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**Brief Summary of Eight Years' Labor.**

Perceiving the necessity of having some place in Canada where seeds might be tested and procured, information given of where stock could be obtained when required, implements tested and procured; being possessed of considerable means, and believing, from the tenor of the newspapers, that the Government would countenance and aid such a necessary establishment, we devoted our energies and abilities to its establishment. But, we regret to state, despite numerous recommendations to the Government and frequent promises of aid from the Minister of Agriculture, nothing but the reverse of aid has been thrown in our way.

It would fill a volume to describe half of the means and plans that have been taken to overthrow our plans.

Many of these attempts have been more than cruel and dishonorable, and solely because we have been striving to elevate and maintain the interests, rights and privileges of agriculturists, untrammelled by party politics.

We procured the best stock, including what we believe to be the most valuable horse for our country, just as he was about to be sold to go to the States; also, the best breeds of cattle, sheep and swine. We spared no expense in importing and sending throughout the country the most valuable kinds of seeds, grain and roots.

We believe we have furnished the country with more useful and valuable information regarding seeds, stock, implements and our general agricultural affairs than any other individual or company.

We may have made remarks when it might have been more prudent to have kept silent, and we may have done acts that would have been better undone, but who can be always right?

We exposed the management of the old Board of Agriculture when errors crept in, and we endeavored to support that useful institution when danger threatened its total annihilation.

We believe the information furnished by us in regard to seed wheat alone has been worth a countless amount to the country; one man alone admits a clear gain of \$200 in one field.

How many fields have been increased in value? Who could estimate? See also the flattering reports of our oats, peas and potatoes. Our writings have tended to check the introduction and spread of dangerous diseases and pests!

**QUARTZ FLOUR.**

We obtained a pound or two of this from a pottery, and find for polishing knives it has no superior. It is a principal ingredient in the manufacture of stone china.

**Agricultural Grounds of London and Hamilton.**

The question of what to do with the Crystal Palace is attracting a good deal of attention just now in Hamilton. A spirit of jealousy of divided interests exists there between city and country. We regret to see evidences of this spirit; but unfortunately they do, and we fear will exist, not only in Hamilton, but also here, and wherever the two classes are brought into contact.

We regret to see that some of our citizens act with the sole motive of filling the city coffers, and adding to the means of office-holders, regardless of other interests. We must, in advocating the rights of farmers, enter into the vexed question of the agricultural grounds, and the grounds attached to the Crystal Palace, though the task is by no means an agreeable one. That block of land, containing ten acres, was set apart for agricultural exhibitions and a hall erected thereon for that purpose. The Agricultural Association has sold it, and, in order to make the sale valid, are now endeavoring to get an Act of Parliament to confirm and make legal their acts.

Have the farmers no interest in this matter? Surely they should take counsel and determine what course they should pursue. It cannot be their wish to dispose of that valuable property, relying on the uncertain tenure of the Crystal Palace block.

The claim they have on the Crystal Palace grounds must be very uncertain. There has been an application to make a road through the grounds, and one of the city papers has been advocating the disposing of all interested in it, and selling it out into building lots to increase the resources of the city, wholly disregarding the objects for which it was obtained—to wit: having an open park for the sake of the citizens' health, and, when needed, convenient and suitable grounds for exhibition purposes.

If farmers wish not to be wholly dependant on the officials of the city for a place to exhibit their stock and farm produce, let them bestir themselves at once. They have justice on their side. They have even in the city many friends; but the city officials have great influence. They have the city press; the interest of many of the representatives in Parliament is mainly with the city.

We do not desire to see aroused a sectional strife between city and country, but where the interests of the farmers are concerned we will not swerve from our duty.

The farmers of East Middlesex and Wentworth will lose their claims to the agricultural buildings and grounds unless

they attend to them without delay.— Surely some farmers will be found to sift this matter to the bottom. Remember that an Act of Parliament is applied for, and perhaps you may be called on to request your right to be taken from you by plausible speakers.

**A Pretty State of Affairs.**

The farmers around the cities of Hamilton and London are about to be deprived of their agricultural grounds in the cities, together with the Exhibition Buildings that cost us so much.

Are they to be wrested from us? We should enquire into this at once and not allow them to be frittered away. If the land is worth as much per foot as it cost per acre, the farmers should have the benefit of it. There is an object at the bottom of this. Find out the purpose now, or you will learn when too late.

To the Hon. A. McKellar, Minister of Agriculture, and to the Executive Committee and Members of the Ontario Parliament:—

GENTLEMEN,—

Having been deprived of land and timber, and having had to defray heavy law expenses occasioned by erroneous surveys by Government surveyors, and erroneous descriptions issued from the Government office, and from your Limitation Act, for which no compensation has in any way been rendered, I respectfully request that you will cause enquiries to be made and proper restitution given in some manner to myself or family for damages sustained. This, your humble servant will ever pray.  
W. WELD.

Also, I would most respectfully call your attention to the fact that for eight years I have devoted my time and means to the establishment of what is admitted by all to be of public interest.

I have brought before the public the Canadian Agricultural Emporium, and besides showing the farmers of the country by writings and addresses, the utility of such an institution, I have put the same in operation in a small way, and have already done much good. I regret that these plans should be taken up by the Government without in any way remunerating the originator for his years of labor and money expended to establish a similar institution.

I would also pray that you will give this subject a little attention and examine into this case before expending more money in the Mimico Farm.

From one who desires the prosperity of this Dominion, and one who should be allowed to prosper with it, your obedient and humble servant,  
W. WELD.



### The Mimico Farm.

Having devoted our time entirely to our agricultural affairs for many years past, and having endeavored to attain information in regard to them in their various bearings, we deem it our duty to explain to our readers the result of our observations. We cannot expect all of you to see things with our eyes, or to agree with all our views.

Should we be in error our pages are open for you to express your views. We have always asked for open and free discussions. However, there are two other agricultural papers in Canada in which you may reply to or confute anything in which we may be in error, namely, the *Canada Farmer*, and the *Colonial Farmer*, of New Brunswick.

#### THE ORIGIN OF THE MIMICO FARM.

We have given years, in fact, we have devoted the most vigorous part of our life in endeavoring to establish a test, experimental, educational and sale farm; we brought forward our plans and commenced operations long before we commenced this paper. Addresses were given in regard to it at Toronto, Hamilton, London, St. Catharines, Grimsby, Brantford, Paris, Yorkville, Princeton, Woodstock, &c., &c. Commendatory resolutions were passed at almost all these places; leading gentlemen said it was a subject the Government should support.

In Delaware and in this city two of the (at that time) strongest political party men opposed us in every way, stooping to the most degrading positions for such purpose. They had power; they led others. Had they not taken such a course, most probably they would be in the Legislature at the present time. One would, and perhaps the other.

We are quite sure that politics was the cause of their opposition. Their individual attempts might not have been of much injury, but as these persons have had Government pay, and both had great influence with the small fry and Government powers, they have been enabled to do much to thwart the project.

Still, they find that all the powers they were able to bring in every imaginable way, were unavailing to thwart the undertaking. The next attempt made was to purchase our conscience. The leading power had said that it would require \$100,000 to establish the farm, and he at length made this proposition to us, no doubt from authority: that he could establish it if we would place him at the head, (we knowing that it was for political ends.) Just at the time that the Mimico Farm received its birth from the Legislature, we were consulted by leading gentlemen having considerable influence with the Minister of Agriculture, and were offered the immediate increase of the circulation of our paper to five times the number issued at that time, if we would support their plans.

We have looked on the Western Fair as a political engine more than an agricultural institution. Its object, we considered, was to rival the Provincial Exhibition.—It was to have been held up as an example of local enterprise, and upheld by the press; the Provincial Exhibition was to have been permanently established on the Mimico Farm, and all the local exhibitions and agricultural interests, as far as possible, made subservient to it. The power that such a course would throw into the hands of a Government would have been great. The principal mover in the Western Fair was to have been the manager of the Mimico Farm: this we are convinced of.

The opposing party, or Mimico Farm sympathizers, have attended meetings to injure private enterprise, and an intentionally damaging resolution has been passed and published in party papers. The press has been used and parties rewarded for services. We have challenged an open discussion to establish these facts, but no one has yet ventured to take it up.

The reason of this opposition was not because we have taken part with the opposing political party, but because we attempted to carry out our own views in regard to keeping agricultural interests independent of party politics, and did not yield to serve the ends of the party in power when inducements were offered.

Thus the Mimico Farm has been established to check private enterprise, and make positions for political friends; rather to enchain and entangle agriculturists than to aid them. *Is it not rather a sandy foundation to build on?*

### The Provincial Exhibition.

Attempts have been and still are made to establish the Exhibition permanently on the Mimico Farm. We are not aware that any farmers ever suggested this plan, but some influential persons have, and, perhaps some farmers within forty or fifty miles of it who might be benefitted by its adoption. But the majority of the farmers in the Province would be opposed to it if it were permanently settled there, and very few farmers living beyond a day's drive of it would ever go there to the Exhibition.

The interest in it would fall into the hands of a few. The novelty, perhaps, might attract a fair attendance for one or two years; then it would become stale, and probably be almost as poor as the recent agricultural exhibitions in Toronto.—They have been nearly total failures (the Provincial Exhibition excepted), very sparsely attended by buyers, sellers, exhibitors or spectators, and did not half equal in interest or utility scores of county or township exhibitions held at a distance from the city.

The cities and city members may advocate and centre the Exhibition at Toronto; they are powerful, and large sums of money have been expended in various cities, nominally for the public good, but often to gain political power, and Toronto must be favored as well as other places.—The attempt to take the Exhibition away from the farmers we cannot approve of. The perambulatory system in its great annual visits awakens in each locality fresh energies, and gives the farmers of the surrounding country an opportunity to visit it and profit by it.

Having attended it for years, we have always been astonished at the very few whom we know that come from a long distance to see it. For instance, when it is held even in Hamilton, scarcely a farmer from this county is to be seen there, except a few who may be appointed as judges, or who are exhibitors. Very few real practical farmers who do not receive cash payment in some way, will attend it, unless they can go and return the same day to their homes; 50 miles by rail is about the greatest distance that farmers can go in a day and return, that is to give them an opportunity of seeing the Exhibition. As for staying over night, that is out of the question, as accommodation at \$2 to \$4 per day is too heavy an item.

The Provincial Exhibition is a school, and a school should be placed where scholars can attend. We all pay for it and all want it. It might, perhaps, be looked forward to with greater interest if it only visited a section once in 7 years. There are very large tracts of country from which the inhabitants cannot afford to come to see it. The locations for holding it might justly and with advantage be increased.

If it is for the mere gratification of the citizens, it would be right for us farmers to abandon it. What is the sum of \$10,000 per annum for such a useful institution. It would be very trifling compared to the expenditure of the Mimico Farm project, if carried out as originally designed.

Very little has been expended for agriculture in comparison to the expenditures for other purposes, but the farmers directly or indirectly pay for all. We know of no person who has asked for the

Mimico Farm or for the centralization of the Exhibition there. The farmers should be consulted in regard to their interests.—At our annual meetings their opinions might be obtained.

Of course those in or near Toronto would favor the centralization of business there, and may influence many to support them.

### The Butter Question.

Such is the heading of many articles we meet with from time to time in our exchanges. It is a subject occupying much of the attention of farmers, and, still more, of the farmers' newspapers, and the produce merchants of the country at the present time.

It is one of no little importance, tending as it does to add to or subtract from the profits of those whose wealth is in the produce of their flocks and herds, no less than in their cereals.

Though we have no means of ascertaining the statistics of the butter trade, all know that for this one article of produce a very large amount of money is received by the farmers of Canada, for export as well as for home consumption; and the amount is continually increasing. As the population of our cities and towns increases, and as the ability of their inhabitants to buy whatever is conducive to their comfort becomes greater, in like proportion must the demands be greater for the products of our flocks and folds. The ready sale met with by farmers for meat and butter, and the high prices that have been paid for some time back, are unprecedented here.

This question pressing itself upon the minds of both producers and merchants of produce is, when we take into account the sums of money paid for this single item of our industrial pursuits, one of much moment. There can be no doubt of the fact that very large sums—thousands and thousands of dollars—are lost to the country by sending to the market butter of very inferior quality. Even in our home market we every week see butter sold at a great difference in prices. We have within the last few days seen butter offered in this market (London) for 15 cts. a pound, and not sold, and at the same time butter was sold in rolls at from 22 to 25c., in corks at from 18 to 20c. There was a direct loss in the sale of the inferior article of not less than twenty-five per cent.

But it is not in the home market, it is in the export trade that there is the greatest loss. Some butter sent to the English markets is absolutely unsaleable there, except as grease. In one of our exchanges we find the following item:—

"One of our leading buyers received a letter from a commission merchant in Montreal, the other day, in which he states there are still 40,000 kegs of Canadian butter of last year's production in England, unsold, and it is entirely unsaleable, except as *sheep's grease*, at perhaps five cents per pound. The same letter stated that there were over 10,000 kegs of the same kind of grease left over in the Montreal markets, which were also unsaleable."

Five cents per pound for butter!—a loss of not less than 75 per cent! Cannot this ruinous waste be avoided? We believe it can; we are certain that every cent so wasted might have been saved to the country.

One movement in this direction has been taken. The butter dealers in some places, as for instance, in Elora, Seaford, Clinton, as our exchanges from these places inform us, have determined to pay for butter only such prices as it is really worth. The *Elora Observer* tells us that the prices there ranged during the past week at from eight to sixteen cents per pound, and some that was brought in they refused altogether to buy. In some places they have resolved to appoint inspectors of butter, who are to brand it according to its quality.

This subject has for some time engaged

our serious attention. In our issue of October, under the head, "Stock & Dairy," page 158, we gave two articles on the subject—"Making Butter," and "The Secret of Good Butter." Both will repay the attention of the reader. There is no article of food, no product of the farm, requires so great care and such scrupulous cleanliness, not only of the person making and handling it, but also of everything that may come in contact with it, as butter. And, with the most exact methods and the strictest cleanliness, butter may sometimes be sent to market in a bad condition. Then our housewives and dairymaids have not the advantage of having milk-houses with a temperature at all times equal, having in them a spring of cool, clean water, as other places have. But they have cellars and milk rooms that may be made to answer every purpose required. They can be so made and arranged, but they are not always so; they are too often deficient in ventilation. On entering them we are at once made sensible of their unsuitableness for keeping milk and butter by the unpleasant, fetid odor and the stifling unhealthy air. It is necessary that any place where milk is kept shall have a free circulation of air; that it be in ceiling, walls and floor, perfectly clean; that no vegetables or meat be kept there—in short, that it be a milk room and nothing else.

There is yet another cause of the inferior quality of some of our butter—it is, we believe the cause of the worst specimens being *grease*. It is the little care taken of it after being bought, by those who buy it and take it in trade in country stores. They put it together in kegs and corks regardless of quality, sometimes almost melted, when they get it from their customers. This butter, exposed to heat and foul smells, and different in color and preparation, always brings low prices.

Farmers here are beginning to realize the fact so well known to English farmers that stock farms are the most profitable.—For all the meat and butter they can bring to market there is ready sale at remunerative prices. The supply, as well as the demand, is increasing, and will increase. May we hope that the increased supply will be in products that will pay the producer. An inferior article is a sure source of loss.—As't Ed.

### Sheep vs. Dogs, and City vs. Country.

Mr. Jas. Gibson, of London Township, imported a very fine flock of Lincoln sheep, some of which he exhibited in the States and some at our Exhibitions, carrying off first prizes at both places.

It is well known that the confinement of sheep in close pens for a length of time is injurious to their health. Mr. Gibson sought for pasture to turn his sheep into during the night, which all sheep owners are desirous of doing when exhibiting, and he had one very valuable sheep killed and others injured.

By the city protecting regulations no remuneration for his loss could be recovered, as in the country.

We do not consider this is acting just towards the farmers. A dog tax is levied in both city and country, and the money was intended to defray damage done by dogs to sheep. The cities incorporate large tracts of arable and grazing lands in their suburbs, preventing farmers from using the land within any distance from the exhibition grounds that the sheep could be taken to if folded within the city limits. We see the results.

The cities receive the money for the dog tax and retain it. The city dogs can go into the country and feast themselves on our mutton, but there is no pay from the city for the feasts these useless curs get.

Again, a farmer may have a most valuable and useful dog, and he may allow his dog to come to the city to aid him in driving his cattle or sheep, but should it happen to be on a day that the citizens

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In our issue of Oct. 1, "Stock & Dairy," articles on the subject, "The Secret of the Farm," and "The Secret of the Farm." There is no article on the farm, and such scrupulous of the person making contact with it, as the most exact cleanliness, butter to market in a bad our housewives and the advantage of with a temperature at ing in them a spring as other places have. ars and milk rooms e to answer every They can be so made ey are not always so; efficient in ventilation. we are at once made itableness for keep- r by the unpleasant, tifying unhealthy air. any place where milk free circulation of air; walls and floor, per- no vegetables or meat hort, that it be a milk se. her cause of the in- ne of our butter—it is, e of the worst speci- It is the little care ing bought, by those e it in trade in country it together in kegs and of quality, sometimes en they get it from this butter, exposed to s, and different in color always brings low

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order all dogs to be muzzled, poor Tray the pet of the farmers' wife and children, is the first dog selected to have the poisoned bite dropped before his nose. A kick, a shudder, and poor Tray is dead.— The farmer is enraged, his wife and children cry, and perhaps Tray's place may never be so well filled again. The dog may be worth \$100 to its owner. The farmer knows nothing about the whims of citizens who may be empowered to kill his dog at any moment.

The farmers should have the amount of money raised from the dog tax to liquidate the damages done to their sheep. They should also be allowed to drive their sheep and cattle in or through a city without being liable to have their dogs killed. We hope some members of Parliament who are elected by farmers will, in consideration of those who have placed them in power, look into the just rights and claims of farmers, and, if possible, get for them their just dues—fair play.

In speaking of the distance to where lands are incorporated, we know that 3½ miles east of the Exhibition grounds at Toronto, is incorporated, and perhaps six, for all we know.

**The Government Farm.**

We are unable to say whether this institution will exist or not in Canada; it will be a subject for discussion at the next session of Parliament.

Had the selection of the land purchased been of suitable quality, we have but little doubt that the project would be carried out at Mimico. The questions may be these: Is there not a more suitable situation? Is such an institution required? Would the farmers of Canada be benefitted by it, equal to its cost? Would the undertaking have a tendency to check private enterprise?

A very great deal may be said in favor of it, and also against it. No one can doubt but that the introduction and testing of seeds has been of service to the country, although carried on by only private individuals. And the required results may still be obtained, and through the press the information conveyed to the farmers.

It is our opinion that such an institution or institutions could be carried on much more economically and more beneficially by private individuals or companies formed for such a purpose, but this for some reason that we are unable to explain, the Government have not allowed. Perhaps at the next session the law may be altered, and, if it is, we believe there will be numerous Experimental, Test and Educational Farms established in various parts of Canada—almost every county may have one. Some slight aid might be given by the counties, and perhaps by the Government. There would be a desire to excel, and much profit might be obtained.

Manufacturers and traders wishing to form companies may do so, but to farmers no such privilege is given. Did the law not interfere, we have no doubt joint stock companies would be found, perhaps in every county, for agricultural advancement. The Government, some years ago, expended large sums to establish a similar institution in Toronto. The farmers paid for it and received no benefit. They also caused an agricultural paper to be published, which failed to produce any results.

**BERLIN BUTTER FAIR.**—The Berlin Telegraph reports that the Butter Fair held in that town on Saturday, the 5th inst., was a great success, there being no less than 79 entries of firkin butter, and 228 of rolls, while the quality, on the whole, was excellent. Nearly two hundred firkins were sold on the spot at prices ranging from 13 to 20c. per lb., and a large quantity of roll butter at an average price of 18c. per lb. The advantages of such a fair are apparent.

The projected harbor improvements at Kingston, for the carrying out of which an appropriation of \$10,000 was made last season, are to be commenced at once.

The burnt district of Orillia is almost entirely covered with new buildings, in various stages of construction.

**Obituary.**

Mr. John Snell, of Willow Grove Farm, Edmonton, died at his residence on the 1st of November. He had gradually been failing for some years.

He has been one of the most successful stock-raisers in this Dominion. He had great difficulties to contend with, but by good management he attained the highest position, having at the last Provincial Exhibition carried off the Prince of Wales' Prize, for the best Short Horn herd in Canada.

We look on his demise as the loss of a friend. To him your paper is more indebted to its existence than to any other breeder. Desiring the progress of this journal, he generously gave one of his fine rams as a prize for getting up clubs for the paper.

His sons, we presume, will carry on the business so well established by their father; in fact, his eldest son has long since been the principal manager.

**How Others See Us.**

We have from time to time spoken through the columns of this journal of the advantages Canada offers to emigrants, as well as the golden opportunities those already dwelling within her fair domain have for providing for their families an independence; and the steady, increasing progress visible in all her provinces. To this we have the pleasure of adding the testimony of an American gentleman, competent to pass judgment on such matters. The Editor of the *National Live Stock Journal*, published in Chicago, having returned from a Canadian tour, thus gives the result of his observations.

**A VISIT TO CANADA.**

We embraced the opportunity presented by the recent stock sales, to make a visit to Canada; and although circumstances prevented as general an inspection of the country as we could have desired, we cannot refrain from expressing the favorable impressions we received concerning the country and its people.

In its general appearance, the portions of Canada visited by us resembled very much the far-famed Blue Grass Region of Kentucky, save that it is much better watered and much better cultivated. Its advantages as a stock country are of the highest order, the grasses being abundant and nutritious, and the proximity of the lakes and the prevailing winds such as to secure more reliable pasturage than that of almost any other region it has been our fortune to visit.

Its stock interests, too, are developed to a degree which greatly surprised us. All the farmers appreciate the advantages which good stock possesses over poor stock; and upon almost every farm can be found animals of good quality. The capacity of the country to produce fine stock seems almost unlimited; and the advantages which it already presents to those wishing to purchase property of this description, are not exceeded anywhere; for the supply is abundant, the quality good, and the prices demanded for it extremely reasonable. The farms, as a general rule, are much smaller than in the Western States, but are almost universally admirably cultivated—the improvements are generally substantial, rather than showy, and everything appears to be performed in the most thorough manner. We were specially struck with the evidence of thorough cultivation presented by all the fields, in which there was an almost total absence of weeds, while no fence-corners were ornamented with the tangled jungles of hazels, briars, vines and weeds, which form so conspicuous a feature upon many American farms.

The people lack that "high pressure" which is so common with us, but they are, in many respects the better for it. They live quietly and happily, and show on every side the evidence of contentment and thrift. In short, we were exceedingly well pleased with what we saw in Canada, and cannot conceive why any one should have a desire to emigrate from such a country to any other.

**THE HOG.**—A hog sweats, not like a horse or man, but through his forelegs. There is a pot on each leg, just below the knee, in the form of a sieve; through this the sweat passes off, and it is necessary that this be kept open. If it gets closed, as sometimes is the case, the hog will get sick. To cure him, simply open the pores. This is done by rubbing and washing with warm water.

**Value of Straw as Food for Stock.**

In the FARMER'S ADVOCATE for November there appeared a report from an English journal of an address on this subject, delivered at a meeting of a Farmers' Club at Blandford. The necessity of larger supplies of food for cattle, than farmers are in possession of, forces them to think of the value of straw as an addition to their stock of hay.

We find the same subject engaging the attention of farmers in the United States. The *Western Farmer* says:—"Mr. Vanduzen, of Elmira, N. Y., recently read a paper in which he spoke highly of the value of good, clean, bright straw, as food for cattle, especially in cold weather for dry cows. Last winter he fed six quarts wheat bran and all the straw the cow would eat, with very satisfactory results; afterwards he fed four quarts daily, of a mixture of one-third corn meal, and two-thirds wheat bran with the straw, up to the time of eating."

There can be no doubt that straw is of great value as fodder; I have known stock to be fed entirely on straw during the winter and keep up a middling condition. But on this food exclusively for his cattle no farmer should rely. In feeding stock it is not enough to keep them from starving. To pay their owner they must at all times be so well fed as to be in really good condition—there must be continued improvement. This I know from actual experience, can be done by any provident farmer and using straw as the main food.

Let the farmer who cares for the improvement of his stock put them into the cow house in time, before the cold weather reduces their condition. A few cold nights late in autumn or early in winter will take away from them all they have gained in many weeks. If in the woods they may do very well till later in the season, but it is great folly to keep them shivering in a bleak stubble field or on some unsheltered common, or by the road side, when they should be in their stables. Let them have straw for fodder, but let it be clean, sweet and fresh; and let them, in addition, as soon as the winter sets in, have green food twice or at least once a day.

A farmer can always have for his stock green food for cutting, enough to do them till the winter storms, and then he can give them a feed of roots daily. Besides, chaff, small grain, &c., will, if steamed, be of good use in feeding. Nothing should be wasted on the farm.

"But how are we to keep straw fresh for fodder?" This also only requires a little care. When the wheat is threshed in the fall let the straw be carefully stored in the barn, if you have barn room sufficient; if not, let it be put up not carelessly, but carefully, in stacks or ricks, as if it were hay. In stacking sprinkle a little salt over every layer of straw. You can then, as you need it in the winter, take into your barn one stack at a time till that is used. By this means it will, if well fed, keep pretty sweet. This is the only means to keep it sweet for fodder, the wheat being all threshed in a few days by the threshing machine.

By husbanding your straw carefully and using it in addition to your hay, you can feed more stock, and the more stock you feed the greater will be your manure heap and the more fertile your farm.

Wintering stock badly does more to lessen the owner's profits than almost any other wasteful husbandry. Stock well fed during the winter are worth from 20 to 50 per cent. more in May than if they had been neglected, as we see them too often. In the early winter months this neglect too frequently occurs. This is a great oversight. Cattle should not be suffered to fall away from the good condition consequent upon the summer pastures and the rich aftergrass of autumn. If housed in bad condition it will be no easy matter to restore the condition from which they have fallen. It is not enough

to be kind to the cows that are filling the milk pails in the winter months. The store cattle should be carefully looked to, supplied with good food in sufficient quantity, and kept dry and clean. Have house room for all your cattle, warm enough and at the same time properly ventilated.—Asst Ed.

**Prospects of Fall Wheat.**

The Fall Wheat has a much stronger blade than it usually has on the setting in of winter, showing a very great contrast to its appearance last year at this time.

The Wire Worm has done some damage in some sections, but not sufficient to affect the Crop materially. The present prospect is that we shall have one of the finest crops of fall wheat next harvest that we have ever had, but we must not count our chickens before they are hatched. The rankness of the blade may cause some to smother if the snow should become crusty, and perhaps it may be necessary to admit air by punching holes in the snow. We once saved a good portion of a crop by this means.

**SAVE YOUR BOYS.**

A writer in the *New England Farmer* preaches quite a sermon to the farmers on this text, imploring them to adopt such measures as will keep their boys at home on the farms, and not suffer them to be drawn into the maelstroms of the city which so many of them find. The writer appeals to the fathers to give the boys a chance for themselves at home, that they may work upon the old farm with feelings of pride and pleasure. Let them work for a profit. Give them half an acre, and allow them sufficient time to take care of it. That amount of land in these speculative times, when so much is being consumed every year for building purposes, if near a city or village, put down to light produce, such as early lettuce, celery or strawberries will bring him, in one season, more profit than years of bitter toil and labor in the city, or from acres of corn and potatoes planted with dislike, hoed with disgust, and dug and gathered with compulsion. And not only this, but spend some of the extra money now, and then in books and pictures, so that the glare and gutter of the city will have less power to drag the poor man to the flame which will surely scorch them and leave them writhing in anguish of spirit. Could some of the hard unthinking fathers come with us only a few hours into the dreary hives of the city and note as we point out the men, both young and old, who come from homes in the country, and have felt keenly the bitter, heart-sickening disappointments resulting from the cruel deceptions of designing persons and have seen favoritism triumph over faithfulness and justice, trickery over honesty and virtue—could see all this, no argument need be urged, but his mind left to its own workings as to whether his boy shall take his place among these, or receive encouragement to stay at home by giving him a chance. The chief of police says that half of the young men who come from the country fall into vice through ignorance of trade or want of business, or become, in a few years at most, mere drones in the busy hives of the metropolis. How important, in view of all this, is the advice to fathers to save their boys by keeping them at home, and giving them a chance for themselves.

**HOUSEHOLD EDUCATION.**

Children hunger perpetually for new ideas. They will learn with pleasure from the lips of parents what they deem it drudgery to study in books; and even if they have the misfortune to be deprived of many educational advantages, they will grow up intelligent, if they enjoy in childhood the privilege of listening daily to the conversation of intelligent people. We sometimes see parents who are the life of every company which they enter, dull, silent, and uninteresting at home among their children. If they have not got mental activity and mental stores sufficient for both, let them first use what they have for their own households. A silent house is a dull place for young people, a place from which they escape if they can. How much useful information, on the other hand, is often in family conversation, and what unconscious but excellent mental training in lively social argument. Cultivate to the utmost all the grace of home conversation.



## Agriculture.

## Advancing Agriculture.

To our Inventors and Patent-Right Men:—

Horace Greeley attended the Vermont State Fair, and, as it was made known, a very large crowd attended from the surrounding towns and country. He gave a long practical address that was listened to with much attention. We copy two extracts from it by the *Richmond Guardian*:

1st. WIND.—For at least five thousand years wind has played a leading part in navigation; why not also in cultivation? Does nature afford any reason for regarding wind as inherently tractable and serviceable on water, but not on land? Men have ground grain by wind power for at least a hundred generations; why not thresh it as well? Nay, why should it not press cheese and turn the grindstone, and saw wood, and pump water, and even ultimately plough fields? Who dreamt that the inventions of the past bear any proportion to those of the imminent future? We have at length learned that such is the elasticity of air, that a wind mill running throughout the night may thereby accumulate power to be expended during the ensuing day or days. Can you suppose that we shall much longer allow this enormous aggregate of power, which has hitherto thrust itself into our very faces unregarded, or at least uncomprehended, to expend its energies in topping our chimneys and blowing the apples from our trees? I tell you that this is not possible. I have nothing to say of A's or B's or C's contrivance for utilizing the power of wind in the service of agriculture. If you insist that all these are fantastic and absurd, I shall not contradict you; I shall only insist that the power is there—that it sweeps over every field on almost every day, and that the means of utilizing it, if not yet discovered, soon will and must be.

2nd. WATER.—A hilly, woody country, naturally abounds in springs and brooks—in rippling streamlets and dashing cascades. All these are reservoirs of power—for the most part unused, unregarded power. Our water falls, whether natural or artificial, will yet be employed to create (I should say transfer) power, in the shape of compressed air; and this power will in time be used at long distances from the point at which it was pressed into the service of man. Especially in regions like this, where considerable streamlets often fall a hundred feet in a mile, will water be made to play an important part in the creation or utilization of power for the farmer. William D. Kelley, arguing to a Southern audience the impolicy of slavery, asserted that a dozen men and dogs had often followed for days on the track of one lame negro, while water power equivalent to the muscular force of 1,000 negroes ran to waste unregarded beside them. We smile at the folly thus forcibly exposed, but might not the smile be broadened into a laugh and turned against ourselves? If we lack the brain power to stop this monstrous waste, I feel sure that our grand-children will possess and exercise it.

## ABOUT LIME.

Every inhabitant of the ocean which has a shell derives the materials of which that hard covering is composed from the water. Each time an oyster draws water through its gills some of its lime, which is held in solution, is taken possession of by appropriate vessels, and goes directly to the living membrane, which deposits it, and thus the shell grows. It is assumed that a single drop of sea water contains only about the ten thousand six hundredth part of a grain of lime. But the incessant respiration of the dwellers, in one or two years, makes a house weigh, in some cases, many pounds more. When the animal dies, most of the shells gravitate and

aggregate at the bottom, where, becoming broken and impacted into solid masses, mixed in earthy deposits under hydrostatic pressure and chemical forces, become marble. All marble quarries are supposed to have thus originated in the abyss of primitive seas, and were afterwards elevated to where they are found by upheaval forces.

Where did the sea obtain such vast accumulations of lime? From primitive rocks, set free by running water, by which it is transported to the ocean through the intervention of rivers. Upheaval action raises enormous beds of sedimentary strata to the surface again at vastly remote intervals. Thus, there are limestone regions. By various processes in nature, it is slowly again returned to the great magazine from which it was thrown up, to reappear at distant intervals of time—periods of undefined duration. Thus, there is one senseless movement of matter. Never at rest, though apparently so, are either the organic or inorganic materials of which the world is composed.

[Lime is known to be of immense value to agriculture; but how few of us are using it. It will pay. We know of a large deposit of lime formed from shells, extending over a large space. The tract may be procured at a moderate rate.—We would most willingly become one of a company to purchase the bed of shell lime. It requires neither grinding or burning, but would require capital to work it, as draining and digging would have to be done. We feel sure it would return a handsome profit and be of immense value to farmers.—ED.]

## STORING BEETS.

If the subsoil is porous, so as to give perfect bottom drainage, a broad, shallow trench may be dug, which will take in a larger amount of roots without so much covering, and will also protect them better from the cold. If the underdrainage is not perfect, select a dry spot, and make but little depression. The heap may be made four or five feet wide, and three high. There should be a thick coat of straw, covered with earth, which is to be beaten smooth with the spade to throw off rains.

The thicker the layer of straw the better, as it absorbs moisture—if eight or ten inches thick, there will not be too much, when a few inches of earth will be sufficient. If there is less straw, the earth must be thicker. The amount of covering must vary with latitude. The heap may be as long as will hold all the roots, and ventilating holes made with a crow-bar at the top, and filled with a wisp of straw, should be placed at every few feet.—*Country Gentleman*.

## PREPARING THE LAND FOR GRASS.

We are apt, very apt, to overlook the fact that land intended for grass should receive more thorough culture than any other, because for years while in grass, it has not the advantages of the plow and other implements to stir the soil, but must rest and pack and get more and more in a condition to keep out the air, and let in and pass off less readily the water. We should therefore thoroughly prepare the soil. Plow as deep as may be, and subsoil well; pulverize and enrich the soil—enriching it will make it more loose and mellow, and keep it longer in that condition, as well as increase the yield. Such land will "catch" its seed, and if plentifully applied, will be certain under anything like favorable circumstances to form a thick set. A little top dressing, aided by the aftermath, which should never be fed close, will ensure good crops—two cuttings a year.

But let there be a cold, hard undersoil, and the seed put in in the usual way—little of it, and on hard and reduced soil, without manure—what can be expected of it? Just what we see: light crops, getting lighter each year till it will hardly pay for harvesting. Such land, when the plow turns it down, will be found to be hard. The soil amounts to but little, whereas, in properly tilled land, it will yield from sixty to seventy loads of manure per acre. A mellow seed-bed, deeply loosened soil well enriched, plenty of seed sown, and sown as early as possible—are the points to be secured in putting down grass lands.—*Rural World*.

## APPLICATION OF MANURES.

The effort to work manures in deeply with the idea of fertilizing the subsoil, which was extensively held but a few years ago, is now pretty generally given up by most practical farmers. That idea was, if we mistake not, advanced and maintained by Prof. Liebig and others.—Now the most intelligent, scientific, as well as practical men, believe it most for the farmer's interest to keep manures near the surface.

At a recent meeting of the Farmers' Club, at London, Prof. Voelcker said, in reply to some statements made by Alderman Mechi, "Don't manure subsoil of any kind, light or heavy, manure the topsoil; and keep the manuring elements as near as you possibly can to the surface, so that the young plant may derive immediate advantage from the food prepared for it." This we take it, is the true doctrine very forcibly expressed, and we believe it accords with the experience of the most careful observers both in this country and in England.

This position does not imply that lands should not be deeply ploughed and mellowed, only that manures should not be buried deeply. We like deep ploughing. We like, in turning over the soil, to lay up to the sun and air a sufficient depth of earth and mould, to have the after cultivation easy and light, without breaking up the turf and sod. But we do not like to turn under the manure too deep, and we think a great deal of manure has been comparatively lost and wasted. If the sod is turned over deeply there is some satisfaction in manuring and fertilizing the loose and mellow earth that is turned up. This is a practical point of very considerable importance, and is worth careful investigation.—*Massachusetts Ploughman*.

## FARM-YARD MANURE.

The most generally important elements in any manure are the phosphates—potash and nitrogen, with its compounds (ammonia, nitric acid, etc.) The other elements are comparatively unimportant, as they are either not much needed by the crop, or are present in most soils in sufficient quantity. Every intelligent farmer will then be interested in the question:—"How can these important substances be retained and utilized?"

There are, as is well known, two sources of loss in the management of barn-yard manure:—1st. By the action of water, commonly known as washing, and 2nd, by the volatilizing of certain elements which are given off as gases.

The phosphates and potash being soluble, may be washed out, and not only they, but much of the nitrogen may be lost in the same way. The enormous loss occurring yearly thus can scarcely be conceived. Thousands of dollars are spent yearly in the purchase of super-phosphates, mainly in order to get the phosphoric acid which they contain. Now we lose, by the washing of barn-yard manure, many times the amount of this valuable element which is bought in commercial fertilizers.

By the other source of loss, viz., gaseous evaporation, only nitrogen is carried off.—This evaporates as carbonate of ammonia. It is the salt which forms the odor of the manure heap, as also that of smelling salts. Although we can generally discover its escape by our olfactory organs, the matter may be tested by dipping a feather in vinegar (acetic acid) and holding it over the manure heap. The formation of a white cloud on the feather shows that ammonia is escaping, and is deposited on the feather as an acetate. The prevention of these losses is a matter of great importance.

In regard to the first, it is plain that shelter from rain will accomplish the end; but it is almost impossible for many farmers to keep all their manure under cover, nor is it absolutely necessary to do so.—Dr. Voelcker, one of the highest authori-

ties, has proved that very little loss is sustained if the manure be exposed only to what rain falls directly upon it. If then, the farmer has good eavetroughs for his buildings, and prevents the running of a stream of water through his barn-yard, having it at the same time sloping a little to the centre, he will not need to provide a roof for it.

The other source of loss may be prevented by keeping the manure moist and allowing free access of air. It is only in putrefaction that the carbonate of ammonia is formed and escapes. By allowing free access of air, decay takes the place of putrefaction—the nitrogen being then oxidized to nitric acid, which is not volatile, and is one of the most valuable elements of plant food.

It has been strongly recommended to add gypsum (sulphate of lime) to the manure heap, in order to fix the ammonia.—The best authority, however, considers this as of little use. A sprinkling of sulphuric acid in the stable is the best agent for this purpose, as it converts the carbonate of ammonia into the sulphate, which is not volatile.

If it could be done, however, it would save trouble and loss to apply manure in a fresh state. It has been proved by most careful analyses that, weight for weight, fresh manure is more valuable than that rotted in the ordinary way. Even if manure is well managed and carefully rotted, a ton of it is but little more valuable than fresher. It is certainly quicker in its action, but the trouble of caring for it counterbalances this advantage.

Therefore, we would say apply manure fresh, if possible, and use it as a top-dressing.

## COVERING MANURE.

It is remarkable that more attention is not given to the subject of covering manure from the weather, and especially from too much rain. Those who have given the matter particular attention have found that manure so protected is worth double that which is left out in the open air.—Two loads for one is a profit few farmers can afford to lose. There is no question which so vitally concerns the farmer as this one of manure. Much that he does has reference to it. Straw is not to be sold, because it makes manure. Stock is fed through the winter for the express purpose of manure making. Articles which will scarcely pay to send to market are, nevertheless, taken to the city in order that manure may be brought back as a return load; and yet the whole of the manure made remains all the season exposed to the sun, wind and rain, until it is diminished in value to so great an extent as it is.

The trouble is probably that few really believe that exposed manures undergo this loss. But the matter has been too thoroughly tested to admit of a doubt.—We know first-class farmers who did not themselves believe it, until by actual experiment they found out its truth.

In arranging farm buildings it will pay well to look as much to the preservation of the manure as of the hay or grain, and those who have their buildings already finished without these manual arrangements, will find that twenty-five or fifty dollars spent on boards for a covered shed will rank among the best investments ever made.—*German town Telegraph*.

Where agriculture is carried on in the greatest perfection there is always the greatest demand for manure. Thus it is in England. The area of that country, as compared to the great extent of such nations as the United States of America, is very limited, not much greater than the single State of Pennsylvania; yet she consumes annually not less than 800,000 tons of commercial fertilizers, which is a much larger amount than is used in the whole United States.

ITS VALUE

If the farmer were enough, this are all the properties of soil. With its action and our soils, he many extent, manure quest. If, in the the portable so far as mires must be good quality animal or ve enough to at —to render roots can be freely, and cast that of Hence, thly manipula itself of co feeder of pl soils—mak to cultivate somewhat p is true of m

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SWAMP MUCK.

ITS VALUE FOR WHAT SOILS—HOW TO BE APPLIED.

If the farmer had barn, pen and yard manure enough, no other would be needed. In this are all the elements of plants, and all the properties suited to meliorate the soil, physically. With this, and a little lime to quicken its action and to neutralize the acidity of wet sour soils, he could improve his land to almost any extent, and there would be an end of the manure question.

If, in the lack of home manure, he resorts to the portable mercantile manures, this is well, so far as mineral ingredients are concerned, but there is a deficiency of organic matter. Manures must be in large quantity, as well as of good quality; there must be organic matter—animal or vegetable, or both, and there must be enough to affect the physical condition of soil so to render heavy soils light and open—so that roots can penetrate easily and the air circulate freely, and to give light, sandy soils a loamy cast that will enable them to retain water.

Hence, the value of swamp muck. If rightly manipulated and wisely applied, it will prove itself of considerable value, not solely as a feeder of plants, but mainly as a modifier of soils—making both sandy and clay soils easier to cultivate and more productive, and that, too, somewhat permanently—more so, at least, than is true of most fertilizers.

All analysts agree that old, black swamp muck contains just about the same ingredients as the solid excrements of horned cattle, when hay or grass feed, except that the soluble alkalies of the former—potash and soda and a little common salt—have been washed out, while they remain in the latter. This shows for swamp muck a very considerable value, since the addition of a little wood ash, very little common salt, and a little lime to neutralize its acidity—all costing but a trifle—make it almost precisely the equivalent of manure from under the stable window.

But we appeal from a scientific to a practical view of the subject. Many suspect the deductions of science, as if true everywhere else, but false in agriculture; while few will doubt the testimony of sound, practical, successful farmers. Thousands of such have used swamp muck freely, and, though doing something for labor and for desirable conditions, they have found it to pay better than any fertilizer they have purchased. We know many who testify to this effect, and we believe their testimony is reliable, as it agrees strictly with the scientific views on the subject.

As to the soils to which it is adapted: Of course, it need not be applied to low, swampy land. These already contain enough of it, and to add more would be like carrying coal to Newcastle, or offering strawberries in Hampton, N. J., whence five car loads are shipped daily, for fifty days every year, in strawberry time, for New York and Philadelphia. By the way, on the sandy lands of New Jersey, strawberries are grown more by the aid of swamp muck, wherever it can be had, than of all other fertilizers, and are such in quality as cannot be beaten.

Next: on turf land, and on land frequently alternated with grass, and consequently well supplied with organic matter, swamp muck cannot be expected to be as immediately useful as on worn soils, where the organic matter is deficient. On all uplands—sandy, loamy or clayey—it is sure to report itself favorably in the crops, and, besides, to effect a permanent improvement of soils having too much sand or too much clay.

For gardening, farming and nursery purposes—to all of which it is well suited, better, perhaps, to the nursery than to the others—it should, if possible, be dug the year previous to its use, as early as August or September, and in a dry time. If thrown into high piles, the water will be drained out, and it will not again be saturated, and will be lighter to remove. As much as can be used, as an absorbent of the liquid excrements of the animals, should be carried to the stalls, folds, yards and pens in as dry a state as possible, to be used for that purpose. The salts in the liquid excrements will supply just what the muck wants to make it as good as the manure heaps; and in this case no addition of potash, lime and salt will be required.

But if not brought to the barn and mixed with the barn manure by the feet of animals, it is well to mix with it one basket of wood ash or one bushel of lime, and half a bushel of some cheap agricultural salt to each cart load. That will make it as good as the average of barn manure for corn, grass, potatoes, or almost any other crop. For turn, it is excellent; for potatoes nothing is better; it will insure a good crop, and a good quality, very little liable to rot, if placed a small shovelful in the hill and covered, with the seed four inches deep. If applied to grass land, the same addition as above can be recommended. But if to be applied to grass land, with no addition, and without composting with manure, it should be dug at least a year beforehand, and then spread on in the fall, to have the benefit of the winter

frosts, snows and rains. The water from snow and rain always contains considerable ammonia; and swamp muck is one of the most powerful retainers of ammonia for the use of crops.

For Indian corn there is nothing better than barnyard manure into which dry swamp muck, equal in quantity to the manure itself, has been thrown during the fall, winter and spring, and there thorough, mixed and composted under the feet of animals. If applied while in a state of active fermentation, all the better, as it will then bring up the seed in a very short time and produce a most vigorous growth. In this way the contents of the yard are doubled; and, at the same time, the quality is fully sustained. We say this last as a result of our own experience, confirmed by the testimony of farmers in whose judgment we have entire confidence.

The best fields of corn we have ever seen were grown by barn manure, with an equal quantity of well prepared muck, 20 to 25 loads of this mixture to the acre, yielding, in several cases within our knowledge, over a hundred bushels of shelled corn per acre. *Farm and Fireside Journal.*

Horticultural.

SUPPLY OF BREAD-STUFF IN EUROPE.

From the *Pall Mall Budget* we have the following information on this important subject:—

"The *Constitutionnel* has prepared a minute critical examination of the yield of the harvest at home and abroad, with a view to estimate the probable deficiencies of Europe. England will require to import twenty-four million hectolitres; Holland and Belgium eight millions; Switzerland and Germany from fifteen to eighteen millions. The total deficit requires to be filled up by importation from other countries. It will be thus about fifty million hectolitres instead of from eighty to a hundred, as estimated by the alarmist, *Echo Agricole*. France and Spain have ample resources for their own sustenance, although in some parts of the country the harvest is not very good. Italy, at least, will have enough for her own wants. Where, then, are the fifty million hectolitres requisite to supply the deficiencies in the other countries named to come from?"

"Upon very moderate computations as surplus resources of the chief grain-growing districts of Europe and America, the *Constitutionnel* comes to the conclusion that we may count on a total of at least seventy million hectolitres available for export. Hungary can spare six millions; the Danubian provinces eight; the Black Sea, Sea of Azoff, and Caspian, twenty-two; Turkey, Egypt, Tunis, Morocco and Algeria, eight; North America, at least, fifteen—much less than usual; and Chili, Australia, &c., one million.

"These make a total of seventy millions, and as the estimates are under the quantities which every one of the countries named could supply, even if the total deficit were to be eighty millions, it could not be beyond their powers to fill it. As the upshot of the whole matter, the *Constitutionnel* is firmly assured that the current prices of the present time will not be exceeded."

GRAPE GROWERS' MAXIMS.

1. Prepare the ground in fall; plant in spring.
2. Give the vine plenty of manure, old and well decomposed; or fresh manure excites growth, but it does not mature it.
3. Luxuriant growth does not always insure fruit.
4. Dig deep but plant shallow.
5. Young vines produce the richest fruit, but old vines produce the most abundant.
6. Prune in autumn to insure growth, but in the spring to promote fruitfulness.
7. Plant your vines before you put up trellises.
8. Vines, like old soldiers, should have good arms.
9. Prune spurs to one well-developed bud; for the nearer the old wood the higher flavored the fruit.
10. Those who prune long must soon climb.
11. Vine leaves love the sun, fruit the shade.
12. Every leaf has a bud at its base, and either a bunch of fruit or a tendril opposite to it.
13. A tendril is an abortive fruit bunch—a bunch of fruit a productive tendril.
14. A bunch of grapes, without a healthy leaf opposite, is like a ship at sea without a rudder—it can't come to port.
15. Laterals are like politicians; if not checked they are the worst of thieves.
16. Good grapes are like gold—no one has enough.
17. The earliest grape will keep the longest—for that which is fully matured is easily preserved.

18. Grape eaters are long livers.
19. Hybrids are not always high bred.
20. He who buys the new and untried varieties should remember that the seller's maxim is—Let the buyer look out for himself.—*Rural American.*

BULBS AND THEIR CULTIVATION.

All Bulbs that bloom early in the spring must, to give satisfaction, be planted in the fall of the year during October and November, and should be planted in a dry, well-enriched soil, choosing a spot where water does not stand on the surface, as the Bulbs would be apt to rot, and cause loss and disappointment. After the beds are planted, if possible, cover the surface of the same with a dressing of coarse manure to the depth of six inches, which will help to keep out frost, and will at the same time keep the bulbs so much drier—a point to be desired. This should be raked off in early spring as soon as hard frosts are over, and before the plants have grown too much or else they will be injured by the process of so doing.

The Apiary.

HINTS TO BEE-KEEPERS.

Work quietly; avoid sudden jars; never fight your bees, and always keep cool. If you get stung, remove the sting, squeeze out all the poison you can, and apply hatshorn. Use plenty of smoke; a roll of dry rags or decayed wood makes the best; blow it in the entrance and at top of frames. If you are timid, use rubber gloves on the hands, and a veil over the face and head; the veil must be long enough to allow the vest or coat to be put on over it. When pasture first becomes plenty in the spring is a good time to transfer bees. Always work among the hives during the middle of the day, when the bees are busy. Stocks without eggs or young brood in June, must be queenless, and should be supplied with a queen or queen cell, or they will dwindle away and perish either by robbers or moth. When symptoms of robbing occur, use the utmost caution. Contract the entrance of weak hives, and allow no comb, honey, sugar or syrup to be around. Avoid opening hives as much as possible. Avoid an excess of drone comb by the presence of a queen in swarms where combs are to be constructed. As swarms having young queens seldom swarm that year, less drone comb is built in swarms having young queens. Quiet is essentially necessary to the well-being of an apiary. Do not place it near mills, steam works, or manufacturing of any kind. If possible, have it in view from the windows of the family room, as much extra trouble may be avoided. As natural talent or business tact is requisite with education to succeed in business, so a careful turn of mind and a love for the business, with an understanding of the subject, is necessary in bee-keeping.

Put on honey boxes partly filled with comb as soon as the lower part of the hive is well filled with honey and bees, and when they are gathering honey plentifully; commence with only one or two boxes at a time on the most populous stocks. In transferring combs, always give those the preference that contain working brood. Put brood-comb near the centre of the hive in the order in which they were in the box hive. Do your transferring when robbers cannot possibly be attracted. Avoid weak swarms, as they gather but little honey, breed slowly, and are in great danger of destruction by robbers, the moth, or severity of winter. Weak swarms should always be united in the fall, and should never be made by dividing early in the season. Whenever you notice the bees running about the entrance, in the evening, in a disturbed condition, mark that they have lost their queen, and should receive attention. In establishing an apiary, select a gentle slope to the south-east; face the hives in the same direction; if possible, have running water near; shade and protection from winds are important. Set every hive as perpendicular as a clock. For a stand, take two short pieces of 4x6 inch scantling, and lay or nail on a board. To make queen cages: Cut wire-cloth 3x4 inches; pull out two or three transverse wires from one of the three-inch edges, and insert the projecting ends thus left in the corresponding meshes of the other three-inch edges, and fasten them; stop one end with cork or wood. When you wish to introduce a queen, put her in the cage and stop up the other end with wax.—*Bee-Keeper's Magazine.*

BEE STANDS.

Bees in houses and frames, and on planks or other cumbersome supports, are in just the positions for the larva of the bee-moth to hide in every crevice or crack of the house, plank, timber, or frame; therefore, no good bee-keeper uses any of these contrivances. It is now quite fashionable for bee-keepers of the modern school

to advocate nailing the bottom board of the hive fast to pieces of scantling 2x4 or 3x3, and placing these on the ground. I have just examined quite an apiary of such hives, raised three inches from the ground. The grass and weeds partially filled the space under the bottom boards, and in these weeds under the boards were masses of bee-moth cocoons, six inches long and two or more inches broad, and hundreds of cocoons with the moths in them as chrysalids. But another great objection lies against low stands for bees. It is the animal called *Mephitis Americana*, or common skunk. This animal comes at night, or eats away bees on the outside of especially weak hives—a few bees at a time—gets stung a few times, annoys the family by ejecting mildly his fetor. In the low stand of a season, a half dozen skunks will eat the bees of an apiary, so that little or no box honey can be made. A friend, residing a few miles off, stopped me the other day with, "Why is it I get no box honey this year?" I found not a live without the marks of the feet of skunks on it, and their paths all about the uncut grass and weeds among the hives. So I say, either enclose your hives with a wire or other fence that the skunks cannot get over or through, or put your bees on stands three feet high. As no fence is certain protection, the stand three feet high from the ground is preferable. This leads me to say that any dealer in iron castings who will invent a post or a tripod stout enough to hold bee hives, without places for the moth to spin in, will do the public a favor. I use wood sticks driven into the ground, because I can get them cheaply in the refuse of our great horse-rake factories. But they are a great trouble, as they rot so rapidly. Gladly would I substitute a neat and stout iron device. Formerly I put my bees a foot to sixteen inches from the ground; but then I had skunks almost every night amongst them; now I put them higher, and have less loss by this pest of an animal. The nicest nests for skunks are my neighbours' woodsheds, on wood or loose stone foundations, and barns with supports only in part under the sills. Though in a thickly settled part of the town, these places ensconce dozens of these animals, which live on the garbage heaps, swill or slop pails of the kitchen doors, and bees and other insects. The annual loss of bees must be very large everywhere by this one animal; and that, too, when two-thirds of the bee-keepers least suspect the cause. "You can ask scores?" "No." "Are you sure you lose bees by skunks?" "No." "Let us see them, but I don't know I lose any." "Let us go and see." "What means that mark on that live? and that path in the grass? and that scratch in the grass? See! There a skunk ate a handful of bees!" So I point out the loss by the unseen and unsuspecting thieves. Low placing of hives is an error. I can think of only two or three correctives—1. The iron support—neat, stout, plain.—2. A column of brick laid up eight inches square, three feet high, on which rests the hive.—3. Sawn blocks of limestone or marble, or other stone that can be bought by the foot. If it were not that we have to pay such extortionate prices for stone, it would be the best.—S. J. Parker, M.D., in *Country Gentleman*.

THE FALL HONEY HARVEST.

Under the old box hive and brimston regime there were bee-keepers innumerable, who never learned the fact that there was a full honey harvest. It was the firm belief of our grandmothers that bees made (?) all the honey from fruit blossoms, and did nothing the remainder of the season, while the fact is, but few have ever tasted "fruit blossom" honey, all gathered at that early season of the year being used in raising the hives of rapidly maturing broods that are to constitute its army of laborers that are to gather the real honey harvest when it comes. Bees gather more or less from flowers, from February until October; but what we mean by a honey harvest, is a time when there are abundance of honey-yielding plants in blossom, and when the atmosphere and other conditions are favorable to the rapid secretion of honey in the flowers, and when the bees can gather largely in excess of their consumption. It is of very great importance to the bee-keeper to know when this season occurs, how long it lasts, etc., because he must begin beforehand, so that he may have his hives sufficiently populous and crowded with bees of a suitable age for honey-gathering. There is only one way to test this, and that is to have a good, strong colony and use the extractor all the season, and empty the honey as fast as the bees gather any to spare. There is no danger of strong colonies starving. This season has been particularly unfavorable in my

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locality, and we have had populous stocks that for weeks would not have more than a wine glass full of honey in the hive beyond their immediate wants. My experience, after several years' constant use of the extractor, is that there are about two months of honey harvest from natural sources during the year. Our spring honey harvest commences the last week in April, and continues until the first week in June. The height of the season is from the 10th to the 20th of May. Good colonies, in favorable localities and seasons, ought to gather from 50 to 75 pounds of honey per week at this time, while during the first week in June they will not gather more than 10 ounces; and after this they will not gather more each day than they will consume until about the 15th of August, when the fall flowers begin to bloom, and our fall honey harvest commences. The fall harvest can be safely set down at about half that of the early harvest. It commences with the blossoming of the heartsease, so abundant in corn fields. There are several species of wild Aster that commence to bloom after this, besides bonaset; and lastly—

"The Poen cluster bees  
Search for the honey bees

That linger in the last flowers of September.

And pre-eminent among these stands the glorious golden rod that lines the wayside, and covers field and hill with a flaming mantle of autumnal beauty.

This fall honey has a beautiful golden color, but has a peculiar, sharp, bitter flavor, which is, however, easily removed by boiling a few minutes. It is then really delicious. There is another peculiarity about fall honey. It has a disposition to "sugar" rather than to "candy," quickly crystallizing in large round crystals, and in this state resembles sugar more than honey.—*S. W. C., in Field and Factory.*

#### FOR BEGINNERS WITH BEES.

A writer in *The Mail* offers this trio of suggestions:—1. Do not go headlong into this or any other branch of rural industry. Be content with small beginnings, and take time to gather experience. Commence with one stock of bees, and before you buy even one, get some recent treatise on bee-keeping, and post yourself, at least in regard to the outlines of apian science. 2. Begin with a movable frame hive of some sort. Bees have been kept advantageously, and may be still, in straw or common box hives; but to attain the best results, a movable frame hive is necessary. This kind of hive admits of access to the bees, control over them, and from one season's observations in such a hive more may be learned about bees than by keeping them 20 years in a straw or box hive. A single stock in such a hive will cost about \$10, inclusive of patent right, and surely this is not an investment, to begin with, that need frighten anybody. 3. Do not expect sudden or wonderful profits, nor be discouraged by reverses. There is no speculation in bee-keeping, any more than in any other branch of rural economy. Here, as elsewhere, diligence, care, energy and perseverance are essential to success.

#### WORKING UP BEESWAX.

The old-time practice of the wholesale destruction of a colony of bees when the honey was to be taken, has been considerably reformed in view of the fact that it is poor economy to kill the goose which lays the golden egg; and the wholesale destruction of honeycomb has been stopped, as it has been discovered that it is largely economical to supply the old comb to other hives to help young colonies to set up in their housekeeping. Still there will be comb to be made into wax, and it is well to know how to make the most of it. A pound of common beeswax in the lump is worth, say 35c., and a pound of bleached wax is worth in the lump twice as much. When maple sugar first appears in the early spring, you will see it sold in neat little cakes at the rate of 75c. to \$1 a pound, when the price in the lump is 25c. So with beeswax; take a parcel of salt-cellers and cast little cakes of wax, sixty to the pound, and sell these at 5c. a-piece. Before casting the cakes of wax, prepare a lot of silk ribbon loops, which will serve to hang the cake of wax by, and as the wax is poured into the moulds lay

the ends of the loop in the edge of the mould so as it will stick well in the wax, and you have a neat and saleable article which will bring very much more than the same article in the lump.  
—*Ex.*

## Orchard and Forest.

### DESIRABLE QUALITIES IN FRUIT TREES.

During the next few months a good number of our readers will send orders for fruit trees to some of our Northwestern nurseries; very many more will be visited by the agents of these or other nurseries and will give to them their orders. In giving these orders it is especially important that the purchaser should know what he wants and have good evidence that he will get what he orders.

We have repeatedly expressed our preference for the plan of purchasing of the nearest well established and reputable nursery, where the stock wanted can be obtained at reasonable rates. The man who orders trees through an agent of whom he knows nothing, claiming to represent a nursery equally unknown to the buyer, does a very foolish thing, but if he orders a well selected list through an agent whom he knows to be trustworthy and to represent a nursery of established good reputation, he does a much wiser thing than if he failed to get needed trees in any way.

Having in some way obtained assurance that he can get what he orders it is decidedly important that it should be known what is wanted.

Trees are planted that they may grow; hence Hardiness is the first requisite in a fruit tree for the Northwest, for we know that many varieties will not thrive here, and that few can certainly be depended on. But we plant our orchards not for the sake of the trees, but for their fruit; hence alongside with the question of the hardiness of the tree stand several questions as to the fruit, and of nearly equal importance with this and with each other. Their relative importance depends somewhat upon whether the orders are given for commercial or home supply orchard. If for the latter we would place first the Quality of the fruit. For his own use all other good characteristics will not make amends for poor quality. If an apple is not fit for use its abundance is of little value; better a few good than many worthless.

Next to Quality comes Quantity, and this includes several important points: Early bearing, annual bearing, long and continued fruitfulness of the tree, etc.

Hardiness of the tree, good Quality and abundant Quantity of the fruit secured, a scarcely less important question remains: the season of the fruit. And in this many fruit-growers in the Northwest have made serious mistakes. Anxious to secure hardy trees and a good supply of fruit they have to often paid little attention to the season of the fruit; already in a good fruit year there is a surplus of fall apples in market in Wisconsin.

No one wants a home orchard filled only with summer and fall varieties. These are desirable but the greater part of the trees should be long keeping winter sorts; bearing in mind that mere long keeping will not atone for worthless character of the fruit.

For such an orchard there should be such a division of varieties that there may be a supply of fruit throughout the year.

For a commercial orchard, but few varieties are needed, and those should be, for Wisconsin orchards, mainly of winter varieties, for it is impossible thus far North to compete in the leading markets with the very earliest apples of further South, and from the excess of the home supply orchards, the demand for fall and early winter apples will be partly supplied.

#### MANURE FOR FRUIT TREES.

Whether fruit-growers know it or not, it is a practical truth that fruit trees differ in the quality and quantity of fertilizing material necessary for their nourishment. Almost

every one accustomed to observe the most common things of country life, has observed that in many neighborhoods orchards are found bearing large crops of fine fruits, while others only a half mile off, and apparently on as good soil, and as well treated, produce only small crops; or again, in one part of the country the fruit in one orchard will be large and fair, while in another it is always spotted and defective. Some orchards stop bearing while yet far from a worn out or dying condition, and the application of barn-yard manure, while helping materially, is still not perfect in its results. We have seen apple trees thus treated, yet without producing any good effect. The trees, to be sure, grew more luxuriantly, but the fruit was still knotty and inferior. To enable us to solve this curious question, let us examine the ashes of the trees by the aid of chemistry, and learn of what they are made.

[Then follow tables valuable to the student, but which we omit owing to the space they would occupy.]

In the analysis any sceptic can see that different trees require different proportions of the fertilizing material, and the fact is apparent that special fertilizers can be used with success. From opportunities of good observation we consider ammonia fertilizers invariably injurious—they should never be used. All fertilizers containing lime, potash and phosphoric acid can be used very appropriately. The apple tree needs more lime than any other fruit; the pear more potash and phosphoric acid; while the grape-vine needs all elements in a strong degree, and more carbonic acid or nitrogenous matter. What we have said as to natural manures for fruit trees we can now repeat with emphasis as being the most effective and best adapted to the health of the tree. Common wood ashes is invariably the cheapest to be obtained, while lime and bones are to be obtained in almost every part of the country. Apply potash and bone dust to the pear, lime to the apple, and all to the grape-vine.

On the Pelham fruit farm on the Hudson River, the great secret of the culture is the abundant use of lime. Perhaps no place in America grows finer pears than we have seen raised in the neighborhood of Newark, and more particularly in the state of Delaware; and wherever most successful we have found that the owners of the orchards were in the habit of using bone dust and superphosphates. We believe that if the grape-vine were supplied with all the elements it needs of bones and potash, we would have more uniform crops of nice fruit, and less mildew or other diseases.—*Carolina Farmer.*

#### TIME, MANNER, AND PLACE FOR PLANTING CHESTNUTS AND SHELL BARKS.

Chestnuts, if exposed some weeks to the air, become dry, and the shell hard, and after this they will not grow. They should be taken when fresh from the tree, and planted at once in a small drill, covering them an inch deep with leaf mould, or other fine, friable soil; then put on a covering of dead leaves, and let them remain till spring, when they are to be raked off early. The leaves keep soil and chestnuts sufficiently moist. If the chestnuts are to be kept some time before planting, they should be packed, when fresh from the tree, in fine leaf mould or pulverized moss, and kept in as cool a place as possible, as they spoil if warm and moist. Nearly all the failures to raise chestnuts result from allowing the seed to get dry. Hickories are to be managed in the same way, but the nuts do not dry and become incapable of germination as soon as chestnuts.—*Country Gentleman.*

#### PACKING FRUIT.

The great danger arising from barreling apples arises from their not being packed tight. Clean, new barrels should be provided. When one is about half full shake the barrel gently in order to settle the fruit; repeat this when the barrel is full, and then place a layer on the top, so that the apples will be at least one inch above the chime. The head is then put in position, and pressed down by means of a lever. Apples packed in this way can be carried a long distance without danger of bruising. Do not put any poor fruit with the first class quality, as it will seriously affect the price. After the fruit is all barreled, it should be stored in a cool place, where there is no danger from frost.—*Montreal Witness.*

#### RUST FROM STEEL.

Cover the steel with sweet oil, and rub well in. Let it lie 48 hours, and polish with unslaked lime till the rust disappears.

## Good Health.

### HEATING SICK ROOMS.

Where the entire dwelling is heated by a furnace or by steam, it will probably be unnecessary to have other means of warming the sick room; but the fireplace should be always open, and kept ready for a wood or coal fire whenever the patient shall express a desire for one. The fireplaces are excellent ventilating flues even without a fire, but are nearly perfect when supplied with a wood fire, the brisk blaze of which creates a strong ascending current, and continually carries off the ever accumulating exhalations of the sick room.

If there is no fireplace, a window opened a short distance from the bottom, in the room in which the patient is lying, and one let down from the top in the other large room, with the doors opened between the two, will form an effectual draught during any but the warm days of summer, and will not be too strong for the most delicate patient, who is protected from its direct draught by the high head board of the bed. In cold weather the window opened from the bottom will be found sufficient. On very cold days we may trust to an entire change of air several times each day, affected by raising all the windows for a few moments at a time, during which the patient must be thoroughly protected by extra blankets, and a shawl about the head.

If stoves are the only means of heating the apartments, a "perpetual burner" (coal) may be used in one room to keep both at an even temperature, during day and night, but the sleeping room should be provided with a wood stove; the brisk blaze in this answering to some extent the purpose of a fire in an open fireplace.

Many lives have been cut short by exaggerated notions in regard to fresh air. Air must be pure, but it should also be fresh. To affect this there should be, day and night, a steady but gentle heat, in the room of an invalid, accompanied by an equally steady and gentle current of fresh air.—*Home and Society, in Scribner's.*

### ABSINTHE.

According to the *Pall Mall Gazette*, the way in which such enormous quantities of absinthe have come to be used by the French is a notable instance of the so-called "regenerating" results of war. Except to medical men, absinthe was unknown prior to the Algerian expedition in the reign of Louis Philippe; but when the soldiers were at Constantine and Oran, and suffering greatly from fever, the doctors recommended that absinthe should be mixed with their wine, as it was much cheaper than quinine. During the entire campaign, therefore, the soldiers drank this mixture, and afterwards retained the custom, which first appeared in France at Marseilles, whence it rapidly spread through the country and settled permanently in Paris.

### SALT—ITS EFFECT ON THE BLOOD.

Dr. Stevens, a French physician, saw a butcher killing a pig. He observed that he stirred the blood of the animal, added a handful of common salt to it while stirring, which immediately made it crimson, and the stirring being discontinued, remained fluid. The change of colour awakened his curiosity. The butcher could give no explanation of the phenomena, except that it kept it from jelling and spoiling. Dr. Stevens seized a vessel, caught some blood, and made several experiments by putting salt into it, and found that the blackest blood was instantly changed to a bright vermilion by salt. "And," said he, "here is a fact that may lead to a practical rule." He had observed, in cases of yellow fever in the army, that the blood drawn was very black and fluid, and, on adding salt, it became vermilion and retained its freshness; whereas, putridity of the blood is one of the characteristics of yellow fever. He therefore abandoned the usual mode of treating it, and gave his patients a mixture of various salts, and in a short time reduced the mortality of fever in the West Indies from one in five to one in fifty.

### LEAD

Since attention has been directed to the subject, case after case are being reported of poisoning by lead, and the use of tinning lead, and the use of this in the medical profession, is mistaken for mistaking as such with Paralysis of the fingers and the coming on, the was seen, and the free use of a large proportion instance, no line but attacks of Discontinuance a resort to the a cure.

### CURE FOR

In a recent the English hospital attending physician "anti-opium pills" composed of opium, gentian, camphor, ginger and cinchona and syrup to powder to form of these pills habit, and in giving up the to have been The native resin opium in some of the ashes of a difficult to dispense medicine as of

### CHLORAL

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Chloral hydrate. Dr. W. it an extended lower classes were narcotized third of a grain by 30 grains; in man, but occasionally been amount. It diffuses itself body. It is alkalies of the soothing effect nervous center proves useful chorea and those of tetanus given in tenures of strychnine paroxysms are generally a wonderful and quieting sanity in many chronic cases and frequent given with a bowels in the pain, moderate and hasten

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LEAD POISONING.

Since attention has been directed to the subject, cases of lead poisoning, traceable to the use of hair preparations containing lead, are found to be very frequent. A case of this sort was recently reported in the medical journals, which was at first mistaken for muscular rheumatism, and treated as such with but slight amendment. Paralysis of the extensor muscles of the fingers and the hands, with "wrist drop" coming on, the true nature of the affection was seen, and its cause readily found in the free use of a hair renewer containing a large proportion of sugar of lead. In this instance, no lines were seen upon the gums, but attacks of colic had been quite frequent. Discontinuance of the hair-dressing, and a resort to the ordinary remedies, effected a cure.

CURE FOR THE OPIUM HABIT.

In a recent report on the condition of the English hospital at Pekin, China, the attending physician gives a formula for "anti-opium pills." This remedy is composed of extract of henbane, extract of gentian, camphor, quinine, cayenne pepper, ginger and cinnamon, with castile soap and syrup to form the mass, and licorice powder to form the coating. The efficacy of these pills in overcoming the opium habit, and in preventing the suffering on giving up the use of that poison, is stated to have been proved in numerous cases. The native remedies, it is said, contain opium in some form, and most frequently the ashes of opium already smoked, and consequently are inefficacious,—it being as difficult to discontinue the use of the medicine as of the drug itself.

Veterinary.

CHLORAL—CHLORAL HYDRATE.

Chloral was discovered by Baron Liebig, in 1832, but continued for many years merely a chemical curiosity. Its hydrate was first introduced into English medical practice as a soothing of pain and producer of rest in August, 1859; and since then upwards of fifty tons of it have been manufactured, or sufficient for some thirty-six million doses!

Chloral hydrate is a narcotic and an aesthetic. Dr. W. B. Richardson has made with it an extended series of experiments on the lower classes of animals; fishes and pigeons were narcotised by 1 1/2 to 2 grains, mice by one-third of a grain, rabbits weighing 85 ounces by 30 grains; 180 grains produce fatal effects in man, but dangerous symptoms have occasionally been developed by one-fourth of that amount. It is readily absorbed and quickly diffuses itself throughout all parts of the body. It is converted into chloroform by the alkalies of the blood, producing its generally soothing effects. Carried to the brain and nervous centres it allays irritability, and hence proves useful in counteracting the spasm of chorea and epilepsy; temporarily it relieves those of tetanus and hydrophobia; and when given in time holds in check the tetanic seizures of strychnia. Asthma in dogs, violent paroxysmal coughing and colic pains in horses, are generally benefited by a few doses. Having a wonderful effect in soothing irritability and quieting the maniacal tendencies of insanity in man, it may prove useful in the more chronic cases of phrenitis in horses. In small and frequently repeated doses it has been given with advantage in inflammation of the bowels in horses, with the result of allaying pain, moderating the elevated temperature, and hastening convalescence.

Chloral hydrate resembles opium in its anodyne properties, but it does not diminish the action either of the bowels or kidneys, nor does its frequent use render the patient less susceptible to its bad effects. Its solid form prevents its being inhaled like ordinary anesthetics, but when swallowed chloroform as already stated, is produced, exerting many of its familiar soothing and pain-assuaging influences. As an external local anesthetic it is much less effectual than chloroform or ether. Bromal hydrate is much less soothing than chloral hydrate; the bromine indeed asserts its irritating action, and, according to Dr. Douglass's experiments, induces restlessness, difficult breathing, imperfect sleep, and, in fatal doses, convulsions.—North British Agriculturist.

Stock and Dairy.

FOOT AND MOUTH DISEASE.

To the Editor of the Times.

Sir,—Foot and mouth disease has spread so rapidly and caused such heavy losses this season as to cause alarm among the owners of stock.

You have of late devoted so much space to the discussion of the disease, that I venture to address to you a few observations on the subject. One of my objects is to fix attention on the circumstance, that while it is admitted on all hands that this malady inflicts an enormous loss on the agricultural interests of the country, no well directed effort is made to investigate the laws by which it is propagated.

One of the leading agricultural authorities has just propounded the notion that if foot and mouth disease were "stamped out" it would soon break out again. My own independent observations induce me to say that this view of the case is not tenable. As it is entertained by many persons, and as a persistent agitation, calculated to deceive alike the owners of stock and the public, is based upon it, I wish briefly to state the ground on which my opinion is founded. In the first place, it is an indigenous disease, that it was imported from the continent of Europe into the south of Ireland, whence it passed into England; and that it has never since been "stamped out."

I am aware there are men who hold the opinion that the disease is capable of being developed in these islands spontaneously. This opinion does not accord with careful observation. I know districts in Ireland in which it has never appeared, and these happen to be the very places where cattle receive the worst treatment and where it would be most liable to be produced if capable of spontaneous generation. Now, the disease being of foreign origin and not capable of spontaneous generation, it is manifest that if we could place such restrictions on our cattle trade for a limited period as would stamp out the disease, it would not and could not appear again unless imported afresh. It is well known that the cattle plague restrictions checked this disease. Had the country been compelled to continue these restrictions much longer, foot and mouth disease would have disappeared altogether. Re-impose those restrictions to-morrow, and you will effectually "stamp out" this disease.

Many persons, while agreeing with me thus far, would admit that, as the re-impetration of the disease is inevitable, and as it propagates itself in a way which baffles alike scientific skill and practical experience, it could be got rid of after each re-impetration only by the re-imposition of these restrictions.

I must admit, in common with all persons who have had extensive experience of this disease, that it has often appeared in cattle under my direction, in a way which completely puzzled me. But recent observations and experiments, undertaken especially in the hope of throwing light on the nature of the disease, have enabled me to understand what used to appear mysterious. I shall cite an illustration. The notion is very generally entertained that the disease is carried from farm to farm through the air. I shall briefly state a few facts which show that if carried at all in the air, the range of its power of transmission is very small.

I have at Glasnevin, for educational purposes, three farms, one of 5 1/2 acres, one of 25 acres, and one of 140 acres; each of which is worked independently of the others. I have taken all possible precautions to protect the animals on these several farms from infectious diseases. For example, where a piece of pasture adjoins the public road, I have erected barricades to prevent the cattle from coming in contact with diseased animals which may pass along this road. Notwithstanding these precautions, and that no new purchase had been made for months, foot and mouth disease appeared last month in one of the animals on the 140-acre farm, it seemed to some of my neighbors and pupils to be a case of spontaneous generation. But it was easy to trace the outbreak to an infected lot of cattle on the opposite side of the road. These animals had access to a brook which supplies water to the cattle on our 140-acre farm. As soon as the disease broke out I took steps for preventing intercourse between this farm and the two smaller farms. I further directed that as soon as an animal should show any signs of disorder it should be withdrawn from the herd and placed in an hospital. On this farm there are 53 head of cattle of all ages. Of these 22 got the disease, and it has already disappeared. On the 25-acre farm there are ten milch cows

and two calves. These animals grazed in a field which is within 28 yards of the field in which the disease broke out, and within 70 yards of the shed used as an hospital, yet none of these got the disease.

Last year also I had this disease at Glasnevin. It appeared first on the 140-acre farm and in a cow bought at the fair of Drogheda, where she came into contact with diseased animals. Last year it spread to the 25-acre farm, and on diligent enquiry I was able to trace the transmission of the infection to the use of a bucket taken by a thoughtless boy from the diseased to the healthy cattle.

These facts show the value of isolation as well as the importance of preventing the movement of cattle during the prevalence of foot and mouth disease. The same holds good with regard to that insidious plague pleuropneumonia. Many stockowners are ignorant of the nature of the infection, and do not understand the advantage of imposing restrictions on the movement of cattle. The best way of overcoming their prejudices, and of arriving at a knowledge of the principles by which legislation on these infectious diseases ought to be governed, is by instituting a rigid inquiry into the mode by which they are propagated, if the initiative were taken by any central competent body, such as the Royal Agricultural Society. I fully believe the landed gentry and farmers would contribute funds to prosecute the inquiry. I also feel assured that the stockowners of Ireland, who are a wealthy class, and suffer from infectious diseases an annual loss equal to the whole of the local taxation of their country, would not be slow in coming forward to support such an effort to serve them.

I remain, Sir, your obedient servant,

THOMAS BALDWIN.

Albert Model Farm, Glasnevin, Dublin, Aug., 1872.

FATTENING ANIMALS.

Record is made in the *Popular Science Monthly* of numerous experiments with geese, ducks, pigs, bees, &c., and which go to prove that these creatures accumulate much more fat than can be accounted for by the quantity present in the food. M. Flourens had the bears in the Jardin des Plantes fed exclusively on bread, and they became excessively fat. Bees confined to a diet of purified sugar continue to produce wax, which strictly belongs to the group of fats. But, whatever its source, the excessive use of non-nitrogenous food, conjoined with inactivity, frequently leads to the deposit of an inordinate amount of oleaginous matter. This fact is illustrated by numerous instances both among the lower animals and among men. At Strasbourg the geese are fattened by shutting them up in darkened coops within a heated room, and stultifying them constantly with food. The high temperature lessens the escape of the heat, and thus favors the process. Here all the conditions for insuring obesity are resorted to, viz., external heat, obscurity, inactivity, and the crumpling of the animals with fattening food. A still greater refinement for padding to the appetite is resorted to by the Italians, who relish the fat of the ortolan. To procure this in perfection the natural habits of the birds were watched, and it having been found that it only takes food at the rising of the sun, they cheat the birds by producing an artificial sunrise.

To affect this, the ortolans are placed in a dark, warm chamber which has but one aperture in the wall. Food being scattered over the floor, a lantern being placed at a certain hour in the opening, when the birds, misled by the dim light, at once commence feeding. The meal finished, the lantern is withdrawn, and more food scattered about, when the ortolans sleep. Two or three hours having elapsed, and digestion being completed, the lantern is again made to throw its light into the apartment. The rising sun recalls the birds to the habit of again feeding, and they again sleep with returning darkness. This process is repeated several times in the twenty-four hours, and in a very short time the ortolan becomes literally a ball of fat, which strung on a wick, is said to make an excellent lamp.

HIDES.

It will interest many farmers to learn how the dealers classify and describe hides, and will at least enable them better to comprehend market reports of this commodity and often to form a more intelligent opinion of the value of the hides they sell from time to time. They are classified as follows:

"Green hides are those which are sent in just as they come from the animal, never having been salted.

"Part cured are hides that have been salted, but not long enough to be thoroughly cured.

"Green salted are those that have been salted and are thoroughly cured. To cure a hide thoroughly will require from twelve to twenty days, according to the thickness of the hide and the temperature of the weather.—The loss of weight from the green state is from 12 to 20 per cent.

"Dry flat is a thoroughly dry hide that has not been salted.

"Dry salted is a thoroughly dry hide, having been salted while green.

"In green salted hides and skins, those weighing less than 8 lbs. are called deacons; 8 to 15 lbs., calf; 15 to 35 lbs., if plump, kip, but if thin and poor, they are called runners, or murrains, and are sold at the price of hides; all above 25 lbs. are called hides.

"A green salted hide is understood to be thoroughly cured, free from salt, dirt, meat, horns, tail, bones and sinews, and before being weighed, all such substances are removed, or a proper deduction is made from the weight, and when the head skin hangs to the hide by a narrow strip, it is cut off before weighing.

"All bull, stag, tainted, cut, badly scarred, grubby (having more than four grub holes.—Ed.) or murrain hides are called damaged, and go at two-thirds price, unless they are very badly damaged, when they are classed as glue stock, at a much lower price.

"A deduction of ten per cent. is made on all branded hides.

"In dry hides there are other kinds of damaged, such as moth-eaten, sun-burnt or weather beaten.

"It is generally conceded by farmers and hide dealers that over one-third of the value of all the hides taken off in the Northwest is lost by careless skinning and curing.

"As a large proportion of the hides received are green salted, the price that they bring, as a rule, is made the standard for the price of all other kinds."—*Prairie Farmer*.

THE BEST "CROSSES" FOR FEEDING.

A correspondent asks us "what cross of pure-bred swine we would recommend, to produce pigs for fattening purposes." In the matter of cattle, the raising of thoroughbreds for beef cannot, in general cases, be recommended, because they are worth so much more for breeding purposes, and grade animals can be the most profitably provided.

But in the case of swine, the thoroughbred swine can be procured at such moderate expense, and are, withal, so exceedingly prolific, that we do not see why the thoroughbreds cannot be raised for pork to the exclusion of everything else. If the farmer requires a large sized hog, or if he only desires one which will only attain moderate weights, he can certainly find thoroughbred varieties of swine which will suite his taste in this respect. And in the matter of early maturity and fattening properties, we do not see what he can gain by crossing two breeds with each other.

We believe the farmer who breeds thoroughbreds for pork, will have one advantage over the farmer who breeds crosses or grades. The thoroughbreds are more uniform, not only in form, weight at the same age, quantity of bone, and general conformation and appearance, but what is of greater importance, in their propensity to fatten.

When a number of them are placed in the fattening pen, they are more likely to progress and thrive evenly on the same keep, and be ready for market at the same time, than any pen of crosses, grades, or natives which the farmer can select. And this is an important matter. For when a part of a pen of hogs are ready for market in advance of the other portion, and kept over, gaining little or nothing, but consuming corn daily, waiting for the others



to reach a marketable condition, there is a very serious loss of corn, besides the risk which is entailed upon the farmer.

Nevertheless, there are many who pursue a contrary policy, and cross two different breeds to obtain their fattening stock. And for the information of our correspondent, we would ask some of these gentlemen to inform us of the advantages which they secure by crossing, and what particular crosses they have found the most valuable.—*National Live Stock Journal.*

#### BEST FEED FOR MILCH COWS.

The following is from an Essay read before the Vermont Dairymen's Association.

But the circumstance that most affects the quality and quantity of the milk is the food. The luxuriant and succulent grass of June produces a great flow of milk, but the per cent. of water in it is much above the average of 87. Take a cow from a green pasture and feed her on dry hay, and the quantity of milk will be greatly diminished, while the quality may be improved. Everything a cow eats affects her milk directly. We have great faith in cabbages as producing an abundance of rich milk, but unfortunately, the lady who presides over our household has keen senses, and detects in the milk the least flavor of cabbage or turnip. We have sometimes evaded detection by feeding cabbage leaves moderately at first and immediately after milking, but the increased quantity and quality of the milk, if not the taste, are apt to call out the sly question, "what are you feeding your cows on now?" Sweet corn fodder, we are confident, gives a richer milk than common corn. Indian meal, all farmers agree, gives a rich milk, while buckwheat increases the

per cent of water more rapidly than it does the more valuable properties. Clover, cut green, greatly improves the quality of milk. Being a leguminous plant it should add to its casein rather than to its butter. Pea vines, also leguminous, are extensively used at the South, where the grasses do not flourish, as food for cows, and are said to produce excellent milk. There can be no question but that grain cut before it goes to seed will produce more and better milk than after all its virtues have been spent in their legitimate purpose of producing seed after its kind. If the hay has been made from grass as dry and woody as oat straw, it may be benefited by being cut and moistened, but can never be restored to its original nutrition any more than the daughters of Tobits could rejuvenate their aged father by cutting him up and boiling him.

All the roots add to the flow of milk and improve its quality. They furnish both food and drink, being largely composed of water. The feeding of roots do not save as much hay as some suppose. They keep the animal in good health and appetite, and are valuable in their sanitary and manurial effects rather than as an economizer of hay. The increase of milk and manure is very manifest from the feeding of roots. Potatoes make the best of milk, but at present prices we can hardly afford to feed those of a merchantable size and quality. The small potatoes can be put to no better use than food for young stock and milch cows. They furnish more saline matter, thus adding to the specific gravity of milk and to the material for building up the framework of the young animal. As an observing dairywoman once said to us, "potatoes give body to milk."

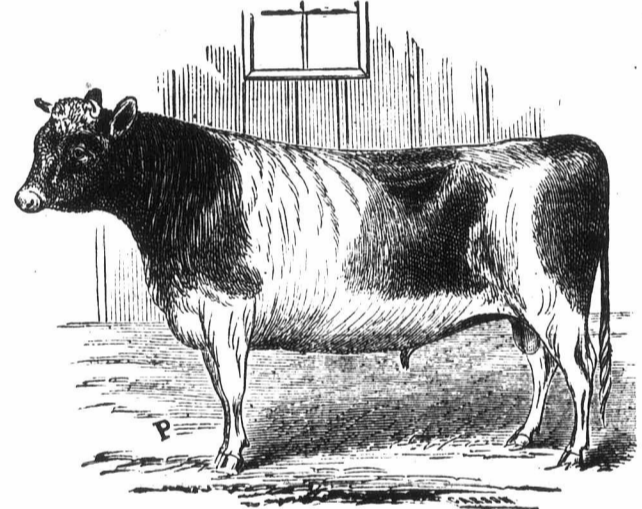
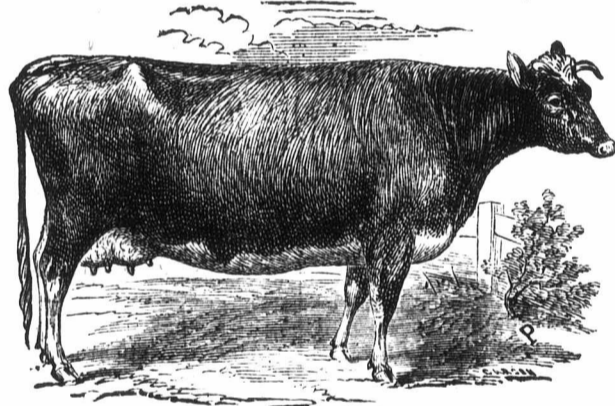
It is cruel to tax cows in winter for milk and give them nothing but dry hay from which to manufacture it. If cut before maturity, this hay contains all the elements of milk, but it is dry fodder, and if it constitute the only food of the cow, day after day, for six months, there is a sameness about it which is not provocative of a good appetite. As men crave and need a variety of food, so do cows. A few beets, or turnips, or carrots should be fed to them each day, and the sleek coats of the animals and the improved quantity and quality of their milk will indicate their appreciation of these roots. One of the best and most economical kinds of feed for cows, both in summer and winter, is the bran of wheat and rye. The inorganic part of grain resides chiefly in the husk or bran, as may be seen by burning similar quantities of fine flour and bran. The ash of the latter, will, on the average, be six times that of the former; the ash of dry, fine flour being about one per cent. and that of bran six per cent of the weight of the whole. Bran, therefore, though a dry-looking sort of fodder, is rich in those elements which form the framework of animals, and Dr. Graham was doubtless correct when he advocated making bread from unbolting flour. Many dairymen practise putting a couple of quarts of wheat bran into six or eight quarts of whey, and feeding it to their cows night and morning, thereby improving their milk, their cows and their pastures. The improvement of the latter is specially manifest, as the bran restores to them the phosphorus, sulphur, potash, lime, soda, etc., of which our old pastures have become exhausted, these essential constituents of a good soil having been carried off in the bones of the animals and the grain and dairy products sold.

#### SELLING FARM PRODUCTS.

A writer in the *Independent* says: The successful selling of a product depends largely upon the condition and appearance of the article when brought into the presence of the buyer. The external appearance of a farmer's dairy of butter or cheese has much to do with the price it brings. Bags of grain, barrels of fruit and vegetables, if outwardly fresh and clean, make a favorable impression on the buyer; and other things being equal, they bring the highest prices. The value of poultry is often diminished one-half by the untidy manner in which it is sent to market, and so with a variety of other farm products. Inattention to little things and carelessness as to time and manner of sending them often diminishes the amount realized below a living profit.

#### The Alderneys.

The distinguishing quality for which the Alderney is prized, is the marked richness, and deep yellow color of her milk; yet it is moderate in quantity—eight to twelve quarts a day being a good yield in the height of her season—but that, wonderfully rich in cream and butter. A gentleman in New England, who had for many years kept quite a herd of them on his farm for dairy purposes, a few years since told us that he sent much of his butter to private families in Boston, where he obtained about double the price of good common butter, and that one-half or even less of Alderney milk, mixed with that of the common cow, gave it a color nearly equal to that of the pure breed. We have had like accounts from others who kept them.



ALDERNEY BULL AND COW.

#### THE PUBLIC AND THE MILKMAN.

The *Irish Farmers' Gazette* gives excellent reasons for thinking that the time has come when the peripatetic milkman should be disestablished, and the householders should replace him with the tins of the Mallow Preserved Milk Company. Cheapness and wholesomeness are both on the side of the latter. The milk that is watered to half its natural strength by the milkman is deprived of its natural and useless water in the Mallow Factor. All its useful qualities remain in it, and are fixed there by the addition of a little white sugar. Thus preserved and hermetically sealed, the milk will last pure and fresh for years, and even after the tins are opened, its contents will remain perfectly wholesome and pleasant for days. A tin which contains the essence of five pints of new milk costs but one shilling. Now, five pints of new milk, fresh from the cow, cannot be had in Dublin under 2s 1d. You can get milk cheaper, of course, if you buy it diluted; but then it is only the name of milk you have got, not the reality. These being the facts of the case, how is it that a vast majority of consumers still patronise the dairy round the corner, with its adjacent pump and its cattle yard, the insanitary conditions of which produce a mortality among the milch cows of fifteen or twenty per cent. per annum? The answer is, evidently, that we are slaves to routine, and have not resolution to turn over a new leaf. Like Sinbad with the old man on the mountain, we have got the established dairyman on our back, and some invisible power prevents us shaking him off. We look at the little tins in the shop window and hesitate to take the plunge of ordering half-a-dozen home, and countermanning the visits of the milk-and-

water man. The change, in fact, is a little revolution in our housekeeping, and we are all, no matter how radical we may be in our politics, strictly conservative in our household. Every domestic innovation, no matter how beneficial, has this ordeal to encounter. It was so with lucifer matches, with kitchen ranges, with gas, with ventilators, with sewer-traps. It is so now with milk. It is proved, if ever anything was proved, that pure milk in its natural form, cannot be permanently obtained in large towns. The temptation to adulterate is too strong for human nature to resist. It is proved that milk cannot be obtained pure, or only seasoned with a little harmless sugar, in tin cases. Further it is proved that the latter is cheaper even than a considerably watered-down article.

#### FATTING PIGS.

Pork is low, so also is corn. At this season seven bushels of corn should produce a hundred pounds of pork, or if the pigs are running in a good clover pasture, three or four bushels of corn fed in addition to the clover should give them a hundred pounds in live weight. It is a great mistake not to give fattening pigs nearly or quite all the corn they will eat at this season while running in pasture.

In England there are about 40,000 acres of young oaks and other growing timber planted in inclosures by authority of acts of parliament, of which 10,000 were planted last year. Of the trees thus planted for navy purposes, none of them have attained much more than half of their full one hundred years' growth; the thinning necessary to make room for the ultimate crop to reach maturity, produces a large income.

Look over the country, and it will be found

that at the very least two-thirds of our intelligent, energetic farmers are well-to-do in this world's goods, that is, their farms are free from all incumbrances; they have money in bank; they have the best of horses and cattle on their places; their barns and granaries are well stocked; and generally they are in most comfortable circumstances. Now these farmers are not more fortunate than others, but they are more wide-awake; they never permit an opportunity to make a bargain pass unimproved, and instead of loafing continually at the blacksmith's shop, or the cross roads groceries, they are on their farms, either superintending improvements, directing the operations of hands, or reading the newspapers to keep themselves well informed concerning the changes in the markets or the condition of affairs generally.

Take now, for instance, our merchants and grocers and leading men in other pursuits, and after closely examining into the condition of their affairs, it will be found that a clear percentage will be in favor of the industrious well-informed farmer. There is a feverishness about "bills payable," and an anxiety how to replenish stocks without further increasing the indebtedness with the farmer.

True, the reckless improvident farmer may have the same anxieties, but we repeat, that among the systematic, active, wide-awake farmers, such troubles are not so common. Now this is a general dissertation, and individual instances may be brought to refute our conclusions, but we are speaking generally, and we finish with the expression of our opinion that *intelligent farming does pay.*

#### RIVER DU LOUP RAILWAY.

A correspondent of the *St. John Telegraph*, who recently made an inspection of the work,

writes that the company who have undertaken to construct a railway from Fredericton, N. B. to River du Loup, on the border of the Province of Quebec, are making good progress. Already about fifteen miles of the line are ready for the sleepers and rails, and it is expected that twenty miles will be in running order before the snow falls. For ten miles above Fredericton the line keeps close along the bank of the River. As it proceeds it leaves the St. John and strikes off into the rich, fertile lands. The experiment of bringing out Shetlanders to work upon the railway was a failure. Most of them soon broke their agreement with the company, and went elsewhere to seek other employment.



EMPIRE ROOT CUTTER.—Took 1st prize at Provincial Exhibition at Hamilton, 1872. (See advertisement.)



Poultry Yard.

A MODEL HENNERY.

Originated by Isaac Van Winkle, of Greenville, New Jersey,

"The building is nearly seventy-five feet long, thirteen feet high and twelve feet wide. It is built of wood, roof shingled. To the highest pitch of the roof it is thirteen feet. The elevation or height from the ground or foundation in front is four feet, which cuts a twelve foot board into three pieces, the length or pitch of the roof, in front, is twelve feet—just the length of one board, saving a few inches of a ragged end; the pitch of the rear roof is six feet, and the height of the building from the ground to the base of the roof is just six feet, which cuts a twelve foot board into two pieces. The ground plan and frame-work are planned on the same principles of economy of timber. By this plan no timber is wasted, as it all cuts out clean; there is also a great saving of labour. The foundation of the building rests on cedar posts set four feet into the ground, to prevent action of the frost in the winter and spring. These are regarded very much better than brick or stone piers. This house contains eight pens, each of which will accommodate from twenty-five to thirty fowls; each pen is nine feet long and eight feet wide. All the pens are divided off by wire partitions of one inch mesh. Each pen has a glass window on the southern front of the house, extending from the gutter to within one foot of the apex of the roof, fixed in permanently with French glass lapping over each other, after the fashion of hot bed sashes; they are about eleven by three feet. Each pen is entered by a wire door six feet high; from the hallway, which is three feet wide; and these doors are carefully fastened with brass padlocks.

The house is put together with match boards, and the grooves of the boards are filled with white lead and then driven together, so as to make the joints impervious to cold or wet. On the rear side of the house there are four scuttles or ventilators, two by two feet placed equidistant, from each other, and to these are attached iron rods which fit into a slide with a screw, so that they can be raised to any height. These are raised, according to the weather every morning to let off the foul air. Each pen has a ventilator besides the trap door at the bottom, same size, which communicates with the pens and runs. These lower ventilators are only used in very hot weather, to allow a free circulation through the building, and in summer each pen is shaded from the extreme rays of the sun by thick shades fastened upon the inside, so that the inside of the house is cooler than the outside.

The dropping boards extend the whole width of the pen, and are about two feet wide and sixteen inches from the floor; the roosts are about seven inches above and over this board. They are three inches wide and crescent-shaped, on top, so that the fowls can rest a considerable part of their bodies on the perches. Under these dropping boards are the nest boxes, where the fowls lay, and are shaded and secluded. The feeding and drinking troughs are made of galvanized iron, and are hung with hooks on eyes, so that they can be easily removed when they require cleaning. One can stand at one end of this long house and see all the chickens on their roosts. By seeing each other in this way the fowls are made companionable, and are saved many a ferocious fight; at the same time each kind is kept separated from the other. Each pen has a run thirty-three by twelve and fifteen feet; these runs are separated by wire fences twelve feet high, with meshes of two inches. Outside of these small runs is a large run of half an acre, and on the rear are other runs of about an acre, all of grass, so that four or five kinds can be out at large at a time in these large runs,

and into which they are all led out by turns.

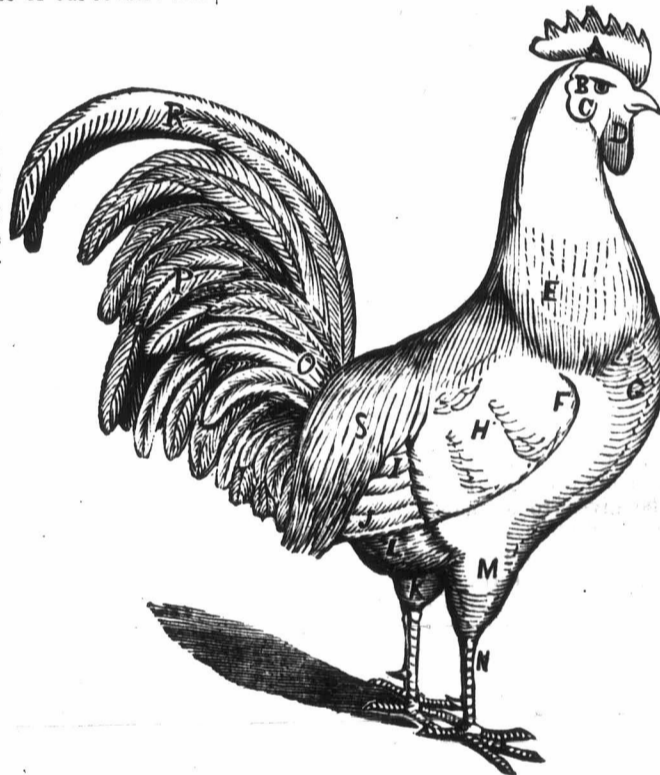
The house is surrounded with a drain which carries off all the water and moisture, and prevents dampness. Inside, the house is cemented all through; and these cemented floors are covered with gravel about two inches deep. The house is heated in the cold weather just enough to keep water from freezing, as Mr. Van Winkle is opposed to much artificial heat, and to forcing fowls to lay. At the north end is a small house or shed to protect the hens from the north winds, and the entrance is by the south, through the shed which is used to keep his food close at hand.

The plan of this hennerly is remarkable for its simplicity and hygienic arrangement. The cost of the labor and material was under five hundred dollars. The house is cleaned out every day. We were there in the hottest of last summer weather, and it smelled just as sweet as outside; we could not discover the slightest taint to the air inside."

Poultry Nomenclature.

For the benefit of those of our readers who are not posted in the technicalities of poultry breeding, we insert an illustration showing the different parts of a fowl which are referred to in the "standard of excellence," and by writers upon poultry. Poultry breeders will find it of great practical advantage to commit this to memory.

- A Comb,
- B Face,
- C Ear Lobe,
- D Wattles,
- E Hackle,
- F Wing Bow,
- G Breast,
- H Wing Coverts,
- I Secondaries,
- J Wing Primaries,
- K Hock,
- L Fluff,
- M Thigh,
- N Leg,
- O Tail Coverts,
- P Tail,
- R Sickle Feathers,
- S Saddle Feathers,



Agricultural Items.

**Value of Fruit**—As an instance of the great profits arising from the growing of fruit, it is stated that thirty trees were planted, standing twelve feet apart, on one-tenth of an acre of ground, in Michigan, and that this year sixty bushels of plums were gathered from them, of Canadian Egg and Carr's Golden Drop varieties, and \$4 a bushel, net proceeds, received for them.

**Make Note of it.**—Keeping a diary is a troublesome business, but keeping a small blank book always in your side pocket with a pencil in it, is easy enough. In this book a man should set down every important item of business which is necessary to be looked after. For example, such needed repairs about the farm, garden, orchard, dwelling, barn and other out-door affairs. Again, he may often have ideas and subjects which present themselves to the mind, and which they would like to put in due form at some other time. A good plan is to make notes of these in a memorandum book, whenever and wherever the thought may suggest itself. Besides these things such a book is useful as a repository for messages given by one to another, or as a safe place to put down thoughts as they occur of such matters of business as one may desire, at some other time and place to look into.—*Rural New Yorker*.

THE SCARCITY OF FARM LABOUR

Farm work is suffering for lack of sufficient labourers. Not only is this true of Western New York, but of New England and the West. In Canada there are also similar complaints. Our correspondence tells the same story from every locality; farm labour is scarce and wages high. Naturally we ask, in common with other farmers, why is this state of affairs? Why, if labour is so high, are prices of farm products produced by labor so low, comparatively? and is this condition of things likely to continue? there are considerations involved in these queries which are of great importance to the present and the future of the agricultural interest. The census shows that the population of towns is increasing in a more rapid ratio than that of the country, the consuming class taster than the producing, and the first thought would find in this the promise of remunerative prices for farm products.

To make farming largely profitable the farmer must bring more thought to his business. He must learn how to grow his crops most economically, and what are the most profitable uses for them. He must

predict that nations, far from improving will deteriorate both in physical and mental characteristics, if potatoes become a principal article of diet. The celebrated Carl Voight says that "the unwholesome potato does not restore the wasted tissues, but makes our proletariats physically and mentally weak." The Holland physiologist Mulder, gives the same judgment when he declared that "the excessive use of potatoes among the poorer classes, and coffee and tea by the higher ranks, is the cause of indolence of nations." Liedenfrost maintains that the revolutions of the last three centuries have been caused by the changed nourishment. In former days the lowest workman ate more flesh than now, when the cheap potato forms his principal subsistence, but gives to him no muscular or nervous strength.

The Excellent and the Wretched Farmer.

The one sells all his corn and grain, or, should he feed some hogs, they lie in the woods where the manure is lost among the trees, or is washed away down a stream of water. He crops year after year, returning no equivalent for the fertility drawn from the soil on which his crops have grown, taking everything possible to market. He saves money and is an excellent man, but from the impoverished state of the land has been a wretched farmer. The other buys stock in a somewhat fat condition, and with his provender feeds the animals, till they are first-class meat, gaining an extra price for the meat he bought, as well as for the additional weight; but there are three sources of profit in this transaction: in the first place the weight bought is worth more by a cent or two per pound for being made fat and ripe, and then the increased weight pays for the food, while the manure made is a third return for the consumption of produce; and a farmer who contrives in this way to keep up the strength of the soil is a sensible man and an excellent farmer. If it is meritorious to make two blades of grass grow where one grew before, what is it to bring so low as only to grow one blade where two formerly flourished.—*Country Gentleman*.

LEAVES FOR BARNYARD AND STABLE.

Forest leaves are excellent to supply the stable-yards, and where straw is scarce also the cow-stables and hog-pens. They can be most conveniently gathered after the first snow, or at least before the winter blasts have scattered them. They then lie compactly, and being moist, can be handled with greater facility. A cart with a few standards stuck in the sides will hold a considerable quantity; and the best thing to gather them or load them with is a wooden hand rake; a wooden four-tined straw fork is also very handy when the leaves are moist. Leaves absorb large quantities of liquid manure, and are an excellent fertilizer in the spring. They can be gathered, too, when other labour about the farm is slack.—*American Paper*.

Miscellaneous.

CANADIAN PRODUCE.

The value of Canada as a grain and provision producing country to Great Britain may be judged from the cargo of the "Lord Cliver," the splendid East India steamer which recently visited Canada under the auspices of the Dominion Line. The steamer left Quebec last week with the following cargo: 73,124 bushels Indian corn, 37,224 bushels wheat, 1,585 barrels of flour, 9,000 bushels oats, 1,991 barrels meal, 2,335 boxes cheese, 837 packages butter, 392 barrels apples, 216 barrels potatoes.

**MINING EXPLORATIONS.**—The *Toronto Mail* says:—"We understand that Captain Beck and a company of American Mining capitalists are about to visit Marmora to explore the mine at capabilities of the North of Hastings, which are known to be of more importance than they have been heretofore regarded. We hope to hear of good results from Captain Beck and party on their return trip."

PRODUCTS.  
dependent says: The product depends largely on the appearance of the appearance of a farmer's has much to do with of grain, barrels of outwardly fresh and impression on the being equal, they The value of poultry sent to market, and so farm products. In-ys and carelessness as of sending them often realized below a living

erneys.  
quality for which the marked richness, and milk; yet it is mod- to twelve quarts a day height of her season y rich in cream and in New England, who quite a herd of them purposes, a few years not much of his butter Boston, where he ob- price of good common alf or even less of Al- that of the common rily equal to that of the had like accounts from



who have undertaken from Frederickton, N. on the border of the are making good pro- fifteen miles of the line pers and rails, and it is miles will be in running falls. For ten miles line keeps close along er. As it proceeds it and strikes off into the the experiment of bring- work upon the railway of them soon broke the company, and went else-employment.

EMPIRE ROOT CUTTER.—Took 1st prize at Provincial Exhibition at Hamilton, 1872. (See advertisement)





## CHINESE TREATMENT OF ANIMALS.

They never punish; hence, a mule that in the hands of a foreigner, would be not only useless, but dangerous to every one about it, becomes, in the possession of a Chinaman, as quiet as a lamb, and as tractable as a dog. We never beheld a runaway, a jibing, or a vicious mule or pony in a Chinaman's employment: but found the same rattling, cheerful pace maintained over heavy or light roads by means of a turr-r or cluck-k, the beast turning to the right or left, and stopped with but a hint from the reins.

This treatment is extended to all the animals they press into their service. Often have I admired the tact exhibited in getting a large drove of sheep through narrow, crowded streets and alleys, by merely having a little boy to lead one of the quietest of the flock in front; the others steadily followed, without the aid either of a yelping cur or a cruel goad. Cattle, pigs and birds are equally cared for.

## NIGHT AIR.

An extraordinary fallacy is the dread of night air. What air can we breathe at night but night air? The choice is between pure night air from without, and foul from within. Most people prefer the latter: an unaccountable fact. What would they say if it was proved to be true, that one-half of the diseases we now suffer from are occasioned by sleeping in rooms without ventilation. An open window most nights in the year cannot harm any one. In great cities the night is often the best and purest air that can be got. I could better understand the shutting of windows in the day time than in the night, for the sake of the sick. The absence of smoke and the quiet, all tend to make night the best time for airing patients.

One of the highest medical authorities has told me that the air is never as pure in the city of London as after ten o'clock at night. Always air your room then from the outside, if possible. Windows are made to open, doors are made to shut—a truth that seems extremely difficult of apprehension. Every room must be aired from without; every passage from within. But the fewer passages there are in a hospital the better.

## FULTON AND HIS STEAMBOAT.

"When I was building my first steamboat in New York, the project was viewed by the public either with indifference or contempt, as a visionary scheme. My friends, indeed, were civil, but they were shy; they listened with patience to my explanations, but with a settled cast of incredulity on their countenances. As I had occasion to pass daily to and from the building yard while my boat was in progress, I have often loitered, unknown, near the idle groups of strangers gathered in little circles, and heard various inquiries as to the object of the new vehicle. The language was uniformly that of scorn, or sneer, or ridicule. The loud laugh often rose at my expense; the dry jest; the wise calculations of losses and expenditures; the dull, but endless repetition of Fulton's folly. Never did a single encouraging remark, a bright hope, a warm wish, cross my path. Silence itself was but politeness, veiling its doubts or hiding its reproaches."

[The Agricultural Emporium, Test Farm, and non-political paper have had their trials, and have existed for seven years, despite the predictions of failure, doubts of friends, and wishes of enemies. The time will soon be here when hundreds of Test Farms, Emporiums, and agricultural papers will be issued in our midst.]

## BRANTFORD

The Brantford *Courier* says that an apple tree, belonging to Mr. John Montgomery, northward of the town, has blossomed and produced fruit four times this year. The tree is in blossom, and contains fruit at the present time.

The *Expositor* in speaking of the Blind Institution in Brantford says: Dr. Wiggins and his staff of assistants are now fairly at work again. There are in attendance 25 pupils, and 20 more are expected within the next few days. The arrangements and regulations for the pupils are most thorough and complete, the building being so laid out that one class of residents cannot, by any possibility, annoy or interfere with those residing in another department. The new building intended for workshops is not yet completed, there having been considerable delay in the execution of the contracts. Some of the interior arrangements are also not yet perfected. Among other things a supply of sewing machines is required for the sewing room. The blind girls are said to become very skillful in the use of sewing machines. A visit to the class rooms and dormitories, show

that they are large and airy, well furnished and convenient. In one class-room was a map of Ontario for the use of the blind. The counties, etc., were cut in blocks which can be lifted up so as to feel the shape and boundaries of each. When fitted together they make a plain level surface, as in an ordinary map. Cities and towns are marked by points like a pins head. Other provisions for the instruction of these unfortunates were in keeping with those already mentioned. A visit to the institution cannot but be entertaining to any admirer of neatness and precision. We hope at a future visit to have an opportunity to see the pupils at their studies and recitations.

## LINSEED TEA FOR HORSES.

We find the following in an agricultural paper, credited to an exchange. We do not know its origin, but know enough of the matter to know that what is said in the extract is worth knowing:—

"Linseed tea is not only a valuable restorative for sick horses, but is exceedingly useful in cases of inflammation of the membranes peculiar to the organs of respiration and digestion; it shields and lubricates the same; tranquilizes the irritable states of the parts, and favours healthy action. We have prescribed linseed tea in large quantities, during the past month, for horses laboring under the prevailing influenza; they seemed to derive much benefit from it, and generally drank it with avidity. Aside from the benefit we derive from the action of mucilage and oil which the seed contains, its nutritive elements are of some account, especially when given to animals laboring under soreness in the organs of deglutition, which incapacitates from swallowing more solid food. In the event of an animal becoming prostrated by inability to masticate or swallow more food, linseed tea may be resorted to, and in case of an irritable cough, the addition of a little honey makes it still more useful. In the latter form it may be given to animals laboring under acute or chronic disease of the urinary apparatus, more especially of the kidneys.

"To make linseed tea.—put a couple of handfuls of the seed into a bucket, and pour a gallon and a half of boiling water upon it. Cover it up a short time, then add a couple of quarts of cold water, when it will be fit for use."

## WHAT IS DIRT?

Old Dr. Cooper, of South Carolina, used to say to his students, "What is dirt? Don't be afraid of a little dirt, young gentlemen.—What is dirt? Why, nothing at all offensive, when chemically viewed. Rub a little alkali upon that dirty grease spot upon your coat, and it undergoes a chemical change and becomes soap; now rub it with a little water and it disappears; it is neither grease, soap, water, nor dirt. That is not a very odorous pile of dirt you observe there; well, scatter a little gypsum over it and it is no longer dirty. Everything you call dirt is worthy your notice as students of chemistry. Analyze it—analyze it! It will all separate into very clean elements. Dirt makes corn, corn makes bread and meat, and that makes a very sweet young lady I saw one of you kissing last night. So, after all, you were kissing dirt—particularly if she whitened her skin with chalk or Fuller's earth. There is no telling, young gentlemen, what is dirt. Though I may say that rubbing such stuff upon the beautiful skin of a young lady is a dirty practice. Pearl-powder, I think, is made of bismuth—nothing but dirt."

## DEATH IN THE POT.

Housekeepers cannot be too cautious in examining cabbage before it is consigned to the kettle. The *Ithaca Leader* learns that a woman in Newfield died last week from eating cabbage. The report is that a part of the same cabbage that is said to have killed the woman was given to a cow, and after eating it the animal died also. Another report is to the effect that a woman in Lansing either died or came near dying from the same poisonous food. The fact seems to be, that cabbages are wormy, and if so, the plant ought not to be eaten.

## LIGHT WITHOUT MATCHES.

Take an oblong vial of the whitest and cleanest glass; put in a piece of phosphorous the size of a pea, upon which pour some olive oil, heated to the boiling point, filling the vial about one-third full, and then seal the vial hermetically. To use it, remove the cork, and allow the air to enter the vial, and then re-cork it. The whole empty space in the bottle will then become luminous, and the light obtained will be equal to that of a lamp. As soon as the light grows weak, its power can be increased by opening the vial and allowing a fresh supply of air to enter. In Winter it is sometimes necessary to heat the vial between the hands to increase the fluidity of the oil.—Thus prepared, the vial may be used six months. This contrivance is now used by the watchmen of Paris.—*Rural Home.*

## HELP YOURSELF.

Fight your own battles. Hoe your own row. Ask no favors of any one, and you'll succeed five thousand times better than one who is always beseeching some one's influence or patronage. No one will ever help you as you can yourself, because no one will be so heartily interested in your affairs. The first step will not be such a long one perhaps, but carving your own way up the mountain you make one lead to another, and stand firm on that while you chop still another out.

Men who have made fortunes are not those who had five thousand dollars given them to start with, but boys who have started with a well earned dollar or two. Men who have acquired fame have never been thrust into popularity by puffs begged or paid for, or given in friendly spirit. They have outstretched their own hands, and touched the public heart.

Men who win love do their own wooing, and I never knew a man fail so signally as one who induced his affectionate grandmamma to speak a word or two for him. Whether you work for fame, love or money, or for anything else, work with your own hands, and heart, and brain. Say 'I will,' and some day you will conquer. Never let any man have it to say, 'I have dragged you up.' Too many friends sometimes hurt a man more than none at all.—*Grace Greenwood.*

## SUBSTITUTE FOR PAPER HANGINGS.

Paper hangings for walls are known to everybody. It is now proposed to use hangings made of metal; and an account of this new invention, which comes to us from Paris, has been read before the Society of Arts. The metal employed is tin-foil, in sheets about sixteen feet long, and from thirty to forty inches wide. The sheets are painted and dried at a high temperature, and are then decorated with many different patterns, such as foliage, flowers, geometrical figures, imitations of wood or landscapes. When decorated, the sheets are varnished, and again dried, and are then ready for sale. Tin-foil is in itself naturally tough, and the coats laid upon it in preparing it for the market increase the toughness. The hanging of these metallic sheets is similar to paper-hanging, except that the wall is varnished with a weak kind of varnish, and the sheet applied thereto. Thus in this way a room or a house may be newly painted, without any smell of paint to annoy or harm the inmates. Moreover the tin-foil keeps out damp, and as the varnish is a damp-resister, the protection to the room is two-fold. Experience has shown also that cornices, mouldings and irregular surfaces may be covered with the tin-foil as readily as a flat surface; hence, there is no part of a dwelling-house or public building which may not be decorated with these new sheets; and, as regards style and finish, all who saw the specimens exhibited at the reading of the paper, were made aware that the highest artistic effects could be achieved at pleasure.—*Science and Arts—Chambers' Journal.*

**RUBBER-FACTORY.**—The *Napanee Standard* says the constantly increasing demand from all parts of the country for rubber goods have made it necessary for the Messrs Horner, the only manufacturers of such goods in Canada, either to enlarge their present workshops or remove altogether to such other town or city where suitable workshops could be found. The firm has, however, secured additional accommodation in two upper flats of the new mill erected by Mr. Cartwright. It is expected that double the hands now employed will be required next spring. The home demand is generally too large for a supply to be always given. Arrangements have been entered into for opening a branch of the business in Philadelphia shortly.

## Correspondence.

## KEEPING FOWL IN ORCHARDS.

SIR,—I wish you would be so kind as to let me know through your paper, or by letter, all the information you can in regard to keeping hens in an orchard, the dimensions of fence, house, orchard and other operations, as I purpose arranging for a small henry of about one acre of orchard. I find your paper of great value in my house.

JAS. STEVENSON.

Hastings, Nov. 10, 1872.

Reply to Mr. Stevenson:—

The plan you propose to pursue will, we have no doubt, be most beneficial to your orchard. Let the orchard be their home. They will forage in it most successfully, finding in it a large proportion of their food, and that, the best suited to their wants. They will be of incalculable service in keeping the precincts free from bugs and the countless host of marauders that would, if allowed, injure your best trees and destroy the choice fruit. By the means proposed you will convert into a source of profit the enemies you might otherwise find it difficult to contend with. They will be the best food for your poultry and they will pay you well. The prices paid for poultry and eggs are highly remunerative. You will be doubly paid by the preservation of your fruit and the returns from your poultry yard.

It is always better that fowls have enough liberty, and not be caged up in coops. They need to run about, at least within a prescribed area, and to have the privilege freely. Their instinct teaches them what is good for them. They go where they expect food fitting for them, and the exercise is good for their health. In the orchard they will find some green food (grass or herbs) which is very beneficial for them.

An ordinary picket fence, five feet high—including the base board—will be sufficient around the orchard. As they will fly over it, it will be necessary at first perhaps to shorten their wings till they have learned the desirability of the place. Of these details you are able to judge.—A'ST' ED.

## THE POTATO BUG.

SIR,—I think I promised you last summer to let you know in the fall the result of my observations on the habits of the Colorado Potato Bug. Well, this terror to all lovers of potatoes (and who does not relish a nice mealy potato) now sleeps in the cold ground, but farmers will find to their cost in the spring that his sleep is not the sleep of death. Long and severe as our Canadian winters are they will not put an end to his existence; as soon as vegetation commences in the spring, in fearfully increased numbers they will be as vigorous as ever.

It is an old and wise maxim that "in the time of peace we should prepare for war." I told you in the summer that my potatoes were entirely free from the bug, and they remained so all summer; not a single bug was ever seen on them, yet when we dug them this fall quite a number were found snugly buried in the ground. This confirms me in the opinion I formed on the subject last spring, and leads me to believe that their migratory movements are conducted mainly, if not altogether, in the fall of the year, when the potato vines are beginning to die. Instinct, or the sense of smell teaches them to choose potato ground for their winter quarters, but instinct or the finest sense of smell will not teach them where the farmers intend to plant their potatoes next season, and it should by no means be in the same ground, excepting a few for a bait.

The main army of this pest is now concentrated in the potato ground of the past season, and here is my plan, if not for their utter extermination, at least to give them a fearful thinning out next summer:—

Every man that grows potatoes should plant his main crop as I advised in a former communication—in an isolated place on his farm. Also plant early a small quantity in the potato ground of this year, and on this ground you may depend the bugs will lay their eggs in thousands. Be provided beforehand with a supply of Paris Green, and when thus concentrated, pepper them right and left, and while you will be sure to save your main crop, you will confer a benefit on the country at large.

I may add that in conferring with farmers in various parts of the country, I have found that the same opinion has very generally been formed as to the habits of this pest, and also



as to the means to be taken to mitigate the evil. I remain yours, &c.,

M. HARPER. Shanty Bay, Nov. 9th, 1872.

P. S.—Enclosed I send you one dollar, the price of my subscription for your valuable paper. I must apologize for not sending it before. The FARMERS' ADVOCATE is truly what its name implies, and every man who tills a rood of ground, or keeps a horse, cow, pig, bees or poultry, should take it. The November number alone is worth the subscription for one year.

[It is said that the terrible ravages of this destroyer cease after having run three years course in a locality. We have in this vicinity had only two years of their presence—the second much the worse of the two—and we look forward to at least another year's ravages from them. The method proposed by our correspondent from Shanty Bay we have no doubt is a very good one. It is one that, if fully carried out, must be in some measure successful. Some potato farmers last season made no attempt to exterminate the bugs, or even diminish their rapidly increasing numbers. Unfortunately there is no law to punish them for a course so injurious, not merely to themselves, but to the country at large.—As'st Ed.]

SHOWS.

SIR.—In my last I said a few words about Shows; I now wish to return to the subject again.

Shows or Exhibitions are undoubtedly productive of much good, but there are certain things which are beyond their reach, and consequently cannot be benefited by them. I refer to last month to the folly of spending so much time and money on a few picked animals for exhibition, at the expense of those left at home. Now, it is quite evident that in this way many a man obtains prizes for superior animals, and gets the credit of keeping good stock when such is really not the case; while at the same time there are scores of farmers who do not thus seek public honor or prizes, whose stock in general is far in advance of that of the class above alluded to.

But there are certain things, as above stated, that are not within the province of Exhibitions to deal with. Houses, barns and other buildings which are not portable, cannot, of course, be placed on Exhibition at the Show, and consequently, no prizes are given for them, no matter how superior they may be. But these are certainly no less worthy of public credit being given in the way of prizes, than those other things, such as horses, cattle and agricultural products, which at the Show appear to be all that is worthy of notice.

Now, I see no reason why there might not be men appointed in each township as judges of these things, and let them go through the country and visit every farm (whose owners have sent in their names) and see everything on the farm; and keep account of the relative value of each, and at the end of their tour make out a list of the prizes, to be published and paid to those meriting them by their respective Township Councils. One Township would be sufficient for each set of judges, which should not exceed three in number.

Funds might be raised to pay the prizes (as they are at Shows) by every farmer paying a certain amount for everything he wishes to have judged. The travelling expenses of the judges I would have paid from the Township Treasury, but even if this amount should be taken from the funds, although it would necessarily make the prizes small, unless some other means were employed to sustain them; still, however small, there would be the satisfaction of the public knowing who had the best of anything or everything on his farm.

I should be glad, Mr. Editor, to have you or some of your correspondents give your ideas on this subject. Perhaps a more feasible system of carrying out my plan might be suggested. J. LAWSON.

Battersea, 8th Nov., 1872.

[We are pleased to receive communications from any one suggesting improvements and giving information. We may not altogether agree with Mr. L. in regard to his remarks on stock; others may. We are not supposed to be right in every opinion we may form, that is, in the eyes of every one. It is from open and free discussion that good often arises. Mr. L.'s hints in regard to buildings have awakened in us a plan by which we think much good might result. The Agricultural and Arts Association might most advantageously offer prizes for the most approved models of farm buildings, suitable for a farm of 100 acres or a farm of 500 acres. The country would, we have no doubt, be benefited by the expenditure of a few

hundred dollars as prizes for models of this kind. It would afford us an opportunity of taking drafts, giving descriptions, dimensions and costs of such.—Thousands of us have our buildings awkwardly arranged, so that we lose labor, feed, heat and manure to a very great extent. A proper arrangement of buildings would be of immense value to the country, but how can we learn without a teacher? Our own buildings are not what they would be had we had the construction of them. Good models would teach many that have no opportunity to learn. To award the prizes to erected buildings in each township would, we think, serve but little purpose, except taxing the poor to enrich the wealthy.

MANURE.

SIR.—I wish to direct the attention of the numerous subscribers of the farmer's friend—the FARMER'S ADVOCATE—to that all-important question, the manure hill, the very bone and sinew of farming. It is the most neglected part of our farming operations; every kind of speculation is sought after and entered into with a zest, except the manure hill, the surest and safest investment.

I hope it is not laziness, carelessness, or stolid indifference, nor yet the fine and delicate sensibilities of the frontal elevation that causes this neglect of this golden nugget that lies in the barn-yard. Now, farmers one and all, take the matter into consideration and commence this winter to improve the barnyards by closing them in so that the cattle can be kept folded, whereby their excrements can be kept in a small space, and do not let them wander about the fields and roads, leaving the manure where it ought not to be.—Another advantage in closed barn-yards is the great increase of shelter for stock during our cold winters, which would often cause an increase to the profit side of many a farmer's balance sheet in the spring.

The barnyard can be closed in without a very large outlay of capital. A good board fence, say 8 feet high, closing in the whole farmstead makes it have a very creditable appearance to what a large number have at the present time.

This is a subject that should ever be before the mind of every farmer and receive his special care and attention. His whole plan and object should be more and better manure. The following few words should be placed in some conspicuous part of every farmer's room:—Drain, pulverize, manure; more manure, better manure. Your well-wisher, JOHN DIZANHAM.

Newry, Nov. 11, 1872.

M'CARLING WHEAT.

SIR.—I got one peck of McCarling Wheat from you in the spring of 1871, and this year it produced one hundred bushels of first rate wheat, which took the first prize at the Township Show held in Athlery this fall.

Wm. Boulton. Athlery, Nov. 11, 1872.

POLL EVIL.

SIR, I send you some recipes which I have tried. This one for Poll Evil I do not think can be beat:—

Take one ounce of sulphur and one ounce of hog's fat; mix together and put in as much castor oil as to make it sticky, like tar. Spread it on with a knife around the edge of the sore, and then get an ounce of pure potash and dissolve it in as little water as possible; insert it by means of a syringe with a long pipe, so that it will carry the potash to the bottom of the hole. If this is done twice a day and dressed with the salve, in two or three days the sore will get well. If it is killed the discharge will stop at once; if not, put in the potash again in four days.

This is the only condition powder that I use:—Take ashes from good hard wood, sort from the chimney and salt; mix them in equal quantities. A common tea cup full in a peck of scalded bran is a dose.

To kill lice on cattle take the dust that falls around a blacksmith's anvil and sift it through a fine sieve. Take the fine dust and mix it with hog's fat, and let it stand three days, when it may be put on. It is good for sheep, but it must stand longer and get melted. This is from one of your subscribers at Shelburne P. P. Ont.

I have a patent top for wells, to keep them from freezing and I will warrant it to keep the pump clear of ice in the coldest weather. I will furnish exclusive rights for one dollar, that is, I will give written instructions how to make it. The stuff to manufacture it will not cost much.

If you think these items are worth insertion in your valuable paper you may put them in and oblige. Yours truly, A. LAITA.

Melancthon, Nov. 6 1872.

FROM OUR AUSTRALIAN CORRESPONDENT, SOUTH AUSTRALIA.

SIR.—We have been having some very rough weather lately, raw, and blowing very much.

We shall probably have a good yield (that is, for this colony), perhaps 14 or 15 bushels to the acre; a quantity which you will perhaps laugh at; here it would be a splendid average. Last year the yield was about six bushels to the acre.

The farmers, in many instances, have done well in spite of the poor yield. The double-furrow plough is in great demand, and the grain is nearly all taken off with thrashing machines which take the wheat and leave the straw standing. They are rather cumbersome to look at, but I don't know how we should get on without them. They will go over 6 and 7 acres a day, but the weather must be dry and warm, or they will not work properly, and the grain would be left in the heads. I don't know whether you have any of the kind in Canada; perhaps the climate would not suit them.—They are termed Reddy's Reaping Machines. Copper and wool have advanced considerably in price, and have made many persons wealthy. There is more gold in circulation in this Colony now than I have ever known before. Miners are getting great wages—seven shillings per day, some £2, 3s. a week, and many have gone to Queensland where they get as much as £3 per week.

This taking away of the population is a bad thing for the Colony, but I suppose it will work its own cure.

We have a very beautiful river—the Murray—about a quarter of a mile wide, with numerous lagoons scattered here and there; it has a depth of 90 feet, and is navigable at times, 1200 miles. There is plenty of wild food, ducks, geese and black swans.

Parliament is now occupied with a new Land Bill which is called a "liberal one." Land is put up, say at £2 per acre, and gradually reduced to £1; a person can select 640 acres by paying ten per cent down of the purchase money, and can hold the land for ten years, when he must either pay another deposit, or pay off the whole amount at the figure he took the land up at. Residence not compulsory, and a person can put another on the land to till the same, instead of residing on it himself.

To-day we have had a fall of hail and the weather has been very cold. I think we should have had snow, but it did not come.—The children have not seen any yet, and are wondering what it is like. Nairn, S. Australia, Aug. 9, 1872.

AGRICULTURAL SHOW.

SIR.—The West Northumberland County Agricultural Society, with the Township Societies of Hamilton and Haldimand, held a Union Show in Cobourg on the 15th and 16th of October, and for the first, was fairly successful. The County Society have this year purchased three acres of land for a Show ground, adjoining the Drill Shed, in the town of Cobourg, and enclosed it with a substantial board fence eight feet high, and fitted it up with permanent show rings and pens for stock.

The Union Show was held in it and the Drill Shed; the ground held the stock and part of the implements, while the Drill Shed accommodated the grain, seeds, roots, dairy products, fruit, fine arts, ladies' department, &c., &c., with the rest of the implements. Horses, owing to the prevailing disease, were hardly equal in numbers to our usual County Show, but what were there were good. The show of all other stock was good; Durhams and Ayrshires made the greatest show in cattle, though both Devons and Grades were pretty well represented. In long-wooled sheep the show was large and good; Cheviots and fine-wooled sheep in smaller numbers. Pigs and poultry as usual. Grain, roots, and seeds could not have been surpassed, if equalled, in any part of the Province; the roots were as large in quantity and better in quality than those shown at the late Provincial Exhibition at Hamilton.—The show of fruit was rather small, as it is a poor crop around here this season.

The ladies' department was excellent in quality, but not so large in quantity as would be desired. The show of fine arts was larger and better than usual. Home manufactures and dairy products fully up to former years, and the show of implements much larger than ever it was at our County Shows. The Show of burges was uncommonly good. The total number of entries was 1600, and the amount taken at the gate nearly \$300.

A SUBSCRIBER.

Cobourg, Nov. 2, 1872. [We cannot refuse giving insertion to this communication from our Cobourg correspondent, though it has come too late for our notices of agricultural exhibitions. The Society has only held its first show, and we gladly aid in the beginning of the good work by inserting the report. They have made an excellent commencement and, having faith in the old proverb: "What's well begun is half done," we confidently predict a prosperous fu-

ture for the young Society. The fact of their having purchased exhibition grounds and enclosed them, insures to their operations permanence and stability. Our wish for them is—Go on and prosper.

We must request our correspondents to let us have their communications on or before the 20th of each month, to insure insertion. We are sometimes under the necessity of "shelving" valuable communications, on account of receiving them too late—sometimes of not inserting them at all—giving them insertion a month later, when their seasonable utility may have passed.—As'st Ed.]

A FARMER'S EXPERIENCE AND OPINIONS.

SIR.—You may publish this communication if you think it of sufficient importance.

Much has been said on the subject of wintering bees, and a great deal of information has been secured to the people of Canada. It is the general opinion of writers that bees require strength—that is, plenty of bees and plenty of honey; these we are aware are necessary, and also plenty of air. I will give a little information in regard to my own manner of wintering bees, and other parties can do the same if they think proper. The building for wintering bees in my opinion, should be frame sided with good, firm boards, and sealed inside, three to four inches wide; filled with clean sawdust or straw, well brined and dried before its application to the building. One door is sufficient, and the building should be large enough to admit of the number of hives required and have plenty of room for dry air. It should be well dried before putting in the hives.

I would recommend the room to be at least six feet high; the board where the bees sit, two feet or more from the floor; the bottom boards should be slanted two inches higher on one side than on the other, and the hive raised half an inch, in order to give the bees plenty of dry air and to allow the water that would accumulate with their breath to run off. It would also prevent the bees from using half the honey they would need if exposed to the sudden changes of the weather. The building should be well dried and not used till the weather gets cool. Before the snow comes home up your bees; keep them dark by closing up the door, and examine them frequently in the winter season. They should not be taken out until the weather will admit, and should be then placed on their summer stand.

Jno. A. COURTNEY.

Camden, Oct., 1872.

FARMERS' CLUBS.

SIR.—Not having any special subject on hand to treat on, I thought I would give you some news about our Farmers' Club, besides what I heard at another Club I happened to attend. The North Norwich Farmers' Club is in a healthy state and many are the lively discussions we have. As one of our prominent members says: "They go there to agree to disagree." He often tells us that "We are all teachers and pupils from the cradle to the grave, and no one is too old or knows so much, but what he can learn something from his fellow."

At our last meeting we had a very interesting time discussing "Rotation of Crops." Mr. J. Ghent was President, and, consequently, the leading speaker. He showed that Nature herself taught rotation of crops, by the fact that one kind of timber was generally succeeded by another definite variety. Thus beech and maple follow one another, and likewise do pine and oak. He thought a practical farmer could get up a good rotation on the idea that a plant with long and narrow or linear leaves should rotate with a broad-leaved plant. For my part I think this rule will hold good in all cases except that of corn, which is generally best followed by spring wheat or barley. The rotation of corn, barley and fall wheat is altogether too exhaustive.

Mr. Moore advocated summer fallowing in opposition to the opinions of all the other members. He cannot tolerate the idea of raising roots, but likes corn and believes it to be the kernel of success in winter feeding stock. He gave some of his experience in raising oats. He said that he had seen oats grow year after year upon the same piece of ground and the crop each year was generally better than that of the year preceding. But he said that no other crop did well after oats. Consequently if he had a low field he would continually sow it with oats; or, if he took a field to work on shares he would sow his oats on that field.

And now, Mr. Editor, I must tell you something about a meeting of another Club which I attended. The subject was "Roots—their culture and management as regards feeding." I was called on to speak, since, as the vice-president said: "I had been to school a great deal, and had studied farming on the scientific order." I had with me an agricultural paper, the Country Gentleman, in which was an article on the profits of root culture. I made extracts from the article and urged the consideration of the estimates therein contained.

After I became seated the vice-president got up and said:—"Mr. ——— brings an agricultu-



ral paper with him. Now for my part I believe that agricultural papers are the greatest curse the farmer is under. Farther, as regards science in farming, I do not think we can make any use of it."

I told him he ought to have his ideas published, and he replied that if he were to write them the editors would not a low their publication. I said I thought you would print them, and I even told him that he dare not write them.

Now, Mr. Editor, would you be so kind as to publish an article on agricultural papers for my friend, if he should write one and send it to you? Perhaps he might give you some ideas which would be both new and useful.

B. J. P.

New Durham, Ont., Nov., 1871.

[Thanks for your valuable communication. One of the most interesting features of an agricultural paper—of the *ADVOCATE* especially—is the interchange of ideas between farmers. We hope that the number of our correspondents, already pretty good, will go on increasing. The columns are open to any letters from farmers, that may be of use to the agriculture of the country, or that may lead to the drawing out of ideas that are now lying dormant and are of little or no use. We will, with pleasure publish a communication from the vice-president of the N. W. Farmers' Club, even though it be adverse to agricultural papers and to science applied to agriculture. We request "B. J. P.," New Durham, to let us hear from him frequently. We desire to have early reports of meetings of agricultural clubs, and all subjects connected with agriculture, scientific and practical.—As'st Ed.]

REPLIES TO INQUIRIES OF CORRESPONDENTS.

J. C., Caradoc.—Mr. D. C. McDonald, of Kensington, has the best Suffolk and best Essex boar we know of in this county. We do not know his charges for service.

W. L., Markham.—We give decided preference to Watson's Chaff Cutters and Root Cutters. The knives are not easily broken, and the workmanship and finish are unsurpassed.

F. R., Sherbrooke.—We know the Agricultural Mutual to be a perfectly safe and reliable Insurance Co. It is unsurpassed in this Dominion.

T. M., Pilkington.—Your sample of seed grain and communication have not arrived. Perhaps you have forgotten it.

Poetry.

Country Children.

Little fresh violets,  
Bliss in the wildwood;  
Sweetly illustrating  
Innocent childhood;  
Shy as the antelope,  
Brown as a berry,  
Free as the mountain air,  
Romping and merry.

Blue eyes and hazel eyes  
Peep from the hedges,  
Shaded by sun-bonnets,  
Frayed at the edges!  
Up in the apple trees,  
Heedless of danger,  
Manhood in embryo  
Stares at the stranger.

Out in the hilly path  
Seeking the berries,  
Under the orchard tree,  
Feasting on cherries,  
Trampling the clover blooms  
Down among the grasses,  
No voice of hindrance them,  
Dear lads and lasses!

No grim prophecy,  
No introduction;  
From the birdlings  
From city restrictions!  
Coining the purest blood,  
Strengthening each muscle,  
Donning health's armor  
Against life's coming bustle!

Dear little innocents!  
Born in the wildwood;  
Children that little ones  
Had such a childhood!  
God's blue spread over them,  
God's green beneath them,  
No sweeter heritage  
Could we bequeath them.

The Two Lives.

Two travellers came together  
Into the world so wide,  
In the new and sunny weather;  
Of marvellous Easter-tide.

The one was little and feeble,  
The other was straight and strong,  
And the strong one helped the feeble one,  
Because the day was long.

All over the level valley,  
All over the lifted land,  
They go, with equal gladness,  
Each holding the other's hand.

And the feeble one grows stronger,  
And, ever as they walk,  
He plucks the wayside blossoms  
From twig and bending stalk.

But the strong one never falters,  
Nor ever turns aside;  
Because of the long journey,  
And because of the world so wide.

But now it draws to evening,  
And the feeble fails to go,  
With any heart of joyousness,  
For his steps are weak and slow.

But patient as aforesaid,  
The strong one stays his speed,  
And helps his weary comrade,  
Because of this his need.

And lo, I see one dying  
Before the break of day;  
And the other, swiftly flying  
With outspread wings away.

O friend beside the cradle,  
O friend beside the bier,  
Thou only hast the story  
Of what is hidden here!

Youths' Department.

UNCLE TOM'S COLUMN.

ANAGRAM.

GOOD ADVICE.

Fi uyro pills ouy dwoil v. se moif spils,  
Eliu giuths everbos hitw race  
Fo nlow ouy keaps, ot honyw yuo peaks,  
Dan who, nad nlew, adn rheve.

BOILS.

A boil is generally very small at first, and a fellow hardly notices it; but in a few days it gets to be the biggest of the two, and the chap that has it is of very little account in comparison with his toil, which then "has him." Boils appear mysteriously upon various portions of the human body, coming when and where they "dawn please," and often in very inconvenient places. Sometimes a solitary boil is the sum total of the affliction, but frequently there is a "rubish in lot of 'em," to help the first one. If a boil comes anywhere on a person, that person always wishes it had come somewhere else, although it would puzzle him to tell just exactly where.

It is very wicked to make fun of persons with boils; they cannot help it, and often feel very bad about it. Physicians don't give their patients very much satisfaction as a general thing, although young physicians just beginning to practice are fond of trying their lances on them.

Boils are said to be "healthy," and, judging from the way they take hold and hang on, and ache, and burn, and grow, and raise Cain generally, there is no doubt they are healthy and have strong constitutions.

They are generally very lively and playful at night, and it is very funny to see a chap with a good large one, prospecting around his couch for a place where his boil will fit in "without hurting." Boils tend to "purify the blood," strengthen the system, calm the nerves, restrain the profanity, tranquilize the spirits, improve the temper, and beautify the appearance.

They are good things for married men who spend their evenings from home, as they give them an opportunity to rest their night keys, and get acquainted with their families. It is said that boils save the patient "a fit of sickness," but if the sickness is not the best to have, it must be an all-fired mean thing. It is also said that a person is better after he has them, and there is no doubt that one does feel better after having got rid of them. Many distinguished persons have enjoyed these harbingers of good health. Job took the first premium at the county fair for having more achers under cultivation than any other person.

ANSWERS TO PUZZLES IN NOV. NO.

ACROSTICS.

Summer, Autumn.

MARTHA JOHNSON,  
Lamaroux P. O.

DECAPITATIONS.

No. 1, Fox,	beheaded,	leaves	Ox.
No. 2, Bear	"	"	Ear.
No. 3, Rat	"	"	At.
No. 4, Oat	"	"	At.
No. 5, Rye	"	"	Ye.
No. 6, Wheat	"	"	Heat.

PUZZLE NO. 1.

He was her son.

The answer to No. 1 Puzzle is "Mother and Son," and to No. 2, Summer—Autumn.

H. C. BROWN, Berlin.

DECAPITATIONS.

1. F-ox.	2. B-ear.	3. R-at.	4. O-at.	5. R-ye.	6. W-heat.
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PUZZLE NO. 1.

He was her son.

W. H. HARPER, Shanty Bay.

ACROSTIC.

Days get shorter; nights get longer;  
Every day the cold grows stronger;  
Chilling winds with vengeance blow,  
Everywhere the drifting snow.  
Merry Christmas to you all,  
Boys and girls both great and small.  
Everyone I wish you well,  
Respectfully yours, J. L.  
Baltimore, Nov. 8, 1872.

REBUS.

My first, though not often seen, is never absent from my body.  
My second is a European river of historic fame.

My third is an article of great utility in the kitchen, and in the conservatory.

My fourth, if you but change a letter, is the name of a prophet of Israel.

My whole, a word of five syllables, is the name of a dweller in the Royal Zoological Gardens in London, England. It is announced that she has lately become a mother, and, with her infant, is doing well.



PUZZLE PICTURE—JAPANESE ACROBAT.

How many are there; count them, and ask your friends too if you cannot.

CURT REPLIES OF THE GREAT FREDERICK.—A lady made a complaint to Frederick the Great, King of Prussia: "Your Majesty," said she, "my husband treats me badly." "That's none of my business," replied the King. "But he speaks ill of you," said the lady. "That," replied he, "is none of your business."

GROWTH OF WINNIPEG.—Nothing can be a better index to the confidence in the future of Manitoba than the substantial growth of the town of Winnipeg. This season it has at least, trebled itself in size. Hundreds of houses are now in course of construction. The buildings are nearly all of a good class. The demand for mechanical labor is very great. First-class tradesmen are getting their own rate of wages. Posters are up through the town by the Hudson's Bay Company for fifty carpenters.

POTASH IN THE SOIL NECESSARY FOOD FOR THE POTATO.

In order to produce a good crop of potatoes it is necessary that the soil wherein they are planted have within itself, or supplied to it by manure, a sufficient quantity of potash. Every potato crop takes the soil a quantity of potash and of phosphoric acid, which must be supplied anew. Dr. Nichols, in an address to a board of agriculture, thus tells why a crop of potatoes exhausts the fertilizing qualities of the soil:—"A field of potatoes yielding 200 bushels to the acre will remove from the soil in tubers and tops at least 400 lbs. of potash; it will also remove 150 lbs. of phosphoric acid." Now, these amounts are very large, and show that the potato plant is a great consumer of the two substances, and also show, that to restore our potato fields to their former productive condition, we must supply phosphatic compounds and substances holding potash in large quantities. For six or eight generations our farmers have been exhausting the soil by these agents in the potato and other crops, and we have reached the time when the vegetable is starving in our fields for want of its proper food. Our farmers have found that new land gives the best crops, and this is due to the fact that such fields afford the most potash. A potato field which gives but 100 bushels to the acre, requires at least 140 lbs. of potash; but by allowing the tops to decay upon the field, sixty pounds are restored to the soil again, as that amount is obtained in them.

LEAD POISONING OF CATTLE.

The English papers state that a curious illustration of the fatal qualities of white lead and paint has just occurred at West-norton, near Aspatria. Some painters had been employed about the premises of the Rev. John Bone, of that place, in effecting some repairs of the pump. When their work was finished they left a quantity of white lead in a jar, the mouth of which was covered with coarse brown paper, and closely tied down. On Saturday week, during the temporary absence of the servant, two of the clergyman's cows gained access to the byre, and ate a large portion of the white lead—a circumstance which was not discovered until Wednesday morning, when, on entering the byre, one of the cows was found quite dead, and the other in a state of delirium. Mr. Thompson, V. S., of Aspatria, was called in, and on making a *post-mortem* examination of the dead animal, he discovered a portion of white lead in the stomach and intestines. The entire case showed well-marked symptoms of white lead poisoning. The necessary remedies were immediately administered to the surviving animal, but proved ineffectual. The poor beast gradually sank into a state of coma, and died.

CHARRING FENCE POSTS.

A correspondent of the *Ohio Farmer* says. In the year 1830 an uncle of mine put up a few panels of post and rail fence, which at the time was a rare thing in these parts, and previous to setting the posts he burnt the lower ends up to the first mortice until they were completely charred. The were of white oak, from a tree of brush appearance, set in a clay soil. Several of these posts are yet standing with the appearance of lasting some year longer.

CHANGING THE GAUGE.—The Grand Trunk railway will commence to reduce its gauge to the 4 feet 8 1/2 inch standard on the 5th of November. The line from Buffalo, Sarnia and Goderich, will be first altered, and other sections will follow as soon as occasion demands. By the middle of next summer it is expected the reduced line will be in operation as far east as Belleville.

SULPHOZONE is the name of the preparation that has been found most effectual for the destruction of mildew and blight on grape vines, hops and roses. Sulphozone contains much free sulphurous acid common sulphur, sometimes is altogether free from this acid, and is therefore worthless.



CRYSTALLIZING GRASSES.

The long, feathery grasses are the best for this purpose. They must be thoroughly dry, formed in the desired shape, and fastened securely before being put in the bath. To make the solution, take one pound of the best alum, pound it quite fine, and dissolve in a quart of clear water, over a slow fire, but do not let it boil.

BEST TIME FOR PAINTING HOUSES.

We take from the Technologist an extract on this subject. In addition to the reasons given by the writer we would add another: We should always prefer to have work, when workmen most need employment, whenever the work can be properly done.

The best time for painting the exterior of buildings is late in autumn or during the winter. Paint then applied will endure twice as long as when applied in early summer or in hot weather. In the former it dries slowly and becomes hard, like a glazed surface not easily affected afterwards by the weather, or worn off by the beating of storms.

CHICKEN DISEASE.

An exchange says that following on the horse epidemic comes a disease among the chickens. It calls it the cholera, and says it is proving very fatal in the poultry yards in and around Port Colbourne. One gentleman has lost some forty Hamburgs, one or two of which were first prize fowls.

A lazy dyspeptic was bewailing his own misfortunes, and speaking with a friend on the latter's healthy appearance. "What do you do to make you so strong and healthy?" inquired the dyspeptic. "Live on fruit alone," answered the friend. "What kind of fruit?" "The fruit of industry, and I am never troubled with indigestion."

BREAKFAST.—EPPS'S COCOA.—GRATEFUL AND COMFORTING.—By a thorough knowledge of the natural laws, which govern the operations of digestion and nutrition, and by a careful application of the fine properties of well-selected cocoa, Mr. Epps has provided our breakfast tables with a delicately flavored beverage which may save us many heavy doctor's bills. Civil Service Gazette. Made simply with boiling water or milk. Each packet is labeled—'James Epps & Co., Homoeopathic Chemists, London.' Also, makers of Epps's Milky Cocoa (Cocoa and Condensed Milk.) 72-1-3

London Market—Nov. 26.

Table with 2 columns: Grain type and Price. Includes White Fall Wheat, Red Winter Wheat, Barley, Peas, and Oats.

Great Western Railway.

Trains leave London as follows: GOING WEST.—12.50 p. m.; 5.25 p. m.; 2.45 a. m.; and 5.45 a. m. GOING EAST.—6.00 a. m.; 8.40 a. m.; 12.35 p. m.; 4.40 p. m.; 11.35 p. m.; and 1.15 a. m.

Grand Trunk Railway.

Mail Train for Toronto, &c., 7.30 a. m.; Day Express for Sarnia, Detroit and Toronto, 11.25 a. m.; Accommodation for St. Mary's, 2.45 p. m.

Bronze Turkeys for Sale.

FOR SALE. BRONZE TURKEYS bred from stock imported from George Van Deever, Montgomery Co., New York. For size, style and color they cannot be surpassed. Warranted pure, and satisfaction guaranteed in all sales. For further particulars apply to JOHN W. BUSSELL, Hornby P. O.

ELECTION IS OVER

And now is the time to subscribe for your agricultural and family paper for 1873. The Prairie Farmer, now almost entering on the thirty-third year of its usefulness, is the most popular and pre-eminently the best published at the West. It is original, reliable and comprehensive, each number presenting a rich variety of instructive and entertaining matter.

The PRAIRIE FARMER

is also just what is needed by the thousands of people at the East who contemplate "going West," and hence wish to know all about Western farming, fruit growing, tree planting, cost of land, improved and unimproved, character of soil and climate, mode of cultivation, average yield, &c. &c. The subscription price is two dollars per year in advance, and new subscribers for 1873 receive the paper the rest of this year free.

IT WILL PAY YOU!

Remember that our New Premium List, now ready in pamphlet form, embraces One Hundred Attractive and Useful Articles, offered on most desirable terms, and also, that Agents, who prefer it, may retain, in remitting, a Cash Commission of Twenty per Cent. Sample copies of the paper, (and other canvassing documents, are ready and furnished free on application. Send for them and go to work. Address, PRAIRIE FARMER COMPANY, Chicago.

FOR SALE.

A SHORT HORN BULL, 4 years old, Dark Red. Dam, "Mail of the Dale;" Sire, "Pickering Lad." Apply to JOHN McGURK, Thornedale P. O.

TURKEYS FOR SALE.

PURE BRED DOMESTICATED WILD TURKEYS, from Stock imported from the Hon. John Wentworth, Illinois. \$5 PER PAIR; \$7 PER TRIO. Apply to J. NIGHTSWANDER, Mongolia.

FOR SALE.

ONE RED & WHITE BULL, 17 months old. Dam, "Oxford Lass;" Sire, "Young Eldridge." A Superior Bull; took 2nd Prize at Western Fair. Apply to E. H. COOPER, Lot 28, 1st Con. West London P. O.



The Grange is now published Quarterly, 25 cts. pays for the year, four numbers, which is not half the cost. Those who afterwards send money to the amount of One Dollar or more for Seeds may also order Twenty-five Cents worth extra—the price paid for the Guide.

One Hundred and Fifty pages, on fine tinted paper, and Five Hundred Engravings and a superb Colored Plate and Chromo Cover. The First Edition of Two Hundred Thousand just printed in English and German and ready to send out.

11-2in JAMES VICK, Rochester, N. Y.

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London, Ont., Oct. 28, 1872. 12-1f

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THE SUBSCRIBER has at GREAT EXPENSE secured the services of the following Boars, in order to improve the stock of pigs in this section of the country. They will be found at the "MIDDLESEX HOTEL," over Blackfriars Bridge.

KENSINGTON,

(Formerly called Petersville,) London, Ont.

1st.—The Essex Boar bred by Joseph Harris, Esq., Morton Farm, Rochester, N. Y., (author of the complete work, "Harris on the Pig" and "Walks and Talks," in the 'American Agriculturalist,')

"Young Adam"

Is from the universally known imported Boar, "Adam" bred by Mr. Thorne, the noted English stock-raiser, and renowned improver on the old Lord Western breed of Essex—his mother is owned by Mr. Harris, and is from the stock of the late Col. Morris. "Young Adam" took the prize at the Western Fair in 1872, and is pronounced by all judges to be the handsomest hog of his class in Canada. For further pedigree, vide "Harris on the Pig."

2nd.—The celebrated Suffolk Boar,

"Captain Jinks," Bred by George Martin, Esq., of Port Dover, Ont. Sire, "Storm King;" Grand sire, "Snow Ball;" imported. Dam, "Empress;" Grand Dam, "Ida;" Great Grand Dam, "Primrose." These pigs have taken First Prizes at every Fair, either in the United States or Canada, at which they have been exhibited. \$250 was offered and refused for "Storm King," and "Captain Jinks" cost his present owner, at 3 months old, \$110.

Terms.—Very liberal, and Sows sent for service will be well taken care of at the smallest possible expense.

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TO RENT ON SHARES. AN EXCELLENT CHEESE FACTORY AND FARM TO RENT. Thirty-five cows are kept on the farm.

The milk from 225 cows is manufactured in the factory. The tenant must pay half the value of the stock and implements now on the farm.

This is a rare opportunity to make money with but little investment. The farm consists of 220 acres, with good buildings, orchards, &c. None need apply unless a man with a family, and one who can come well recommended.

Applications, stating particulars and circumstances of applicant, to be made to this office. London, Aug. 1872.

Great Sale of Cutters & Sleighs

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Nov. 25th, 1871. 12-6f

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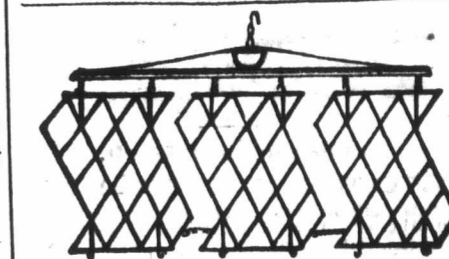
- Canadian Sifter Fanning Mills, Paris Straw Cutter, Little Giant Straw Cutter, One Horse Seed Drills, Hand Seed Drills, One Horse Ploughs, Turnip Cultivators, &c. All orders from a distance carefully attended to, and satisfaction guaranteed. LEVI COSSITT. Nelson Crescent, Guelph. 72-3-y

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VETERINARY SURGEON, Graduate of the Toronto Veterinary College. Office—New Arcade, between Dundas street and Market Square. Residence—Richmond street, opposite the old Nunnery.



HOWARD'S IMPROVED IRON HARROW.

THIS Harrow is superior to all others, because it is the most complete. It covers 14 feet of land. It leaves the ground finer, works freer, and adapts itself to uneven land. It does not bend, and choke less than any other Harrow. It is so constructed as to draw either end. The teeth being so set as to tear the ground up to a good depth, or to pass lightly over the surface, as the teeth are beveled on one side. It can be worked with a span or three horses, or it may be unjointed and worked with one or two horses, in one, two or three sections.

They are giving entire satisfaction. Price of Harrow complete, with three sections, treble-tree, and two coupling-trees, \$35. Price of two sections and one coupling tree, \$22. Address—THOMAS HOWARD, Adelaide Street, London, Ontario. Samples may be seen and order taken at the Agricultural Emporium. 71.4c

YEARLING DURHAM BULLS

FOR SALE. TWO FIRST-CLASS YOUNG BULLS at reasonable prices and best pedigrees. Also some Cows and Heifers. Apply to JOHN B. TAYLOR, Springwood, LONDON, ONT. 8-1f

Gardener Wanted.

ONE who will take charge of a market garden of about fourteen acres; one who will work it on shares is preferred. References as to character and ability will be required. For further particulars apply to W. WELD, Esq., of Farmer's Advocate, London, Ont., or to the undersigned. A. A. BURHAM, jr., Cobourg, Ont. 8-1f

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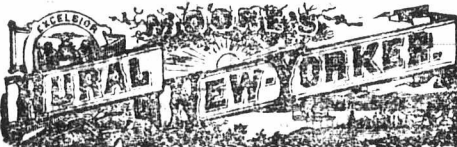
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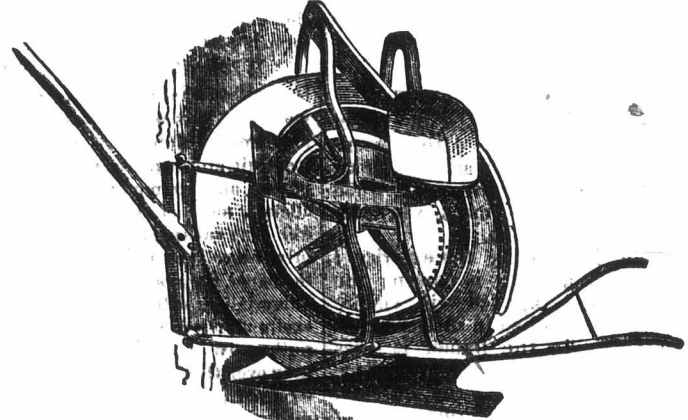
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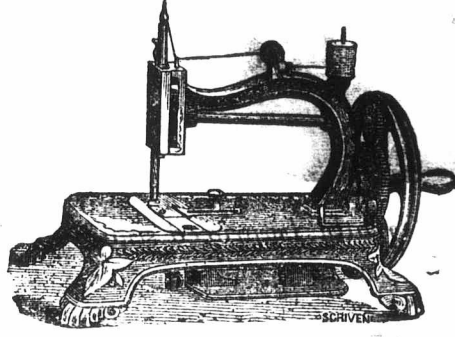
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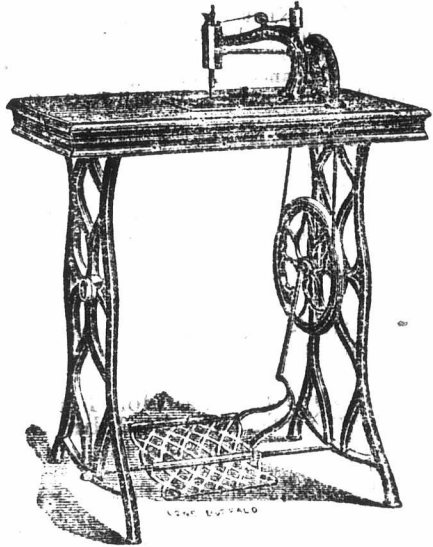
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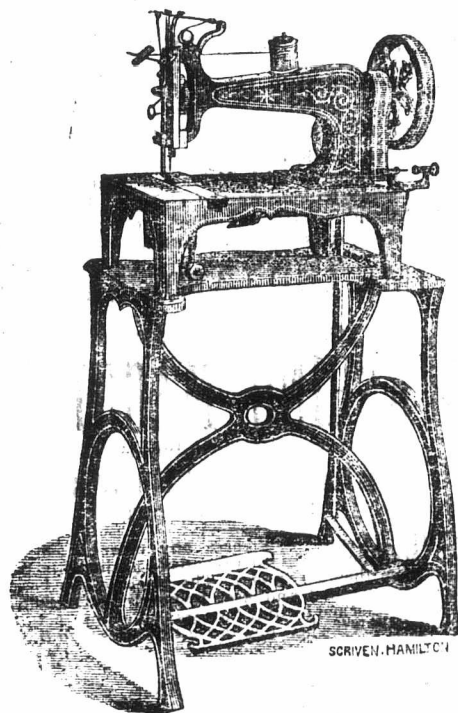
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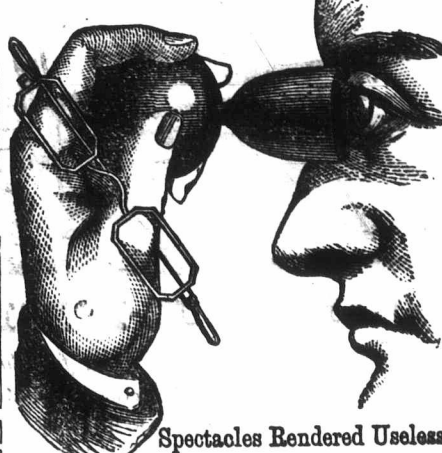
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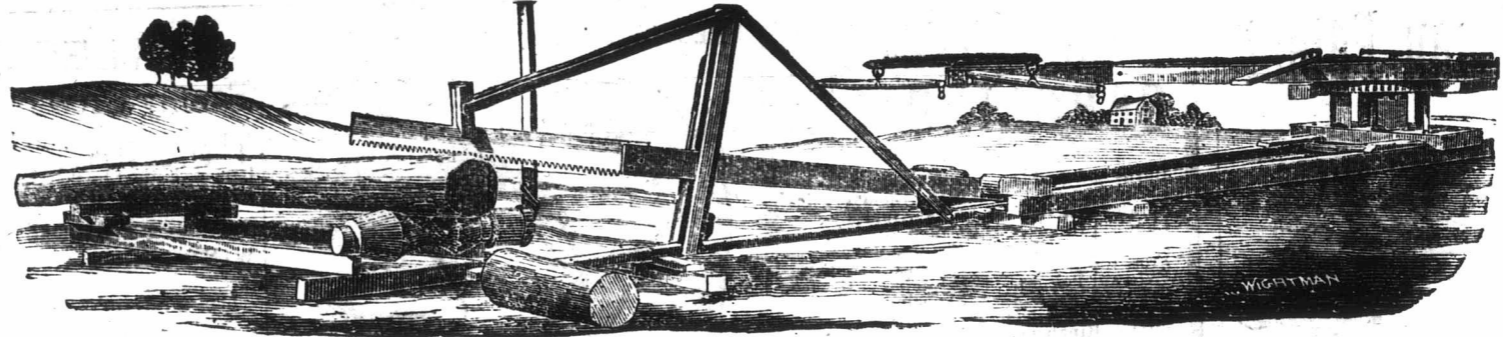
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