in that way than did through the turnstiles. On Wednesday morning I saw a great many people going in at the Bank street gate, and am positive there were four or five parties taking money from them. I have also statements of parties who report that a similar state of affairs existed at the gates leading to the water. I have also statements from some of the leading citizens to the effect that they visited the Exhibition during every day of its continuance, and by different entrances, and paid at the gates each time. 3rd—That from want of proper instruction, or otherwise, the gate-keepers in many instances did not take up the exhibitors' tickets each time they passed through. They merely looked at them and allowed the parties to pass, consequently numbers of exhibitors either sold or gave away their three extra tickets. 4th—I have the written statement of one of my constables, who was on duty outside the gates on Bank street, to the effect that the turnstile-keeper on that street sold tickets for the greater part of two days to parties, and sent them in the big gate." The Chief of Police makes several other statements, and concludes: "The registers of the turnstiles, I am credibly informed, were not opened or checked from the time they were set on the first day until the following Saturday morning after the Exhibition was over, although, as I understand, it should have been done at the close of each day."

Farm Yard Manure.

BY H. B. S., ST. LAMBERT, QUE.

The standard resource of the ordinary farmer may be said, without fear of contradiction, to be farm-yard manure, and to the proper way of increasing this his efforts ought to be directed. The basis of farm-yard manure is straw, and from every ton of straw about two tons and a-half of manure ought to be obtained. Therefore it is easy to see that the more straw that is used on the farm so much the more manure, and the grain in the field ought to be cut as low as possible, as the straw near the roots is double the weight of the straw at the ear.

Farm dung, from animals well fed and well littered, contains all the necessary principles for the growth of plants; so that the farmer who keeps plenty of stock and takes good care of them can be independent of artificial manures, which are only necessary under exceptional circumstances, and can only be applied, as a general rule, when they are cheap and when crops are high in price. The chief reliance is, therefore, to be placed upon farm dung, and the intelligence and industry of the farmer is immediately shown by his care of the manure heap.

The heap should of course be near the stables so as to avoid extra labor, but no matter where placed the following conditions ought to be observed, namely:—That the rain from the roofs should not drop on the heap; that a cistern or it should be arranged near to it, so that the drainage from the heap can run into it, but no other water to run into it; and plenty of room ought to be given to the heap so that it will not be necessary to make it too high. The pit may be made any size—the larger the better—as it will be necessary to throw in litter, et cetera, to absorb the drainage and prevent the evaporation of the volatile gases. It is of advantage to have the manure under a shed which can be made of old boards or any cheap material, the idea being to protect the heap as much as possible from the rains.

When the manure is to be allowed to ferment, it is necessary that the heap should be made even, and it must be turned once or twice, in order to prevent undue fermentation.

Where muck from a swamp or marsh can be obtained cheaply, it can be mixed with the manure to advantage, but this is entirely a matter of cost which each farmer will be obliged to estimate for himself. Every one knows that sandy soils are improved by manuring with clayey materials, but the question to be brought to bear upon these operations is—will it pay? Now, as labor is the most expensive item to be considered on a farm, the amount of labor to be applied to the manure heap must be carefully watched. The cheapest plan in some cases is to draw the manure directly to the field—that is, where it is desirable to use long manure, namely, in heavy or closely packed soils, as long manure tends to render the soil more friable and porous than well-rotted manure. The objection advanced against the use of long manure is the extra cost of drawing, as in long manure about two-thirds, speaking generally, consists of water, which is maintained to be so much dead weight. This is a valid objection to a certain extent, but when we take into consideration the loss of time incurred in properly fermenting manure, and the usual loss by evaporation, it will be found, I think, more economical to apply manure in the long state. When it is desired to use manure for the purposes of gardening it may be found more profitable to use the short manure, both on account of its being more easily turned under by hand labor, and also because seeds of weeds are generally killed in the process of fermentation. No one can say that

short manure is better than long who has ever used the manure from old hot-beds, and watched the effect compared with the effect of new manure properly applied. Scientifically, I suppose well-rotted manure ought to be the most valuable, as it is in the condition suitable for assimilation by the growing plant; but my observation and experience have rendered me favorable to the use of long manure.

The mode to be followed then, in my opinion, is as under:—The manure is to be thrown under the sheep from the stable, and placed evenly so as to avoid heating as much as possible, and a small quantity of plaster may be thrown upon it from time to time; if there is ample room around the farm buildings the heap may be made quite large, in fact, may remain till wanted, though with us we find it cheaper to draw it in sleighs during the winter to the fields, as the drawing is in winter easier on the horses and labor is cheaper, and we save ourselves for the rush of work in spring. It is to be placed in heaps of sufficient size in the field, and if found to be heating too much ought to be turned, and in the spring carted out to be turned under by the plough. It is not profitable to draw it directly from the barn-yard and to place it in small heaps to be afterwards spread. The small saving of labor thereby effected is more than counterbalanced by the loss by waste. The grand principle in the application of barn-yard manure is to so apply it that all the constituents of the manure will be kept by the soil to furnish food for the plants. It appears to me that this result is best obtained by using long manure, and getting it covered as soon as possible. In closing, I would say that the use of long manure in potato furrows directly underneath the potato tends to make the potato rot. I should advise the turning under of a green crop, or else manuring very heavily the previous crop; though I must say that we have succeeded in raising good crops of potatoes by manuring the furrows—that is, we have had over nine hundred bushels from four acres (arpents) and a quarter.

Better Late than Never.

It is now four years since we gave notice to the Government that the Foot and Mouth Disease had been introduced into Canada. Every reader of the ADVOCATE knows that we have done our duty in urging the Government to prevent the repetition of the introduction of this and other dangerous stock diseases among the healthy flocks and herds of our Canadian farmers.

We have received a circular from Mr. McEachran, the Government Veterinary at Montreal, which is a step in the right direction. It contains the following questions, which we are requested to answer, and do so with pleasure as far as our present knowledge extends. The statistics kept by the Government may show the number of animals in each county. We hope that every county will be able to fill the report as favorably, and without the remarks that we deem but right to annex.

1. Are the farmers turning their attention to breeding and feeding stock for exportation?

Ans.—The best farmers are turning their attention to feeding stock for exportation.

2. Are there any contagious diseases in stock in your county?

Ans.—There are no contagious diseases existing among the farm stock of this county that we are aware of at the present time.

3. What diseases prevail most in animals?

Ans.—There is no particular disease prevailing at the present time that we know of.

Four years ago the Foot and Mouth Disease affected one herd of Ayrshire cattle in this county, but it was prevented from spreading. Two years ago the Hog Cholera spread into a few herds of swine, but we have not heard of either of these diseases being in this county for the past nine months.

Sundry Thoughts and Topics.

BY J. SEABURY.

The Cincinnati Prices Current, in referring to the progress of packing in the West, says:—

“Notwithstanding the fact that warm weather has interfered with packing the past week, the operations at the ten leading points have exceeded corresponding time last year about 100,000, and we incline to the belief that there has been a corresponding gain at interior points, so that the total packing in the West is now but little if any short of 250,000 increase over same date last year. These ten places show a total of 2,420,000 to date, against 2,308,000 last year. It is impossible to state closely the number now reached at all points, but it probably does not vary much from 3,000,000. When we reach out first of January report of all points, we expect that the comparison for same period last year will show a material increase in the packing, and as to the final outcome of the season, we see no reason yet for changing the views already expressed, that last year's total number may be expected to be reached.”

The movement so far in Canada has been light, the soft open weather being very much against the handling of dressed hogs. With the duty of two cents per pound on all American pork and bacon, we think that prices here should rule steady and firm. From the best information to be had, we are of the opinion that the home trade will require all our surplus hogs. Farmers will do well to keep none but the best breeds, and to keep no more than what is necessary to consume a certain portion of produce and refuse that would otherwise go to waste to a large extent. Beyond this, let the Western stalls do the hog raising, as cattle and sheep will pay Canadian farmers much better.

From all we can gather from various quarters throughout the country, we find that the crop of clover seed will be a good one, and the sample very fair. How prices will rule the next two months is something very hard to forecast. The general impression earlier in the season was that prices were likely to rule high. These impressions are being somewhat modified of late, and time only will tell how prices will go. The bulk of the crop tributary to Toledo is said to be marketed, and of this some 20,000 bags are now held there on speculators' account awaiting higher prices in Europe. The bulk of the crop around Chicago and West is still in farmers' hands. The acreage is large, and the yield good. This, with the Canadian crop, will sow a good many thousands of acres of European lands.

The English crop of clover seed is about nil, and the French crop is short, together with some other European countries. But whether sufficiently short to require all the American crop and more, remains to be seen. There is no doubt our seed will be wanted and in good demand, but whether the demand will be such as to warrant any advance on present prices is hard to say. Present prices will pay farmers very well, and we don't think the situation will warrant any delay in marketing after threshed and ready.

The apple trade between Canada and England is beginning to assume very large proportions. The shipments have been very heavy this season, and as a rule, when well and properly handled and packed, have turned out very well. From an English circular before us we notice that Newtown Pippins are quoted at 23c. to 25c.; Baldwins, Greenings, &c., 14c. to 19c.; Seeks, Spys, Spitz and Russets, 15c. to 26c.

This will show our readers the kinds most sought after, and the range of prices of the last three kinds is caused by the condition of the fruit on its arrival there. We would strongly advise any farmers who have any thoughts of raising fruit for export to have but one or two or at most three varieties. But let them be the best kinds

for shipping. We think any farmer who is within easy access to a railway station could not make a better investment than planting a few acres of his farm to apple trees.

Too much care cannot be taken in picking and packing, and any farmer who has a good respectable lot and who knows how to handle fruit, need have no hesitation in shipping his apples through on his own account. But before doing so be sure you are sending them through a thoroughly responsible and honest house.

When in England the past summer I was repeatedly told that we need not be afraid of sending too many apples. But the rejoinder always was, be sure they are nice and well packed. I was informed that there was a very bad practice among a great many packers of doing what they termed facing the barrels. This consisted of putting a few very choice apples in the top and bottom of the barrels, and then filling the rest of the barrel with much inferior fruit. A dealer who once buys a brand put up in that way will never touch another of the same brand. Another improvement very much needed is neatly cut stencils of the names of the kinds of apples, and the barrels neatly marked with these, instead of, as in many instances, a common lead pencil, which, long before the apples get to Liverpool, is so badly obliterated that the name of the apple cannot be known without opening the barrels. Another very great improvement would be for each packer to have a neat shipping brand, and use the same from year to year, and by so doing his apples would soon become known and sought after.

With the new year should come new thoughts, fresh aspirations, and fresh resolutions. The great and all-wise Creator did not place us in this world to be idle, indolent, or indifferent to what is going on around us. Neither should we be indifferent about ourselves. Each and every one should have a certain amount of self-respect, dignity and ambition. Self-culture and self-improvement are very important things, and he who loses sight of these will be very apt to descend instead of ascend in the scale of life. We cannot stand still in this life; we are either advancing or receding, and it should be our constant aim to better our condition mentally, morally and physically. By keeping these things before us constantly, many little things and opportunities are embraced that might otherwise be lost.

Glanders.

We extract the following from the *Bothwell Times*:

"At the recent session of the Kent County Council a letter from the Chief of Police of Chatham was read, drawing the attention of the Council to the fact that the contagious disease of glanders was prevalent among the horses of the county."

Immediate and vigorous steps should be taken; every animal should be shot in which the disease is developed, and be buried or burned. A heavy penalty should be imposed on any person who takes any horse off his premises in that county which shows the least symptom of mucous on the nose. We cannot be too cautious, as this disease is easily communicated from one animal to another. Man has taken it from horses, and death has been the result.

A writer in the *Atlantic Monthly* for December has been on a visit to Kansas, and gives a very doleful account of the farmers in that State. The date of the writer's visit was in June. He found the people living in shanties, discouraged and suffering many privations; those who bought land of the railroads hopelessly in debt, while those who took up homesteads were equally miserable. He found crops uncertain, the prices unremunerative, and the farmers only staying because they lacked the means to leave the country.

Agricultural Societies.

The present month the election of officers of the different Societies will take place. It is the duty of every farmer to attend the annual meetings, to independently exercise his judgment and ascertain all he can about the standing of the society; and if there be any grievances to complain of, to let them be known; to suggest any measures he may deem proper for the advancement of the interests of the society in his locality. All observing men must notice that in most sections many good farmers do not attend the annual meeting; they complain that they could do no good. The packing of meetings by secret societies should by all means be prevented. They are apt to discourage men who would be a credit to the society and tend to advance the prosperity of your calling. Every good measure or suggestion should be taken up and treated on its own merits. Every attempt to silence free discussion tends to the injury of all agricultural societies. Some of our readers may be vigorous supporters of private societies, and may be offended at such remarks; but you may depend that the upright and truthful men will approve of the suggestion—that is, to discard all secret bonds and act unanimously for this great cause, the advancement of our agricultural prosperity. It is of importance that you should elect honorable men as directors. Encourage those who have endeavored to do the best they can for your interests; your presence and sanction encourages good men. We never can expect to have anything perfect on this earth, therefore look over all small defects if the main objects of the societies are pursued for the best.

It is most probable that the Government will enact a new law to govern the Provincial and other societies. The acts of the Provincial Board should be, and will in time be fully discussed; their money has been squandered or stolen; their honor cannot be maintained by law or by the free, independent observers of public affairs. The various devices to conceal their acts will be unveiled; if not, we can only pity the honest workers of the soil. Be up and doing. Show yourselves to be free men, unchained and unbiassed; do your duty to yourself, your family and your country boldly, and you will have nothing to fear. It is your duty to attend the annual meeting and to be heard there. If you are right in your views be not afraid of expressing yourself. Those that may for a time attempt to keep you silent will take up your cause. You will be able to discern a dishonest man in this manner; they cannot look an honorable man squarely in the face.

EFFECTS OF GOOD MANURE, EVEN IN A BAD SEASON.—The profits from good culture and heavy manuring are more fully shown in unfavorable seasons, such as the last was in England. J. R., a Yorkshire farmer, writes to the *Agricultural Gazette* as follows:—"Three weeks ago I threshed an 11-acre field of white wheat, out of stook, and it yielded 5 qr. 1 bush. of marketable corn per acre, which I sold to a local miller in Ripon market just three weeks since for 55s. per qr. of 36 stone, making a little over £14 per acre. The field, which is a strong loam, was black oats the previous year, yielding 8 qr. per acre. I should not have expected such a crop of wheat, and no doubt it would have been greater if the summer had been favorable—if I had not manured heavily, which I did, to the amount of £3 per acre—viz., guano, rape dust and salt, sown broadcast and plowed in. I then afterwards sowed 5 pecks of seed per acre. I am a firm believer in thin sowing, which I think is one cause of successful farming. I may say that the crop was not in the least laid. It is remarkable that out of the whole field I had only 1 qr. of tail corn."

Butter-Making Revolutionized.

The following article, which we abridge from the *Mail* (England)—a very high authority—treats of a new discovery in butter-making. Dairying is admitted to be the branch of agricultural industry which the farmers of Britain look upon as the mainstay against foreign competition. New processes, new apparatus, new systems are introduced in the cream-raising, butter-making, and cheese-making of the dairies and the strictest attention of the proprietor is being given to the entire process. The improved practice is extended and people are awakened to the importance of keeping at home the millions of money now spent in foreign dairy produce, so that even gentlemen by no means dependent upon farming are starting herds of dairy cows.

Innumerable trials have been made of the proposals of inventors, and at last, a process of preserving butter has been proved successful, the result involving great consequences which no one yet can adequately foresee. On the 24th of July, Mr. G. M. Allender, the managing director of the company, put a churning of butter to the test, treating it in accordance with a new patent brought before him. The butter, in a muslin cloth, was placed in a firkin, without a particle of salt, and every precaution taken to insure that there could be no tampering with the experiment. The firkin remained on the premises for three months, and, when examined on October 24, it was as sound and sweet as when first put in. Practically this butter was exposed to the atmosphere the whole time, seeing that air found free admittance into the firkin. Without treatment the butter would have gone completely putrid; but on smelling and tasting it we found it perfectly sweet, firm, and so excellent in flavor that we could not tell it from butter made the day before. Experts in the business, both in this country and in Ireland, have had samples, and pronounce the preservation wonderful; the only difference they find being that newly made butter (and this first-rate of its kind) has a peculiar aroma not quite equalled in the preserved butter; while the latter is considered a little "dead," so that just a trace of salt in it would be an improvement.

The effect will be to drive all salt butter out of the market. In order to make it keep, the Irish and all imported butter is now mixed with 5 or 6 per cent. of salt. Under the new system 1 per cent. of salt will be ample for the purpose, and the cost of the preservative will not exceed half-a-crown for a 56lb. firkin, or little more than a half-penny per pound. The difference in value between a very mildly-salted and a coarse and strongly-pickled butter is at least 4d. per pound, and hence it appears possible that fortunes may be made by substituting preserved for salted butter, alike in the immense quantity shipped from Ireland and in that brought from foreign countries. It is not possible to estimate the gain of being able to displace from our tables and from our cookeries the objectionable salt butter, the change being especially grateful to voyagers on ship-board and to countries, such as Brazil, which import the whole of their butter.

One great feature of the trade in future will be the purchase and storage of butter in summer, when prices are low, for sale in winter, when prices rule higher—with considerable effect towards equalizing the two seasoned prices to consumers. Preserved butter, of course, will not be able to compete with the choicest new fresh butter; but, nevertheless, the result of displacing salted butter must be immense. The great merit of the invention consists in its simplicity. The butter, worked with a trifling quantity of the patent (alleged to be perfectly harmless) directly after churning, keeps good and sweet for months without any particular packing or any care bestowed upon its situation or temperature, except that like other butter, it has to be kept in a moderately cool place.

Probably this new odorless, tasteless and innocuous antiseptic may work other wonders with meat, fish and like perishable food commodities.

The 25 Arostook (Maine) starch factories have made nearly 10,000 tons of starch this season. Fully \$500,000 has been paid to the farmers for potatoes.

Improvement in Agriculture in Canada.

We read with pleasure of the improvement of agriculture in every Province of the Dominion. Of New Brunswick, the Maritime Farmer notes:—"Never in the history of our Province has agriculture assumed the important and commanding position which it now occupies. Never was there greater need that our farmers should stand shoulder to shoulder, and by industry and skill pursue their vocations to the greatest possible extent, particularly as regards the production of crops which find a ready market at home. In this connection, probably, wheat stands at the head of the list, as we have never yet been able to grow sufficient for home consumption. Probably we have this year approached nearer to it than at any time these thirty years."

One thing will not fail to impress itself on the minds of our readers, that is, the yield of wheat per acre in Ontario, and on the Model Farm at that. Our farmers should not lose sight of the fact that from twelve to fifteen bushels of wheat per acre is considered a good (average) yield in Ontario, while the yield in the Western States is from eight to twelve bushels. This is inferior to the wheat yield of New Brunswick and Nova Scotia.

Prospects for Farmers in the Western States.

The New York Sun, in an article on wheat production, presents a gloomy picture of the wheat grower's prospects in the Western States. It says:—"It is not an exaggeration to say that in the States of Nebraska, Kansas and Texas, over a million of acres of prairie sod have been turned over, fitted and sown to wheat the past season. In the same State the acreage that winter wheat was harvested from last summer has been resown, and very large additions have been made to it from corn, oats and barley lands. The men who have done the greater part of this immense work depend upon the crop of 1880 for their prosperity. If disaster overtakes them they are ruined. He then calculates the cost of raising, and shows that under the most skillful management, it costs them forty cents to raise a bushel of wheat. The crop is seldom, on an average, fifteen bushels to the acre, and then, at that yield, the cost to the grower is something over fifty cents a bushel. The cost of transportation, which includes commissions, &c., is so very high that wheat costs at the seaboard over one dollar a bushel. It was sold in the months of September and October at from forty-five to sixty cents a bushel for sound bright, of the St. Louis grade. The charges from the other wheat fields were as oppressive, and it is very doubtful (so the New England Farmer says) if any farmer in the wheat growing country netted 20 cents a bushel on his crop last year. Many did not clear five cents a bushel."

Cattle Disease in New Hampshire.

The pleuro-pneumonia has made its appearance at Haverhill, New Hampshire, among the cattle of James Merrill. On application to the Governor, a hearing was given to petitioners, and a commission was appointed to act at once. The Board, by law, has the power to make regulations prohibiting the introduction or transportation of any domestic animals by railroad or otherwise, and such other rules as they may deem necessary to arrest or exclude any infectious or troublesome disease, and modify or annul the same as circumstances may require.—[N. E. Farmer.

Contagious diseases require desperate remedies. The same journal says several cattle have already died on the Merrill farm, which is in the celebrated Connecticut valley.

Heredity of Traits and Disposition in Domestic Animals.

Breeders are fully aware of the strong probability, nay the certainty almost, of certain points of sire and dam appearing in the progeny. We find, for instance, that if a breeder of Jerseys wishes to secure a "star" or a "v" in the forehead, and he selects sire and dam having those marks distinctly, he will in all probability find the same in the calf.

We find that temperament and disposition are in like manner inherited. In looking over 30 years' experience with Devons, Jerseys and grades, so surely have traits of disposition run along down in different families, that we regard it as a law with only slight exceptions. For instance, the trait of docility. We find in our family without exception that every heifer was remarkable for standing quietly to be milked, even from the very first; yet they were intelligent and spirited and not wanting in life and courage. On the other hand, the habit of kicking in another family has been as constant and as persistently followed. I had a Jersey cow at one time having the habit of invariably shaking her head when anyone passed her stall. I found afterward that her sire was noted for that habit, indicating a vicious disposition, which the whole family had. Every breeder well knows that traits of disposition, natural intelligence, kindness, friskiness and ugliness are all bred along almost at will. Admitting the above to be true, we see the importance of selecting not only good physical development, but kindliness of disposition, intelligence and life, for these are all compatible and obtainable.

On the other hand, we urge that it is not only bad policy but extremely dangerous to breed from vicious animals. Every year we have numerous cases of death from infuriated bulls. Stallions of notoriously vicious tendencies are also used all over the country, some with big heads, thick joles and crooked legs. People expecting to improve their stock by so doing is an absurdity. We must take the most likely to be found. There are many parts of our country now feeling the effects of having these small, homely scrubs to breed from, and we must, to improve our wealth, breed from more superior animals.

Boars of notoriously savage disposition are kept merely to save the trouble of searching out better ones.

We advise all farmers to open their eyes to the importance of good traits of disposition as well as good physical points in all domestic animals—first, for safety; second, for comfort; third, for profit. A well disposed horse, a docile cow and quiet hogs all thrive better, please better and are more profitable. Consequently it is a matter of great importance that we tolerate no breeding animal of vicious tendencies.—[L. Stock Journal.

"The Canadian Wheat Garden."

We have more than once spoken of Canada as the great wheat-growing region of the future, and that future not so far distant as some may think. On this subject a New York journal says:—

"Supposing the Canadians are right about the extent and richness of their wheat-growing territory in the Northwest, the mind recoils from a computation of its productive capacity. Man has never before contemplated such an agricultural feat. Should the enormous Canadian wheat garden be successfully cultivated, its annual crop in future years would come into the business and interests of the entire globe with a revolutionary force and masterly power hitherto unknown to finance and trade."

Our anticipations of the future of our country are no mere speculation. They are based on accurate mathematical deductions. Canada is destined to be the granary of Europe.

The Paris National (France) says that an active campaign is about to begin with the view of prohibiting the importation of American salt meats and lard. American pork, it is said by those parties, is full of trichinae, and those who eat it are liable to be attacked with disease. Portugal, Italy and Greece have all prohibited the importation of American pork. In Germany there have been 26 epidemics of trichinosis within the space of six years.

Preparing Barley for Market.

No little of the profits of the farmer depend on the condition and even the appearance of his grain or other produce when brought to market. Two samples of grain may be of equal quality, the same weight per bushel, of the same variety, and equally well harvested, yet one of them will bring a higher price than the other owing to its careful preparation for market, while the other has been carelessly handled. The profit to be made by a little extra labor in such cases was shown by a grain buyer in one of the eastern towns this season. He made large purchases of barley, and, as is too often the case, a large proportion of it was badly prepared for market. There had been no effort made to break off the awn (beard), and this very much reduced the price he paid. He conceived and put into practice a plan of removing the beards by placing a threshing machine under the storehouse, and running the grain through it, breaking off the beard and cleaning it thoroughly. By this means he increased the market value, making the sample weigh three pounds more to the bushel, and the operation cost him only about one cent per bushel, having in three days run through the machine 1,500 bushels with very profitable results. Had the farmer who raised the crop given a little extra labor to the preparation of the grain before selling it, that profit which the buyer made by the additional preparation would have been added to the grower's profit. The beard is easily removed at the trifling cost of an additional man during the fanning. He can, with a small shovel, break off the beards at the machine as the barley falls to the floor. Much is often lost on the farm by paying no attention to what some call trifling matters, but in such trifles often lies the profit. "For want of a nail the shoe was lost."

Meeting the Requirements of Agriculture.

The Grand Trunk Railway Company contemplate building a line following the Chateaugay River from St. Isidore to Dundee, Huntingdon County, P. Q. If completed this will afford the long-wanted facilities for the transportation of produce to Montreal. Such are the mutual requirements of agriculture and commerce, that railways and steamships are bringing into close neighborhood the manufacturing centres of old England and the towns and fertile fields of Canada. The Monetary Times says:—"We could name a score of places along the three principal railways (in Ontario) which make direct exports across the Atlantic, besides small places, such as Brussels, Howick, Teeswater, which ship to Europe cheese, butter and oatmeal. Essex county has sent thither cattle and timber; Ayr and Brantford, implements; Oshawa, garden and field tools; Whitby, apples; Belleville, cattle and rye; St. Catharines, cattle and fruit; St. Thomas, woodenware; Brockville, butter; Woodstock, Kingston and Peterboro, cheese."

The following article has been going the round of the American papers. We would wish to know who is the author of this false report, for such it undoubtedly is. There is no such cattle disease in London or any other place in Ontario:—

A London, Ont., dispatch says a disease known as black tongue, but which is perhaps a violent form of diphtheria, has appeared there among cattle, and has baffled medical skill. The symptoms are at first a severe pain in the stomach, gradually ascending to the throat, which is attended with great agony. The tongue assumes a black color.

The Southern Central Railroad has transported from Oswego, N. Y., over 300,000 bushels of Canada barley since October 1st.

Dairy.

Cost of a Pound of Cheese.

BY L. E. ARNOLD.

What does it cost to produce a pound of cheese or butter or a quart of milk? These are questions which every farmer should ask himself, and figure upon till he can answer them to his satisfaction. Too often no definite calculation is made of the cost of raising any product of the farm. The only way in which the farmer gets the cost of his various products, or makes a comparison between cost and market value, is by looking at his standing at the end of the year, and seeing whether he has made a living, or more, or less. If he falls behind, he says farming don't pay, and it matters little whether the fault is in his economy or farm management, or in the ratio of cost of products to selling price. The effect upon his welfare is the same in either case, and the deficit is sure to be charged to the business of farming. If the ends of the year meet he is satisfied with the result, and the only complaint that will be heard will be a regret at the hard labor of a farm life. If a surplus is left above the cost of living, then all goes well, and the conclusion is that farming pays, but the cost of producing the several items from which revenue is derived is seldom measured with any sort of accuracy. Now and then where a farm is pretty exclusively devoted to one single production, the owner, or manager, can, by a little attention, compare receipts and expenditures so as to measure the price at which his goods can be put upon the market. In riding several miles lately with the Honorable Hiram Smith, of Sheboygan Falls, Wis., the following facts in relation to his farming were gathered, and may be of some interest to others by way of reaching an approximation toward the cost of his cheese, which is the chief product of his farm:—The leading facts are that this farm consists of 200 acres, valued at \$75 an acre, which would rent at 4 per cent. of its value, or \$3 per acre. On this farm he keeps 50 cows, which produce in the aggregate 25,000 pounds of cheese annually. Besides supporting the cows the farm supports the necessary teams and a small amount of other stock. It also raises above what the stock consumes about \$300 worth of grain, which is annually sold, besides supplying the necessities and furnishing a residence for his family. The refuse of the dairy is fed to swine, and brings an annual return of \$100, which is expended in mill feed for the cows, which is considered cheaper, and is fed in part in the place of grain. The products of the cows, before and after the season for cheese-making, with what is raised outside of the dairy, pay the interest and depreciation of the dairy and keep the farm and buildings in repair. The labor is nearly all hired, and costs in round numbers \$1,000 a year. These facts will furnish a basis for getting at what it costs him to produce cheese. His 25,000 lbs. of cheese and \$300 worth of grain sold have cost the rent of farm and the value of the labor put upon it. The other outlays have been balanced by incomes other than the cheese and the grain sold.

The rent of farm at 4 per cent. of value is...	\$ 600
The cost for labor is.....	1,000
Cost of making and boxing at factory on the farm.....	250
	\$1,850
Deduct for grain sold.....	300
Total cost of 25,000 lbs. of cheese.....	\$1,550
Cost of one pound, 6.2 cents.	

Mr. Smith is a good farmer, and has a good farm, but he does not, even at the showing above, get down to the lowest limit in cost of producing

milk. His cows, compared with many others, are well fed, but they are not fed up to the fullest extent for profitable production. He has a good herd of cows, but their capacity for milk-giving could be considerably increased in a few years by selection and breeding. It costs him, as it does most other farmers, more than it need to, by reason of exposure to cold, to support them in the winter season. When cows are enveloped in cold air it rapidly absorbs away the heat of their bodies, and extra food must be consumed to keep up the standard of natural and healthful temperature. The more loss of heat by exposure, the more extra food required, and the greater the cost of keeping. To produce milk at the lowest limit of cost, the extra food for restoring the warmth absorbed away by the winter's cold must be reduced to its minimum. Not one milk producer in a thousand does this, but it must be done to reduce milk to its lowest cost. It is plain then that cheese can be produced at a cost even lower than in the instance quoted, and that the dairyman in Wisconsin can live and maintain himself until cheese falls below six cents a pound, if he avails himself of the best skill in selecting and caring for his herd. With such cows as are found in the average of dairies, and the present price of labor and land, with the reasonable attention which Mr. Smith is giving to his business, it would seem that cheese in this country can be produced at a cost of 6½ cts. a pound, but could be reduced even below that figure by improved dairy stock and better modes of farming.

The Dairy—Its Prospects and Profits.

From an address by Prof. X. A. Willard, at the International Dairy Fair, New York, we quote the following:—

Referring to the co-operative system in this State, he said that in 1874 New York had 1,139 of these co-operative factories, at which more than 23,000 farmers were delivering the milk of 308,352 cows. As the factories of New York have been considerably increased since 1874, it is estimated that at least 30,000 farmers and as many farms are now identified with the dairy interest. The dairy conventions, which for sixteen years have had remarkable sway, are an outgrowth of the co-operative system. These have stipulated inquiry and a desire for improvement. At Little Falls more than 25,000,000 pounds of cheese from the factories annually change hands, and at the Utica Board of Trade much more. For the last twenty years, or up to 1879, dairying of all kinds has been very remunerative: in fact, so uniform have been its profits that the gains could be calculated with great accuracy and certainty for months in advance of the crop. American dairymen have a foreign market for all their surplus. The annual consumption of cheese in England is estimated at 504,000,000 pounds. The British make has been estimated at 312,000,000 pounds, and is now, according to Prof. Sheldon, 382,000,000 pounds, leaving 222,000,000 pounds as the annual amount required to supply the English demand for free consumption.

For the year ending December 31, 1878, American cheese exports amounted to 134,000,000 pounds, while the Canadian exports, during the same time, were about 42,000,000 pounds. The import of cheese into England from Holland and other countries on the continent was not far from 64,000,000 pounds, making a total of 240,000,000, or 18,000,000 pounds more than is ordinarily required in Great Britain for a free consumption. In view of these figures, it became plainly evident a year ago that the surplus cheese of 1878 carried over to the spring of 1879 must sell at low prices, making a loss to holders. It is now estimated that the make of English cheese, owing to the bad season, is one-quarter less this year than that of 1878, showing a decrease of 70,000,000 pounds. The American and Canadian crop, it is believed, will fall short 50,000,000 pounds from that of 1878. This total decrease of 120,000,000 pounds is good reason for the recent advance in prices. Whatever may be the disposi-

tion of the crop of 1879, it can hardly be expected that the cheese crop of 1880, under ordinary circumstances, can be marketed at much above seven cents. The turn in the fall trade has influenced dairymen to keep full herds, and it will stimulate an extension of business in new districts, especially in Canada, which has become a formidable competitor for the English trade. The cattle and dead meat ocean trade will also exercise some influence on the price of cheese. The best brands of American cooked corned bone-dress beef, put up in tins, sold in London at 50s. per 100 pounds, Australian mutton in tins at 5d. per pound, and American bacon at 44s. to 46s. per hundred weight, while secondary American cheese is quoted at 52s. to 54s. per hundred weight. The maintenance of such high rates on cheese would drive consumption upon meats. The real prosperity of American dairymen is not to be promoted by high prices. Low prices mean the reduction of the make in England and an outlet for an increased exportation from America. American cheese-makers have made some mistakes in the past in devoting all their energies to one style of product, in looking forward too exclusively to a foreign market, and neglecting home wants. The home market is the best in the world, if properly supplied with a variety of goods.

Borax for Salting Butter.

The following article we extract from the Scientific Canadian, and we recommend it to the attention of all. Now, when there is such progress in all things connected with the farm, it is well to experiment when there is a possibility of improvement.

The Italian Minister of Agriculture has addressed a communication to the Chamber of Commerce of Milan relative to experiments in salting butter with borax, which have been carried out at the agricultural station at Florence. From the account which appears in the Giornale di Agricoltura, borax would appear to have a most marvellous effect in insuring its absolute preservation. Samples of fresh butter made at the Florence station, and purposely not carefully freed of their buttermilk, were found, on the addition of about eight per cent. of borax, to maintain their natural fine flavor, without the least change whatever, for upwards of three months. To attain this satisfactory result it is necessary that the borax should be perfectly dry and in very fine powder, and care must be taken to insure its thorough mixture with the whole mass of the butter operated on. Among the further advantages of this plan, it is noted that borax imparts no flavor of any kind to the butter, while it is entirely harmless to its nature, and also reasonably cheap. Still later experiments have shown that a very much smaller proportion of borax suffices to produce the desired effect, and also that simple solutions of the salt act quite as well as the dried powder.

It has been alleged that too much borax imparts a bitter flavor. This might be lessened by washing in water. The safe point is that if borax should prove a useful preservative element for butter, meats, &c., the borax industries of Nevada might be very properly advanced.

Sir John Sinclair has stated that it is supposed that the same quantity of herbage that would add 224 lbs. to the weight of an ox would produce 900 English gallons of milk.

The Agricultural Economist (Eng.) says:—One green crop in a rotation of the four-course system would yield, with proper cultivation, quite as much good for cattle as the land would produce in permanent pasture during the whole four years.

A. Hyde, in N. Y. Times, speaks of the successful farmer as follows:—Other things being equal, the successful farmer is a member of an agricultural society and attends the fairs, not so much to exhibit his own stock and products and secure premiums, as to learn from the exhibitions of others. He is also a member of some farmers' club, and attends the meetings, not so much to ventilate his own opinions and practices as to imbibe the wisdom of his peers. He also studies the markets and the best time and mode of marketing his products, for success in farming depends almost as much upon the skill in selling as on the skill in producing.

Agriculture.

A Canadian Speaks.

At the great International Dairy Fair that has just taken place in New York, a Canadian spoke plainly, briefly and emphatically the sentiments of Canadians in the following manner. We quote in full from the American Dairyman:—

Saturday evening, Dec. 13.—Mr. Thos. Leemings, of Montreal, Canada, delivered an address as follows:—

Mr. Chairman, Ladies and Gentlemen,— It is to me a matter of regret that I have not had more than hour or two's notice of the fact, that this evening I should be called upon to represent the fair Dominion of Canada on this platform.

I thank you, sir, for the compliment which is contained in this invitation, for the day has come when Canadians are proud to stand upon any platform in the world and speak for Canada. I see a good deal of bunting hanging about this magnificent hall. While the flags are very pretty in their way, it is evident you Americans have yet to see the prettiest flag in the world, containing the Union Jack and St. George's cross, the Beaver and the maple leaf—the flag of Canada.

And if we are permitted to see another International Dairy Fair, I hope the Canadian branch of the Executive will see to it that the Dominion flag is here to adorn this hall. As a Canadian I am particularly proud to stand here to-night in connection with the American Dairy Association. We are here as competitors. We are here as opponents of yours, and we are not afraid of you. I don't wish to inquire how it might be if the contest was being waged with bayonet, sword and cannon, and I trust we may never have any statistics concerning a contest carried on between the two countries with such weapons. But, ladies and gentlemen, when you brandish your cheese and butter triers in our faces we unsheath our also and cry "Come on, McDuff, and—be he who first cries, Hold! enough!"

This contest with cheese and butter triers may be regarded by some as merely a tempest in a milk-pail, a matter of trivial importance, but no one can so think, or speak, who listened to the hitherto uncontradicted statement made last year by Gen. Butler on this platform, that the value of the butter and cheese produced in 1878 was one-seventh more than the wheat crop and one-third more than the cotton crop of America. The value and importance of the dairy is by means of such exhibitions as this, and the agency of the press, being more fully appreciated in this country and Canada. People are beginning to find out that the improvements in machinery and in the mode of treating milk and cream are of quite as much importance as tinkering with a tariff or appointing a foreign minister. Some idea may be formed of the importance of the manufacture of milk into butter and cheese by the magnitude of the question, simply of salt.

A few years ago people said it did not make much difference about the quantity or quality used, in fact, in my day, when living in central Canada, such a thing as fine salt, what we used to call stoned salt, was unknown except to put in the salt cellars for the table; the same rough salt that was used for curing hay or hams, the old fashioned coarse Liverpool salt, or as you Americans term it, "ground alum," was considered quite good enough for butter, and the principal anxiety displayed was to shove in as much of it as possible to increase the weight. Now, what do we see and hear? Columns of information regarding the best salt for dairy purposes, and in this Exhibiton we find the two prominent structures of the whole display consist of salt. Now, sir, insignificant as the subject may appear as to a pinch or two of salt to be put in butter, it shows the amount of care and attention that is being given to dairy interests in our day and the machinery, and the appliances that are in full swing around us here demonstrate the fact that scientific dairying is the coming process that shall place our product on an equal footing with anything in Europe at an early day. Now, sir, I have detained you long enough. Again I regret not having had the opportunity of collecting some statistics of the progress of Canada in this great and important dairy business. Do not imagine that because you do not hear so much of our movement as you do of Uncle Sam's farm, that we are idle. We are quietly improving, quietly strengthening our position in the British markets, and getting the thin edge of the wedge into the markets of France and Germany.

Will you allow me to warn you? Look well to

your laurels; we think we have a better climate and better pasturage in Canada than you have, and can make better butter and cheese than you can, and don't intend to rest until we do it. Let the strife be conducted in all harmony, and may you learn to know us so well that in a few years, when you have grown thoroughly tired of the misrule of lager beer and Tammany, and when we have opened up our great North-West, we shall be ready to receive you back to the long severed allegiance we have all recognized to our loved sovereign Queen Victoria.

The Agricultural Statistics of Great Britain and Ireland.

The Secretary of the Excise for Great Britain reports to the Board of Trade in London on the agricultural returns for 1879, and says:

The total quantity of land returned in 1879 as under all kinds of crops, bare fallow and grass, amounted, for Great Britain, to 31,976,000 acres. For the whole of the United Kingdom the cultivated area was, in 1879, 47,437,000, exclusive of heath and mountain pasture land, and of woods and plantations.

In Great Britain the area returned as under cultivation has increased by 121,000 acres since 1878, and by 264,000 acres since 1877, and the total increase in the ten years since 1869 is no less than 1,637,000 acres. Of this increase rather more than two-thirds, or 1,134,000 acres, was in England, 228,000 acres in Wales, and 275,000 acres in Scotland. A considerable portion is land that is being gradually reclaimed from mountain, moor, or bog, several instances being specially noticed as having occurred during the past year.

In Ireland the cultivated area shows a slight decrease of 9,000 acres, the decrease in 1878 having been 82,000 acres, and in 1877 nearly 300,000 acres. This large falling off was chiefly due to an alteration in the headings of the schedules by which the "barren mountain land" was completely excluded from "grass," in which some portion with stock upon it had been previously erroneously included.

The area under wheat cultivation in Great Britain in 1879 was 2,890,000 acres, being a decrease of 328,000 acres from the previous year, or more than 11 per cent. The total area in the United Kingdom was 3,056,000 acres, which shows a decrease of 326,000, or nearly 10 per cent., from '78, still a large falling off, though not so large in proportion as for Great Britain alone. The low price of wheat and an unfavorable seed time are stated as the chief reasons for this large falling off, the former cause especially having induced farmers to grow barley instead. The wheat crop in the United Kingdom has now decreased by nearly 1,000,000 acres, or a fourth of its area, since 1869.

As has just been mentioned, barley has partly taken the place of wheat, being this year sown on 2,932,000 acres, an increase of 209,000 acres and nearly 8 per cent. over 1878, and the largest area sown with that crop since the agricultural returns were first obtained in 1867. Oats show a decrease of 126,000 acres, or 3 per cent., from 1878. This crop has declined steadily in area during the last ten years, having amounted to nearly 4,500,000 acres in 1869. The large importations of maize have doubtless competed very largely with the oat crop, and therefore tended to diminish the breadth sown.

Rye was sown on 58,000 acres, as compared with 71,000 acres last year; and beans and peas show little variation from the figures of 1878 either in Great Britain or Ireland.

Summing up the figures as to the corn crops, we find that the total acreage under corn crops in the United Kingdom amounted in 1879 to 10,777,000 acres, a decrease of 2 per cent. from last year, and of more than 10 per cent. from 1869, when corn crops covered no less than 12,000,000 acres.

Of green crops, we find there is an increase of potatoes, carrots, cabbages, etc., but a slight decline in turnips, owing, it is said, to the wet weather interfering with the sowing. Altogether the acreage of green crops in Great Britain was 3,534,000 acres, an increase of 63,000 acres over the preceding year.

The extremes of sugar beet production in Maine this year, so far as known, are 2 tons from one acre, and 20½ tons from half an acre.

The Decline of Grangeism.

This farmers' institution has completely collapsed in different parts of the country. Out of fifteen working lodges, they have been rendered to three in London Division, and these three, according to the returns, are not in a very healthy state.

The sudden decline of this useful farmers' society is significant, and shows one or two things—either that the principles of the order are not permanent, or that the farming class do not sufficiently appreciate them. There is no doubt the Grangers have tried to accomplish too much, and this probably may have resulted either from the principles themselves, or a misconception of their application.

But, however, the snag upon which the boat has sunk is summed up in one word, co-operation. This, taken in one sense, is essential to the welfare of society—indeed, it is the foundation of society—but then, whilst co-operation is so essential, is not division equally so? Could society exist without co-operation in their social relations and division with regard to labor? But the co-operation of the Grange included social, moral, commercial, and everything else. Thus, whilst the aims of the Society were good, in inducing farmers to meet together in their social relations, it was likewise violating a known law in political economy, that civilized society must exist by a division of labor.

The object of the majority of the Granges was to sever that connection that should exist in a complex community, and make the farmer store-keeper, shipper, speculator, and everything else.

To make him everything was only to destroy his functions as a farmer. There could be no possible way of bringing producer and consumer into contact only by the employment of these middlemen who were so much abused, and for which it was claimed seller and buyer could dispense with. It is essential to society that the raw material for food or clothing should go through a certain number of evolutions from the time it is produced until they are consumed. The farmer who raises beef in Canada cannot lay it down as beefsteak on the table of the English consumer. There must be middlemen, whether they belong to the Grange or act on their responsibility. And it is only a choice which is the most expensive.

The business arm of the Order is really what has swamped it. Members joined because they were going to buy cheap tea, sugar and tobacco; and when this failed, of course, the interest in the Society was gone. The different Granges, for instance, bought barrels of sugar and chests of tea on the co-operative principle, and dealt them out in their lodge rooms, empty houses or barns. Of course by buying a quantity it would come cheaper per pound, but then the cost of distribution was never considered, and the consequent loss in dealing out in small quantities.

We unhesitatingly state, had the legitimate objects of the Grange Society been adhered to—social and intellectual advancement—the order at the present time could not have failed to be prosperous. An instance of what the Grange may accomplish can be seen in the Elmira Farmers' Club, in the State of New York. This started a few years ago by a few farmers meeting together for mutual improvement, and to talk about the best methods of farming—in fact, it was a model Grange. This society gradually increased in numbers, and its influence expanded until a whole country came within the fold, and this was again extended to other countries, until now its members are counted from all parts of the State, and eminent agriculturists from all parts of the United States attend its meetings.

Let the Canadian patrons do likewise, and let the store-keeping business alone, and the Granges here will be as prosperous as the Elmira Club.

The Grange Society has proposed, no doubt, many necessary reforms and good measures, but they have failed to carry any of them into effect—it has been all talk and no concentrated action. Their weight, as a body, has never been brought to bear upon any single measure they proposed, just for the want of unity of action.

Since May '77, 893 tons of plaster have been shipped from Hants County, Nova Scotia, valued at \$64,000. A good sign of agricultural improvement is the greater demand for fertilizers.

Draining.

BRUSH, STONE, BOARD AND TILE DRAINS.

There is no subject pertaining to agriculture which ought to interest the farmer more than that of draining. A profitable return for his labor and for his investment in land, the yield of field crops, the fruits of the orchard, the long life and rugged health of the trees, the health of his stock and of his family are hazarded when a farmer neglects to remove surplus moisture from lands and household premises; and all of these interests are greatly improved by thorough draining. How shall we drain? is the practical question. The open ditch, though cheaply made, is a very expensive drain. Make out the account and see. Charge with land occupied, with labor of cleaning every two years, with labor of keeping the banks free from noxious weeds, brush, &c., with a large percentage of the best manure you put on your field as a top dressing, with necessary crossings, with time lost in plowing, cultivating, &c., by being obliged to turn

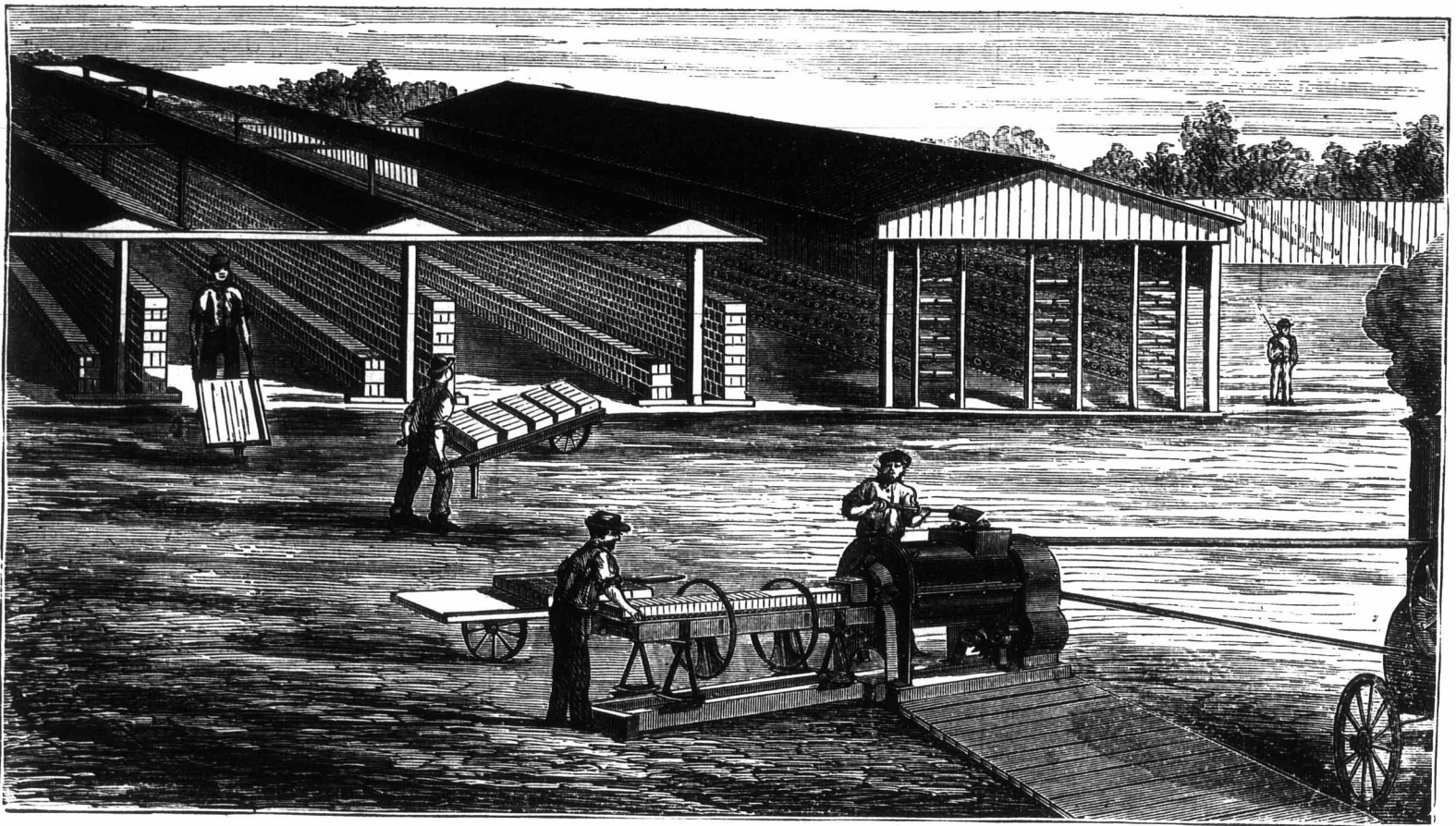
"Well, I've had a splendid drain on my farm. It's been running constantly for eight years, and it's made of nothing but brush. What do you say to that?" I would say that brush is better than nothing, better than an open ditch. You say that it has been running constantly. That has saved it from decay. The object of an under-drain is twofold—to remove the water and to admit the air. The air hastens the decomposition of all vegetable matter and manure in the soil and thus prepares it for plant food. The excess of moisture in your land, which the constant running of your drain could not remove, not only preserved the drain, but in a great degree preserved the manure from decay. Much of the soluble part of your manure percolated through the soil and passed off in your drain. I apprehend that soil that is excessively moist will not absorb food for plants, and that if your drain had been intermittent in its flow, your crops would have thrived better, but your drain would not have lasted half so long. Brush in water will last a long time, but in the open air or lightly buried they very soon decay. A much

subscription to the *ADVOCATE*, to the tile maker and the brick maker in rural districts. Will our agricultural friends call their attention to these articles?

As an introduction to the subject, which will give the reader a general idea of the business, we have had a wood cut engraved representing a tile shed, a few hack sheds for bricks, and Tiffany's combined brick and tile machine driven by a portable engine, with necessary attendants at the machine. As the work of each laborer is clearly shown we need not describe it fully.

For particulars in regard to the machine we refer you to the proprietor, Mr. Geo. S. Tiffany, London, Ont. We know that it has taken first prize as best tile machine for the last five years at Toronto and London, and in 1879 at Ohio State Fair, over five competitors. It won the first prize for best brick machine at Toronto and London last fall, and bricks made by it took first prize as prepared bricks at London.

Three wheel barrows are used so that one of



THE MANUFACTURE OF DRAIN-TILES.

so many times, and see if you can afford it. It appears to be a necessity in some places, along the highways, through marshes, &c., when large quantities of water flow after a rain, but it should seldom, if ever, be seen in a cultivated field.

The stone drain.—When stones are found in abundance on the land to be drained, whatever objections there may be to it as a drain, they will be used, for the stones are to be removed and the drain must be made, and how economical to do both jobs at once! How natural to bury the nuisance and thus make it a blessing! "A stone drain is a blessing. It is durable and water will flow through it. What more do you want?" We want a smooth channel, with unbroken sides, except just enough opening to admit the water, so that the roots of plants and trees will not be so liable to enter, and by their growth obstruct the drain. We want a drain that will offer some obstruction to burrowing animals, and one that crawfish cannot make the base of their operations. "I've had a stone drain on my farm for forty years, and its working well to-day." So their are thousands of rivers that have swept onward to the sea from time immemorial, but we do find one occasionally that has been dammed by flood wood. A snag catches in a shallow place and piece after piece of driftwood gathers around it, until the mighty river is bridged, sometimes dammed and turned from its course. If a river will become obstructed on account of an irregular water course, how much more liable is a drain,

better drain is made of inch boards in this form. We know of nothing better except a stone or a tile drain.

Drain tiles well made are far better than any thing else. But we know that there are many places in Canada where they are wanted and cannot be obtained. The primitive mode of making a drain tile is to tramp the clay with cattle, or as one "Treadeth out the the Wine Press," roll it into a sheet and wrap it over a stick or form of this shape. □

Hand brick makers might supply an article which would answer well the purpose of a drain. A brick 3 in. x 4 in. x 10 in., with a cavity on the 4 in. face, 2 inches in depth, the length of the brick. By laying one over the other, breaking joints, a continuous oval drain 3x4 inches would be formed. A profitable business may be done in many places in making both bricks and tiles, when the demand for either one would not sustain a manufacturer. The brick maker who is established in business can, with a very little outlay, commence the manufacture of tiles. A hand machine and a drying shed will be sufficient with his present plant. He may burn his tiles in a brick kiln.

We purpose publishing a series of articles, by different writers, on draining, the soils requiring draining and the modes of draining, and the manufacture of drain tiles, giving details of construction of sheds, kilns, process of manufacture, &c. We intend to make them interesting and profitable to the farmer, and worth many times the price of the

them may be at the machine. A wheeler leaves an empty barrow on one side of the cutting table, steps to the other side and takes the one just filled. The two men may wheel, and each one set his own barrow full, or one may wheel and the other set. The machine thus operated should make 12,000 bricks per day.

The advantages of rising steam power are many. The clay may be molded much stiffer than by hand or horse power, so that the tiles are not injured so much by the necessary handling. They require less time to dry, and the tiles are smoother and stronger than when made of soft clay. The expense of an engine has been a serious objection to its use, but is hardly so now, for, in the last few years, a great many have been bought for threshing purposes. They are now in almost every good farming township in Ontario, and laying idle enough for the few months required for threshing. Many of them might be profitably employed through a greater part of the brickmaking season.

In future issues we propose to treat upon the following subjects in their natural order:—The selection of a site for manufacturing, the construction of tile and hack sheds and kilns, the process of burning, cost of fuel, &c., the construction of drains, laying of tiles, &c.

We intend to illustrate sheds and kilns with cuts drawn by scale, or with dimensions given, so that mechanics will be enabled to work from them.

Fermenting Feed.

The accompanying cut will teach a plain, profitable and practical lesson to thousands of our farmers who have never seen this plan practiced. We first saw this system in operation on the farm of F. W. Stone, at Guelph, Ont., when traveling through Canada in search of the best stock; this was nearly twenty years ago, and the same practice is still followed by Mr. Stone. His cattle have always been the fattest and sleekest of any farmer's stock we have seen. Mr. Stone has not failed, nor has he formed a company; it stands "F. W. Stone" still, and his stock stands higher for reputation and reliability than any we know of in Canada or on this continent. If this plan had not been the best in Mr. Stone's estimation he would not have followed it.

The chaff-cutter stands on the floor, the turnip-pulper near the root-cellar, and near the fermenting room a layer of chaff is spread alternately with

Texas Cattle.

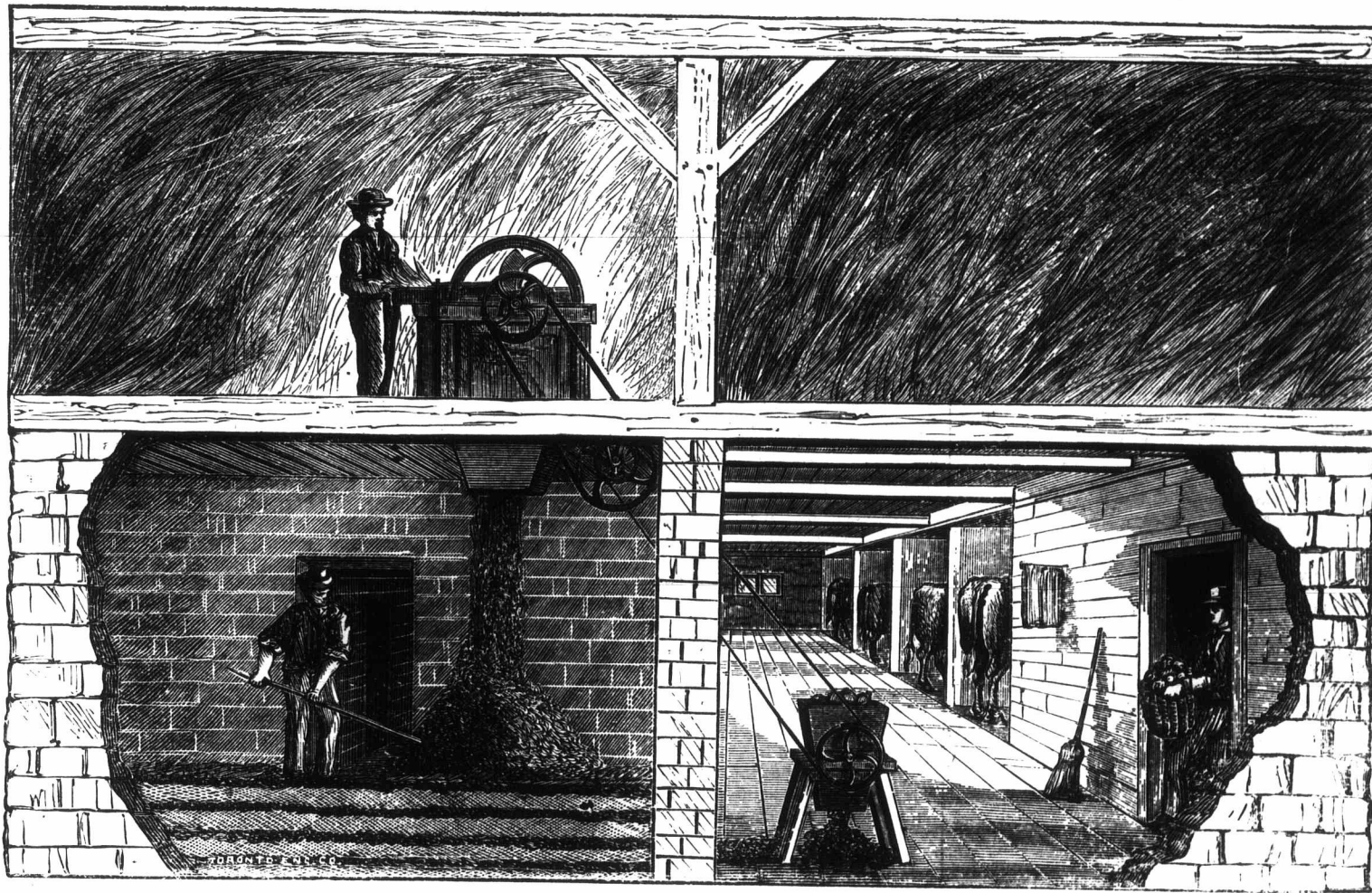
A floating paragraph makes the annual cattle crop of Texas \$10,000,000, and the value of beef in barrels 2,000,000, while the crop of hides is valued at 1,800,000. Is this not an intolerable quantity of envelope for a moderate amount of meat? As the cattle are mostly sent out of the State with hides on, and the beef mentioned could account for only a moiety of this large value, the item is strangely suggestive of a wholesale skinning of dead animals on the winter feeding grounds, the source of no inconsiderable income from Texas cattle. Could we ascertain the quantity of meat lost to the markets, to consumption, and especially to the original owner, from inhuman neglect and penny-wise parsimony, it would represent, doubtless, a value of several millions more which a wiser economy of cattle-growing would easily add to the \$12,000,000 above mentioned.

WAS HIS RYE GENUINE?—A mowing machine was awarded to Charles Grant, of Thornbury, Grey county, for the best collection of grain at the Southern Exhibition in October, 1878. A protest

The Algoma District.

The Algoma Pioneer calls the attention of the Local Government to the necessity of redoubling their exertions for the opening up of the territory to settlement in view of the rate at which emigration thither is progressing. Whole townships are being colonized before the surveys are completed. This is especially the case with regard to the Bruce Mines and the Thessalon settlement. Eastward from that point there is an immense tract of excellent agricultural land. The prospect of the commencement of the Sault Ste Marie railway is attracting in that direction large numbers of people, and the demand on the Local Government for colonization roads is thereby greatly increased. The \$40,000 obtained for the purpose last year is, as the Pioneer contends, inadequate for a district with settlements springing up through its entire length of nearly a thousand miles.

PRIVATE ENTERPRISE.—An enterprise has been undertaken by Mr. L. Valentine, in Orange Co., N. Y., which promises to become a strong influence in American agriculture. Mr. Valentine has



PROCESS OF FERMENTING FEED FOR STOCK.

a thin layer of pulped turnip. In twenty-four hours the fermentation has softened all the cut feed. It is all warm, and the cattle eat it with a relish; they fill themselves quickly and lie down to chew their cud, fatten, and enrich the feeder. It saves the heating of cold feed by deducting from the animal heat; the food is easily masticated, easily digested, and the nourishment more easily and thoroughly taken by the animal.

This plan is already adopted by many good farmers. Perhaps this illustration may cause you that have not yet adopted the most profitable modes of feeding your stock to turn your attention to the matter, and ask your Member of Parliament, Warden, Reeve or Councilmen about this subject. They should know something about agriculture, or should not dare to ask you to pay them salaries; or have they tricked you only to enable them to put their hands on your hard-earned money.

was entered by Mr. Stock, of Waterdown, on the ground that a bag of rye exhibited was bought from Walter Smith at Toronto, and affidavits to this effect were made by Smith and brother. A committee of the Agricultural Board deemed it best to keep possession of the machine and prize money. Mr. Grant brought an action against the South Brant Agricultural Society to recover the machine. Although he succeeded in proving the genuineness of the samples exhibited, yet the Court held that the Board had power to deal finally with the matter, and that their decision could not be questioned now.

MEETING OF A VERY OLD AGRICULTURAL SOCIETY.—The sixtieth annual meeting of the Charlotte County (N. B.) Agricultural Society was held at St. Andrews on the 29th November. Mr. Robt. Stephenson and Mr. J. S. Magee were re-elected President and Secretary; Jas. Russell and A. T. Paul, Vice-Presidents. This is probably the oldest Agricultural Society in America, and proves that there is a vitality in such really serviceable associations as this.

devoted his time and a large amount of money to the establishment of an experimental station under the direction of Dr. Manly Miles, well-known as an instructive lecturer on agricultural subjects. He has been at work the past six months draining and preparing plots of land for experimental work. It is hoped that this farm may become to the agriculture of America what Rothamstead has to Great Britain. This is another wise step in following the example of England.

In localities where the soft-wooded plants, as honeysuckle, wigelia, wisteria, etc., do not fully mature their wood, it is absolutely necessary to give them winter protection; but where the season is long enough for the wood to properly ripen this protection is quite useless. If the branches or trunks of such plants contain a superabundance of sap, the frost is sure to work great injury; both the protection is quite as necessary against the warm sun of early spring as it is against the cold of winter. Of course the covering of boughs, matting or straw, which we give them, does not prevent freezing, but where it is kept on late it prevents the injurious effects of the warm suns,

Stock.**Diseased Meat and its Consequences.**

Many Americans and some Canadian office-holders and editors have unscrupulously and falsely condemned us for the firm stand we have taken against the introduction or spread of diseases among our farm stock. We leave the matter in the hands of our subscribers, and they must be the judges. Was the information that we gave to the Government nearly four years ago, in regard to diseases among farm stock, false or not? Was the information we furnished to the Government last spring, stating that Hog Cholera existed in Canada, true or false? Despite the Board of Agriculture, their veterinary adviser and their pet journals, we emphatically state that their published accounts are false and they know it, and we dare any one of them to deny it. We will submit to vile aspersions no longer. There are dishonorable and dishonest men among all classes; the holding of a high office does not necessarily imply that the holder is a truthful, honorable or reliable person.

Fathers and mothers of families, would you discard the use of food that would endanger the lives of your offspring? Will not the British consumers ascertain where wholesome food can be procured? Are we not right in using our influence to keep your cattle and hogs free from the danger that threatens them? We want no American cattle or hogs admitted to our Dominion until it can be shown that the United States are free from their numerous stock diseases, that we are as yet exempt from. We have no confidence in some of our officials that we are taxed to support. We believe that some would sacrifice the interests of farmers for a trivial personal advantage. The Hon. O. Mowat and Sir John A. Macdonald should not depend too much on dishonorable men; we know and they know some of them. The following is an extract from an address by Dr. N. Cressy on the dangers of diseased meat, which we copy from the New England Homestead:

The flesh of animals suffering from a great variety of maladies is not necessarily diseased meat, but the flesh of some, without an apparent symptom of disease, may prove fatal when consumed by man. And there are certain malignant maladies, prevalent among our domestic animals, that do not produce an unwholesome flavor in the meat, for the palate of the epicure, but which even render it exceedingly hazardous for the butcher to dress it. All meat, therefore, from whatever source or condition of an animal it may come, which would cause sickness, disease or death in man, if partaken as food, must be regarded in the light of sanitary science as diseased, and consequently unfit for human use in any form.

Sweet and savory meat of any kind must come from an animal in fine condition, while thriving and healthy. Its exercise should be moderate, in the open air and with the enjoyment of sunlight. In case of beef, it should be of a bright red color, firm and elastic to the touch, well interwoven with white fatty tissue, and of an agreeable odor. But all of our marketable beef is not of this good quality. The poorer grades contain less, the flesh is quite variable in color and exposure, and is often soft, flabby and watery. Such meat, of course, has lost its characteristic odor, and is devoid of that rich taste which the better qualities possess. And yet it is not unwholesome, nor would its daily use be attended with any dire results, or in any way affect our happiness, unless we know it.

CONSUMPTIVE BEEF.

The commencement of phthisis is generally so invidious that it is most difficult to arrive with any degree of certainty at the causes which directly induce or favor its development in mankind; but it is to be feared, says Fleming, that at least one of its sources must be referred to the utilization of the meat, but more especially of the milk of phthisical cattle as food. It is now certain that tuberculosis is not uncommon and that it is a destructive disease, especially among dairy cattle, and that the

glands are often involved; that infants and adults consume milk in somewhat larger quantities; and that phthisis or consumption is becoming a very prevalent and fatal malady, both in man and animals.

Therefore we have reason to view with grave suspicion the use of meat from consumptive cattle, especially if the disease is much advanced and the tissues generally involved. But the milk from such diseased and puny cows should be at once discarded and not allowed to be used, especially for infants, who mainly rely upon it for their daily sustenance and whose powers of absorption are so very active. And even if this milk did not possess dangerous infective properties, its deficiency in nitrogenous elements, fat and sugar, and the increased proportions of the earthy salts, according to recent investigations, would alone render it decidedly objectionable as an article of diet. In fact, it has long been known that it was liable to produce diarrhea and debility in infants, but though many children fed on such milk have died from tuberculosis, or from a localized type of it in the bowels, known as tuber mesenterica, the part probably played by this liquid food in its production has rarely been suspected even by the family physician.

It is an established fact in comparative pathology to day, that a real consumptive virus exists in the milk from cows effected with tuberculosis, and that it is chiefly in the serum, for when the milk has been thoroughly filtered, and thus deprived of its solid particles, the fluid portions appear, according to Klebs' experiment, as active as ever in the transmission of the disease. Its virulence, he claims, is not destroyed by ordinary cooking, and it becomes all the more potent as the malady advances.

THE CATTLE PLAGUE.

Since the first introduction of pleuro-pneumonia in 1843, the herds of the middle and New England States have not been free from its local ravages. And during its history of thirty-seven years upon our virgin soil, the germs of this contagious malady have been so effectually disseminated along our Atlantic seaboard, that fresh unexpected outbreaks are now of frequent occurrence. The western movement of our thoroughbred stock of late years has opened new channels for the development of this disease; and unless immediate action is taken by Congress, I fear that these potent germs will ere long be found lurking among the vast herds upon the plains, if not already wafted there by the breath of civilization. The cattle of Connecticut, for some time past, have been more or less affected by this insidious malady; and thrice have we been called upon as a commission, in the last ten years, to stay its progress. And still there is much work to be done, which the next legislature in its wisdom and economy cannot ignore.

The question of the unwholesomeness of meat from these diseased animals, is of much moment to us to-day, and in view of the increasing prevalence, in this country, at the present day, it is worthy of due consideration, and of our expressed opinions, on this occasion, for the public good.

Young calves should be freed from vermin by applying a mixture of linseed-oil and kerosene to the parts infested.

It costs no more to raise a good animal than a poor one. The food spent while they are young is repaid cent per cent.

To cure scab in sheep rub it with plain petroleum with a sponge three times a week. Dogs can be cured of mange in the same way.

Spirits of camphor is a good remedy to destroy lice on cattle, and can be safely used at any season of the year. A rag saturated with coal oil, and passed over the animal's hair, is also an effectual remedy, care being taken not to wet the skin.

At the meeting of the Massachusetts Farmer's Board, in the first week of December, Secretary Chas. Flint strongly urged liberal appropriations by Government for stamping out pleuro-pneumonia, which, he declares, exists in four States.

ONTARIO POULTRY ASSOCIATION.—The annual show will be held in the city of Guelph on February 3, 4, 5 and 6, 1880. Prizes will be given amounting to \$1,000. The G. W. R. and G. T. R. will carry passengers during the week of the show at one and one-third fare for the double journey. American Express will charge single rates. Canadian Express will charge the usual exhibition rates.

Quality or Quantity.

The tendency in our markets is towards more careful discrimination as to quality. Most buyers are growing more particular—if not much more willing to pay higher prices for superior quality, they are unwilling to buy inferior qualities at any price. Butchers, and those who buy to sell to butchers, are also becoming more careful and discriminating in their purchases. The progress in this direction is slow, but it is going on, and will continue. The rich and the fastidious will continue to be particular as to the quality of the meat bought; as, indeed, all sensible persons ought to be. Butchers will grow more, rather than less observant of the proportions of meat to offal, of high and low-priced meat; and the difference in price between good and poor "butchers' beasts" will increase rather than diminish.

There has been less discrimination in regard to the hog than with either cattle or sheep. Swine breeders and feeders on a large scale have much to encourage them in the belief that the best hogs to rear are those which will make the most pounds from a bushel of corn. So large a proportion of the pork products are not consumed in a fresh state, and so much is expected, that it is clearly true that too little attention has been paid by many buyers to the quality of the meat. But even here the tendency will be towards making greater distinctions.

The breeders' and feeders' aim is profit. There is no objection to the statement, "I want the animal which will make the most money;" unless, indeed, this desire for profit leads to dishonesty or short-sighted policy. If two steers look equally well in all respects, they will sell equally well; but if it be found that those of one breed habitually dress more to live weight, or give a larger percentage of meat in the best places, they will come to sell higher. If they can be reared at the same cost, intelligent feeders will give up any prejudices they have held and adopt this breed. There are many stock breeders who are neither intelligent nor enterprising; if any breed has marked superiority over others, it will come to be popular. It does not at all follow, however, that either the breed or the mode of feeding which produces the very finest quality of meat will be generally adopted, for neither will probably give the largest profits.

On the other hand, it certainly will not do for breeders and feeders to look to quality alone, entirely disregarding the quality of the meat. Very great size is rarely ever found united with very good quality. No one would select any one of the half-dozen largest steers [and cows at the late Fat-Stock Show and expect to secure equally good beef, or to have equally as profitable an animal for the butcher, as were many of those of medium weight. Not one of the very heaviest animals represented profitable feeding. It is questionable whether any one of them is now worth the food it has consumed. In a less degree this is true of swine. Remarkably heavy hogs are rarely a source of profit. It is a profit in favor of a breed that its meat is of finer texture and better quality than that of another.—[Nat. Live-Stock Journal.

The Bit for the Horse in Winter.

Warm the bit on your bridle in frosty weather, before putting it in the horse's mouth. The bit full of frost, coming in contact with the tongue and lips, adheres to these soft tissues the same as it would do when red hot, leaving the animal with a sore mouth. If you do not believe it, place your own tongue on a piece of frosted iron some cold morning, and be convinced.—Ex.

[Other writers recommend rubber bits as being the best for winter use on horses.]

It does pay, always, to read about what others do, and say, and think, in the same line of work or business. If one does not find direct information specially applicable to his own work, yet the thoughts and methods of others incite new thoughts and plans in the reader's own mind, that lead to profitable results. The reading, thinking man, makes his head help his hands. Brains tell everywhere, and in nothing more than in farming, gardening and housekeeping. And the fewer brains one has, or thinks he has, the more anxious should he be to get all the facts and suggestions he can from other people's thinking and experience.

The International Dairy Fair.

The first week of the International Dairy Fair, held in the city of New York, closed on the 13th ult. The number of entries of butter in the fair is 540; of cheese, 504, and of dairy implements, 300. One feature in the latter exhibit which has attracted special attention is the machine for separating the cream from the milk by centrifugal action. The machine which does this is a Danish invention, and is extensively used in Denmark. The whole exhibit of dairy implements is extremely interesting in many ways. It shows how elaborate and how ingenious becomes the machinery when dairy work is transferred from the farm-house to the factory, and thousands of pounds of butter and cheese are turned out weekly, instead of the modest product resulting from the labors of the farmer's wife and daughters. Still, there is no want of domestic dairy implements, and in the single item of churns there is an almost endless variety of models, each claiming to save more labor and do more work than any other.

The trade is increasing yearly. In 1876, 7,000,000 pounds of cheese were exported; as we are already the largest grain exporters in the world, it is a pretty safe prediction to make that in a few years we shall be equally large exporters of dairy products.

The tables for the exhibit of creamery butter fairly groan beneath the weight of the pails which cover them. To the left of the great pyramid, is a magnificent display of foreign imported cheese, which includes specimens of Roman, Parmesan, Leyden, Cheddar, Stilton, Neufchatel, Sapsago, and a score of other varieties, including native imitations. Holland has a large display of creamery butter and cheese, manufactured for export to England and tropical countries. The cheese designed for the tropics is packed in lead. One of the most notable features of the fair is a large case of fancy or printed butter from Minnesota. The butter, which is of a golden hue, is modeled into a variety of beautiful forms. There are bouquets, baskets of flowers, a cross entwined with ivy, wreaths, and cakes of every form known to the geometry of the dairy. This is the only exhibition of the kind in the fair.

The creameries, which are designed to facilitate the separation of the cream from the milk, are numerous and of many devices.

The cattle exhibit is now complete, and, although not remarkably large, is one of the finest, in regard to the quality of the stock, ever displayed in this city. The greater number of the cattle are quartered in the machinery-room, although a few are in the main building, near Third-avenue.

In the machinery room a large number of machines are in active operation, including a well excavator, a steam pump, and the generator of electricity by which the electric light in front of the building is fed. With the growing trade increase the ingenious devices for preserving the products on their long journeys, and though the exhibit of these at the fair seems large, there is no reason to suppose that every succeeding fair will fail to show an augmentation of their number and improvement to meet such new wants as experience may demonstrate. Addresses are made at the fair every evening by gentlemen interested in dairying and agriculture. Mr. Thomas Leaming, of Montreal, and Col. R. M. Littler, of Iowa, spoke on Saturday. The latter is Secretary of the National Butter and Cheese Association. The scene within the American Institute Building on Monday evening was decidedly more lively and satisfactory than on the previous evenings of the exhibition. At 8 o'clock a large crowd gathered. The judges, for some days, were busy in testing the half-thousand odd tubs of butter offered for their inspection and judgment. The result gives the first sweepstakes prize for the best butter to Wisconsin. This finding, as was emphasized in some remarks made by the Chairman, was a surprise to the New-York dairymen in the instance of cheese, and to the dairymen of Iowa in that of butter.

THE QUANTITY OF FOOD NECESSARY FOR A HORSE.—The required amount of food for a horse for ordinary work is 12 pounds of oats or any other kind of grain food, and 14 pounds of hay. A horse weighing 1,000 pounds, and fed 8 quarts of grain or oats, which is equivalent to 8 pounds, should be fed 18 pounds of hay. Hay is the nerve food for a horse, cattle or sheep, and grain is the muscular and adipose or fat-producing food.

Breeding Cows for Butter.

We say when we speak of a heifer by an Alderney bull and dropped by a common cow, "she is half Alderney." This word "half" does not by any means indicate the measure of Alderney characteristics which the heifer possesses. We might with greater propriety say "she is half Alderney by blood and seven-eighths by nature." Some well-bred bulls will impress the characteristics of their own breed so remarkably that many of their offspring might pass as pure bloods; others possess this quality, which is called prepotency, so slightly that their offspring take after their race but slightly. Such bulls, though perhaps well-bred, are valueless; but they are very rare among full bloods, of any breed. Among the grades of any breed, and among crossbreds of any dissimilar breeds, bulls lacking this invaluable quality of prepotency are the rule rather than the exception. Now and then a grade bull will get very good calves with considerable uniformity. Very fine-looking grade bulls are common, and it is hard to convince common farmers that they are not just as good for use as pure breeds which, perhaps, do not look so well. The difference in the herds of two breeders, one of which uses pure-bred bulls, the other scrubs of grades, is always most obvious.

Those who select bulls for beef points will raise the best steers; those who wish to make milk will breed from bulls of the great milking breeds; and in butter sections it is equally important to use only bulls of the best butter breeds, the Jerseys and Guernsey standing pre-eminent. But among the Guernsey and Jersey herds we do not find all the cows good butter-makers, while among those which are really good, there is an enormous disparity.

It is a good cow which gives ten pounds of butter a week. Very many which give twelve; quite a number which yield fourteen; a very few sixteen, eighteen, or even twenty. Such cases are not, so to speak, sporadic or isolated, but more or less in families—that is, we find that a great number of good cows will generally be found in the progeny of one famous one.

What we want is to be able to breed great butter yielders every time. This might occur occasionally, or often, when the progeny of one great butter-cow is rather closely inbred, but with very much greater probability when the blood of different families, each famous for its butter yield, is combined. In each there is a "prepotency" for butter production, and as the families are not akin, we really combine the two, and, if each prepotency is equal to the other, then we have a double force, whereas, in breeding in one family we have only the single force, no matter how its parts are combined.

Rule for breeding prodigies of any kind: First, discover or establish in two families the particular prepotency—that is, the quality which produces similar characteristics, say a great yield of butter, in many, or all the individuals of a family; second, combine these two families. It is, of course, a question whether the tendency will continue in double power. If not, then we must continue to combine the excellencies—that is the prepotencies—of two families, just as we breed grades now.—American Dairyman.

By the latest despatches we learn that the cattle plague has broken out in Cyprus. It had also broken out in Austria, and had appeared in Prussia in places previously free of that disease.

CANADA AHEAD.—At the great Dairy Show held in New York, in December, a Canadian gained the first prize in the Sweepstakes for cheese, open to all nations. Canadians also took high premiums in the butter department.

An American writer, referring to the greatly increased area of the wheat raising this season, asks:—"If all Europe makes an average crop next year, and all European nations except England, as is usually the case, have wheat to sell, what will American wheat be worth?"

The land under cultivation in Great Britain has been steadily increasing rather than diminishing notwithstanding the agricultural depression. The increase since 1878 has been 121,000 acres; the total increase in the ten years since 1869 being no less than 1,637,000 acres. Large quantities of bog, mountain and moor have been reclaimed and placed under the plough.

Pleuro-Pneumonia—Its Existence in the United States.

From the address of the President of the American Association of Short-Horn breeders, delivered at their last annual meeting, we take the following extract, admitting that pleuro-pneumonia does exist in the United States, despite the persistent denial of the past by Americans and by some Canadians. This journal strongly advocated the prohibiting of the importation of cattle from the infected country to Canada, and thereby was the means of saving farmers from incalculable loss. Time has proved the judiciousness of the Canadian and the Imperial Governments in the course they then took. Will those so-called Canadians now confess that we were right, and that their denials were all prompted by motives of self-interest, regardless of the welfare of the farmers?

"It is beyond doubt that contagious pleuro-pneumonia exists among the cattle of several States of the Union. At this date it is unnecessary to inquire into the truth of the statements as to the existence of the disease among the cattle composing the cargo of the Ontario, and which led to the scheduling of American cattle. But, as has been stated, we know that contagious pleuro-pneumonia does exist among cattle in some eastern States, and the imperative duty of every American breeder and professional man is to urge, with determination which cannot be misunderstood, that the Government of the United States shall take such action as shall effectually 'stamp out' this dire scourge, and prevent its reintroduction among the cattle of America. Had the Government heeded the warnings given when we were threatened with an invasion of rinderpest, much of the difficulty would have been avoided and a proper system of quarantine and veterinary inspection would have been instituted."

A new form of cattle disease, differing altogether from the pleuro-pneumonia, has broken out in the northern portion of Westchester Co., N. Y. Four cows of the herd of one farmer have died of this distemper. It is characterized by difficulty of breathing and signs of fever, followed by delirium. On examination the heart of one of the dead cattle was found much enlarged, the blood vessels distended, and the lungs diseased.

Work in the phosphate mines in Hull is being resumed, as the demand and prices for phosphates have increased.

H. C. Howard, of Caston, Me., has raised on 45 acres of land 10,000 bushels of potatoes, doubtless the largest crop raised by any one man in the State.

In the most important agricultural region of France, the number of cattle kept now is one head to each two and a-half acres; in 1840 it was one to five acres.

The exports of produce from P. E. I. in the last few months have been enormous. In oats alone there have been shipped from the Island since September 1,315,000 bushels.

The Burlington Free Press says:—"The changes going on in the population of the rural districts of Vermont are slow but sweeping. In a single locality about five miles from this city can be counted twenty deserted farm houses, or the remains of what were once such."

Treeless Iowa is being transformed into a forest-covered country, by a law which remits certain taxes for five years on every acre of fruit, and ten years on every acre of forest trees planted and kept alive. Over 75,000 acres of fruit and forest trees have been planted, and \$200,000 have been remitted in taxes.

EMIGRATION.—It is reported that forty thousand people will emigrate to the North-West next year. The Hudson's Bay Company are making strong efforts to further the cause of settlement, and half a million acres of their land have been surveyed in the townships laid out by the Dominion Government.



NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post-Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. 3. Do not expect anonymous communications to be noticed. 4. Mark letters "Printers' Manuscript," leave open, and postage will be only 1c. per ounce.

The Prickly Comfrey.

SIR,—In looking over an American journal the other day, I saw an article about the bursting up of the "Prickly Comfrey" swindle, which, if I mistake not, came near taking root in Canada some time ago, I mean the swindle; and if it had, of course the Comfrey would have done so too.

An "Old Farmer" writes, having seen the Prickly Comfrey praised in many agricultural papers, and says: "I obtained some roots and planted them; they grew, and I guess would make a pretty good crop of leaves, and so would Dock—just as large a crop and a good deal larger; but what good would it be? I can't find an animal on my place that will touch the stuff; they seem to be insulted when I offer it to them."

Now it is not so much what "Old Farmer" says about the Comfrey that I wish to write about, as it is of an idea that struck me at the time I was reading it. Here was a man who had been taken in by a worthless article; he tested it, found it so, and comes forward at once and lets everybody know it. He is not a bit ashamed to acknowledge that he has been duped. Who can tell what wealth that man saved to the community by this action? It struck me also that if our farmers would do the same when opportunity offers, lots of humbugs might be nipped in the bud; whereas for the want of outspoken sentiments in some wide-spread journal (the *ADVOCATE*, for instance), of some of the victims, they have been prolonged and carried out successfully, in some instances for two and even three years, in different parts of the country. Why are we so reticent? Why do we like to see and hear of others suffering because we have suffered ourselves?

Once, on the London Exhibition Grounds, I saw a man coming out of one of the side-shows; an officer, evidently a stranger to him, addressing the one just leaving the tent, said: "Is it worth the money?" He made some reply which I did not catch, but as he walked away he said loud enough for me to hear: "Pay your money like I did, and find out for yourself." Is it not just this feeling that has lost to Canada so many tens of thousands of dollars, and caused her to be looked upon as such a fair field for operations by speculators from across the lines?

If these few remarks will only stir up some here and there to do as the "Old Farmer" did, they will accomplish the end for which they are written.

A. P.

[The only place we have seen any quantity of Prickly Comfrey growing was on the Government Farm. We thought it looked like a foul weed that we have seen growing near water in England. We do not think it worth cultivation, but have seen no Government report on it whatever. We advise our readers to leave it alone until we have some favorable reports to give about it, and we never expect to see any except from those that wish to sell plants. We would urge still more strongly on all interested in agriculture to profit by the suggestions of our correspondent, and do as the "Old Farmer" did—expose every humbug and let others know what they themselves have known to be injurious and what beneficial in farming.]

SIR,—In your first issue please give the best method of stall feeding cattle, and tell if you are in favor of putting windows in stables.

J. Mc., Ormstown, P. Q.

[We are in favor of putting in windows. Stock are the better of light as well as of ventilation.]

What Ails the Wheat?

Perhaps some one of the numerous staff of agricultural officials might furnish the information asked for in the following communication. It seems at least to belong to them to take up such questions:

SIR,—Permit me, firstly, which I do sincerely, to wish you a happy New Year, and as you seem to have no general correspondence from this locality, to give you a brief sketch of things in general. Times are beginning to look up, manufacturing to move forward slowly again, and it is to be hoped the worst is over. But while the future looms up so cheerfully, let us take warning from the experience of the bitter past, to not drive at such a break-neck speed as we have done. Fast driving, although the roads may be smooth, tells eventually on both horse and carriage. Yet we whirl along excitedly, fearlessly, until at length a crash, and the sun of that carriage has forever set in dark oblivion. With regard to crops, let me say that the acreage of fall wheat sown in this county greatly exceeds anything of the past, and the closing up of the fall left it looking well and in good condition for the winter. The ground was dry, which was an advantage, and now a splendid pearly counterpane wraps it up securely. If next spring and summer should be favorable, we will have to do like the rich man of old, tear down and build larger. Spring wheat was a total failure, three to one, with a few exceptions, being the outside figure, and he was a happy man that had it. In connection with the blight that destroyed it, there is a mystery that few can comprehend. That it was no ordinary rust all admit, but the cause—that's the question. Two facts in connection with it are certainly strange, for while the foliage was in a manner completely destroyed, any seed stalks that were permitted to shoot were bright and clear as usual, and what escaped the weevil appeared to fill measurably well. Secondly, while all spring wheat was blighted, fall wheat, rye, oats, barley and other grains escaped, which is not the case with ordinary rusts. All spring wheat suffered by it, but the Black Sea appeared to hold its own the best. I should like to have a scientific solution of the mystery in question. My own opinion is, the wheat plant is the most porous in its nature of any of the cereals, and consequently is the most susceptible to moisture of any of them. The rootlets are continually at work taking it up and conveying it to the plant. Now, if evaporation is favorably going on, a super-abundance (I do not mean submergence of the plant) of moisture is not injurious, but the contrary. But if evaporation is by any means checked, then the results may be dangerous. Thus it was in this case. The ground was filled with moisture, but under favorable circumstances none too much. There were warm days with a rapid growth and the leaf looked well. But a succession of cold nights set in, checking evaporation; the rootlets went on taking up the moisture, the frail fibres could not withstand the accumulation; they gave way, exuding the sap, the sugary particles of which were converted into an acid by the scorching rays of the sun; this accumulating, corroded and destroyed the fibre. It may be asked, Why, then, was not the fall grain rusted? I answer, because, being in a more advanced state, it was better enabled to withstand the pressure. This is my humble opinion, but, being mortal, I cannot claim to be infallible, and I shall therefore calmly await the decisions of the wise. I would like to be more explicit, but want of space forbids. Oats, barley, fall wheat and peas, were a good crop. Hay, figuratively speaking, enormous. This county (Leeds) is by nature a very fertile one, and under favorable circumstances might compare with any of your western ones. We are more subject to summer drouths, I think, than they are. Isolation from the great lakes, together with a level, cleared country, giving the currents of air the power to break up the gathering storms is, I think, the cause. Send along the *ADVOCATE*.

R. V. K., Warburton.

SIR,—Can you inform me of the best and cheapest paint to put on the plaster on a farm house, through your valuable paper?

C. S., Amow, Ont.

[The rubber paint has been used in this section, and is much appreciated by those who have used it. It is especially adapted for inside work either on iron, wood, brick or plaster. It is said to be adhesive and elastic, and will not crack or peel off.]

From Nova Scotia.

SIR,—The *FARMER'S ADVOCATE* for November has come to hand. I am much pleased with the paper, and consider it one of the best agricultural papers that has come to my notice, and one that should be liberally patronized.

Although this section of country is not considered as very good for farming purposes, much of the land being stony and hard to work, yet when properly cultivated crops can be, and are, raised that will compare favorably with sections that are considered better adapted for agriculture. The hard times of the last few years have compelled many who were engaged in other pursuits to turn their attention to agriculture; the majority of them acknowledge that the change has been a satisfactory one, in fact that farming pays. The erection of a first-class grist mill in this village by one of our wealthy and enterprising merchants, has given a great impetus to agriculture in the county, and a large amount of grain is now raised for home consumption which will no doubt increase in a few years so as to render it unnecessary for us to look to our Republican neighbors for the staff of life. What has been largely sown this year has done well, in some cases producing 30 bushels for one sown.

Potatoes and other root crops have been up to the average. The fruit crop, although not as large as last year, has been in better demand.

There is no doubt great room for improvement in our mode of farming, but I hope the time is not distant when our farmers will see the advantage of making themselves acquainted with the soil and its requirements, and bring to their occupation the same amount of intelligence and enterprise that is always considered necessary to success in other pursuits. To bring about this result your illustrated rebus furnishes an appropriate motto, viz., Learn to labor and to wait.

W. H. S., Weymouth, Digby Co., N. S.

Permanent Pasture.

SIR,—Can you tell me, through your valuable journal, the best mixture of grass seeds for seeding down permanent pasture? The land is a very heavy clay and wet, some parts of the field black mud with very hard subsoil. 2nd. How is the fertility of permanent meadows kept up? Are permanent meadows to be prepared to a regular rotation? This is the first year I have been a subscriber to your journal, but I hope it won't be the last by a good many so long as you keep up its present standard. You are rejoicing over the return of prosperous times in Canada, but if you were down here on this little "Gem of the Gulf" you would have to sing a different song. We never had such a woefully tough time—everything down.

J. C., Darnley, P. E. I.

[An English agricultural writer of undoubted authority says that for permanent pastures a full mixture of 12 or 14 grasses, 40 or 50 lbs. to the acre, in all, and 8 or 10 lbs. of the mixed clovers are sown per acre either in early autumn, if the land is in good heart and well tilled and sufficiently manured, or spring when the mixtures are sown with a seeded crop of barley. The mixture of grass must differ somewhat from that most approved of by English agriculturists. A good mixture for your heavy clay would, from your imperfect description, be of the different varieties 16 lbs., meadow foin, 2 lbs.; Timothy grass, 5 lbs.; rough-stalked meadow grass, 2 lbs.; orchard grass, 10 lbs., with 8 lbs. of clover of the different varieties. The covering of the seed should be as light as possible, so long as the grass is covered and placed where it is at once moist, warm, and in the dark, it will germinate. If covered as deep as two or three inches it will perish.]

SIR,—I have been growing for the last two years some peas called the Champion of England, and they yield well, but are very wormy. I wish to know if you can tell me of any method to destroy the larvae in the seed, through your valuable paper, as I wish to sow them in the spring?

W. H., Keppell, Ont.

[The pea weevil can be killed by putting the peas for a few minutes into hot water—not so hot as to destroy the vitality of the germ. The killing of the weevil in one garden or farm can be of little service while it is neglected by others in the same locality. It can only be exterminated by the united action of pea growers.]

From New Brunswick.

SIR,—I am very well pleased with your paper; I like its loyal tone and am disposed to place it first among our agricultural papers. In reference to a Dominion Farmers' Club, if there were not so many organizations now of one kind and another to be attended and kept running, one could advise the formation of such a club with some hope of its success. In New Brunswick we have a farmers' association that meets annually and tries to discuss practical questions. In Nova Scotia the Grangers are getting strong, and in fact they are finding their way into New Brunswick this winter, two or three Granges having been formed in this vicinity this month. They have also in Nova Scotia a very efficient Board of Agriculture. Another objection to a Dominion Club would be the expense and the distance to travel, which would have the effect of preventing some of our most practical men from becoming members of such an institution. These are some of the objections that occur to me, but I am entirely in sympathy with any practical movement that will tend to unite farmers more closely together—that will make them more intelligent and give them a higher appreciation of their own calling, although I think in all these they are advancing.

I enclose a circular on Prickly Comfrey that will explain itself. The American Agriculturist speaks highly of it; I had a letter from the editor quite recently, and he says he has yet had no reason to change his opinion about the plant, "that it is a very valuable addition to the plants used for green fodder."

December so far has been mild, but very changeable; had some good sleighing in November, but none since December came in. What a fine country our North-west must be! I read everything I can see about it with a great deal of interest. A great deal depends upon the reports of the first emigrants, as to whether it will be filled up rapidly or not. Our Government should take every pains to secure the best of agents, and smooth the way of emigrants to the very outside limit justifiable.

In regard to the corn duty, I am not sure that you advised Sir Leonard Tilley for the best; but I judge from what you say he is not likely to take your advice. What we as a Dominion want is population and capital, and if farmers by employing more help can raise roots and the coarser grains (such as barley, oats and buckwheat) to feed to their stock for profit, as I believe they can, the money is kept in the country and men are given employment. You will say this is the old story of the National Policy. Well, I am an out-and-out believer in the N. P. That is to say—I want a country of my own; I want to see the Dominion grow into a great nation; I want to be able to feel proud that I am a Canadian. I went for Confederation with this in view, and the N. P. seems to be in the same line. I don't want Reciprocity if it should operate against the building up of our country in those qualities that go to make a great nation—self-reliance and loyalty to the land of our birth. H. T.

Point de Bute, N. B., Dec. 13, 1879.

SIR,—I have heard that level culture is practical in the Old Country, viz., Europe (that is, cultivating around root crops, but not hilling the earth up around them). Do you know of it being practiced in Canada, and what is the result?

Of the root crops, which is considered best for cows giving milk? How would sugar beets do? or would they give an unpleasant taste to the milk and butter? If good, where can the best seed be got? M. A., Westmoreland Co., N. B.

[We have had reports from England of level culture being practiced successfully. We have some similar reports from the United States; somewhat depends upon the land; if wet, level culture would not be beneficial, but the contrary. The best roots for milch cows are mangolds and beets. Neither will give an unpleasant flavor to milk. In feeding roots to stock a regular feeding with hay must not be omitted.]

SIR,—I see in your last number the figure of a hay elevator. What is the price of the track and pulleys? I have a fork. J. K., Ancaster.

[Messrs. Morrow & Workman, London, Ont., are the manufacturers, and will furnish applicants with full information.]

Draining.

SIR,—In your December number of the FARMER'S ADVOCATE, N. F., St. Catharine's, gives his version of under-draining, which is as follows:—"Plough two furrows as deeply as possible, throwing this out on each side; then draw another furrow in the bottom of these, then cut out the bottom with a spade and fill in with broken stones, say four or five inches deep; cover with rye straw and fill in the dirt." The undersigned is of the opinion the above named style of under-draining would not have the desired effect, and would consider it so much labor thrown away. I will endeavor to explain the method of under-draining which is extensively practised in the county of Westmoreland, England. It matters not whether the plough is partially used in cutting the drain or not, but my plan is to make the drains three feet deep, and not less than twenty inches wide at bottom; take ordinary building stone and commence at upper end of drain, and lay stones seven inches wide and six inches high on each side of drain, and lay a flat stone cover across on the top of stone or wall, which will leave an open space in the centre of bottom of drain of seven by six inches for the water to run. The person performing the labor stands in bottom of drain, and moves backwards in the operation. After the walling and covering is done the drain can be filled with stones to within some twelve or fifteen inches of surface, leaving them level on top; no straw required on the stones, only throw on the earth. My motto is, anything that is worth doing is worth doing well, and by making a drain as herein mentioned it may be termed an everlasting drain. If stones are scarce the filling the drain after walling and covering might be dispensed with; the drain will answer without, but will do better with being filled as before mentioned.

R. B. B., Seymour.

Progress of Farming in Nova Scotia.

SIR,—I am glad to see that your paper is gaining a large circulation in this Province, and that improvements in farming are progressing. More good wheat was raised here this year than I have seen in any one season. Many farmers have raised enough for their families for a year to come, and it is well harvested and of good quality. In former years too much of our hard earnings went for flour to the United States farmers. We hope it will now be kept at home. The breadth of the wheat promises to be greater the ensuing season. Many who had discontinued sowing wheat, owing to a succession of poor crops, are intending to sow it this year. The potato crop was also very good this year. Some are preparing to ship to England more cargoes than have been sent yet. The apple crop was over the average, and the prices realized have made them more valuable than the extra crop of 1878.

N. S., Clarence, N. S.

SIR,—My friend, Lester Stockton, Cornhill, New Brunswick, recommends your paper, the FARMER'S ADVOCATE, very highly to me. Would you please send it to my address.

A. J. G., Oakland, Portage La Prairie, Manitoba.

[From the above letter some idea may be had of the circulation of the FARMER'S ADVOCATE. A farmer in Nova Scotia writes to his friend in Manitoba recommending the paper, and his friend at once becomes a subscriber. How many more of our subscribers, who have not yet done as A. J. G., will follow his example? Throughout the extent of British North America the ADVOCATE is subscribed for and highly appreciated. Newfoundland, on the Atlantic coast, furnished its list of subscribers, and British Columbia, on the Pacific, receives its monthly consignment—places between 2,000 and 3,000 miles apart.]

SIR,—As I see in the columns of your valuable paper various questions asked on almost every subject, I here take the liberty of asking your opinion on a matter of taxes. My lease reads that I shall pay all taxes that now are or shall hereafter be imposed during said term. There has been a by-law passed granting a bonus to the railway, and my taxes for the same have been \$10 extra; I have no vote either for or against. I shall feel obliged if you tell me whether tenant or landlord is liable. W. H., Keppel, Ont.

[We consider that you are bound by the terms of your lease to pay the additional tax you mention.]

Salt for Land.

SIR,—This year I put in a field of spring wheat on land well prepared and manured. It came up all right and looked as well as I could wish, but when it was 14 inches high it was taken with some kind of a yellow blight and never recovered, but gradually seemed to dwindle away. I cut it for feed, as there was nothing to thresh. Some neighbors living a short distance from me put salt on their land, and have had good crops. One had 17 bushels per acre; another 27, and one I have heard of had 32 bushels per acre. These results were on clay land. Now, I would like to know what was the cause of my failure. We had no frost; the weather appeared favorable for a plant, and the land was right; I believe there are no manurial qualities in salt. In what way does it act? I have heard of salt being applied in the County of Peel, and some say it has not acted beneficially there. I would like if you or some of your subscribers would give the result from the use of salt, and the cause of this failure in spring wheat.

A. R., Hyde Park, Ont.

Complimentary.

SIR,—I have read the ADVOCATE for many years. Sometimes I thought but little of it, but the independence shown in its columns has been such that every farmer in the Dominion should read it. You have, as you say, been true to the name. May the FARMER'S ADVOCATE still continue to improve and prosper, for it has done good service. I would rather read one of its pages than a folio of the abortive attempts to deceive that are palmed off on the public under the name of agriculture in political papers. The articles in them contain some useful information, but the interest of farmers is only of secondary consideration. They wish to use us farmers as tools. They try to blind and deceive us. Long life to the ADVOCATE. I enclose my subscription. A. H., Port Hope, Ont.

Dominion Farmers' Club.

SIR,—I notice that you have started a discussion in the ADVOCATE about starting an agricultural society. Now, I believe it would be a step in the right direction, and that it would advance the interest of farmers if it could keep free from the influence of party politics, as it should be conducted entirely on agricultural principles, and I believe it should not be a secret society, with secret passwords, like the Grange, but it should be open to all who desire to see the advancement of agricultural interests.

W. S., Marvelville.

SIR,—As you express yourself so strongly in favor of Farmers' Clubs, I send you a few notes of the Farmers' Club that held its annual meeting here on the 2nd of the month. The Society was formed in June, 1873, and it has stood well and has grown in favor. It has not as many members now as it had some years ago, but nearly all the members are of long standing—men acting for the good of farming and of the country at large. We have fifty regular paying members. Our last exhibition showed a decided improvement in stock raising, and in the products of the farm and house industry, while our influence has made itself felt among many who did not and will not see the good of agricultural societies. Our accounts are satisfactory, showing that they were laid out in exhibitions, and we will have a small balance on hand at the end of the year when we will close up our books. For the improvement of our stock we purchase pure bred animals. We have now (the property of the Society) a thoroughbred bull and cow, Devon; thoroughbred bull and cow, Ayrshire, and two thoroughbred bulls and cow, Jerseys. We have disposed of our Leicester sheep, intending to replace them with other stock.

C., Clementsport, N. Y.

SIR,—Could you or any of your readers kindly suggest the easiest and most efficient way to secure ventilation, during winter, for a cellar under a dwelling house? The cellar in question is large, divided into two portions by a stone wall, upon which rest two stone chimneys, and the only entrance to it, during winter, is by a stairway leading from the kitchen. Pictou, N. S.

[Bad architecture is the cause. You should make an opening in the wall. If you have no windows, outlet should be through the chimney.]

One Hundred Cows Dead.

NO DANGER TO THE DOMINION.

SIR,—I have been requested by our Agricultural Society to send you the following memoranda—in some measure a description of a very serious malady that prevails in this vicinity, and not in any other part of the Province that I am aware of, to see if you could from your own knowledge, or from reference to your veterinary surgeon, give us any information respecting it, or any suggestions whereby the ravages of the disease may be stayed. I should think one hundred cows have died from this cause in this county during the past season, and I see plainly it is extending and becoming more widely spread from year to year, and unless in some way checked the results must eventually be very disastrous. I think from a perusal of these statements you can get a pretty good idea of the symptoms, and I don't think it necessary for me to pretend to add anything more, especially as I am not practically familiar with it. Hoping some good may result from this enquiry without giving too much trouble, I remain, etc.,

DAVID MATHESON,
Pres. Pictou Ag'l Society, Nova Scotia.

Statement of Donald Fraser, Esq., of Acadia Farm, near Pictou Town:

In 1860 a cow owned by Capt. Carey strayed from town and died near my farm. In the following week, 29th June, the disease made its appearance in two of my young cows. Symptoms—first, a strong nauseous taste in the milk; a short time afterwards, all at once, this went from their milk; the back rounded up, the tail drawn in between the legs; animal quite feverish; eyes inflamed and nearly covered with yellowish matter; very soon severe looseness in the bowels, which goes on to severe purging; if the animal lives for two or three days this leaves; then becomes hard bound in the bowels and the animal swells up like a drum, during all the time apparently in great pain with head hanging down and inclining to lie down, swinging the head, the nose often to the ground. These two lived three days. From this all my cows, twelve in number, and four heifers, died before the end of the year. Some lived from three days to eight weeks; some went quite mad during the progress of the disease and would run for the brook or nearest water, but would only taste it. Some I killed to put them out of pain, but in no instance have I succeeded in curing one, although I have used every remedy I could think of.

Although steers and young oxen were with the cows, none of mine have become affected.

I have since renewed and enlarged my byres, with good ventilation, and although my neighbor whose farm joins mine during the past summer lost all his cows, five in number, yet I have not had any return of it. The same neighbor says that his horse, which pastured with the cows, also died, showing all the symptoms of the disease. His cows all died within two months from the time the first was affected; he says in every case when he made examination he found the liver much enlarged and the brain quite soft, as if partly melted.

This disease has hung around here ever since it so scourged me, with more or less loss every year, and perhaps more virulence the past year than any other, over forty cows having died within a distance of two miles around the town. It has within three or four years reached the town of New Glasgow, where many animals have died, and during the past summer it has extended five or six miles in the direction of Merrigomish, and thirty-six cows have died within that distance in that direction. It has prevailed at Fraser's Point (across the harbor from Pictou), Carriboo, Little Harbor, Sutherland's River and Merrigomish, in some places farmers losing all their cows and heifers, and every summer reaching new sections of the country. So far as I know, it is only in the summer season it prevails, after the cows get on the grass, and unless some remedy is procured, it will necessarily result in seriously injuring our farmers, if not in driving them out of the country.

Statement of D. Foote, Pictou:

I append the following as the first symptoms of the disease among the milk cows in our neighborhood, as I have had experience among my own.

1. We detect a strong taste in the milk, as if some of the manure had fallen into it while milking. 2. Extreme purging, but no other apparent trouble. 3. The cow loses her milk suddenly, it may be in one night. 4. The cow becomes languid and heavy, the eyes dull and hazy, and the whole appearance indicating extreme sickness.

With regard to the length of time that cows may live after being taken with the disease, I cannot speak positively, as I have never allowed any of mine to linger very long. I have lost altogether twenty head, and on examination after killing them, have found a large quantity of dropsical fluid around the paunch—sometimes as much as two buckets full, of yellowish color and unpleasant smell. I have found the gall enlarged in every instance and in some cases it contained as much as a gallon of fluid, of natural color but quite thin. My experience leads me to suppose that this increase of fluid commences immediately on the stoppage of the milk. The flow of urine also decreases, and what does come seems hot and inflamed. The last cow that I lost was this past spring, and when I found that she was diseased I killed her for the purpose of ascertaining, if possible, when the trouble commenced. The milk had stopped, but she still passed urine in small quantities of the hot and frothy kind already mentioned. I found but a small quantity of fluid around the paunch and the gall but slightly enlarged, but the contents of the many plies were quite hard and solid almost as a stone, quite hot and inflamed, and the passage into the paunch seemed entirely closed. There was evidently considerable inflammation in the lungs.

My observation with the cattle of others has been that when allowed to live, the disease sometimes induces madness, and I have known cows to beat their heads against a rock till they died, or rush into the water and drown themselves. Mr. Wm. Pope has told me that his experience with cows leads him to suppose that the trouble commences in the tubes leading to the bladder becoming inflamed and obstructed, which seemed to throw the water out of its natural course and all through the system.

Statement of J. H. Lane, Pictou:

Within the last twenty years I have lost five or six cows from the disease which has been so prevalent about Pictou. The following are the symptoms, so far as I have observed in my own and other cattle that I have seen laboring under the disease:

First, loss of appetite and cud, followed by great looseness of the bowels and very frequent purging, the excrement resembling coal-tar—very black in color—for four or five days, when it ceases and the animal commences to swell; no further evacuations take place. The swelling of the stomach increases, and finally the cow dies in great agony, there being great forcing of the bowels before death and the anus being very much distended. Death generally occurs in about ten days or a fortnight from the first symptoms. Very frequently the disease may be foreseen from a strong taste in the milk, perhaps ten days or more before the disease shows itself, as if the cow had been in a strong clover field, or particles of dung had fallen into the milk.

One of my cows suffered so much pain that she ran round and round the field, driving her horns into the ground, until she fell down completely exhausted, and died in a few hours after. I keep my cows in a pasture by themselves, with plenty of the best of water from a running stream. They all died during the summer season or early fall.

[We have made enquiries of our veterinary advisers, Messrs. Rudd & Tennent, of this city, and they inform us that this is a Blood Poison of an Enzootic nature, that is, not contagious. It is found in low, wet lands, especially after a luxuriant growth, and more particularly when the grass begins to rot or decay from floods or over-growth on salty or springy lands, and on lands that favor the development of miasma. Cattle are only attacked by it when running on pasture. Our informants have seen the disease existing on low lands in England, and also in the County of Lambton, Ontario. It may be found on flat, clay, undrained lands; sometimes deposits of lead from mountainous regions after heavy rains have been known to affect cattle in the same way on rich pasture lands. The butting or kicking by the cattle is caused by the grass becoming compact and hard in the manifolds of the paunch. The preventives are these: When the pastures are rank, too succulent or decaying, allow the cattle to have only a partial meal at a time. Give them some other food, some grain, oats, bran or hay, or a run on higher and drier pastures. Boiled flax-seed or aperient medicine may be of service if danger is feared. Cows are more liable to be affected than other stock. Great care is required to ward off the danger when the pastures are rank after rampant growth and after floods.]

Opinions Differ.

SIR,—I do not approve of your suggestion that the duty should be taken off corn from the States. Let the N. P. alone for at least a couple of years so that it may have a fair trial. The country is just emerging from a financial crisis, and the duties are pretty fairly distributed over the whole. Let well enough alone.

I. W., Markham, Ont.

SIR,—I am well pleased with the manner in which you are advocating the farmers' interests. You were quite right in trying to induce the Hon. S. L. Tilley to remove the duty on corn. If the Government would give us corn free of duty we would be greatly benefited.

I am well pleased with the way in which you have been handling the affairs of the Provincial Board of Agriculture. Your remarks anent that body should tend to bring about a reformation. I live in the southwestern part of the county of Wellington. I follow mixed farming. The crops here have been considerably above the average the past season. I had three varieties of fall wheat, viz.:—Clawson, Silver Chaff and Scott. Each variety averaged thirty-five bushels per acre.

I had seventy pounds of a new variety of spring wheat shipped to me by a friend last spring. I sowed it on one half-acre of good rich land. It stood up well until cut, very bright in straw, and scarcely any midge. Yield, when threshed, eleven bushels. I will mail you a sample of the wheat.

R. A., Dorking.

SIR,—I do not wish to discontinue the ADVOCATE. It is too good a work to give up. I was glad you represented us to Mr. Tilley. We want the duty off corn very much. I am going to sow salt with my wheat next spring. How much should I sow to the acre? I drill my wheat. Should I sow salt broadcast and harrow it? Is salt any use to sow on winter wheat next spring? Will it help winter wheat to harrow it next spring? What kind of oats is most productive?

A. N., Campbell's Cross.

[See articles in paper. Harrowing in spring is beneficial.]

SIR,—I was very much surprised when I saw by the November number of the ADVOCATE that you were in favor of having the duty removed from American corn, and more so when I saw what you had been saying to the Hon. S. L. Tilley. For want of a market for our oats, rye and corn we have been obliged to sow wheat, wheat, till our farmers have become sick of it. Now there is a demand for oats, rye and corn we can grow these coarse grains, and in that way restore our farms, and at the same time have a fair return for our labors. I am feeding 10 head of cattle, a neighbor is feeding 15 head; we have grown our own corn, and find a demand for what we have to spare. He had 500 bushels of unshelled corn on 6 acres. Distillers would not buy our rye and corn when they could get American corn, nor would lumbermen and other large employers of horses buy our oats when they could get corn free of duty. But for the fuss those parties kicked up the duty on corn would not have been less than 10 cts. a bushel. The farmers in those parts will depend so much on those coarse grains for some time to come, as the bugs are destroying the peas and the weevil the wheat; from all appearance by another season the weevil will be as bad as ever it was. You should do all you can to have the duty raised to 10 cts. on corn; if you do and succeed, eight farmers out of ten will have cause to thank you.

Allow me to say that one reason why the loss on the steers sold at the Model Farm appeared so great was that the turnips and mangolds were valued too high. People would grow nothing but turnips and mangolds if they were worth 8 cts. to 10 cts. a bushel, for that means \$60 to \$80 an acre, as there is no trouble in growing from 600 to 800 bushels of those roots to an acre. I value mine at 4 cts., which, at the least, would be \$24 an acre, and that is too high, for if our farms would average \$20 an acre we would soon all be rich. Those steers had been fed gram at the rate of 15 lbs. a day. When cattle are getting plenty of turnips and hay 10 lbs. of grain is sufficient, and it will not pay to feed more when cattle are selling for what they were sold for. Such cattle as those must have been sold readily at 5 cts. a lb. in this neighborhood last May.

D. S. D., Brooklin, Ont.

Notes on Model Farm Reports.

SIR,—The last paragraph on page 235, FARMER'S ADVOCATE for December, is fit comment on the cattle-feeding experiment at the Model Farm given in same number, pp. 274-5. Give the paragraph referred to another insertion, please, in large type, and farmers will learn more from it than from all that the Agricultural School has yet published. Of what interest is it to know that the Superintendent of our Model Farm compliments the State of Michigan on having "thorough gentlemen in the management of their Agricultural College"? Would not one suppose them to be gentlemen? Why does the Commissioner of Agriculture send out from his Department a report which, however useful in some respects, overflows with the characteristics of the Superintendent's extraordinary style of composition? In the range of English literature can the following paragraphs be matched:

"I am of opinion there is within every man's reach a way of ascertaining the relative value of all our farm crops, much more simple than any form of analysis yet in use. What that is or may be for each I shall not at present indicate, but with reference to turnips it is worth enquiring whether there exists any plan by solidity, density and weight, or specific gravity, call it by any name you choose. Is it possible to make a standard as a fair guide to give an idea of value?"—Report 1877, page 27.

Who cares to know that the superintendent has an opinion which he "shall not at present indicate?" With reference to turnips, it is not worth enquiring whether specific gravity indicates value because it is a well-known test universally used for determining the value of sugar beet. The report is addressed to the Commissioner of Agriculture. Why ask him to give the specific gravity test any name he may choose? It is not the Commissioner's duty to give it any but its right name, and I crave leave to doubt if it is his duty to print, at the public expense, that the Superintendent knows a thing or two, but he will not tell it, like many other matters of like value to be found in the Model Farm reports. Business is business, sir. If an agricultural teacher desires to indulge in the use of the words "condition" for conduct, "a large batch of Ireland's choice tuber" for "a potato patch," "manchy, danchy" for muddy or dirty, "professor" for occupation, applied to farming—he should choose some other place than a report to a public department. Writing of a fine sugar beet crop, the Superintendent says:—"We are subject to analysis for check on sugar value." It is to be hoped the professor of Chemistry will content himself with the specific gravity test, and not subject the Superintendent to a course of acids, philters and re-agents. As reports upon agricultural experiments and farm labors, the Superintendent's will be of value if given in simple language, so that they may be understood by the great body of farmers who look upon their calling as an occupation, and many of whom would scorn to call it a profession.

RUSTIC, Kingston, Ont.

SIR,—Please inform me, through your valuable paper, what kind of roots would do best on marsh land that never was ploughed before, and how to keep the grubs from destroying the young plants, and also if carrots could be grown on land where young grape-vines were planted this fall without injuring the vines?

N. M., Chippewa, Ont.

[The first step in the improvement of marsh land is to drain it. Plough it some months, if possible, before cropping it. The exposure of the soil when exposed by ploughing to the influence of the atmosphere will add greatly to its productive powers. A light dressing of lime will be of great service to it in decomposing the inert vegetable matter, and converting it into available plant food. Mangolds would then do well in such a soil; so would turnips—not swedes. Carrots would do well between young grape-vines.]

SIR,—This is the first year I have taken your publication, and am well pleased with it. The farming community stand in need of such a journal. I am glad to notice that you invite and encourage farmers to give their experience in the different topics of interest to themselves through the columns of the ADVOCATE, and this is a privilege they should take advantage of. Much good might be done if there could be a freer intercourse amongst farmers, and I would be glad to see common farmers freely telling to other farmers what they know about farming.

H. D.

The Grange and the Farmers.

SIR,—A great commotion was made throughout our country a few years ago by the "Grange." It promised to do fine things for the farmer. It was to be the panacea for all his evils. It was to be the lever that should lift him from his down-trodden condition, and place him on the high vantage ground which nature designed him to hold. It promised him higher prices for what he had to sell, and (by doing away with "middle-class men") lower prices for what he had to buy. It was to be social, intellectual, educational, co-operative, and a bond of union linking in one great brotherhood the agriculturists of all lands. It was to do banking and insurance always advantageous to the farmer. But have these lofty pretensions, even in a moderate degree, been realized? By no means. Like most novelties, the "Grange" spread rapidly, put forth a sort of mushroom growth, and has passed—or is passing—rapidly away. Whether owing to its being a Yankee institution or not, it never took a firm hold of our people. The fact is, farmers have no faith in "secret societies" in agricultural matters. The "Grange," then, I repeat, has failed. And although it may, by shifting to new parts, and by extraordinary effort put forth by a few designing men who are making money by the concern, linger along for a few years, yet it is doomed. The report of the last meeting of the Dominion Grange is now before me. Anything more doleful than the President's address and the Secretary's report need not be looked for. "The returns clearly show signs of decay in parts of the heritage." Comfort is sought to be drawn from the statement that "in the annals of any society more or less unsound wood, unnatural growth and lifeless branches have to be pruned off." This language cannot apply to the Grange. There is no pruning—no lopping off. The whole body dies—dies voluntarily rather than live. Witness Brant, Middlesex and other counties where the Order was first planted, and show me what life there is in it. The Secretary says that 32 subordinate lodges have been formed within the year; but when he tells us that 4 of these are in Parry Sound and 21 in Nova Scotia, 1 in Quebec and 1 in Manitoba, leaving only 5 for Ontario, we need no one to tell us that it is faring hard with the Grange. Furthermore, no less than 12 have forfeited their charters within the same time, and these all in Ontario. Thus, then, more than two die for each one organized, and this, too, in the Province where they were first planted and which is best adapted for their growth. Let your readers judge, then, whether or not the Grange is a success.

BRANT, Brantford, Ont.

SIR,—Please give answers to the following enquiries and oblige: 1—Which is the best way to make a root-house on a rented farm, when the landlord will not build it, and how much sawdust does it take to turn frost? 2—In what proportion are mangolds equal to turnips for cattle? 3—Which is the best feed for horses in the winter-time that have little or nothing to do?

SUBSCRIBER, Bartonville.

[1—A root-house such as you propose can be easily and cheaply constructed of logs, or of boards lined also with boards about a foot apart from the outer ones, the space between being filled with sawdust or tanbark. If the root-house be built on porous soil, or if it be well drained, the surface may be sunk, say a foot; the earth so removed will serve to bank up the house. It is necessary to have a chimney or flue by which the moisture from the sweating roots will escape. A double roof interlined with straw or sawdust will keep out the frost above. The flue should be stopped in case of frost. 2—The principal difference between mangolds and turnips for feeding is that the former are better for milch cows and young stock, and the latter for fattening. The quantity fed of each may be about the same. Mangolds will keep well late in the season, better than turnips, and in this respect they are more profitable. 3—What is the best food for horses in the winter that have little to do? The best food for horses is well-saved hay, retaining the freshness of the meadow, with oats also well saved. If fed exclusively on hay and oats, the required amount for an ordinary horse is 12 lbs. of oats and 14 lbs. of hay. This is for a horse doing moderate work. It is well that it be varied at least occasionally to aid digestion. For this purpose bran is very useful, and when used a proportionate diminution of oats may be made. We have sometimes given swedes for this purpose. Carrots may in a measure take the place of oats.]

Manitoba and the North-West.

SIR,—I have taken your valuable and interesting paper for the past year, and am well satisfied that the information and advice therein is fully worth the sum of one dollar.

I was three months in Manitoba and the North-West last summer, and was very much pleased with the land and the crops. I think your picture of the country was a little strong. No doubt they have lots of mud, especially in a wet season like last spring. The roads were good from Winnipeg west; the first week in August I drove a team out to the Portage, and the roads were in good condition. I was out to the Rocky Mountains by the North Trail, and then west of the Little Saskatchewan. There are some wet tracts of land that will have to be drained before they will be fit for farming; but there are lots of high, dry lands—room for thousands. I agree with you about the reserves in Manitoba. I think it will be a drawback to the Province having so much land reserved and held by speculators. I see by the last ADVOCATE that you were afraid to drink the Manitoba water in sloughs and holes dug in low spots about two feet deep. This water is not good, but those who have wells mostly have good water. There are lots of spring creeks running from the mountains, and I drank as good spring water in Manitoba and the North-West as we can get here, and we have "A 1" water here; in fact, the chief things we can brag about are plenty of wood and water, with any amount of stone.

Can you inform me if cattle can be taken through in bond to Manitoba the same as before the U. S. Act came in force prohibiting cattle going to the States? S. T., Haliburton, Ont.

[We inquired of the U. S. Consul in this city in regard to the subject of your enquiry. He could not furnish us with the information required, but informed us of the following ridiculous, amusing and vexing incident: A few days ago a Canadian farmer left our fair Dominion under some brief delusion or temptation (as we did on one occasion), thinking to better his condition in Uncle Sam's territory. The Canadian was moving bag and baggage a car-load of goods. The Americans allow an emigrant to take his teams and implements free of duty, if for actual settlement; but the Canadian had put a cow in his car among other goods. He left Windsor in Canada all right, but as soon as he touched Detroit, on the American side, the Custom-house officer would not allow him to land his car and cow on their coast. The farmer shipped his car back to Canada; there the Canadian Custom-house officer would not allow him to land either, as cattle were prohibited from importation. We know not how long the poor man and beast were detained on the water, but after a good deal of "red-tape" work he was allowed to land on the American side. The Consul directed us to apply to the Custom officer at Port Huron, which we did. The following is the reply: "In reply to your letter, you are informed that the importation of neat cattle is prohibited absolutely in the circular instructions from the Secretary of the Treasury.—J. P. SANBORN, Collector."]

SIR,—You will oblige by forwarding me name and address of F. C. E., who writes in December number on manufacture of starch from potatoes. If you can furnish me with ways and means of obtaining necessary information for starting a factory next fall, you will be conferring a great favor. D. M., Sauris East, P. E. I.

[With the consent of our correspondent we give his address: F. C. Eastwood, in care of McNair, Greenbow & Co., Manchester, England.]

SIR,—I may say I would be pleased to have you publish information respecting starch factories, and the cost of erecting and running them. Sugar beet can grow here exceedingly well. I had a quarter of an acre this summer in not very good ground. Yield, 120 bushels. I made also some syrup from the beet, and I see no difficulty in the way to prevent our farmers making their own syrup or molasses. In fact it can be done with as little trouble as most of them take with making soap. When every farmer raises beets, that is the time for a sugar factory.

R. McN., Stanley Bridge, P. E. I.

SIR,—A good substitute for Paris Green, and one that farmers can have cheap, is boiled cedar branches. Use the liquor as you would Paris Green. Sure death to potato bugs. J. M. D., Fredericton, N. B.

PRIZE ESSAYS.

No. 3—Reply to Newcastle Letter.

In your November issue, H. M. asks for advice and information on the following "things in farming":

- 1st. When, how, at what time, and in what quantity to apply lime for wheat?
- 2nd. As to the propriety of applying salt and ashes with the lime before sowing?
- 3rd. Should salt be sowed on barley land when you sow the barley, or when the barley is up?
- 4th. Will salt hurt young clover?
- 5th. Will it pay to sow clover with the barley in the spring to be plowed under in the fall?
- 6th. Will it pay to seed down every field each year?
- 7th. Will it pay to plow up in the fall the land I seed in the spring?

In order to answer these inquiries satisfactorily (as may be in the prescribed space of a column and a half of this journal), and to give your correspondent reliable advice, it would be at least desirable, if not necessary, to know more about the condition of his land, his wishes and intentions, than can be gathered from his letter. It appears that H. M. follows no system of crop rotation, at least with his grain fields—that he purposes sowing wheat with clover on certain fields, and on certain other fields barley and clover; in both cases plowing under the clover for the succeeding crop, applying lime, ashes and salt as manure.

Whether H. M. purposes using other manures he does not inform us, nor does he tell us anything more about the condition of his fields than that part of his land is clay, but the major part clay loam, or clay rendered friable and fitted for the profitable growth of crops by working it, and the consequent exposure to the action of the atmosphere by the admixture of organic manures, supplying nitrogenous matter, of which clay is naturally destitute, and by the chemical action of inorganic substances. H. M. does not tell us whether he has been in the habit of employing lime, ashes and salt, as described and proposed in his communication, but I take it for granted that he has not, otherwise he would be in a position to give information from the very best source—that of practical experience—instead of seeking information and advice from others. Taking these premises for granted, the writer would proceed to reply to H. M.'s inquiries—not in consecutive order, nor separately; as the materials which H. M. proposes to employ are to be used together, it will therefore be necessary to consider their actions upon each other, upon the soil, and of all these upon the future crop. Of course your correspondent knows that the best results cannot be obtained from clay soils without sufficient drainage, which, of course, must be artificial; also that no land pays better for the expense thus incurred than clay land. No matter what may be applied to undrained clay land, whether lime, ashes, salt, barnyard manure, or other organic or inorganic manures, a large percentage of waste results, unless the husbandman can afford to wait until the superabundant moisture has evaporated from the soil, and even then dry soils are so retentive of moisture that in rainy seasons water bears too large a proportion to manurial agents in solution, besides that the soil itself is not mechanically in a condition fit for the growth of plants.

Neither lime nor salt are, in a practical sense, manures. Lime, it is true, is required by all plants, but in such extremely small proportions, and it is so universally present in sufficient quantities, that its special application is unnecessary. Lime is, however, of the greatest importance and value as a comparatively cheap, easily applied, and most efficient agent in the disintegration and solution of the inorganic constituents of soils, and in the decomposition of humus or their organic ingredients, thus providing nourishment in an acceptable form for the use of plants. Clay soil is in an especial manner benefited by the use of lime, which sets free the alkaline silicates, etc., of which it is an inexhaustible storehouse, and not only sets them free, but presents them in a soluble state to the wheat and barley roots which will seize upon them with avidity.

With reference to the quantity of lime which it would be advisable for H. M. to use, I am most decidedly of the opinion that 10 bushels, the quantity which he proposes to put on an acre of land, is quite inadequate to the solution of the mineral constituents of the soil and the decom-

position of the clover which he proposes to turn under; 100 bushels per acre would be a light application to clay land. After the first application 10 bushels to the acre might be sufficient. The writer would prefer to apply lime on a summer fallow. The lime may be handed from the kiln, and put on the ploughed land in small heaps which should be covered with two or three inches of soil, and left until slackened by the atmosphere of carbonic acid, when it should be evenly spread and harrowed in.

It is very generally conceded, that salt applied to grain crops increases the yield of grain as well as stiffens the straw. I have before me a record of experiments made on the farm of the Royal Agricultural Society of England, according to which an application of 300 pounds of salt per acre resulted in a yield of 39 bushels, as against 29 bushels from an acre unsalted. Salt is also chemically adapted for use with lime. I should not, however, advise the use of salt under the circumstances which I presume to be those of H. M.

Ashes not only furnish to soils all that crops require for perfect growth, but they also greatly improve the mechanical texture of heavy soils, and absorb volatile ingredients that might otherwise escape and be lost.

The practice of seeding with clover to be ploughed under, is one that cannot be too strongly commended. Clover absorbs large quantities of free nitrogen from the air, incorporating it into its substance, which, when ploughed over, and aided by the action of lime, affords soluble nitrogen for the use of plants. Not only this, it greatly improves the texture of both light and heavy soils. The writer is of the opinion that good crops of wheat and barley should result from the adoption of the plan proposed by H. M. of annually seeding down with and ploughing under clover.

I have endeavored to answer the enquiries made by H. M. as fully as the information contained in his letter concerning the circumstances of the case, and the time and space at my disposal, will permit, and would say in conclusion, that I hope that the liberality of the editor of this journal will result in securing to H. M. and the readers of the ADVOCATE a great deal of valuable information.

E. S. C., Newport, N. S.

No. 4—Reply to Newcastle Letter.

In the November number of the ADVOCATE, which, by the way, did not reach me till the 19th inst., you offer a prize of \$5 each month for the most useful and practical articles pertaining to the agricultural interest and prosperity of farmers. I will endeavor to give a satisfactory reply to your correspondent, H. M., which appears in the current number of the ADVOCATE, and first on lime, the great essential of our cereals, without a due supply of which no success in grain farming can be attained. Lime, to some extent, may be found in all soils, and where it does not naturally exist in sufficient quantity the defining must be supplied by the farmer. Lime in itself does not supply the necessary ingredients for plant food, but by entering into chemical combination with other substances, it brings them into a soluble form so that they can be taken up as plant food. As a necessary preliminary either the land must be naturally dry or rendered so by surface or under-draining. Marshy land, when thoroughly drained, contains too much acidity to produce anything but aquatic plants or sedge. Hence, lime being an alkali, counteracts that acidity, and brings soil into a suitable condition to produce either grain or grass crops. From the nature of lime it follows that to apply it to the soil year after year, without the addition of farm yard manure, impoverishes the soil instead of improving it; this may be called the abuse of lime. The quantity to be applied per acre must depend on the nature of the soil. In light soils about 100 bushels to the acre is sufficient, whilst a clay loam, if not originally a limestone soil, would be the better of an application of 200 bushels per acre, whilst for heavy clays 300 bushels might be applied with advantage, although from the tendency of lime to sink into the soil it is generally considered better to apply that quantity in successive years rather than at once. Lime has the opposite properties of binding sandy soils, whilst it loosens and renders friable heavy soils. One lavish mode of applying it used to be, casting the freshly burnt lime, which is lighter of carriage and smaller in bulk than slacked lime, into the field and piling it in heaps of 25 or 50 bushels in a heap, levelling the top of the heap and covering it with a few inches of earth, and in about 14 days time the lime would be slacked,

when a man was sent with a wheelbarrow to wheel the lime out and lay it in small heaps at equal distance from each other as possible, but at the same time so near that the lime when scattered with a longhandled shovel would cover the allotted space of ground as evenly as possible, and harrow it over before sowing the seed. This is the way we used to apply the lime in the county of Cornwall in my time. A less expensive way would be to load a cart with the unslacked lime and let a boy drive on slowly, while a man walking behind would take out the lime with his shovel and scatter it over the ground. As time has a tendency to decompose woody fibre, it follows that wherever this exists in the soil the fresher the lime is applied and harrowed in the better, as its caustic qualities are soon weakened by its power of attracting moisture from the atmosphere, on which account the good effects of lime are always more apparent in a dry summer than in a wet one. It was always considered best not to compact freshly slacked lime with stable manure, but to apply the stable manure first, plough that in, and apply the lime afterwards to be harrowed in only, as it has a natural tendency to sink into the soil deeper every year. The foregoing proportions of lime to the acre are used in England, both summer and winter; a less quantity may do, especially for clay land, which, if ploughed in the fall, will be sufficiently pulverized by the action of Jack Frost during the winter, although even here some soils have naturally so little lime in them that the foregoing preparations would not be too much. As ashes and lime are both alkalies, I do not see what benefit would result from mixing them together. I have never tried mixing salt and lime, although I have been advised to thin one bushel of salt with ten bushels of lime, keeping the mixture under cover, then sprinkling it with water and turning the heap every day for a fortnight, or dissolving the bushel of salt in water, and slacking the lime with that, when it may be applied to the land at the rate of 20 bushels to the acre, to be spread broadcast and harrowed in with the grain, or mixed with compost manure if required for top dressing meadows. Nor have I yet tried salt as a manure, although an acquaintance of mine told me he had sowed it broadcast at the rate of 20 bushels to the acre on part of a field of barley with a very beneficial result, the difference between the salted and unsalted portion of the field being very perceptible throughout the summer. I should not approve of seeding down a field of grass, as that would prevent a proper rotation of crops being carried out besides being very expensive. If the field were much worn out, I should prefer as being less expensive sowing buckwheat early in the spring, and when it was about a foot high ploughing it in, and re-sowing with buckwheat to be ploughed in early enough to admit of a crop of fall wheat being sown by the 15th of September. However, I should recommend experiments of this kind to be tried on a small scale at first. Soils and situations differ so much that a mode of proceeding which might answer for one place might not do for another. As for the application of salt to clover I have not tried it, but as a moderate quantity of salt is beneficial to vegetation generally, I should think it would be worth trying, especially as we are so remote from the sea coast that the air is not so loaded with saline particles as it is in the old country.

SARAWAK.

An Experiment with Fall Rye.

SIR,—I took one of the most exhausted fields on my farm, containing 4½ acres, and completely over-run with the well-known pest, Canada thistle, ploughed it deep in the latter part of September, and sowed two bushels per acre of fall rye. In the spring I turned on all my stock, four cows, four horses, and three sheep and their lambs, about the 20th of April, and kept them on till about the 24th of May, when they had it cropped so close that I took them off for a week to give the rye a start. The last week in June I ploughed the field about nine inches in depth, harrowed well, and in about two weeks ganged it over, and harrowed again about the first of August. I put on about twelve loads of well rotted manure per acre on the highest parts, and ganged it down September 1st, ridged it up about six inches deep, and sowed with a broad cast seeder two bushels per acre of clawson wheat and harrowed once. This year I cut nearly forty bushels per acre, wheat weighing 61 lbs. to the bushel, and all the thistle could have been bound into one small sheaf. Soil, part clay loam and part sandy loam, but a clay subsoil.

J. D., Usbridge.



The Family Circle.

"Home, Sweet Home."

WAITING FOR AN ANSWER.

My story? my life? Oh, it has been too uneventful, too simple in its incidents—

I could tell you the sorrows of others, but my own—well, well! as you will. You shall hear. The wound has never healed, and if I put my hand above it, the place still throbs, even as it will beat and ache till kindly nature says to me, "Sleep, poor weary one, and rest." And then peacefully, trustingly, and with a simple hope of forgiveness, may I sleep that long sleep which they say so flippantly has no waking; but which has a waking, as every lesson which we learn in life persists in teaching us.

You will smile, perhaps, when I tell you that I was once what people called pretty—that this pale-hued face was once plump and rosy, these sad eyes bright, and this grey scant hair golden brown, long, and flowing. But why should I think you should smile? Do I know that you must have seen the gay young plant putting out its tender leaves in spring, growing green and luxuriant of foliage in summer, ripe and ruddy in autumn, and grey, bent, and withered in age? And should I be pitted because I have but followed in the way of nature? Surely not. It is not for that I ask your sympathy, but for the blight that fell upon the young plant, and seared and scorched it so that it seemed for months as if it would die; but it lived, as I have lived to tell you this.

Do you know that wondrous feeling which comes in the early year, and that strange sense of keen delight, that elasticity of spirit, when, full of youth and hope, the very tears of joyous sensibility start to the eyes as you wander amidst the trees and flowers in spring? I remember how I felt, oh! so well, even though it is now forty years ago, and I was twenty. Jack and I were engaged. It was all such a simple homely affair. We had known one another for years—the children of neighboring farmers. Jack—I still call him by the simple old pet name of those days—Jack had been away at a good school, and being bright, and shrewd, and clever, he had won his way on, taking to engineering instead of his father's farm life; and now it had come to this, that he had been staying at home for a month, previous to going out to a good appointment in Melbourne.

That month in spring, how it passed! We had met again and again, and in his honest, manly way, he had asked me to be his wife.

"You know, Grace, that I have always loved you," he said; "and now I have hopes and prospects, it cannot be wrong to ask you for your promise."

We were walking by the river-side as he said this, and how well I can picture it all—the soft gliding water mirroring the trees on the opposite bank, the young green buds just breaking from their cases, and, above all, the soft tender blue of the spring sky—the blue, he told me, that was like my eyes.

"Do you want me to promise, Jack?" I said simply, as I looked up in his face.

"No, darling; I am satisfied," he cried, as his strong arms held me to his broad breast, and that was all. No oaths could have bound me more tightly to him. I felt that I was his wife when he should come to claim me.

We were late that evening, and entered the house shyly, for there had been so much to talk of and plan. In a month's time Jack was to sail for Melbourne; then he was to work very hard for three years, and come and fetch me to be his wife.

That month glided by, and the last day had come. It was, as I told you, spring-time—joyous spring-time, with the Hawthorn's snowy blossoms, the apple-trees pink, and the pear-trees pearly with their pyramids of flowers. Every meadow I passed was starred with golden buttercups, and from every spray the birds trilled or jerked forth their merry songs of hope and love.

I could not feel sad, even though I was going to meet Jack for the last walk before he went away; but, as I said, mingled with the feeling of ecstasy there was a strange tearfulness of eye, and my breath would come at times with a sob.

He was by the stile, waiting for me—the stile down by the long mead, half-way between the two farms—and as he took my hands in his, we neither of us spoke, but stood gazing away over woodland and meadow, all clad in their wondrous beauty, and listened to the birds. Now it was the soft tender coo of the stock-dove from the wood, now the jerked-out twittering song of the linnets; then soft and mellow, from the thick hedgerows floated towards us the flute notes of the black-bird, while far on high trilled away the larks, singing one against the other to their mates, setting in the tall grass of the golden meads.

We could not talk, our hearts were too full, for Jack was to be off at daybreak the next morning. But there was no need for words. We loved each other in the simple nature-taught way that has been since the world began, and we knew that every joyous song around that thrilled upon our ears meant love, and even in our sorrow we were happy.

"Only three years, darling," Jack whispered to me, "and then—"

The tears rose to my eyes as I tried to answer him, but I could not speak a word.

"And you will let me find a long letter when I get there?" he said tenderly.

"Yes, Jack, I promise," I said, and then it was time to return, for the hours had glided by, how we could not tell.

Jack spent the evening with us at home, and then he left us hurriedly, for our farewells had been said in the wood, and

it was one hearty kiss, given and taken before the old people, and then good-bye.

But I saw him pass soon after daybreak, and he saw me, and waved his hand, for I had sat by the window all night, lest I might let him go by, and I asleep.

And then time glided on sadly, but pleasantly as well. Mine was a busy life, for soon my father took to his bed, ill—a bed he never left again, for he gradually sank and died, leaving my poor mother in very indifferent circumstances.

It was a hard blow for us both, for he had been one of the kindest and truest of men, but while poor mother pined and waited, I had my hopeful days in view, and from time to time letters from dear Jack, all so true and honest, and full of trust in the future, that I felt as if I could not repine, even when greater troubles fell upon me.

For at the end of two years I was standing by the bed-side where lay poor mother, sinking fast. She had had no particular ailment, but had literally pined and wasted away. The bird had lost its mate of many years, and when at last she kissed me, and said, "Good-bye," it seemed to be in a quiet rest seeking spirit, and she spoke like one looking hopefully forward to the meeting with him who had gone before.

But she could think of me even then, and almost the last whispered words were—

"Only eleven months, Grace, and then he will be back to fetch you."

Poor mother! she would not have passed so peacefully away if she had known that which I withheld, namely the news that came to me from our lawyer. For, through the failure of the enterprise in which my father's savings had been invested, and which brought us a little income of sixty pounds a year, I was left penniless—so poor in fact that the furniture of the cottage in the little town, to which we had moved when we left the farm, had to be sold to defray the funeral expenses.

It was very hard to bear, and for a month I was terribly depressed; but there was that great hopeful time ever drawing near—the end of the three years, when Jack would come to fetch me to be his wife.

It was now for the first time that I remember feeling particular about personal appearance, and I studied my glass to see if Jack would find me looking careworn and thin, and my glass told me truly—yes.

But I had to be up and doing, and before another month was over, through the kindness of people whom we had known, I was placed where I could work contentedly for the bread I must earn till Jack should come to fetch me away.

It was at a large West-end dressmaker's, and it was hard work to get used to the hurry and excitement of the place, where there were twelve girls living in the house, and as many more came every day.

There were all kinds of petty pieces of tyranny to submit to at first, and I suppose some of the foolish girls were jealous of me and my looks, so much so that I found they nick-named me "The Beauty." Poor girls! If they had only known how little store I set by my looks, they would have behaved at first as they did later on.

The first thing that won them to me was when Mary Sanders was taken ill with a terrible fever. Madame Grainger was for sending her away at once, on account of her business, and the infection; but the doctor who was called in, a young, impetuous, but very clever man, told her that it would be at her peril if she did so, for Mary Sanders' life was in danger. So the poor girl was shut up in her bed-room, without a soul to go near her except a hired nurse, and after the first night this woman stayed away.

No one dared go near the poor girl then, so I timidly asked leave to nurse her, for I felt no fear of the infection, and it seemed so hard for her to be left there alone.

I obtained leave, and went up-stairs, staying with her till she recovered; and from that day there was always a kind look for me, and a kiss from every girl in the place.

What was more, oddly enough, perhaps because I was so quiet and restrained, first one girl and then another came to make me confidante of her love secrets, and ask my advice.

I gave it, such as it was, though heartless myself, for Jack's letters to me had suddenly ceased. We had corresponded so regularly; but it had struck me that his last two letters had been formal and constrained; they were full of business matters, too, and he had hinted at its being possible that he should not be able to keep time about the three years, in consequence of some contract.

I did not think this when I first read these letters, for then I had kissed and cried over them; but when no reply came to my last, I re-read them, and the coldness seemed apparent.

But I waited and waited, and then the news came from the country. Jack's father, a widower, had died suddenly; and I said to myself, with throbbing heart, as I longed to be at his side to try and comfort him in his affliction, "Poor Jack, he will come home now."

But he did not come, neither did I get any reply to my last two letters. Another month; and the three years would be up; and as I sat over some work one spring morning by the open window, with a bunch of violets that one of the girls had brought me in a glass, the soft breeze that came floating over the chimney-pots and sooty roofs, wafted to me the scent of the humble little blossoms, and my eyes became full of tears, for in an instant the busy work-room had passed away, and I was down home by the river-side, listening to dear Jack, as he asked me to be his wife.

Only a month! only a month! my pulses seemed to beat; and as it happened we were all busy upon a large wedding order, and I was stitching away at the white satin skirt intended for the bride.

I tried so hard to bear it, but I could not, the rush of feelings was too great. Another month, and he was to have fetched me to be his wife, and I had not an answer to my last two fond and loving letters.

As I said, I tried so hard to bear it, but I could not, and stifling a sob, I hurried out of the work-room to reach my attic, threw myself upon my knees by the bed, and burying my face in my hands, I sobbed as if my heart would break.

For the terrible thought would come now, fight against it as I would—"Jack has grown tired of waiting, and has married another."

I fought so hard with the disloyal thought, but it would come, and I was sobbing passionately, when I felt a soft arm steal round my neck, a tender cheek laid to mine, and I found my poor tear-dewed face drawn down upon the bosom of Mary Sanders, who had stolen out of the work-room, and come up to try and comfort me.

"Pray, pray, don't fret, my darling," she whispered. "Madame will be so cross. Those wedding things must be in by to-night, and they want you to help try them on."

I don't know how I got through that day and night, but I believe I did such duties as were expected from me mechanically, or if I had been in a dream, and at night I lay wakeful and weary, with aching eyes and heart, thinking of that dreadful idea that was trying to force itself upon me.

I waited till the three years had expired, and then, with what anguish of heart no words could tell, I wrote to Jack again—my fourth letter—begging him, imploring him to answer me, if but to tell me he was weary of his promise, and wished to be set free; and then, making a superhuman effort over myself, I waited, month by month, for an answer, though I knew that it must be at least six months before one could come.

I had given up expecting one in the interim, and I was too proud to send to his relatives—distant ones, whom I had never seen, and who had probably never heard of me. The thought had taken root now, and grown to a feeling of certainty; but I waited for my answer.

Three months—six months—nine months passed away, and hope was dead within my heart. They said I had grown much older and more careworn. Madame said I worked too hard, and the sharp business woman became quite motherly in her attentions to me. But I would not take any change, for work was like balm to me, it blunted my thoughts; and knowing that I was daily growing pale and thin, I still waited.

I knew the girls used to whisper together about me, and think me strange, but no one knew my secret—not even Madame, who had more than once sought my confidence; and so twelve months passed away—four years since Jack had left me.

It was not to a day, but very nearly to the time when he had parted from me, and it was almost two years since I had heard from him. I was trying hard to grow patient and contented with my lot, for Madame Grainger had gradually taken to me, and trusted me, making me more and more her right hand, when one glorious spring morning, as I was coming out of the breakfast-room to go up-stairs to work, she called me into her little snuggerly, where she sat as a rule and attended to her customers' letters, for she had an extensive *clientele*, and carried on business in a large private mansion in Welbeck Street.

"Grace, my dear," she said, taking me in her arms, and kissing me, "it worries me to see you look so ill. Now what do you say to a fortnight in the country?"

A fortnight in the country! and at her busiest time, with the London season coming on.

I thought of that, and then, as I glanced round at the flowers and inhaled their scents, the bright fields near Templemore Grange floated before my dimming eyes, a feeling of suffocation came upon me, and the room seemed to swing round. I believe that for the first time in my life I should have fainted, so painful were the memories evoked by the words, when a sharp knock and ring at the door echoed through the house, following instantly upon the dull fall of a letter, and the sharp click of the letter-box.

It was like an electric shock to me, and without a word I darted into the hall, panting with excitement, and my hand at my throat to tear away the stifling sensation.

But it was a letter. I could see it through the glass in the letter-box, and I seized it with trembling hands, inspired as it were by some strange power.

"Jack! dear Jack at last!" I gasped as I turned it over, and saw it was a strange, blue, official-looking letter, formally directed to me.

Even that did not surprise me. It was from Jack, I knew and I tore open the blue envelope.

Yes, I knew it! The inner envelope was covered with Australian post-marks, and ignorant as I might be of its contents, I was rising it to my lips to cover it with passionate kisses, when I saw it was open.

Then a mist came over my mental vision for a moment, but only to clear away, as, stupefied, I turned the missive over and over, held it straight for a moment; and then, with a sigh of misery and despair, I stood mute, and as if turned to stone.

"Grace, my child! In mercy's name tell me —" It was Madame, who passed her arm round me, and looked horror-stricken at my white face and lips. The next moment I dimly remember she caught the letter—his letter—my letter—from my hand; and read it aloud: "Mr. John Brywood, Mark-boro, R. County Melbourne," and then, in her excitement, the great official sentence-like brand upon it—"Dead!"

That was the beginning of my first and only illness, during which Madame tended me like a mother, even to giving up her business afterwards, and retiring to live with me here in this quiet street, where she died, and left me well-to-do, as you see. I have grown old since then, but I am not unhappy, great as was the trial, and it has led me into what has, I hope, been a useful life. And, besides, why should I sorrow, knowing as I do that which came to me years and years after—that Jack died with my name upon his lips—died true to her he loved? and I am but waiting till we shall meet again.

THE END.

For Low Spirits.

Take one ounce of the seeds of resolution, mixed well with the oil of conscience, infuse it into a large spoonful of salts of patience; distil very carefully a composing plant called "others' woes," which you will find in every part of the garden of life, growing under the broad leaves of disguise; add a small quantity and it will greatly assist the salts of patience in their operation. Gather a handful of the blossoms of hope, then sweeten them properly with the balm of prudence; and if you can get any of the seeds of true friendship, you will have the most valuable medicine that can be administered. Be careful to get the seeds of true friendship, as there is a seed very much like it called self-interest, which will spoil the whole composition. Make the ingredients into pills and take one night and morning, and the cure will be effected.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—The holiday visits are over, the feasting finished, the choice fruit of the choice Christmas tree stored among your possessions; the drums have been beaten, bugles blown, fresh games learned, glittering skates tested, gay sleighs enjoyed, nice books read, and new clothes worn. Vacation is over and your school duties recommenced; but I hope the memory of your good times will brighten the entire year.

The end of the old year meeting the beginning of the new one, gives us a point of much observation, of which most people are wont to avail themselves, either that they may gather up and review their past experience or else lay plans for the future, usually prefaced by a vast array of "good resolutions." I've been wondering, my dears, if you made some very emphatic resolutions, and if so, how you are getting on with them. Do you yet bound out of bed at the first call in the morning? Do you make your toilet expeditiously, carefully, thoroughly? Do you carry a smile-lit face and cheery voice to the breakfast table? Does Annie clear the table, wipe the dishes, dust the furniture, and care for baby, without even a hint from mamma? Does Tommy yet remember to hang up his hat, clean his boots, get the kindling, and look after his other duties? Are the teeth daily brushed? Are the diaries, so zealously commenced, still regularly written in? Not unless you are more resolutely persevering than many grown people. I would not recommend you to attempt to carry out a list of unreasonably rigid rules. But I do hope you have begun the year with a firm determination to conquer your chief fault, whether it be procrastination, carelessness, sulkingness, irritability, untidiness, or something else. Can you not write us about some new games or odd puzzles or unique presents, of this festival season?

UNCLE TOM.

PUZZLES.

I—GEOGRAPHICAL DOUBLE ACROSTIC.

The initials and finals form the names of two celebrated poets:

1. A town in Sweden.
2. A river in South America.
3. A State in North America.
4. An island in the Indian Ocean.
5. An island in the Atlantic Ocean.

FREDERICK W. PERRY.

2—WORD PUZZLE.

Five I's, three V's, C, N, D and E
Make three Latin words that in history we see.
HARRIET EDITH WALKER.

3—DOUBLE ACROSTICS.

I.
The initials and finals form the names of two Roman generals:

1. A covering for the head.
2. Latin term for "In the year."
3. A tree.
4. The juice of a tree.
5. A girl's name.
6. A town in Leicestershire.

II.

The initials and finals form the names of two colors:

1. To roar.
2. One of Jacob's wives.
3. A neutral salt.
4. Vault of a church.
5. A vegetable.

III.

The initials and finals form the names of two cardinal points:

1. The shining orb of day.
2. A river in North America.
3. Below.
4. A bird.
5. The mother of Samuel.

HODGSON.

4—DOUBLE ACROSTIC.

The initials form the name of a well-known poet, and the finals that of one of his poems.

1. A town in the north of France.
2. An ancient king of Norway.
3. A girl's name.
4. The land that was exempt from hail during that plague.
5. A fruit.
6. One of Tennyson's heroines.
7. An evergreen shrub.
8. One of the ten tribes.
9. The king of the fairies.
10. A beverage.

EDITH CHARLOTTE RILEY.

5—DIAMOND PUZZLE.

The letters read across form the name of a king of England.

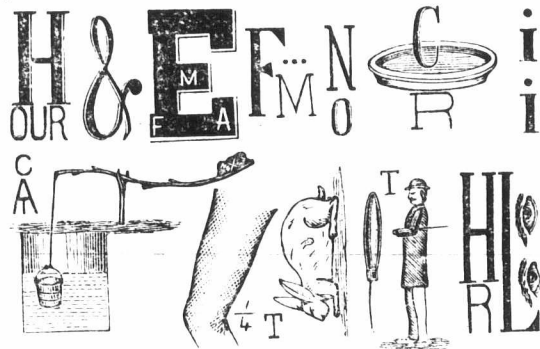
1. A consonant.
2. An article.
3. A sharp pain.
4. A king of the Stuart period.
5. An adjective.
6. A drink.
7. A consonant.

FANNY C. RENNELS.

6—CROSS.

Centrals read downwards and across, name of a sea bird.

1. Congealed water.
2. The tooth of a wheel.
3. Part of a circle.
4. To celebrate.
5. A sea-bird.
6. A rebel.
7. A covered cart.
8. A small insect.
9. Part of the verb "to eat."



7—ILLUSTRATED REBUS.

A good motto to remember and act on. It will do good to every one that attempts it. The answer will appear in our next issue. Five dollars is offered to the first Senator, M. P., M. P. P. or Member of the Provincial Board of Agriculture that will send in the correct answer, and fifty cents cash to any subscriber that sends in the correct answer accompanied with the name of one new paid subscriber.

8—CHARADES.

(1) My first is an article of furniture; my second a material; my whole is a British colony.

My first is a kind of gravel; my second is a sound; my third is the thigh of a beast; the whole is a village in one of the eastern counties, well-known to every one.

Whole I am a piece of furniture; behead me, I become capable; transpose me, I am a bundle of goods; once more decapitate me, I am a drink; transpose and curtail, I am an ejaculation.

(2) I am a word of four syllables; my first a covering; my third a letter of the alphabet; my fourth is the fate of lazy people; my second a pronoun, and my whole is to do an action repugnant to every Englishman.

9—TOWNS ENIGMATICALLY EXPRESSED.

1. A tree and a weight.
2. A bird and a sheet of paper.
3. A man's name, and a piece of land surrounded by water.
4. A young girl and a mineral.
5. To exist, a consonant, and a piece of water.
6. A mark, and a corporate town.
7. One of the cardinal points, an adverb, and part of the earth.
8. A male deer, a preposition, a consonant, and one of Noah's sons.
9. A building and a weight.

10. A weapon, and part of the face.
11. An implement of husbandry, and an entrance.
12. Animals, and an entrance.

10—PUZZLE.

- My 1st, a celebrated ancient naturalist.
My 2nd, an admiral whose dying words were, kiss me.
My 3rd, the first Turkish Sultan.
My 4th, a Duke who fought the battle that decided the fate of Europe.
My 5th, a Spartan hero.
My 6th, a King who was a confessor.
My 7th, an ancient Persian King.
My 8th, a Pope who reformed the calendar.
My 9th, a modern King of Italy.
My 10th, an ancient Grecian Empress who put out the eyes of her son.
My 11th, an ancient Hebrew sage.
My 12th, an ancient English poet.
My 13th, an Englishman who plotted to overthrow the Government.
My 14th, the first English Reformer.
My 15th, a Spanish lady, mother of the Prince Imperial.
My 16th, a King of Rome who slew his brother.

Answers to December Puzzles.

- 104—Paper, Caper, C pe, Pacc, Ape, Pca.
105—Beater, Adjutant, Pheasant, Darter, Teal, Secretary-bird, Poebird, Canary, Catbird, Bluejay, Penguin, Robin, Titmouse, Ousel, Parrot, Lovebird, Pelican, Toncan, Starling, Bird of Paradise, Jacana, Diver, Eagle, Gull, Egret, Emen, Woodcock, Woodpecker, Cockatoo, Ibis, Nighthawk, Nightingale, Finch, Bittern.
106—Harebell; 2, Marrow.
107—Berlin, Redcar, Dover, (Verin, a small town in Spain) Navan, Denbigh, Arles, Thebes, Siam, Carlisle, Ushant, India, Eton.
108—Dombey and son.
109—Earn, Area, Ream, Name, Baal, Aula, Alas, Last.
110—I once had money and a friend,
On both I set great store;
I lent my money to my friend,
And took his word therefor;
I asked my money of my friend,
And nought but words I got,
I lost my money and my friend,
For see him I could not.
If I had money and a friend
As once I had before,
I'd keep my money and my friend
And play the fool no more.
111—Cowper, Lanark; 1, CarnivaL; 2, OKA; 3, Washington; 4, Pennsylvania; 5, EaR; 6, Reikjavik.
112—Embro.
113—Kircher, Nelson, Othman, Wellington, Leonidas, Edward, Darius, Gregory, Emanuel, Irene, Solomon, Pope, Oates, Wickliffe, Eugenie, Romulus.

Names of Those Who Sent Correct Answers to December Puzzles.

J W L Richardson, Ethel Richardson, J J Haylock, J C O'Connor, Addie M Lutz, Stephen Hull, Mary E Fountain, Mary McDermitt, Susan R Blair, Thos W Taylor, A D Macdonald, Josiah Worthington, J C Cameron, Rosie Whetter, P S McLaren, Frank Caswell, Hattie Haveland, John Adcott, Celia Pettit, Ellen Weston, Jas P Howe, Henry Kerby, G F Crawford, Oscar Orwood, Wm Meade, L W Lawson, Alice Walker, M J Green, Mono Duett, George Hanlan, J Murray, Jas McQueen, Henry McNab, Eva Jones, E D Parnell, Eliza Scott, Martin Sheak, S A Griffin, A J Franks, A Harris, Susie Jones, Chas Ribbon, M A Hammond, Sally Evans, S T Rutherford, Jos Scott, Normond Phillips, Jas Wood, Jessie Curry, A C Thompson, Robt Wisdom, Mary McNaughton, Herbert Rowland, Susan McBride, Randall Beecher.

Credit is due Thomas Wm Crawford for having answered the greatest number of puzzles correctly.

One of the most essential things in love affairs is truth and perfect frankness. Both parties should be true to themselves, and truthful to each other. How many uneasy, troubled, and anxious minds—how many breaking and how many broken hearts there are to-day in which content and happiness might have reigned supreme but for a want of frankness! Repentance inevitably comes for all these things; but it often comes too late, and only when the evil produced becomes incurable. In love, as in everything else, truth is the strongest of all things, and frankness is but another name for truth. Then always be frank. Avoid misunderstandings; give no reason or occasion for them. They are more easily shunned than cured; they leave scars upon the heart. You are less likely to be deceived yourself when you never try to deceive others. Frankness is like the light of the clear day, in which everything may be clearly perceived.

Precocious boy (munching the fruit of the date tree)—"Mamma, if I eat dates enough, will I grow up to be an almanac?"

Manitoba, No. 7.

We give you the accompanying illustration, with which the young folks may amuse themselves by making their own different versions of the fight, and excite their curiosities as to which will be the victor. The buffalo in the North-west territory has been and still is of great importance. The herds of countless thousands that have roamed over that ocean of land must show us that cattle can live and thrive there, and that in time an enormous supply of meat may be produced there.

The buffalo has been the main support of 40,000 Indians, but the white man has for the past century been gradually encroaching on their haunts. The war of extermination has been carried on, and is increasing rapidly every year; thousands are killed for sport and left to decay on the ground, as the hunters like to boast of the number they have shot or lassoed, and now the poor Indians are actually in a starving condition from the lack of their usual source of maintenance.

The white man has encroached and destroyed; he has abused, cheated, deceived and deluded the poor Indian; he has had the power to tell his own tales, and has exaggerated and dishonorably perverted facts to make the Indian appear the aggressor, and thus the poor denizen of the forest has been burdened with the dissipation of the vile frontier settlers to such an extent that no white man with spirit could help resenting. The Government of the United States have acted too conciliatory towards its white desperadoes that have injured the Indians. But Canadians, we trust, will not follow their example of dealing with our aborigines. Let us select a few of the most honorable and judicious farmers to treat with them, instruct them, and show them how to cultivate the land.

It is a disgrace to our Government that they should send ignorant place seekers from the east that know nothing in regard to the duties they are supposed to fulfil, but who endeavor to get a luxurious living on other persons means, to fill offices in the far west.

It has lately been computed that in five years no wild buffaloes will be found on British territory.

An attempt is being made by a Mr. McKay, on the Assiniboine River, to raise a herd of half-breed buffaloes by crossing with our common cows. We understand that he has about a dozen of the half-breed buffaloes now. He has two buffalo bulls, but they have become so cross that they have to be chained. Before they were chained

they would attack travellers. One poor man, travelling alone, was passing through some scrub woods and one of McKay's buffaloes so alarmed him that he got up into a small tree and the buffalo kept him there for a whole day.

Put a Little Sense into Social Life.

The reason why the art of conversation has reached its present low ebb is because we do not understand or appreciate each other's worth. In other words the gentlemen have become thoroughly impressed with the idea that in order to make themselves agreeable to the ladies they must keep up a constant stream of nonsense and silly utterances; and the ladies, seemed to have formed the same idea in regard to the gentlemen, until out of this mutual misunderstanding has grown this empty, meaningless jargon of words at almost every social entertainment,—a sort of shower of soap-bubbles.

I was present at an evening party not long ago, and was sitting with a group of ladies and gentlemen, when a lady I had known slightly in society

In order to improve the tone of conversation I do not mean that we are to be grave and stiff in our deportment. I mean that we should be brilliant, gay and sparkling; but let us be sensible about it. I am heartily opposed to any tombstone solemnity or old fogyism about society entertainment. I am one of those who believe that a lady can wear her hair banged, and have a trail to her dress "nine yards long," and all the ruffles and furbelows she can pile on, and still have a head "chuck full" of hard, solid sense, and that a gentleman can part his hair in the middle (but I would earnestly advise him not to infringe upon the province of the ladies to that extent) and be a very sensible man.— [Cor. Chicago Tribune.

As Plain as a Pikestaff.

A Detroit bobtail car overtook a man with a hand-trunk of ancient make walking in the middle of the street. He enquired if the car went to the railroad track, and then got aboard. There were several passengers in the car, and as he stood in the door he looked from one to the other and said:—

"If I am intruding, don't hesitate to tell me so. I like people who speak right out, and I am used to plain talk."

No one objected and he took a seat, crossed his legs and said to himself:—

"I'll bet they never built this car for less than fifty dollars! I'm glad the old woman isn't here. If she should see how it's fixed up she'd never let up on me till I tacked one to the house. I'll never ride on a wood waggon again when I can jog along in a chariot like this. It's got more windows than a bee-hive."

As he made no move to pay his fare the driver rang the bell.

"Got bells on here, eh?" mused the plain man. "Now who'd thought they'd have gone to such an expense as that! Folks here in town are right on the style, no matter what it costs!"

The driver rang again and again, and seeing that it did no good he finally opened the door and said:—

"You man in the corner there—you didn't pay your fare!"

"My fare! Why, that's so! Hanged if I hadn't forgotten all about it! Were you ringing that bell for me?"

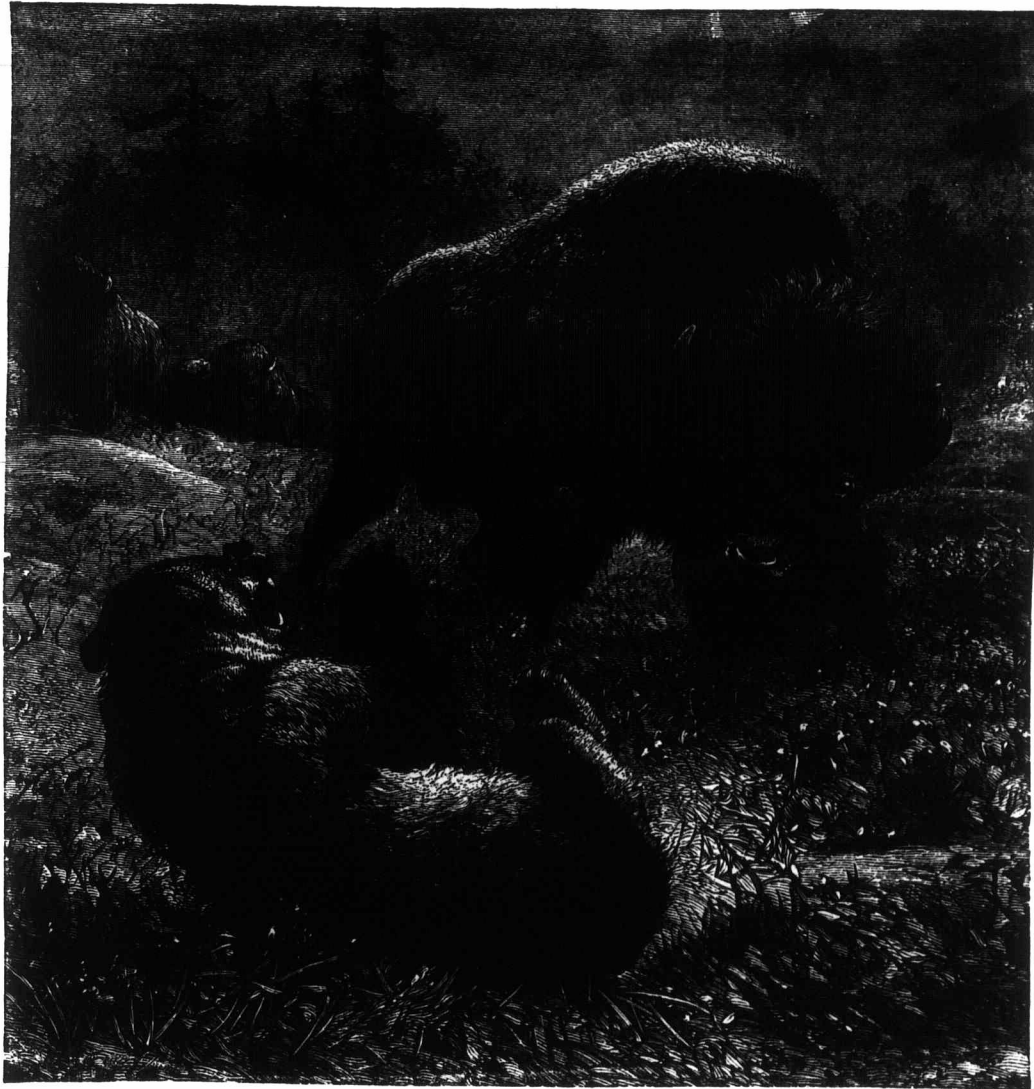
"Yes."

"That's too bad! Why didn't you open that door long ago and say to me: 'Here, you old potato top, if you don't pass up your ducats I'd land you in the mud!' I'm a plain man and I never get miffed at plain talk. Take the change out of this half-dollar!"

The manager of a church fair when asked if there would be music each evening, replied: "No; but there will be singing."

Another leap year is bearing mercilessly down on the lone and helpless male population.

A woman never, never grows old. As soon as she passes twenty-five she hides the family Bible.



for nearly a year, and whose mission I had always supposed to be was to "bow, smirk and giggle," began to speak of a new work of an author she had been reading, and, with an earnestness of manner, spoke of her admiration of the author's style, and to my utter astonishment, proceeded in a critical way to point out what seemed to her his strong and weak points as an author. The effect upon the group around her was apparent. An interest was at once awakened in the topic of conversation, and when it ended a pleased expression was visible upon the countenances of all who heard it. And upon leaving the house some one remarked that the young lady in question had been unusually fascinating during the evening. The truth is, she had only dropped her society face and manner, and was appearing as herself. In her tittering and giggling she supposed she was simply making herself agreeable. What we want is to know and understand each other better.

Minnie May's Department.

MY DEAR NIECES,—Why is our cooking, as a rule, inferior to that of the French cooks? Not because the Canadian men do not discuss and appreciate the merits of good cooking, and the pleasure of entertaining friends at their own table. It is merely because so many women seem possessed with the idea that it is not the fashion to know how to cook; that, as an accomplishment, the art of cooking is not so ornamental as that of fancy needlework or piano playing. I do not undervalue these last two accomplishments, but every young lady should also understand the accomplishment of cooking. What is more important than wholesome, satisfactory every-day living which so virtually concerns the health and pleasure of the family circle? Let the science of cooking be classed among the accomplishments of every lady. Just learn plain cooking, for that, like plain sewing, is in danger of being set aside as a lost art, and unless we learn to make something else besides "Angel Cake," "Charlotte," "Croquettes," "Loufflee," "Glace," mysterious soups, delicious salads and creams, the male population stand a good chance of becoming chronic dyspeptic grumblers. By plain cooking we do not refer to soup, for instance, that is made from a bacon rind, a few beans and a pinch of salt and a gallon of water; where the roasts are all "shin bones" boiled, and the potatoes are served in their "jackets." We refer to a good substantial sort where the soup is as the Irishman said, "both atin and dhrinkin shure," the roasts tender and juicy from frequent basting, the turkey brown, the dressing crumbly, the bread light and well cooked, porridge well boiled, the beefsteak cooked so that an epicure would relish and enjoy it; steak broiled and buttered, and not fried, with black grease from the frying-pan poured over it.

There are very few who seem to understand cooking meat properly. Put the meat rack into the baking pan, wipe the meat with a wet towel, lay it in the rack, then sprinkle well (on both sides) with salt, pepper and flour, letting the bottom of the pan get well covered with the flour and seasonings. Now, put into a very hot oven for a few minutes, and when the flour becomes a dark brown, add hot water enough to cover the bottom of the pan, close the oven door, and let the meat get well browned on one side, then baste well with gravy, dredge with pepper and flour, and brown again, thus turning and basting each side till done. A piece of beef weighing six pounds will require forty minutes if it is desired rare. Put the meat on a large hot dish, take the rack from the pan, skim all the fat from the gravy, then add a little boiling water if not sufficient in the pan, and thicken with flour and season with salt. Never roast meat without having the rack in the pan. If the meat is put into the water it becomes soggy and flavorless. Putting salt on fresh meat draws out the juice; it would not be well to use it without the flour; the flour makes a paste which keeps all the juice in the meat, and also helps to enrich and brown it. A very poor piece of meat may be much improved by constant basting. All the cheap, coarse parts of the beef are good for stews and soups, which is the most economical way of cooking all meats. I do not say let fancy cooking entirely alone, but just acquire a thorough knowledge of culinary art, then strive to be an accomplished artist in cooking.

MINNIE MAY.

Answers to Inquirers.

Eva Palmer.—you can clean your light felt hat by rubbing well with sandpaper.

J. W. M.—Charcoal is not detrimental to the teeth when used as a dentifrice if it is finely pulverized and free from gritty substances. We cannot tell subscriber how to restore "scuffed gloves" save by buying new ones.

Hilda.—Citrates of magnesia, to be purchased at any Chemist's, is an excellent purifier of the blood. An occasional dose of Epsom salts might also be taken to advantage.

J. B.—No one, who is a perfect stranger to you, can answer such a question—"how long it will take you to master music with constant practice, your age being eighteen?" Some persons have a quick ear and a keen taste, and could learn as much in six months as others could in two years. All depends on the amount of talent, the power of application, and the quickness of intelligence.

LINEN DUSTERS.—If M. F. B. will wash the dusters she speaks of in wheat bran water without any soap the color will not be affected. If the linen is dark use a clear decoction of coffee to make the starch and add to it a bit of beeswax and a bit of gum arabic. For all dark wash goods this starch is good, and especially for black calicoes, which should be plunged into scalding hot suds, then cooled and rubbed if necessary.

M. C. S. asks.—"Is it proper for a young lady to visit a young gentleman while he is sick?" That depends upon a variety of circumstances, of which the father or mother or some friend of M. C. S. would doubtless be a competent judge. "And how old should a young lady be before she receives young gentlemen callers?" That, too, depends on circumstances. But judging from the tone and composition of our correspondent's letter, we advise her to wait, and study and think a while before she indulges much in the society of young gentlemen.

George X.—In writing to a friend at Bristol, whom you are about to visit, you should say, "I am going to Bristol," and not "I am coming."

A Governess.—We are at a loss how to advise you, there are so many young ladies, tolerably well educated, who have the laudable desire of earning their own livelihood, but who do not know how to obtain a suitable position. As you are not thoroughly accomplished, you might not perhaps object to the situation of nursery-governess. You should advertise, or else consult the advertising columns of the principal daily papers.

F. G. B.—To be married by registration you must give three weeks' notice to the registrar in your own district, and both parties must call and sign their names in his book at the time of giving such notice. The fee amounts to only a few shillings. You can obtain a certificate of the marriage for an additional small fee.

Miss Minnie Nash.—A simple and inexpensive toilet-set, appropriate for a Christmas gift, may be made of paper cambric of gold or peachblow color, overlaid with dotted Swiss muslin, bordered with a deep frill of Breton or Valenciennes lace. If the lace is not at hand a ruffling of the material can be substituted. The set, to be complete, should consist of a large mat to serve as a cover for the dressing-table or bureau, two smaller ones, and a pin-cushion. The effect is very pretty, as the muslin conceals the inferior qualities of the cambric lining, although sufficiently translucent to expose its color.

Aunt Addie.—You must not keep your verbenas too damp. They require, for house treatment, a very sandy soil and rather dry atmosphere; but when watered give them a plentiful supply; they must have full, strong sunlight.

Jane Crawford.—If you water your roses with root water, made by pouring hot water on the wood root, the effect is very marked in producing a rapid growth of thrifty shoots and a great number of richly-tinted roses.

RECIPES.

HICKORY-NUT CAKES.

One cup of white sugar, one beaten egg, half a cup of sifted flour and a cup of minced nuts. Drop on buttered tins.

HICKORY-NUT MACAROONS.

Make frosting as for cake, stir in enough pounded hickory-nut meats, with mixed ground spice to taste, to make convenient to handle. Flour the hands and form the mixture into little balls. Place

on buttered tins, allowing room to spread, and bake in a quick oven.

QUEEN'S PUDDING.

A pint of bread-crumbs (rolled on the moulding-board quite fine) to a quart of boiled milk, add a table-spoonful of butter, and the yolks of four eggs beaten with one cupful of white sugar, the grated rind of one lemon, and a teaspoonful of salt. Bake in a moderate oven, then spread over it a layer of jelly or strained apple. Add the whites of the eggs beaten to a stiff froth, the juice of a lemon, and a cup of sugar; then sprinkle a little sugar over the top, and set in the oven to brown a trifle. It is very nice for dessert, or cold for tea. Half the quantity is sufficient for a small family.

SALAD.

Take bits of cold roast pork, a large quantity of celery, and the whites of two hard boiled eggs. Chop them all together very fine. Take the yolks of the eggs, and while warm mash to a smooth paste, and mix well with one teaspoonful of mustard, adding salt and pepper to taste. Mix with one teaspoonful of vinegar, three large spoonfuls of melted butter, and stir all thoroughly into the meat. Edge platter with tops of celery or lettuce and place salad in the centre. Keep in a cool place until sent to the table.

TURKEY WITH OYSTERS.

Cut up the turkey very fine, that is, cold roast or boiled turkey. Put a layer of turkey and one of oysters alternately. Season with cream, butter, pepper, salt and strew crumbs of bread and small pieces of butter on the top, and bake it.

HASTY PUDDING.

Place on the stove a pan containing six teacupful of sweet milk. Beat two eggs well, and add one teacupful of milk, six table-spoonfuls of flour and a little salt; beat well together—then stir it in the milk on the stove just before, or as it begins to boil. When as thick as mush put in greased cups to mold. Made in the morning and eaten with sweetened cream for dinner, it is excellent.

SCALLOPED TURKEY

is prepared by chopping the cold meat fine, and filling a buttered pudding-dish with alternate layers of cracker crumbs moistened with milk, and the turkey, buttered, salted and peppered, and with bits of the dressing. The gravy left from the turkey should be poured over the top layer of meat, and the crumbs on top should be moistened both with milk, and two eggs beaten light. Put small pieces of butter over it, and bake half or three-quarters of an hour.

GOOD VINEGAR.

may be made in six weeks, by adding, to say a quarter or half barrel of vinegar, enough new cider to fill the barrel, and letting it stand, bung out, in a temperature of about 90 degrees. Where there is no old vinegar at hand, add to 30 gallons of cider, 10 of rain water, hot enough to bring the temperature of the whole up to at least 90 degrees, and then add a little yeast. It will soon be converted into acetic acid, or vinegar, if the heat is maintained, and a piece of gauze be nailed over the bung-hole.

MACARONI WITH CHEESE.

Break the macaroni into equal lengths and drop it into salted boiling water. Shake the saucepan often to prevent its sticking at the bottom. About twenty minutes will cook it tender, when it must be immediately taken from the fire and prepared for baking. Butter a pudding dish, and, with a skimmer, put a layer of well drained macaroni in the bottom of it. Add salt, if necessary, then a little butter and a layer of grated cheese, afterwards another layer of drained macaroni, then more butter and grated cheese. Continue alternate layers until all the macaroni is used, putting cheese at the top and over all a thin layer of sifted cracker-crumbs. Put half a cupful of sweet cream into the dish before arranging the top layers, and when all is done, invert a pan over the top of the dish, and put it in the oven. Cook, covered, for ten minutes, then remove the pan, and place the dish on the upper grating to brown the top. It should be served in the dish in which it is baked, and as soon as possible, as standing makes it dry and hard.

EXCELLENT GLYCERINE OINTMENT.

A very good preparation of glycerine to have always on hand can be readily prepared by any apothecary or druggist:—In two ounces of sweet

oil of almonds melt, by a slow heat, half an ounce of spermacetti, and one dram of white wax. Then add one ounce of good glycerine, stirring until cold, when scent it by stirring in a little oil of roses. Keep in small jars or small wide-necked bottles. In hot weather keep closely exposed to warmth. Half or a fourth of the above quantities may be used. Every drug store should keep a jar of it, and recommend its use. It is excellent for softening the skin, for most injured skin surfaces that are not open sores; for chafed places, for moistening corns or calloused feet or toes, and especially for chapped face, lips or hands. When the hands are chapped or cracked, or roughened by cold, wash them clean with soap, and rub them well with this glycerine ointment, wiping it off to prevent soiling clothing. If this is done at night, the hands will be soft and in good condition in the morning, except when deeply cracked. It is very good to apply to the hands after "washing-day."

CLEANING COAT COLLARS.

(1) The best material for cleaning coat collars and grease spots of all kinds is pure benzine. The article is sold at the principal drug stores in cities. That used by painters is not pure enough, and has a very unpleasant odor, which the pure article has not, and the little which it has soon disappears. If this cannot be obtained, strong alcohol (ninety-five per centum) will clean collars very well. A mixture of equal parts of strong alcohol and water of ammonia is also used. The trouble with all these liquids is that not enough is used; a small quantity only softens and spreads the grease spot; they should be applied in sufficient quantity, and repeated, to not only dissolve the foreign matter, but to wash it out. (2) Two ounces of rock ammonia, two ounces of alcohol, one ounce each of spirits of camphor and transparent soap. Put all together in a large bottle, cover with one quart of soft water, and when well mixed and dissolved it is ready for use. Spread the coat on a clean table, take an old nail brush, or one of the small scrubbing brushes sold as toys, dip it in the mixture and scrub the dirty parts thoroughly. Apply plenty of this, then take clean warm water and go over it again. Hang it out until partly dry, and press a heavy iron on the wrong side.

BAVARIAN CREAM.

Soak half an ounce of isinglass two hours in half a cup of water. Beat the yolks of four eggs with a small cup of sugar, and add to them gradually a pint of rich milk scalding hot. Stir constantly until well mixed and return to the sauce-pan. Let cook for a few minutes then add the isinglass and remove from the fire. Stir until well dissolved; season to taste with vanilla and set one side to cool. When it is cold and begins to thicken, beat it until smooth, then add a pint of double cream whipped to a standing froth. Stir all lightly together, put into a wet mold and set it in a cool place until wanted. It should be made the day before, or else early in the morning, as it takes some time to become firm enough to turn out. Turn it out on a flat dish and garnish with a border of any nice preserves. Peaches, strawberries and cherries are all good, and apples preserved in quarters and flavored with a little lemon juice answer very well if nothing else is at hand.

BE YOUNG WHILE YOU CAN. -When girls midway in their teens throw off their natural girlish habits and attire, don long skirts, shoot up their hair and effect the airs and dress of young women, they would often be surprised to know what their elders really think of the improvements. One such young miss went to the depot recently to meet an aged friend of the family, and was surprised to find herself not recognized upon greeting the visitors as she stepped from the car. "Don't you know me, auntie?" "Why, this isn't Maria, is it?" "Certainly; don't you think I look better than I did last summer when you were here?" "No," replied the honest soul, looking the girl over, "to tell you the truth I don't. Go home and let down your hair and be young while you can, for it will not be many years before you will be glad to have people take you for a girl."

"When I wath a little boy," lisped a very stupid society man to a young lady, "all my ideath in life were thentered on being a clown." "Well, there is at least one case of gratified ambition," she replied.

The Training that Girls Need.

Mrs. Abba Cood Woolson has been giving Boston some common-sense notions about "the Training that Girls Need." In a paper read before the Moral Education Society she pronounced ill-health a luxury that enormously increased the cost of living. She advised mothers to keep their girls from their own fate, and she asserted that girls should be made to lead a quiet life on a simple diet until they are fully grown, that they should exercise freely in the open air, that housework should be done by them in carefully ventilated rooms, that their dress should be radically changed so that no longer shall their vital organs be compressed or their hips weighed down with a mass of cloth that no man would willingly carry. Compliance with these rules, she believed, would give a nobler, healthier race of women. The object of a girl's mental training should be, she said, to enable her to reason, not to fill her brain with superficial ideas. The processes applied to women's minds that are now devoted to the education of men, she considered would bring about the same results. She advised that girls pursue with thoroughness the disciplinary studies. Next to this she would place the perceptive faculties, in which women is now much more proficient than man. Women should be acquainted more or less intimately with physiology, natural philosophy, the laws of mechanics, chemistry, political economy, the characteristics of a republican form of government, rhetoric and natural sciences, all of which are far more important to the girl than the modern languages. First of all parental duties, Mrs. Woolson placed that of fitting children, and especially girls, to earn an honest living, no matter how wealthy their family may be, since no one is beyond the reach of possible poverty.

A Novel Use of Carrier Pigeons.

An English physician with an extensive practice has found an important aid in carrier pigeons. "I take out," he says, "half a dozen birds, massed together in a small basket, with me on my rounds, and when I have seen my patient, no matter at what distance from home, I write my prescription on a small piece of tissue paper, and having wound it round the shank of the bird's leg, I gently throw the carrier up into the air. In a few minutes it reaches home, and, having been shut up fasting since the previous evening, without much delay it enters the trap-cage connected with its loft, where it is at once caught by my gardener or dispenser, who knows pretty well the time for its arrival, and relieves it of its despatches. The medicine is immediately prepared and sent off by the messenger, who is thus saved several hours of waiting, and I am enabled to complete my morning round of visits. Should any patient be very ill, and I am desirous of having an early report of him or her next morning, I leave a bird to bring me the tidings. A short time since I took out with me six pair of birds. I sent a pair of them off from each village I had occasion to visit, every other one bearing a prescription. Upon my return I found all the prescriptions arranged on my desk by my dispenser, who had already made up the medicine."

An Injurious Practice.

The practice of eating snow and ice, so common among school children, is a fruitful cause of catarrh. It is common to see boys and girls devour a snow-ball as though it were an apple, or an icicle, as eagerly as a bit of candy. The hard palate which forms the roof of the mouth also forms the floor of the nostrils, and is no thicker than pasteboard. The chilling effect of snow and ice brought freely in contact with this thin partition, the upper covering of which is a sensitive secreting membrane, made up almost wholly of fine blood-vessels and nerves, produces a congestion, often succeeded by chronic inflammation. As a consequence, these snow and ice-eating boys and girls almost always have "colds in the head" and running noses. This is the foundation and origin of one of the most disagreeable, persistent and incurable affections to which people are subject—nasal catarrh. Catarrh is said to lead to consumption. Whether this is so or not, the chilling of the nasal membranes, a part of whose function it is to warm the air in its passage to the lungs, cannot but injure those organs, particularly in people of a delicate constitution.

Commercial.

London Markets.

London, Jan. 3, 1880.
Larger market. Liberal supplies. Nearly 3,000 bushels of wheat. Prices firm and advanced.

GRAIN.	
Per 100 lbs	
Deihl Wheat.....	\$2 15 to 2 22
Treadwell.....	2 15 to 2 22
Clawson.....	2 15 to 2 22
Red.....	2 15 to 2 20
Spring.....	1 80 to 2 10
Rye.....	75 to 80
FLOUR.	
Flour, fall wht.	3 50 to 3 75
" mixed..	3 25 to 3 50
" spring..	3 25 to 3 50
Bran, per ton..	10 00 to 12 00
Cows.....	25 00 to 40 00
Hay, per ton..	8 00 to 9 00
POULTRY.	
Chickens.....	35 to 40
Geese.....	40 to 50
Butter, crock..	16 to 20
do roll.....	20 to 22
do Firkins..	00 to 00
do inferior..	8 to 12
Carrots, per bu.	25 to 30
Onions, bush..	89 to 1 00
Beef, per qr..	3 00 to 5 50
Dressed hogs..	5 75 to 6 50
Timothy seed..	2 75 to 3 00
White wheat.....	1 85 to 1 90
Barley.....	80 to 1 20
Peas.....	90 to 1 00
Oats.....	1 03 to 1 06
Corn.....	93 to 1 10
Oatmeal, coarse.	2 50 to 2 75
Oatmeal, fine..	2 75 to 3 00
Cornmeal.....	1 00 to 1 10
Shorts, per ton.	12 00 to 18 00
Live hogs.....	3 00 to 4 00
HAY AND STRAW.	
Straw, per load.	2 60 to 3 00
Turkeys.....	75 to 1 25
Ducks, pair.....	40 to 50
Cheese, lb.....	11 to 12
Eggs, per doz..	20 to 22
Potatoes, bag..	50 to 60
Apples.....	30 to 50
Turnips, per bu.	25 to 30
Cordwood.....	3 25 to 3 75
Mutton, lb.....	5 to 7
Lamb.....	6 to 8
Wool.....	20 to 20

Liverpool Market.

Liverpool, Jan. 3.
The grain trade for the past week has been quiet, but prices firm. Prices in America must fall to reach the level of those of Great Britain. At the Liverpool market to-day there is quite a trade in wheat, and prices favored buyers. There was hardly any enquiry for corn, which was offered at a reduction.

Flour, p. c., 10s 6d to 13s. Wheat—Spring, 10s 3d to 11s 2d; red winter, 11d 7dd; white, 11s 7d; club, 11s 10d. Corn, 5s 8d. Oats, 6s 2d. Barley, 5s 3d. Peas, 7s. Pork, 60s. Lard, 30s 6d. Beacon, 37s 6d to 38s 6d. Beef, 82s. Tallow, 37s 3d. Cheese, 67s 6d.

Montreal Market.

Montreal, Jan. 3.
Flour—Receipts, 16,000 bbls. Sales—None reported. Market quiet. Wheat Spring, \$1 49 to \$1 42. Corn, 65c to 70c. Peas, 79c to 86c. Oats, 31c to 32c. Barley, 56c to 60c. Rye, 75c. Flour, \$5 25 to \$6 35. Oatmeal, \$4 05 to \$4 75. Corn meal, \$2 90.

Toronto Market.

Toronto, Jan. 3.
Wheat—Fall, \$1 24 to \$1 29; spring, \$1 26 to \$1 32. Barley—No. 1, 77c to 88c; No. 2, 56c to 67c; No. 3, 50c to 66c. Peas, 66c to 69c. Oats, 35c to 36c. Corn, 58c to 60c. Flour, \$5 20 to \$5 85. Hogs, \$6 00 to \$6 25. Butter, 12c to 20c. Wool, 26c to 27c. Clover seed, \$4 50 to \$4 75. Timothy seed, \$2 00 to \$2 25.

New York Markets.

New York, Jan. 3.—Wheat dull; \$1 47 to \$1 55. Barley, two-rowed State, 74c to 76c; six-rowed, 80c to 85c. Canadian, 97c to \$1 00. Corn, 61c to 62c. Oats, 50c to 52c. Pork, dull; \$12 00. Malt—Receipts to-day, 6,25 bushels. Market steady; \$1 15 to \$1 30, time.

Chicago Markets.

Chicago, Jan. 3.—Wheat, dull; \$1 30. Corn, 39c. Oats, 35c. Rye, 51c. Barley, 9 c. Pork, dull; \$13 39 to \$13 35. Lard, \$7 50 to \$7 55.

The Prize Seeder.

At the Provincial Exhibition at Ottawa, Mr. Mann, of Brockville, exhibited an improved seeder that attracted much attention, and was awarded the first prize and a diploma. The advantages claimed for it are these: That it will sow plaster, salt, superphosphates, and all kinds of field grain and grass seeds, evenly, cheaply and speedily, and in exact quantities per acre, and that in ten minutes it can be attached to or taken from any common horse-rake. Thus any person having a horse-rake can for a very small outlay have the seeder attached. We are highly pleased to hear that a good fertilizer seeder has been brought out. If it acts well for that purpose, when introduced into the western part of Ontario, there will be a good demand for it. Numerous orders were taken for it at Ottawa; the Governor of the State of Maine ordered one. They are now building a large quantity of them for the spring trade. For particulars see advertisement in this issue.

Stock Notes.

Messrs. Jardine & Sons, Hamilton, sold to Messrs Ormiston Bros., N. Y., four of his herd of Ayrshires, among the number being "Rochester Maid" and "Clara B. Mars," two very fine animals.

Mr. Joseph Franks, of Harrietsville, has sold his celebrated Clydesdale mare and her three colts, which have been successful prize-takers, to Messrs. Smith & Powell, of Syracuse, New York, for handsome figures.

Mr. S. Lemon, of Poplar Lodge, Kettleby, has sold to Mr. C. Cecil, of Kentucky, 11 Southdown ewes, one buck and three Berkshire pigs; also ram lamb to Thomas and Anthony Bowes, Concord.

Mr. John Russell, of Greenwood, has two Short-horn steers for which Mr. E. B. Morgan, of Oshawa, offered him \$375, or 8½ cents per pound, live weight. Mr. Morgan also offered him 9 cents per pound, live weight, for the choice steer of the two. Mr. Russell asked \$285 for the two, and still has them.

Mr. James Russell, of Richmondhill, sold to Mr. E. B. Morgan, of Oshawa, three Shorthorn heifers at 6½ cents per pound, live weight. They weighed between 1,500 and 1,600 lbs. each.

The attention of our readers is directed to the cards of Messrs. Stevens, of Lamberts, P. Q., and Boulthbee, of Hamilton, Ont., in this issue. We cordially recommend these gentlemen as enterprising and honorable breeders to all our friends.

FIVE DOLLAR PRIZE is offered this month for the best Essay on the Farm Management of Poultry. The article to be in this office by the 5th of February, and the time for receiving essays on the last subject is extended to same date on account of the holidays.

There are about forty cases of small-pox in Ottawa.

An International Exhibition will be held at Rome in 1882.

An exchange says that New Zealand has taken all the Californian apple crop this year.

The imports of wheat into France during the last four months ending with November, were 16,000 cwt.

Winners of any of our prizes for new subscribers must state which lithograph or collection they desire, otherwise none will be sent.

The Governor-General entertained a party of 400 children of the New Edinburgh Sunday and common schools, at Rideau Hall, Christmas afternoon.

The cold in the Northwest has been intensely severe throughout the past two weeks, and at one place the thermometer reached 58 degrees below zero.

BOUND VOLUMES FOR 1879.—A limited number of bound volumes of the FARMER'S ADVOCATE for 1879 now ready, and will be mailed to any part of the Dominion for \$1.50—postage prepaid.

At Lobo, Ont., on Friday, Robert Campbell, on the occasion of his brother's marriage, took a gun to fire a salute. The piece exploded, breaking both his arms and sending a fragment of the metal into his head, killing him instantly.

Parnell and Dillon, the Irish agitators, arrived in New York January 2nd. The object they have in coming to America is to procure the sympathy and assistance of public opinion of America; also funds to carry on the agitation, by which such pressure will be brought to bear on the British Government that may prevent future distress.

Should tramps and vagrants be allowed to infest our country? The Weekly Telegraph states:—A tramp in Lowe County, N. S., stopped all night at several farmers' houses. In addition to his general filth and rags was a disgusting sore on his breast, and in every house where he has stopped fatal results have ensued in the loss of from three to five children from diphtheria. At the last meeting of the Middlesex County Council, they decided to erect a House of Refuge for the poor. Why should not every county have the same? There are not enough of such places.

ADDITIONAL CORRESPONDENCE.

SIR,—Would you please give me your opinion of the English Alden tree as a windbreak? Is it preferable to the Lombardy poplar? Some of the nurseries are substituting the poplar for the Alden, Foxhill, for instance. I am contemplating planting one or the other.

J. D., Lucknow Ont.

[The Alden we have always known as a tree of very little value. It is planted in some marshy places as a windbreak, and as serving to bind the shifting sand and mud by its roots.]

SIR,—Excuse me for taking a little room in your paper for information about ploughing. We have a good sod plough which turns the furrows with a good top to harrow down. They have the jointer around here, and some think that the jointer is the thing for sod; the one leaves a good top to harrow down, the other leaves a good bottom to harrow up; which is the best? My opinion is that when a boy gets accustomed to a jointer he will never make a ploughman.

W. C., Stoney Creek,

SIR,—Please inform me through the ADVOCATE whether you know of any one who has raised English walnuts and brought them to maturity.

D. R., Bowood.

[We have seen the English walnut bearing on Mr. Snow's farm, near Geneva, N. Y. Our climate in western Ontario is we think as suitable for the growth of this nut as the climate of New York.]

"L. S.," of Bedford, P. Q., wishes to know if gypsum or land plaster is of benefit to oats. Gypsum is beneficial to all cereals, and to clover, grass and maize. This is a general rule, but there are exceptions. Sometimes gypsum has no perceptible effect on the crop to which it is applied, though it may be of service to the succeeding crop.

SIR,—Will you kindly answer through your very valuable paper the following questions: Would sawdust be worth much as part of the manure heap? I mean to mix it with cow and horse manure during winter. Also, would it answer as bedding for cattle and horses, and would lime help to rot it? If so, how much lime would it require to say every five loads of manure, and how long would it be before this winter's manure would be fit for use after being treated as mentioned above? Would salt add to its value? If so, how much to five loads?

C. R., Wallaceburg.

[Sawdust is of no value as a fertilizer. It contains, like all vegetable substances, some of the elements of fertility, but they are for the present, and for a long future time, insoluble. Mixing it with the manure heap would be useless labor. It is useful as bedding for stock, being a good absorbent and by using it as such the liquid manure that would otherwise go to waste would be saved, and easily used.]

We do not think that any paper ever published in Canada has yet shown such a quantity of real beneficial correspondence written by the plain, practical, independent farmers of this Dominion, as you find in this issue. We have a great many more that we are obliged to lay over till next month. The size of a country does not always represent the value of it; compare Alaska with the Island of Guernsey. Compare the FARMER'S ADVOCATE with any other publication for, or professing to be for, the interests of the farmers of this Dominion.

A terrible calamity occurred on the Tay River in Scotland on December 30th, whereby an entire train fell through the magnificent bridge recently erected, into the river, resulting in the death of all on board, numbering almost a hundred souls.

NEW ADVERTISEMENTS.

FARMERS AND STOCK-RAISERS

I have the best Hay Carriers and Forks, Hay Gatherer and Derrick, for stacking and handling hay in the barn or field that can be produced in America. They were awarded first premiums over all others at the Illinois State Fair and at the Great St. Louis Exposition of 1879. Ask your dealers for them, or send stamp for descriptive circulars to

J. E. PORTER, manufacturer and patentee,
169-17
Ottawa, Ill, U S A.

MORTGAGE SALE OF VALUABLE FARMS AND GRIST MILL

In the Townships of LONDON and LOBO, in the County of Middlesex.

Under and by virtue of a power of sale contained in a certain registered mortgage, which will be produced at time of sale, made by John Walker and wife, will be sold by public auction by P. C. Barnard, auctioneer, at his auction rooms, Richmond Street, in the

CITY OF LONDON, ON
Saturday, Jan'y 24, 1880,

at 2:30 o'clock, the following freehold properties, namely,

1st—The south half of lot number eighteen in the eleventh concession of Lobo aforesaid, 100 acres more or less. Soil is a good clay loam; about 90 acres cleared, balance timbered with beech, maple, etc. No wet, rough, or stony land on the lot; good fences, never-failing spring creek. Buildings consist of a brick cottage 24 by 24 feet, frame barn 50 by 30 feet, frame driving shed, frame granary, etc. Distant from London about 16 miles, from Ailsa Craig about 6 miles, from Brecon about 4 miles.

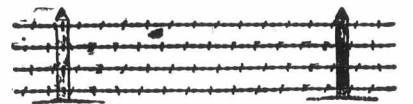
2nd—The south half of lot number 19 in the 11th concession of Lobo aforesaid, 100 acres more or less; about 80 acres cleared, balance timbered with hardwood. Soil good clay loam, none wet, rough or stony, good fences, etc. Buildings consist of a frame house 1½ storeys 24 by 30 feet, with kitchen addition, frame barn 50 by 34 feet, frame stable, shed, etc. Distant from London 16 miles, Ailsa Craig 6, Brecon 4 miles.

3d—Lot number 31 in the 15th concession of the township of London aforesaid, 200 acres more or less. Soil a good clay loam; about 140 acres cleared, balance timbered with good hardwood. No rough or stony land on lot. Buildings consist of a brick cottage 25 by 30 feet, a frame cottage 20 by 24 feet, two frame barns, a frame shed and a grist mill three storeys high—1st storey stone and remainder frame—2 runs of stone, and in good repair. Distant from London about 15 miles, from Brecon station 1½ miles.

Terms liberal. Conditions will be made known at time of sale, or may be ascertained on application to HARRIS, MAGEE & CO., Vendors' Solicitors, London, Ont. Or to P. C. Barnard, Esq., Auctioneer, London, Ont.

WASHBURN & MOEN MFG. CO.

55 College St., Montreal, P. Q.



Sole Manufacturers in Canada of

PATENT STEEL BARB FENCING

THE BEST AND CHEAPEST FENCE for Railroads, Farmers, and Stock Raisers.

A STEEL Thorn Hedge. No other Fencing so cheap or put up so quickly. Never rusts, stains, decays, shrinks, nor warps. Unaffected by fire, wind, or flood. A complete barrier to the most unruly stock. Impassable by man or beast.

42,000 Miles of Barb Fence erected in the United States in last three Seasons.

For the Gardner, the Stock Grower, the Vineyard proprietor, BARB FENCE is the only perfect fence. SEND FOR ILLUSTRATED PAMPHLET.

CAUTION!

To all Dealers in BARBED FENCE WIRE or Barbs for Fence Wire—and to all Farmers or others who put Barbs upon wire fences making a Barbed Wire Fence.

You are hereby notified that, in putting barbs upon wire, making a barbed wire fence, or in using or dealing in barbs for wire or barbed fence wire, not made under license from us, you are infringing upon our patents, and we shall hold you strictly accountable for damages for all infringements of Canadian Letters Patent Nos. 4,916 and 7,830.

Washburn & Moen Mfg. Co.
MONTREAL, P. Q.

WOOD & LEGGAT,
AGENTS,
Hamilton, Ont.

169-17

COTTON YARN.

WHITE, BLUE, RED AND ORANGE. War-
ranted the very best quality. None genuine
without our label. Also, BEAM WARPS for
Woolen Mills.

Send for Circulars, &c. Address—
WM. PARKS & SON,
New Brunswick Cotton Mills,
St. John, N.B.

GOOD BOOKS

FOR THE—
Farm, Garden and Household.

Allen's (R. L. & L. F.) New American Farm
Book..... \$2 50
American Dairying, by Arnold..... 1 50
American Bird Fancier..... 30
Allen's (L. F.) American Cattle..... 2 50
Barnard's Simple Flower Garden..... 38
" Strawberry Garden..... 38
Barry's Fruit Garden..... 2 50
Bule's Family Kitchen Gardener..... 1 00
Book of Household Pets, paper..... 50
Bommer's Method of Making Manures..... 25
Brill's Farm Gardening and Seed Growing..... 1 00
Culver's Fruit Preservers' Manual..... 25
Clock's Diseases of Sheep..... 1 25
Cooked and Cooking Food for Domestic
Animals..... 20
Dadd's American Cattle Doctor, 12 mo..... 1 50
Every House Owner's Cyclopaedia..... 3 75
Elliott's Lawn and Shade Trees..... 1 00
Farming for Boys..... 1 50
Flint on Grasses..... 2 50
Fuller's Forest Tree Culturist..... 1 00
Flax Culture. [Seven Prize Essays by Prac-
tical Growers]..... 30
Fuller's Grape Culturist..... 1 50
Fuller's Small Fruit Culturist..... 1 50
Fulton's Peach Culture..... 1 50
Gregory on Squashes (paper)..... 30
Grant's Beet Root Sugar..... 1 25
Gregory on Cabbages..... 30
" Carrots, Mangolds, &c..... 30
" Onion Raising..... 30
Guenon on Milch Cows..... 75
Harian's Farming with Green Manures..... 50
Harris' Talks on Manures..... 1 50
Harris on the Pig..... 1 50
Henderson's Gardening for Pleasure..... 1 50
Henderson's Gardening for Profit..... 1 50
Henderson's Practical Floriculture..... 1 50
Hop Culture. By nine experienced cultiva-
tors..... 30
Hunter and Trapper..... 1 00
Johnson's How Crops Grow..... 2 00
Johnson's How Crops Feed..... 2 00
Johnson's Winter Greenhouses at Home..... 1 00
Klippart's Wheat Plant..... 1 75
Law's Farmers' Veterinary Adviser..... 3 00
Our Farm of Four Acres. Paper, 30c; Cloth,
60c; extra cloth..... 1 00
Potato Culture—(Prize essay)..... 25
Pockaid's Our Common Insects..... 1 50
Quinby's Mysteries of Bee-keeping..... 1 50
Quincy (Hon. Josiah) on Soiling Cattle..... 1 25
Quinn's Pear Culture for Profit..... 1 00
Roe's Manual on the Culture of Small
Fruits..... 50
Rarey and Knowlson's Complete Horse
Tamer..... 50
Roe's Play and Profit in my Garden..... 1 50
Stewart's Irrigation for the Farm, Garden
and Orchard..... 1 50
Stewart's Stable Book..... 1 50
Stewart's Shepherd's Manual..... 1 50
Stoddard's An Egg Farm. Paper, 50c; cloth
75
Thomas' Farm Implements and Machinery..... 1 50
Ten Acres Enough..... 1 ..
Thompson's Food of Animals..... 3 ..
Waring's Farmer's Vacation..... 3 ..
Wheeler's Homes for the People..... 2 ..
Willard's Practical Butter Book..... 1 ..
Williams' Window Gardening..... 1 40
Waring's Draining for Profit and Health..... 1 50
Waring's Elements of Agriculture..... 1 00
Wright's Practical Poultry Keeper..... 2 00
Any of the above useful books will be mailed,
post-paid, from the FARMERS' ADVOCATE Office on
receipt of price named.

ONTARIO VETERINARY COLLEGE:
TEMPERANCE ST., - TORONTO.
[Established 1862.]

PROFESSORS:
Prof. Smith, Anatomy and Diseases of the Do-
mestic Animals.
Prof. Thorburn, Materia Medica.
Prof. Barrett, Physiology.
Prof. Buckland, Breeding and Management of
Farm Animals.
Prof. Croft, Chemistry.
Prof. Grange, Demonstrator of Anatomy.
For particulars apply to the Principal, A
Smith V., Temperance St., Toronto. db-11

MANN'S IMPROVED

THE LATEST



INVENTION

BROADCAST
Sowing Attachment

To Horse Rakes, with One Box,

WITHOUT CHANGE OF GEAR,

WILL SOW THE FOLLOWING IN ANY QUANTITY PER ACRE:—WHEAT, RYE, BARLEY,
Oats, Peas, Buckwheat, Corn, Timothy, Clover, Millet, Hungarian and Flax Seeds;

ALSO PLASTER, SALT, ASHES AND SUPERPHOSPHATES,

they being conducted so near the ground that

THE WIND HAS NO EFFECT ON THEM

The Attachment can be put on any Horse Rake without removing the teeth;
they are used for sowing grass seed for harrowing it in, which gives it a sufficient
covering. It can be operated by any boy who can drive a horse. It is provided
with a lever and index convenient to the driver, so that it may be closed while
turning, to prevent waste of seed.

The Attachment can be removed in 10 minutes and the rake ready for its former use

The First Prize and Diploma were Awarded
at the Dominion Exhibition, Ottawa,
TO THIS SOWER.

J. W. MANN & CO.

Manufacturers of Farm Implements,
Brockville, January, 1880.—169a Leeds Agr'l Works, Brockville, Ont.



IMPROVED

PORTABLE

Hot - Blast

FAN FORGE,

Manufactured by the

PORTABLE HOT-BLAST FAN FORGE MANU-
FACTURING COMPANY,

LONDON, ONTARIO.

This Forge possesses innumerable advantages over those in ordinary use, and its excellence is
attested by hundreds of testimonials in the possession of the inventor. It is made principally of
wrought iron, is portable, and takes up but little room, requires no cumbersome or expensive brickwork
and may be worked in the open air or in any building, and is always ready for use.

The peculiarities of its construction render it extremely desirable, and from its simplicity is not
liable to get out of order, while the fan-blower is infinitely superior to the leather bellows, both in
regularity of blast, the ease with which it is worked, and the even condition in which it brings out
the heat, by which any size bar can be welded.

This excellent arrangement produces the following desirable effects—and needs but to be seen to
be understood and appreciated—namely, that of the creation and ejection of a hot blast, which facili-
tates in heating, besides greatly improving the quality of the steel or iron.

Numerous experiments prove beyond question that it consumes less fuel than any other forge;
any small boy can easily work the fan by hand or foot, and in less time and with less fuel can pro-
duce a more intense and better heat, without possibility of burning the iron—a great desideratum
with smiths.

It stands unrivalled, and in sizes to suit any purpose.
N B—The above cut represents our forge which, being always ready for use, is an article of indis-
pensable utility to the farmer, saving both time and money, and will pay for itself in three months'
use. No farmer should be without one. Also kept in stock, the combined anvil and vise, hammers,
tongs, bits and plates, and blacksmiths' outfits.

Address—
PORTABLE FORGE MANUFACTURING CO., LONDON, ONT.



My Annual Catalogue of Vegetable
and Flower Seed for 1880, rich in engrav-
ings from photographs of the originals, will be
sent FREE to all who apply. My old customers
need not write for it. I offer one of the largest
collections of vegetable seed ever sent out by any
House in America, a large portion of which were
grown on my six seed farms. Full directions for
cultivation on each package. All seed warranted
to be both fresh and true to name; so far, that
should it prove otherwise, I will refill the order
gratis. The original introducer of the Hubbard
Squash, Phinney's Melon, Marblehead Cabbages,
Mexican Corn, and scores of other vegetables, I
invite the patronage of all who are anxious to
have their seed directly from the grower, fresh,
true, and of the very best strain.

NEW VEGETABLES A SPECIALTY.
JAMES J. H. GREGORY, Marblehead, Mass.
dl-6

1880.

Canadian Illustrated News

The only ILLUSTRATED and purely LITERARY
weekly in the Dominion of Canada. Its artistic
department is devoted to the illustration of all
current events of interest within our borders and
abroad. A number of new features will be intro-
duced in the literary department, the design
being to make it the especial exponent of Cana-
dian literature, unsectarian in religion and non-
partisan in politics, though neutral in neither;
it treats of all subjects that engage public atten-
tion, and aims to be a welcome guest in every
family of the Dominion.

OUR PUBLICATIONS:

The Canadian Illustrated News, 1 year, \$4.00
The Scientific Canadian (Illustr.) " 2.00
The two above-named, " 5.00

THE BURLAND LITHOGRAPHIC COMPANY
is the largest establishment of its kind in the
Dominion. It executes all kinds of Lithograph-
ing, Photo-engraving, Photo-electrotyping, Stere-
otyping and Printing in the highest style of the
art and at the lowest prices.
Address,
BURLAND LITHOGRAPHIC CO.,
5 and 7 Bleury Street, Montreal.
169-a

THE ONLY LICENSED AND CHARTERED
MUTUAL FIRE OFFICE IN THE
DOMINION.

Established in 1859, and having on 1st January,
1878, a capital of \$250,863.58, with 40,167 Policies
in force, and continually increasing!

The "London Mutual" Fire
Insurance Co.

[Late "Agricultural Mutual."]

HEAD OFFICE, - LONDON, ONT.
CROWELL WILSON, President; DANIEL BLACK,
Vice-President; W. R. VINING, Treasurer; C. G.
CODY, Inspector.

This old, ever-popular company—the most
successful "Fire Mutual" in existence—the pion-
eer of cheap insurance on farm property and
private residences in Canada—still continues to
do the largest, safest and best business in the
country. Having no stockholders to receive
dividends, its funds are accumulated for the
benefit of its members, and it affords protection
at the lowest possible rates.

Over two-thirds of a million of dollars have
been expended in the payment of losses in the
Province of Ontario.

FARMERS! Patronize your own good, long-
established Insurance Company, and be not led
away by the empty promises of the promoters of
new-fangled ventures, amateurs in the business.
For insurance apply to any of the agents, or
address—
D. C. MACDONALD,
London, 23rd Sept., 1878. Manager.

Lands for Sale!

\$20,000 Cash, or \$5,000 Down

Will buy the best 100 acre Fruit Farm in Canada, situate in the west end of the beautiful Village of Grimsby; extends from the mountain to Lake Ontario. About 55 acres are in Orchards—Apples, Peaches, Cherries, Grapes and Berries. One year's Fruit recently sold in the Orchard for \$5,000. There were over 2,000 barrels of Apples in 1878, and seven-eighths of the trees are young and only just beginning to bear. Good water; beautiful healthy location; excellent buildings worth \$4,000, on Main St.; only 5 minutes walk to 5 Churches, High School, good stores, and Great Western R.R. Depot; good sidewalk; good carriage roads, and only 50c by rail to City of Hamilton or St. Catharines. Title perfect; no encumbrance; immediate possession; personal inspection invited.

W. W. KITCHEN,
Grimsby, Ont.
1880.

Harper's Magazine.
ILLUSTRATED.

Studying the subject objectively and from the educational point of view—seeking to provide that which, taken altogether, will be of the most service to the largest number—I long ago concluded that, if I could have but one work for a public library, I would select a complete set of Harper's Monthly. —CHARLES FRANCIS ADAMS, Jr.
Its contents are contributed by the most eminent authors and artists of Europe and America, while the long experience of its publishers has made them thoroughly conversant with the desires of the public, which they spare no effort to gratify.

The volumes of the Magazine begin with the Numbers for June and December of each year. When no time is specified, it will be understood that the subscriber wishes to begin with the current Number.

HARPER'S PERIODICALS.

HARPER'S MAGAZINE, One Year.....	\$4 00
HARPER'S WEEKLY, " ".....	4 00
HARPER'S BAZAR, " ".....	4 00
The THREE above named publications, One Year.....	10 00
Any TWO above named, One Year.....	7 00
HARPER'S YOUNG PEOPLE, One Year.....	1 50

Postage Free to all subscribers in the United States or Canada.

A Complete Set of HARPER'S MAGAZINE, comprising 59 Volumes, in neat cloth binding, will be sent by express, freight at expense of purchaser, on receipt of \$2.25 per volume. Single volumes, by mail, postpaid, \$3.00. Cloth cases, for binding, 38 cents, by mail, postpaid.

Remittances should be made by Post Office Money Order or Draft, to avoid chance of loss.

Newspapers are not to copy this advertisement without the express order of HARPER & BROTHERS.

Address, HARPER & BROTHERS, New York. 169-a

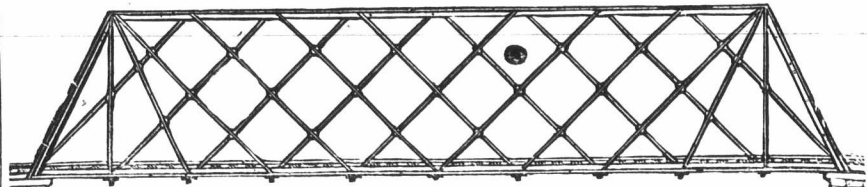
Farmers! Feed your cattle with the Great Devonshire Cattle Food and they will feed you. See that the name "Devonshire" is on every box. Price one dollar. John Lumbers sole manufacturer, Toronto. DI-

50 chromo, floral, glass, &c. Cards in case, name on all, 10c. Outfit 10c. DAVIDS & Co, Northford, Ct. dj-6

PIANOFORTES.
CHICKERING, SQUARES, - UPRIGHTS,
STEINWAY, - GRANDS. -
DUNHAM
HAINES,
A complete assortment of the above makers, as well as a large variety of
SECOND-HAND PIANOS
will be offered by us on the most liberal terms.
PIANOS FOR HIRE.

BRANCHES:
MONTREAL, OTTAWA, LONDON, KINGSTON,
QUEBEC, ST. JOHN, ST. CATHARINES,
A. & S. NORDHEIMER,
15 KING STREET EAST, TORONTO, Ont.

TORONTO BRIDGE COMP'Y



Iron Bridges Constructed on the Most Approved Plans.

OFFICE & WORKS, KING-ST. WEST.

For Circulars, Plans and Particulars, address,

TORONTO BRIDGE CO., TORONTO, ONT.

J. WORTHINGTON, Pres. A. B. LEE, Vice-Pres.
J. H. BARTLETT, Manager. JOB ABBOTT, Chief Engineer.
J. B. ROBINSON, Superintendent. dk-tf

1880. 1880.
The Canadian
AGRICULTURAL EMPORIUM
Seed Catalogue

Will be ready about the 15th of January next, and mailed free to all applicants. Persons desiring fresh

Field, Garden, and Flower Seeds

will please reserve their orders for us. We import our seeds direct from ENGLAND, FRANCE, GERMANY, and the UNITED STATES.

Persons having any choice samples of NEW Spring Wheat, Barley, Oats, Peas, Clover, Timothy, Flax, Millet, Hungarian Grass, &c., for sale, will please forward samples and prices to
Canadian Agricultural Emporium,
360 Richmond Street,
LONDON, ONT.

RUDD & TENNENT,
VETERINARY SURGEONS

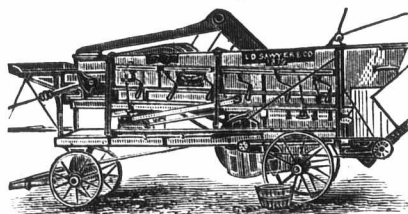
Medicines for Horses and Cattle
Always on Hand.

ORDERS FROM A DISTANCE PUNCTUALLY ATTENDED TO.

Sick and Lame Horses Taken to Board.
Horses Examined as to Soundness.

OFFICE King-Street, opposite the Market.
RESIDENCE—Horton-Street, near Richmond.
C. E. RUDD & J. H. TENNENT, London. de-tf

L. D. SAWYER & CO.
Hamilton, Ont.



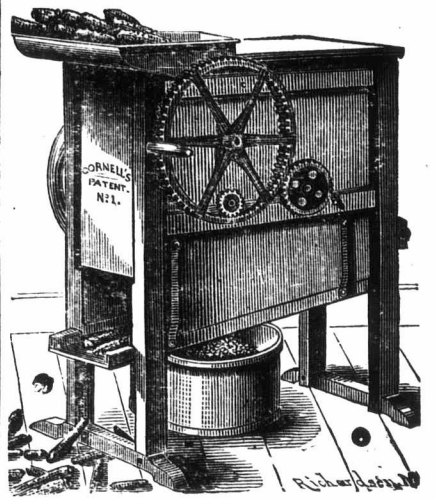
Clover Mills
Clover Mills

We are now prepared to deliver our Celebrated Clover Mills, which are well known to the Public as being
THE BEST IN THE MARKET

Please send in your Orders without delay, as we are making only a limited number.

Send for Circular with list of improvements. de-12

CORNELL'S CORN SHELLER.



DOUBLE AND SINGLE TUBED—SIFTER AND CLEANER ATTACHED.

The most complete and durable Corn Sheller made. Previous to recent improvements it carried off both the Medal of Honor and Diploma of Merit at the Centennial Exhibition; also the first premium at every Fair where it has been exhibited. The price is within the reach of every farmer that raises corn.

Won First Prize at Western Fair in 1878 & '79.

Cornell's Double-Tube Corn-Shellers, \$18.00 each.

Conell's Single-Tube Corn-Shellers, \$14.00 each.

The best Shellers in the market. Have taken first prizes wherever exhibited.

CIDER PRESSES, all Sizes.
BLANCHARD & UNION CHURNS.

Improved Chilled Plows, Straw Cutters
Root Cutters, Grain Grinders, &c.

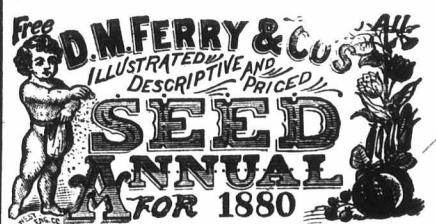
Prices furnished on application to
Canadian Agricultural Emporium

360 Richmond-St., London, Ont.

YORKSHIRE CATTLE FOOD always on hand and mailed on receipt of price.

J. NATHAN & CO.
Insurance and Shipping Agents,
373 Richmond Street,
LONDON, ONT.

AN ELEGANT AUTOGRAPH ALBUM, containing about 50 finely engraved and tinted pages, bound in gold, and 54 quotations, all postpaid, 15c. Popular game of Authors, 15c. dk-4 CLINTON BROS., Clintonville, Ct.



Will be mailed FREE to all applicants, and to customers without ordering it. It contains four colored plates, 600 engravings, about 200 pages, and full descriptions, prices and directions for planting 1500 varieties of Vegetable and Flower Seeds, Plants, Roses, etc. Invaluable to all. Send for it. Address,
D. M. FERRY & CO., Detroit, Mich. 169-D

PLANTS GROWN
for transplanting, and Fruit for the market.
100 Acres planted with Berries 100
Varieties of Selected Fruits
See New Catalogue for what sorts to plant. Sent free.
JOHN S. COLLINS, Moorestown, N. Jersey.
dj-6

\$55.66 Agents Profit per Week. Will prove it or forfeit \$500. \$4 Outfit free. E. G. RIDEOUT & CO., 218 Fulton St., N.Y. dj-6