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# The FARMER'S ADVOCATE

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Advertisements, to secure insertion and required space, should be in by 20th of each month.

Letters enclosing remittances, &c., only acknowledged when specially requested. Our correspondence is very heavy, and must be abridged as much as possible.

### January, 1877.

We thank our numerous patrons who have so promptly remitted their subscriptions for the present year—the 12th volume. Your liberal encouragement and the thousands of kind remarks made by you in regard to its usefulness and the satisfaction the journal has given, causes us to feel thankful, and inspires us with new vigor to apply ourselves with greater energy to improve the utility of your journal. You all admit that it has every year improved to the present time. The volume for 1877 we hope to make better than any number that has yet appeared. We ask every friend to agriculture to aid us. Many friends have kindly forwarded useful information and suggestions, for which we thank them, and hope, by following the plans already pursued of avoiding as much as possible the advocacy of political party or particular sect or organization, to continue to add to our list more of those who consider that our greatest and best attention should be devoted to agriculture in all its bearings, and the advancement of the farmer and his family to a step above that which too many of them are now filling—by so doing to advance the interests and position of this bright jewel in the British crown, our Dominion.

This year we wish to give you as much valuable information as possible in each of the departments previously taken up, and intend to increase the information in regard to fruit culture, and also to increase the household department, in which we fear some of our readers do not interest themselves; in the rebuses, puzzles, anagrams, &c., we also intend making some additions. The younger folks who have not yet done so, will, by comparing the answers with the questions in last year's volume, soon find amusement and interest in this department. It will be kept more distinct from the agricultural department during the present year, so that those wishing to have the journal bound at the end of the year may, by giving us notice, have it

paged especially for agriculture, and may have the household department left by itself. Those who prefer the whole number as it is can preserve them and have them bound at the end of the year.

The year just closed has been one of peace and tranquillity as far as Canada is concerned. Financially, our records will show a deficiency; our great cereal crop, although promising an abundant return, was reduced to a very sparse crop, occasioned by a continued heat at the time of filling such as we never before experienced; our grain and root crops were reduced in ten days to from one-half to three-quarters of what we might have expected from their appearance.

The great dairy interest has been remunerative. The early part of the season had been so favorable to vegetation that the finest crop of hay ever known was secured in good order. A very large crop of apples crowned the orchards.

The prices of all farm products have been such as would in any ordinary season give a fair remuneration to the judicious cultivator. Even this year all products will yield a paying price except the cereals and root crops. While the farmers of Ontario have had their potato crop much reduced in yield, Prince Edward Island and Nova Scotia have been blessed with a most bountiful crop, and are enabled to reap a rich harvest. The deficiency in quantity of our cereals will in a measure be somewhat made up in the advanced prices realized.

The manufacturing, mercantile, lumbering and railway interests of our country have suffered very materially during the past year, and many millions have been lost. This should cause young men to look at the prosperity and comfort of their homes and compare their safe banks of cultivated soil with the risk and hazard of trade or mechanics, thousands of whom are now out of employment.

The opening up of a direct trade with Europe is a step in the right direction. Our stock has been profitably shipped there during the past year; this trade no doubt will rapidly increase, and we hope it will instil into the minds of all who have American proclivities that we no longer require to beg or crave a favor from Uncle Sam. We have given them too much and are giving them too much still. Our country is capable of producing a larger yield of grain than the States can; also more butter and cheese, meat and finer apples. With these resources at our command, why should we any longer humble ourselves? Let each loyal heart scorn any subserviency in any way. Cultivate our own trade and let the Americans delight in their own fiscal freedom, political systems and prospects.

If only choice apples are properly packed and properly cared for after they are packed, and put on the European market in good order, there surely must be money in the business. We have heard of instances of our apples realizing \$7 per barrel, but we see by quotations in market report that a large quantity has been sold at less than \$4, expenses amounting to over \$2. One lot that was

shipped from this city only returned \$1.50 per barrel to the shipper, after paying costs. It is possible for those who have carefully packed their apples and kept them at a proper temperature to ship as soon as the season will permit, in the spring, and realize a better return; but the risk of keeping is great. We have often thought that a good cider bottling establishment would pay well, and wondered why some one has not attempted the business, as we have tasted cider made from the fruit of trees planted by our own hands that we considered quite equal to champagne that cost \$4 per bottle. Some will use liquor despite the attempt to prevent it. Would not the use of cider prevent in a great measure the use of so much fire-water? and would not the money do more good to Canadian fruit-growers to use cider than to send our cash to the States, as Canada is now doing, to purchase lager beer?

The prospects of winter wheat lasted well in the fall. A large breadth has been sown. It is now nicely covered with a good blanket of snow. Prices of produce generally are most likely to rise. The clover crop this year will be light, both in regard to quantity and quality. The demand will most probably be in excess of the supply. Prices must be high. We should not advise our readers to sell till the first or second week in February, as the market will be fully opened and competition will be keen about that time. The principal shipping business of clover is done about that time. Cereals will fully maintain their prices and most probably advance, as the crop and stock have been generally light this year in other parts of the world.

The butter and cheese markets are both firm, and will probably remain so till the next season's supply comes to market.

Potatoes in Ontario will command an unusual price in the spring.

The great apple crop has not been turned to half the profit it should have been. Many people that do not understand the market or the proper handling of apples may barely hold their own. Some may make a little; some will lose.

### New Brunswick.

STARCH.—The starch factories in Aroostock have closed the season's operations. There have been manufactured at the

|                       |          |
|-----------------------|----------|
| Washburn factory..... | 250 tons |
| Marysville ".....     | 300 "    |
| Caribou ".....        | 240 "    |
| Fort Fairfield "..... | 200 "    |
| Limestone ".....      | 100 "    |
| Bridgewater ".....    | 100 "    |
| Presque Isle ".....   | 290 "    |

Total.....1,480 "

We are informed that this year it has taken but 22,000 bushels of potatoes to make 100 tons of starch; hence there have been sold 326,600 bushels to all the factories. These at 25 cents per bushel makes the snug little sum of \$81,400 distributed among the farmers entirely. This is but a very small amount in comparison with the vast sum which can be realized by the development of our resources in all directions.



**Draining—Is there any Profit from it?**

We cannot properly answer this query by a mere affirmative or negative. Either answer depends on circumstances needing explanation. Some land is naturally sufficiently porous; such are light soils, sandy or gravelly, or of light loam. They do not need draining; their drainage would be money and labor thrown away.

But there is profit to be derived from the drainage of lands that need it, and from the cultivation of such lands without drainage profit is not to be expected. Tenacious soils, such as retain stagnant water at periods during the vegetation of crops, need draining. Stagnant water in the soil or on its surface is detrimental to genuine plants and should be drawn off by affording free means of its passage through and from the soil by drainage. It is necessary that the soil be moist; moisture, as well as air and a certain degree of heat is necessary for the germination and growth of plants; but the required moisture can be had without the retention in or on the soil of stagnant water. Let us bear in mind that the fertility of the soil depends on the suitable warmth of the soil; the soluble ingredients of manure; and the chemical action in the soil of air, and of water holding it in solution. The term manure here used includes all the elements in the soil which are necessary to vegetation. We see from this view of the subject how land through which the rainfall does not penetrate is injured by it. The rain water bears with it in its descent fertilizing matter from the atmosphere, and in its gradual descent through the soil these fertilizing matters are left in it for food for the plants. If this gradual descent be impeded by the hardness or tenacity of the soil, and merely flows over it, this supply of nutriment is wasted instead of fulfilling the purpose for which it was designed. And this rainfall may penetrate the surface of the ground, and yet, instead of being beneficial to vegetation, may actually prove injurious. If water, instead of passing through the soil by natural or artificial outlets, remain in it till it is drawn off by evaporation, the heat needed for vegetation is sensibly diminished by that evaporation, and thus vegetation is retarded and injured. And in some cases stagnant water is productive of still greater detriment. The seed rots and perishes in the soil. The transition from the germination of seed to its being killed is not difficult, nor does it require a long time.

Rain water, as we have seen, was designed to be beneficial, conveying to the germinating and growing plants fertilizing matter. Shall we, by not bringing our soil into proper condition for their reception, permit the ammonia, fresh air, warmth and other elements of fertility to escape without doing us any service? Shall we, by not breaking through the hard soil and affording easy passage through it, cause it to lie within it stagnant to the great detriment of our crops? Or shall we, by incurring an expense that we may reasonably expect to be repaid, so prepare the soil by draining where necessary as to render it easier of tillage, and productive of much heavier produce? This is the question to be solved. Every one who has had any experience in the culture of wet heavy soil, such as we have said need draining, has learned to his cost the additional labor and expense required to make them produce crops at all equal to those grown from land that needs not drainage. And he must know the much greater uncertainty of raising a paying crop at all. The quality of the soil may retard his labors. He may not be able to plough when ploughing, if it could be accomplished, would be most advantageous to the soil. From the same causes he may be delayed days, or even weeks, in sowing and planting; and such a delay in our climate may result in a partial or total failure of the crop. Besides, as we have already seen, the fer-

tility of the soil and its capability are seriously lessened, and the crops must be proportionately light.

Draining is expensive. The cost of draining would in some places be enough to purchase as many acres as it would thoroughly drain. From estimates of the cost of thorough draining carefully prepared we may put the cost at \$50 per acre. The cost of work actually when accurately kept differs little from these estimates. As the drainage is a permanent work, this cost cannot be fairly charged to one year's account. It should extend over a number of years. There have been instances in which the entire costs of draining were balanced by the improvements in crops in two or three years; but such instances must be few; but a farmer dividing the cost by a number of years, and estimates a reasonable improvement in his produce from the drainage, will see at once that there is a profit in draining.

**Imports and Exports of Agricultural Commodities.**

Under this head the *Farmer* (England), having given a review of the Board of Trade Returns, refers to the general effect of figures given. The newly issued returns, he says, express so pithily the general condition of the country that he for once breaks through the rule, and states that in the ten months of 1876 previous to the report the balance of trade is on the wrong side. The total value of exports of British and Irish produce has been 10 per cent. less than in the same period last year, and more than 10 per cent. less than in 1874. While the exports have been so much less there has been an increase in the imports. We cannot but remark that while the balance of trade has been on the wrong side in England, it has been the reverse in America. There the dependence of the country on other nations for manufactures, has been lessened. Their importations have greatly decreased, and this decrease of importation becomes less continually. But it is to the importations to England of agricultural commodities that we would refer. England imported during the ten months ending October 31st, 1876, live stock to the value of £6,400,000 in round numbers. These figures tell us of the vastness of that market opened up to the stock-feeders of Canada. In bacon, hams, and salted pork, the importation has been equally great in proportion. The value of butter imported has been one million in excess of that imported in 1875. In the importation of cheese there has been a falling off, more attention being now paid to cheese-making in Britain.

By far the greater portion of the commodities imported have been from North America, the United States supplying over 17 millions of cwts. of wheat, value over 9 millions of pounds sterling, and British North America supplying over 2 millions of cwts., value £1,081,961; and barley, oats, peas and beans proportionately. Some of the articles classified as it states are really Canadian, having been imported into that country from Canada, and they reaping a profit as brokers and shippers on Canadian products and receiving credit for them, as if the products of their own country. This business is passing away. Canadian merchants have learned there is a profit to be derived in shipping Canadian products direct to England from the ports of the Dominion; and those products are known in British markets as Canadian and appreciated as such. To this the very creditable display of Canadian products at the Centennial Exhibition has contributed no little. The policy of maintaining the credit there obtained cannot be too forcibly impressed on the minds of exporters to European markets. For the encouragement of this trade it is necessary above all things that no inferior commodities that have not fairly

prepared for market to be shipped to England. English love of fair play is proverbial, and we should see to it that all our dealings with that country be characterized by the same spirit. Fair dealing on our part and the supply of really good articles of produce will ensure for us the best market, for our increasing surplus products.

**The Prospects for Supply of Food in the Future.**

Producers have for some time been considering the question, "Where shall we dispose of the surplus of our farms?" while men thinking themselves wise have been perplexing themselves and others with the query, "Where shall food be found for future generations?" With them there is a terrible dread of a superabundant population, and a consequent want of food. It is not long since we had such a cry from the United States, strange as it might sound from that land where vast prairies are yet uncut by the plowshare, and yet there a wise man expressed his dread of a coming time when the earth would be incapable of producing food for its inhabitants. It is no new thing: it was the repetition of the doctrine of Malthus, discouraging marriage, from a dread that the world would soon become too densely populated. And now, again, comes a similar note of alarm, backed by a formidable array of figures. A man wise in statistics, Mr. Hawksby, in his address to the Social Science Congress assembled at Liverpool, expresses great alarm at the increase of the population in England. He takes up the question as one of simple arithmetic. He finds that the increase in 70 years has been 14 millions, nearly 1.35 per cent. of an annual increase. He computes that the population of England will have become 42 millions at the end of the first generation, and that at the end of the fifth generation it will not be less than 400 millions. If these expectations be realized, there may be expected a pretty high price for a hundred weight of flour and a roast of beef. We will not accompany Mr. Hawksby in his calculations to the close of the twentieth generation, when fifteen worlds such as this of ours would barely supply food to the increased population.

We have no dread of such a future for our little earth, though the people of the "tight little island" have increased at an average of 1.35 per cent. per annum. There are vast territories awaiting the hand of the tiller of the soil to give food to the increasing numbers of those generations. We need but refer to the unoccupied lands of North and Central America. And more than this, we know that vast empires, that in former ages had been teeming with agricultural produce, and had borne unnumbered millions of human beings, are now almost wholly deserts, not from natural sterility, but from causes that may be averted. We would merely name Syria and Asia Minor as instances of this reversed condition. We have not taken into our reckoning the increased supplies sure to be obtained from improvements in agriculture. Even Britain, great as has been her progress in the science and practice of farming, may increase her produce one hundred per cent.—This we have on good authority.

May not Mr. H. have been led astray by his calculations? The history of the world, past and present, gives no support to his dark forebodings. The population of England may increase with the rapidity he says, but there is a different state of affairs in other countries. We need but look to the continent of Europe, and to France as a nation, where, if there has not been a falling off in the numbers of the people, there has been, to say the least, no increase; and in some of the United States the increase has been, not from families of

the old stock, as in England great increase on the other hand, a decrease. There is which an increase. While we have a population such as look forward to land and Canada all our surplus courage in agriculture.

**Crossing the**

An objection proved live stock and their inheritance northern winter could, it is said, any amount of bred animals ing. The objection by the proved stock. treatment the erate the own in their care a is true, could live on pasture Shorthorn or become fat, no price in the market by a judicious of animals all "grades" have tages to be derived been also made by crossing with that the offspring their domestic while inheritance making quality result has been

*Turf, Field* demonstrated, the cross of gentle disposition rich milk. Excellent bulls of any of the quality of milk be made. Inally in Howa buffalo stock in the dairy stock with the buffalo the half-breds ten quarts per fine flavor, making equaling the J a given proportion Mr. J. W. county, Nebraska, having learned and quarter-bred great value to in the far West that besides the breeds possess flesh and fat r

The progeny bred Shorthorn hardiness and the buffalo, with the English Sh

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**Farmers.**

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**Seed Wheat.**

The question is frequently asked by our correspondents, Which is the best spring wheat to sow? This is a very difficult question to answer, as some varieties are found to do well in one locality, and prove a failure in another. There is a great anxiety among farmers to procure some new variety of spring wheat that will surpass the present proven varieties, as in many localities the present varieties have ceased to be remunerative. The seedsmen are trying to procure any they can hear of in any part of the world that is likely to prove of benefit to the country. Our Government, we are pleased to learn, have secured samples of nearly all the varieties of cereals exhibited at the Centennial Exhibition from foreign countries. A portion of these will be tested at the Government farm; most probably some may be found to be of advantage. Several of our seedsmen are also attempting to introduce more suitable varieties. Messrs. Searl Brothers, of Toronto, have this year imported a large quantity from Manitoba and Minnesota. The spring wheat raised in that part is more valuable for flouring than wheat raised in Ontario. The change may be of advantage. Mr. W. H. Brown, of London, is importing a new variety from England, called the Mainstay wheat; also the Odessa wheat. Perhaps some of the other seedsmen may be importing other varieties. By some the Mainstay is claimed to be both a spring and fall variety, and to be of a most hardy and vigorous nature. The wheat known as the Red Chaff is yielding very well in many localities, although the quality is not equal to most other kinds. The hardiness and production have caused a demand in some localities for it. In other localities it is discarded. The heavy-bearded varieties, such as the Chillian, or, as some call it, rice wheat, is generally condemned because of its fatty nature. The Rio Grande, the long, open-headed, bearded wheat, is known under different names. It is not a general favorite. The Red Fern, or, as some call it, the Golden Globe, appears to be in much demand in localities where it has been introduced. There is a company selling the Egyptian at enormous figures. This wheat appears to have done well near Collingwood, but reports sent to us from some other parts are not so favorable. Some will not sow it again. Many complain about the old life wheat; still, our impression is that there is as yet a larger variety of that wheat sown than any other.

**Ontario School of Agriculture.**

The Fall Term of the winter session of this growing institution closed on the usual written examinations on Monday last. The subjects of lectures were held on Wednesday and Thursday, the 20th and 21st. The following are the Honour Lists—the names succeeding each other in order of merit:—

**FIRST YEAR.**

*Agriculture.*—1st class honours, Fitton; 2nd class honours, Gardiner, Buxton, Carpenter, Ferguson, Harris, Warren.

*Chemistry.*—1st class honours, Spencer, Fitton, Carpenter, Gardiner, Crompton. 2nd class honours, Aird, Logan, Naismith, Sangster, Graham, Ferguson, Buxton, Warren.

*Zoology.*—1st class honours, Spencer, Carpenter, Aird, Warren, Naismith. 2nd class honours, Ferguson, Harnes, Buxton, Fitton, Crompton, Farlinger, Logan.

*Veterinary Anatomy.*—Honours, Fitton, Spencer, Naismith, Aird, Carpenter, Freeman, Warren, Stewart, Pullen, Ferguson, Graham, Logan, Gamble, McKillop, Gardiner.

**SECOND YEAR.**

*Agriculture.*—1st class honours, Lindsay, Shaw.

*Chemistry.*—1st class honours, Lindsay. 2nd class honours, Sykes, Shaw.

*Entomology.*—1st class honours, Lindsay, Sykes, Shaw.

*Meteorology.*—1st class honours, Lindsay. 2nd class honours, Sykes, Shaw, Whyte.

*Veterinary Pathology.*—1st class honours, Lindsay, Sykes, Shaw. 2nd class honours, Pillar.

**Canadian Agricultural Notes.**

**Ontario.**

Mr. R. R. Saul shipped a cargo of very fine sheep from Strathroy to New York, for the Christmas market.

At the Guelph Christmas Fair on the 13th inst., about 1,000 head of cattle changed hands. Prices ranged from \$3.50 to \$7.00.

The prospects for the cattle trade with England may be estimated from one small item: In the month of November 2,600 cattle were fed in the cattle-yards of Toronto for the English market.

Upwards of four thousand barrels of Canadian apples were sold in the Liverpool wholesale market in one day, the 29th November. Prices ranged from fourteen to sixteen shillings sterling per barrel.

The last shipment of salt for the season was made last week from Goderich. The International sent 510 tons to Chicago, and 1,241 barrels were shipped to Canadian points by various dealers.

**WHAT THE L., H. & B. RAILWAY IS DOING.**—Arrangements are made by capitalists for building a large steam flouring and grist mill at Centralia, county of Huron, adjacent to the station. The power is to be sufficient to drive four run of stones, and to be in working order by next harvest.

The Agricultural Department estimates this year's wheat harvest at 245,000,000 bushels. Barley falls six and oats twenty-three per cent. below last year's yield.

**PORK PURCHASES.**—Mr. Lees has bought of Mr. Dunn, Guelph township, nine pigs, nine months old, weighing 2,396 lbs., at \$7 per 100 lbs. This is a very unusual weight for pigs of such age, as they averaged 267 lbs., 225 lbs. being considered a very large weight. Mr. Lees also purchased seven, of eleven months old, from another party, their weight averaging 305 lbs.

**SHIPMENT OF PEAS.**—During the last week Mr. J. M. Warner, of Guelph, has shipped for Liverpool thirty-five carloads of peas. The shipment was made by Messrs. James Sharpe, Thos. Hathery, jr., James Snider and Joseph Lynch, who must certainly have lost no time at their work. Mr. Warner says he will challenge any other warehouse in Canada to do it as quickly, where they are bagged and teamed.

Fifty-seven thousand pounds of poultry, intended for the Boston market, was shipped from Brockville recently. It was purchased by local dealers of Smith's Falls and Perth at the recent poultry fair held at those places.

**A LARGE PRIZE TAKER.**—Mr. Walter West's fat cow, which was sold to Mr. Geo. Hood, and by him to Mr. Britton, of Toronto, for \$176, appears to have been a very successful animal in the show ring. She took, as a three-year-old fat heifer, the first prize at the Guelph Easter cattle fair last year; the next, this fall at the Hamilton Provincial Exhibition; again she was a prize taker as a three-year-old heifer at the Western show at London; still another first prize at the Guelph Central Show this year; and at the Christmas Fat Cattle Show held on Wednesday took the first as a cow, and the sweepstakes diploma for any age. She is now four years old, never had a calf, and weighed when sold to Mr. Britton, 1,760 lbs.

**A NEW IMPLEMENT.**—The *Spectator* says:—We understand that Mr. John Richardson, of Ancaster township, has invented and is manufacturing a most ingenious combination in the shape of a combined gang plow and cultivator, which promises to revolutionize that branch of farm labor. The principle upon which it is worked is at once very ingenious and very simple. The gang plow can be removed and the cultivator attached or vice versa, at any moment, and the *modus operandi* is such that a seat is provided for the driver, who may be a boy, and who is given perfect control over the cultivator without leaving his seat. On the 22nd ult. an exhibition trial of the combination was witnessed on the farm of Mr. James Gibson by many of the most prominent farmers and most skillful plowmen of the section, who unhesitatingly pronounced their approval of Mr. Richardson's invention.

**THE BAY OF QUINTE.**—From the land adjoining this beautiful bay is grown the best barley on the continent. Of the bay itself a writer says:—Lake Ontario and the Bay of Quinte ought to be the de-

light of tourists—always cool and bracing, they afford a most enjoyable change from the hot, enervating atmosphere of crowded cities. This bay that stretches up so picturesquely among the hills of Prince Edward and Hastings counties to receive the waters of the Trent, is really a lovely sheet of water—I doubt if there is a finer anywhere on the continent.

**Quebec.**

**SHIPMENT OF POTATOES FROM SHERBROOKE.**—Twenty-two hundred and forty-nine bushels of potatoes had been shipped this season up to October 12. Of this shipment, two thousand bushels were to the States. From the amount of the shipment in this one town, we can form some idea of the productions of the Eastern Townships.

**A GLORIOUS COUNTRY.**—A Montreal correspondent of the *St. John's News*, in a late issue, writing of the opening of the Quebec, Montreal, Ottawa & Occidental Railway, says:—"The country south of this is a glorious country—the garden of Quebec; and much as has been done for it, it has done still more for itself. But it is a strip of hardly more than a hundred miles in width, contiguous to a foreign country. This north country, through which the new railway is to pass, and which it will be the principal means of developing, has no international boundaries. It is all our own, stretching back to the Arctic Circle. The broad St. Lawrence is before it—an almost insurmountable obstacle to enemies in times of war. The new railway, when completed, will communicate directly with the heart of Ontario, so that the two old Provinces will be one, as they never were before. Their interests will be in common, and the immense back country, rescued from the Provincial wilderness, will bring Canada forward to the eyes of the world in the impressive light of mere bulk."

**WHAT RAILROADS HAVE DONE FOR THE FARMERS OF THE EASTERN TOWNSHIPS.**—A farmer from Eaton Corner writes:—Instead of getting \$8 or \$10 for two-year-olds, \$50 for a good yoke of oxen, 75 cents for lambs and all other kinds of stock in the same proportion, we can get from \$15 to \$25 for two-year-olds, and \$100, and in some cases \$200, for a yoke of oxen; and still people say it is hard times. Potatoes, farmers used to get almost nothing for, now bring 40 or 45 cents per bushel. The Canadian Meat and Produce Company, he says, have lessened the supply of beef, which had been greater than the demand, by taking so much to foreign markets. This must consequently increase the demand, as what the Meat Company takes is not consumed in our markets, but takes from such, and brings so much more money to be spent in our country. From \$1,000 to \$10,000 have been paid for potatoes in this town in the last few months; prices are now 40 to 45 cents per bushel. We could not get this if we had railroad.

**Prince Edward Island.**

There was a lively time here this week among the shippers. The *Flamborough* took away 20,000 bushels of potatoes on the 12th and the *Carrol* 4,000.

**ISLAND ENTERPRISE.**—Our readers, particularly those of them who are farmers, have no doubt noticed Mr. Angus Gregor's advertisement of a combined Fanning Mill and Separator. Mr. Gregor, with commendable enterprise, purchased the patent right of the machine for this province. As it is one from which the farmers of this Island can derive great benefit, he ought to be encouraged. The Fanner and Separator has, we are informed, been examined by some of the best and most intelligent farmers and millers in the country, and they all consider that it does its work well. The importance of keeping up the character of our grain in foreign markets, and of having seed grain of the very best quality and free from weeds, cannot be over-estimated. Mr. Gregor's Fanners and Separator will prepare grain properly for the market. The farmer if he wishes can, by its means, have for seed the very best of the grain he raises. It is easy to see that a combined machine, besides being much cheaper, is in many respects, superior to two separate machines. We trust that Mr. Gregor's speculation will be both a benefit to the farming community and a source of profit to himself. He is an energetic and enterprising business man. The firm of which he is the managing partner, has in operation in New Glasgow two steam factories, provided with the best wood and iron working machinery. To such men as Mr. Angus Gregor, in the different departments of industry, the Island owes its prosperity, and upon such men it must depend to keep it in the van of industrial progress.



### Stock and Dairy.

#### Wool and Woolen Goods in New York.

From the statistics of the importation of woolen goods at New York we see that there has been a decrease in importation in the years of 1874 and 1875 of over nineteen million dollars worth. We make no comment, but direct the especial attention of our readers to the fact that there is a large and annually increasing increase of manufactures in the United States. The *Michigan Farmer* directs attention to this subject in a leading article, which we abridge, as follows:—

The statistics of the importation of foreign dry goods at New York, when examined, indicate a change as going on, which, in our opinion, has a bearing of much interest to manufacturers. It also has a very considerable interest for the wool dealers and wool growers of the United States. A comparison of the amount of woolen goods imported in the ten months of 1876, which have just expired, with the importations of woolen goods for the corresponding periods of 1875 and 1874, show a decrease almost equal to 33 per cent. in their value. The fact stands prominently out that the value of the woolen goods imported during the ten months extending from January 1st to October 31st, 1876, was as follows:—

|                                                   |              |
|---------------------------------------------------|--------------|
| Manufacture of wool entered for consumption ..... | \$12,003,999 |
| Manufacture of wool entered for warehousing ..... | 7,627,849    |

Total importations .....

|                             |              |              |
|-----------------------------|--------------|--------------|
|                             | 1875         | 1874         |
| Entered for consumption ..  | \$18,027,822 | \$18,742,114 |
| Entered for warehouse ..... | 10,482,491   | 12,484,609   |

|                               |              |              |
|-------------------------------|--------------|--------------|
| Totals .....                  | \$28,510,313 | \$31,246,723 |
| Deduct importation of 1874 .. | 19,631,848   | 19,631,848   |

|  |              |              |
|--|--------------|--------------|
|  | \$ 8,878,465 | \$11,614,875 |
|--|--------------|--------------|

Here a decrease from the imports of 1875 of \$8,878,465, and from those of 1874 of \$11,614,875 of woolen manufactures alone.

The question of these figures is, how the consumption of woolen goods decreased to that extent in the United States? Has not the population increased so as to demand in reality a greater consumption of woolen goods during 1876, than in either of the two years preceding? Has not this great diminution in the consumption of foreign goods been made up by the increased production at home? Is not this saving of nearly nine million of dollars in our export trade on this one item of woolen manufactures, the result of that tariff policy which has been so much abused by the doctrinaires of the free trade policy? It is evident to us that the great surplus of manufactures has taken the place of the foreign goods. The quality and variety of the goods manufactured have met the wants of the community for consumption, and evidently have at last competed on their merits for a share of the home trade. The very condition of the wool trade at present indicates that the manufacturing interests, at the present time, are encouraged by this very aspect of the trade for the past year. They realize that at last they have gained a market at home for their products, and one of the very best in all the world of civilization and commerce. The result is seen in the advance in the price of wools, and the absorption, up to the present time, of a much larger proportion of the wool clip of the present year, large as it is. It is seen in the resumption of business by mills that have been lying idle, and now understand that the market of the country is not clogged with the produce of foreign looms and foreign labor. It is seen in the fact that, large as has been the increase of the wool-growing, there is none too much for the wants of the consumers. It will be still further seen in the development of the wool-growing interest, and in its attempts to supply the various grades that may be needed. Besides our home clip, the manufacturers of the United States are using some fifty millions of pounds of foreign wool yearly—a fair proportion, which is likely to be increased as the necessities of the manufacturers demand it, that they may supply the growing wants of the country. There is no more hopeful sign of the prosperity of the woolen manufactures and the

wool-growing interests than the figures we cite above, which are indisputable. The American manufacturers are commanding their own home market.

#### Sore Shoulders in Horses.

Some horses have very tender skins, which are excoriated by the slightest friction; these animals, if not carefully watched, will suffer from sore shoulders, saddle-galls, and in fact will display raw places in various parts of the body which come in contact with the harness. The carter does not see the necessity for keeping the animal in the stable because he has, in horseman's parlance, "lost leather" to a slight extent. He knows that he would not be allowed to skulk himself under such circumstances, and, therefore, the horse is put to work, the abraded part being protected by a pad of some sort; an old handkerchief or rubber folded is often made to do duty for more appropriate material. During the movement of the animal the wound is most probably made more extensive, a little bleeding occurs, and a very unpleasant appearance is consequently presented to the looker-on—an ugly wound in the shoulder or elsewhere, and a rough bandage round the collar or other part of the harness, and smeared with blood. In such a case it is not difficult to prove that the horse was cruelly treated, and both the driver and owner are censured or fined, and perhaps they deserve it only as a punishment for their want of care and inattention to the feelings of a sensitive public. With proper management, well-fitting collars and harness, and the use occasionally of a little astringent lotion, the abrasions which are so common and so unsightly in working horses need never reach a condition to attract attention or interfere with the animal's comfort or his work. A properly fitted collar and harness are, of course, absolutely essential; but it will happen now and then, in spite of care, that abrasions occur. At first the injury is very slight; the shoulders or withers are "wrung a little," and nothing is thought of the matter until the injury is repeated, and the results become more apparent. Correspondents frequently inquire what remedies are most effective, not only in the treatment of sore shoulders and similar injuries, but also for their prevention. Some horses are particularly prone to suffer excoriation on the slightest provocation, and no care in arranging the harness will suffice at times to prevent the occurrence. In such cases the daily use of a hardening fluid to the most exposed parts of the skin will be beneficial, and for the purpose nothing is better than Sir William Burnett's disinfecting fluid (chloride of zinc) diluted with fifty parts of water. A soft brush or piece of sponge tied on a stick will be a convenient instrument with which to apply the lotion.

Very slight abrasions of the shoulder or other parts may be treated successfully with the same lotion; but if the injury has been severe, and the part is swollen and tender, fomentations of warm water must be employed in the first instance, and when the tumefaction has subsided the astringent lotion should be used.

In all cases some means must be devised to prevent pressure on the abraded part until healing is perfectly completed. If this cannot be done the horse must be rested, or put to work which does not necessitate the use of harness in contact with the seat of injury during the cure.—*Agricultural Gazette*.

#### Over-reaching.

Many horses have the very unpleasant habit of striking the toes of the hind shoes against those on the fore-feet. Most horsemen will agree that it is a fault attaching to some of the best as well as to the worst of horses. It more frequently occurs with young horses, and they often clink on the turf or soft ground, and not on the road. It arises from the too great activity or length of stride of the hind legs: the fore-feet are unable to get out of the way in time; therefore, anything which detains them, such as soft or heavy soil, must assist the habit. The principal point to be remedied is the intolerable noise, from which the evil derives the name "clicking"; and this is often effected by making the hind shoes square at the toe, and leaving the toe of the crust somewhat projecting over the shoe, by which plan the crust receives the blow instead of the shoe, and does not make any noise. It sometimes happens that, from the repetition of these blows, the crust is worn so thin at the toe as to produce or threaten lameness, in which case the plan of shoeing mentioned must be desisted from, and we must put up with the noise to avoid the

greater evil. When a square-toed shoe fails in preventing clicking, it will sometimes happen that a shoe pointed at the toe will succeed; which, no doubt, arises from the circumstance that the shoe, having so small a surface to come in contact with, fails to strike the fore shoe and goes within, or by the side of it.—*Live Stock Journal*.

#### Convention of the International Association of Short-Horn Breeders.

This Association held its fifth Annual Meeting at St. Louis, December 6th, with a fair attendance of members. We give the most generally interesting parts of the address to the meeting by the President, J. H. Pichrell, Esq., of Illinois.

##### THE PRESIDENT'S ADDRESS.

Since our last meeting many things have contributed to depress and discourage breeding. Yet, notwithstanding these drawbacks, we may congratulate ourselves on the fact that Short-horns have maintained nearer the high prices established in flourishing times, perhaps, than any other branch of trade or industry. While we may know that we have lost in some of our speculations, and that some of the evils (as prophesied one year ago) of reflecting on certain old and long established pedigrees have been the cause of not only speculators, but of some of those who have made Short-horn breeding an all-life business, losing money, we have the satisfaction of knowing, however, that it is a rare thing for a man to offer his own breeding that he does not get a fair remuneration for his stock. As long as that is the case, we can well afford to encourage the breeding of good cattle.

"If we would but reflect a moment we would know that our business could not always flourish with the present state of speculation and public sales, and one can easily figure out that things must change before very long, because sooner or later somebody is going to lose money.

The sooner the taint, even, of the you-tickle-me-and-I-tickle-you policy ends, the better for the general business. When breeders sell because they have a surplus, and buyers purchase only when they need them, we may be certain, though we should have to take less for our offerings at first, that our business is on a more sure foundation, and those buying can be assured that the judicious investments they make will well repay them, because, when such is the case, we may depend that the "specie basis" of Short-horn breeding will have been reached.

If we can devise means for advancing the breeding interests, we benefit not only ourselves, but the whole beef-producing class, and, at the same time, furnish a better quality of meat for the consumer. One thing that is being demonstrated in our favor is the success that has attended the shipping of live cattle to foreign markets. Nothing but the best quality will bear shipping, thereby creating a new demand for the better quality of beef.

In accordance with your request, I addressed letters calling the attention of the Committee on Postal Affairs in the Senate and House of Representatives, relative to the reduction of postage on catalogues. Whether they had any influence or not, we have the satisfaction of knowing that the desired object was attained.

The Directors also authorized me to communicate with the authorities at Washington and of the Dominion of Canada, requesting them to establish quarantine regulations to prevent the introduction of contagious diseases of cattle into America.

The Canadian authorities have established a system of quarantine that will undoubtedly prevent the importation of diseased animals through their ports. I am sorry to say that the Government of the United States has taken but inadequate means to prevent such an introduction through their ports. I am glad to be able to report, however, that much of the danger apprehended one year ago is passed. Yet we can but feel that under the present regulation we are constantly subjected to contagious diseases of foreign countries.

It is a well ascertained fact that cattle from the United States do not bear the hardships of the voyage to England as well as those of Canada. Mr. G. C. Frankland writes that he brought a lot of 90 bullocks at Chicago which were shipped at Quebec for England. They were scarcely at sea when their strength gave way, and ten of them died and had to be thrown over-board. During the summer season as many as 97 cattle have been similarly lost on the voyage between America and England. Some were Canadian cattle, and as a rule they bore the voyage better than cattle from over the border.



**Stock Notes From Late Paris Letter.**

The Department of the Nièvre is celebrated for the rearing and fattening of cattle, and agriculture there, once so backward, is now the most flourishing in the realm. The farmers have become wealthy by abandoning expensive systems of culture, and confining their attention to live stock. The enlightened agriculturists of France recognize two truths: That they cannot compete with America and other countries in the profitable raising of wheat, nor with Australia in the growth of wool. It is on the production of meat then that attention is fixed, and for which the demand is unlimited, and the competition nil. Wool is regarded but as an accessory. The question of improved breeds of cattle, and the precocious production of meat, are two subjects that occupy very seriously the attention of continental agriculturists. Belgium seems to have taken a strange step to advance these ends. The provincial council of Hainaut has decided that henceforth no pure Durham blood shall be imported for ameliorating local races; the latter must be amended by a careful selection of the best local types. Thus reliable purity of descent and aptitude for the butcher are secondary considerations. The discussion continues to be interesting between Professor Sanson and his opponents on the question of precocity. According to the professor it is the maturity of the bones that limits and stops the development of the flesh, etc.; while the contrary view is, that it is the complete development of the soft parts arrests the growth of the skeleton. Food acts in two manners: nitrogen tends to the production of flesh, phosphoric acid to that of the bones. M. Sanson lays down that the acid pushes to maturity by hardening the extremities of the bones, and thus checking the growth of the tissue. Not a few maintain that the solidification of the bone is the natural consequence of the animal's fleshy structure having been completed, and requiring no more phosphoric acid to form new tissue, the acid concentrates itself in the tissue of the bones—the latter contains thirty per cent. of organic matter. The phosphoric acid accumulates in the extremities of the bones, as it collects in the seeds of plants, and the laws in both cases would appear to be similar—to grow at first, and when growth is over, to ripen. Maturity is thus the consequence and crowning of growth.

**Butter in France.**

If our dairymen need a spur, an eye-opener, a lesson which speaks volumes in three words, here is one at the head of this article. Butter is actually brought from France and sold by the New York dealers. And this is thus because there is an actual scarcity in the market of good butter, put up in an attractive shape for small consumers. When we know that one dairyman gets \$1.15 a pound for his products, another \$1, and another 75 cents the year round, at his dairy door, it is easily seen that it will pay to bring butter across the ocean from France, if it is only good and shapely enough to suit the fastidious purchasers who will have something nice, whatever it may cost. All this butter is made from choice cows, chiefly fed on clean sweet food, the milking being done in the cleanest manner. The milk is handled as carefully as though it were nectar, the cream is churned with clock and thermometer, the butter is worked with skill, and is made up in shapely cakes, which do not require to be cut when brought to the table. Compare, then this cake—hard, golden yellow, sweet, fragrant and tempting to all the senses—with an unsightly chunk, which is cut out of a greasy keg, and smells of old age and rancidity, and is made from ill-kept cream from cows filthily lodged and carelessly milked, and is churned anyhow, and the difference is amply accounted for.—*N. Y. Tribune.*

**Fat Sheep for Heavy Fleeces.**

A writer in the *Country Gentleman* says:—"There is much said about ewes being too fat to breed well. In my experience of twenty years I have never seen anything that led me to think so, providing the flesh was put on with good pasture during the summer, and a few roots with hay during the winter. The fatter sheep become under such circumstances the more valuable I consider them. There is no time in the year when it pays better to feed a small allowance of grain daily than in the autumn after the food gets frozen, and it is not necessary to bring the flock to the barn. It is an old saying that 'sheep well Novembered are half wintered.' Keep the ewes fat and the lambs will be fat, and the

fleece heavy. I do not say that it is better to have lambs come early or late; but whether early or late, they are saleable. All ewes that, with good care, will not raise a lamb and shear four pounds of washed wool, should be sold. I have them in my flock that shear nine pounds and raise a pair of twins, and it takes no more to keep one such than a sheep that shears but three pounds. I think that no one will hear the man who keeps his flock in this way, complaining because his sheep are all 'run out,' and 'do not pay him,' and the like. Ticks must be kept out of the flock; they are the worst enemies of the sheep. If they are not killed they will destroy the sheep. For killing them I have tried nothing better than tobacco juice."

**New Food for Horses.**

A new kind of mash for horses is now coming into use. It is thus described:—

It is composed of two quarts of oats, one of bran and half a pint of flax seed. The oats are first placed in the stable bucket, over which is placed the linseed; add boiling water, then the bran, covering the mixture with an old rug and allowing it thus to rest for five hours; then stir the mass well up. The bran absorbs while retaining the vapor, and the linseed binds the oats and bran together; a greater quantity of flax seed would make the preparation too oily and less relished. One feed per day is sufficient; it is easily digested, and is especially adapted to young animals, adding to their volume rather than their height, giving substance to the frame. Prof. Sanson reminds us not to overlook food in connection with the amelioration of stock. He considers oats, so generally given to sheep, as objectionable, and approaching the unprofitable; rams generally receive one pound of oats daily; ewes half the quantity. Oats, forming an exciting food, are especially suited to rams during the season they are to serve, but for hastening the development of young sheep, they only build up the bones, and not the flesh.

**One Cow a Mine of Wealth.**

The history of the Shorthorn cow, Duchess 66th, which was sold in 1853, at Earl Ducie's sale, in England, to Col. Morris, of Fordham, for 700 guineas, or \$3,675, is remarkable as showing the actual value of one good breeding animal. From this cow, which was calved in November, 1850, there may be traced in direct descent a number of animals which have sold for about \$500,000. Let it be admitted that as much of this value as may be is depending on fancy or rich breeders, and is not the intrinsic value of the beef and milk produced; yet no one can help admitting that an immense value estimated in these alone, has accrued to the world from this cow; and in proportion to this value may be estimated the profit to a breeder from any superior animal he may produce. A line of breeding animals is brought into existence which spreads out fan like, and diverges year by year wider and wider, until we can no longer reach the bounds of the beneficial influence. It is in this that lies the value of any good animal, and it is an unfair disparagement to confine its value to the weight of meat upon its carcass, or its produce in milk and butter. The breeder who produces a superior animal sets in motion an impulse which must in time spread and increase enormously, and far beyond computation.—*American Agriculturist.*

**One Million Milch Cows.**

In the dairy show opened recently at the Agricultural Hall, a novel and interesting addition is made to the agricultural exhibitions periodically claiming metropolitan attention. The dairy farmers constitute an important section of the community, the returns of last year showing that in England alone there were 1,600,000 milch cows, of which number it was calculated 1,200,000 were in the hands of 50,000 persons. The value of the milk produced by these cows, putting the price at sixpence per imperial gallon, and estimating that each cow yields 490 gallons a year, would amount to twelve millions sterling. With the facilities afforded by the railways and the operation of the adulteration act, the milk trade is rapidly increasing, so that there is as much excuse for an annual exhibition of dairy produce as of horses, poultry, dogs, cats, bar-maids, donkeys or babies. If the dairy show leads to the vending of pure milk and total annihilation of "Simpson," "calves brains," "the cow with the iron tail," and other adulterations, until recently said to form component elements of "London milk," the British Dairy Farmers' Association will not have lived in vain.

**Cheese Product of 1876.**

According to Prof. Arnold, secretary of the American Dairymen's Association, the cheese product of the United States for 1876 is 25 per cent. short, caused by the drouth. The quality of the cheese, down to the middle of August, was faulty. Cheese made later than the middle of August is of decidedly better quality than that made earlier in the season, at least the samples are finer and better flavored.

**How to Cure Bacon, Ham, and Pork.**

In reply to a subscriber asking for directions for saving meat, we give from the *Telegraph* the following instructions how to cure bacon, ham, and pork:—

As the wintry months approach, the hog gains greatly in the estimation of his friends, and many persons who would not taste of his flesh in the summer months are pleased to see various dishes composed of it upon their tables. But bacon holds its own at all seasons of the year, and ham is always appreciated when properly cured and cooked.

Opinions differ as to the derivation of the term "bacon." Some wise heads think it to be a corruption of the Scotch baken (dried); while others believe it to come from *beechen*, as the finest flitches are furnished by animals fed upon beech-nuts.

There are also various ways of curing bacon. The Yorkshire (England) method is to burn off the bristles, rather than to scald them, then brush the carcass and wash it in cold water, and let it hang where it will not freeze for twenty four hours. One quarter of a pound of saltpetre and twenty-five pounds of common salt are then rubbed thoroughly into the pieces of the animal, which should be placed in a large tub and covered up closely in a cool place for a fortnight. Then turn over each piece and rub in a little more salt. Let it remain in the pickle another fortnight, and the bacon is ready to be smoked. The best way to smoke it is with corn on the cobs, burned upon charcoal, keeping up a slow, dense smoke, and not a fire. Then put it in a cloth and wash it over with whitewash, to preserve it from mould or fly-blows, and place where there is no moisture, and it will keep for years.

The Westphalian hams and bacon are cured by the following recipe:—

To six pounds of rock salt add three ounces of saltpetre and two pounds of Coffee C. sugar. Put it into three gallons of water and boil until dissolved, skimming it well while it boils, and when cold pour it over the meat, keeping every part of it under the brine.

Bacon can be pickled ready to smoke in about ten days; but ham should remain in for four or five weeks. This pickle can be used again and again, if it is boiled up, skimmed, and a small portion of its ingredients added each time.

Before putting the meat into the brine it should be carefully washed and wiped clean from blood, as that spoils the pickle. Pickling tubs should be larger at the bottom than at the top, so that the pork can remain undisturbed in its layers until needed for use; and the bottom of the tub should be covered with coarse salt, and then a layer of meat placed upon it, and so on until the tub is filled.

At the Annual Convention of the International Association of Shorthorn Breeders, held at St. Louis, Dec. 6, the following officers for the ensuing year were elected:—President, Hon. D. Christie, of Canada; Vice-Presidents, B. B. Groom, of Kentucky, and J. H. Kissinger, of Illinois; Secretary, C. F. Lockridge, of Indiana. In the Board of Directors are Stephen White, Charing Cross, Ont., and Hon. M. H. Cochrane, Compton, Quebec.

Dr. E. W. Sylvester, of Mayne Co., N. Y., is reported to have made an experiment with a French method of butter-making, as follows:—He put the cream in a canvass bag, and enclosed that in another bag, so as to prevent the cream from escaping and foreign matter from entering; he then put the bag in the ground two feet deep, when the earth was dry, covered it over and allowed it to stay there twelve hours. At the expiration of that time he found the inner bag full of butter, which, after receiving the ordinary attentions in the dairy, was pronounced by competent judges a superior article.

Mr. F. B. Starr, of Litchfield, Conn., exhibited a Jersey cow two and a half years old, that during the two months of July and August gave 1,758½ pounds of milk.



### Fashion in Breeding.

From a paper on Fashion in Breeding read before the Central Farmers' Club (England), we make the following extracts:—

The general cattle breeders of the Kingdom will agree in assigning the first position to the shorthorn, both numerically and from the prices they command in our show-yards and sale-rings.

There are three separate and entirely distinct systems of breeding pursued—the one is "Line Breeding," which is most in favor. The practice of the continuation of the use of sires, of the same line of descent, preserving an affinity, which is not considered likely to prove prejudicial to the health of the offspring—when a herd has rendered itself famous, by the development of a perfection not generally found, there is the desire and the probable fulfilment of that continued excellence which is peculiarly its own. The other is "Cross Breeding," or the introduction of a male of one line to a female of a separate strain, and this I think causes more controversy with shorthorn men than any other; some maintaining that it is essential for the preservation of the health of a herd, that there must be an occasional introduction of new blood,

results of such a course are strongly condemned by some, although finding favor with others.

The subject naturally brings us to consider the relative merit of the stock of the present day, when great prices are realised, and the comparison they bear to those bred 30 or 40 years ago. It has been affirmed they have not improved, but if this be so, we must ask ourselves, How is this to be accounted for? Certainly there is a great increase in the value of animals of all kinds during that period, it is also conclusively proved that certain strains of blood have moved upwards in value far beyond any other, whilst the general increase in the value of live stock may be considered to have ranged from 30 to 40 per cent.

Recently we see whole herds realizing fabulous prices, instance the sale of the late Mr Torr, in the autumn of last year; many others can be quoted, showing results confirming my statement.

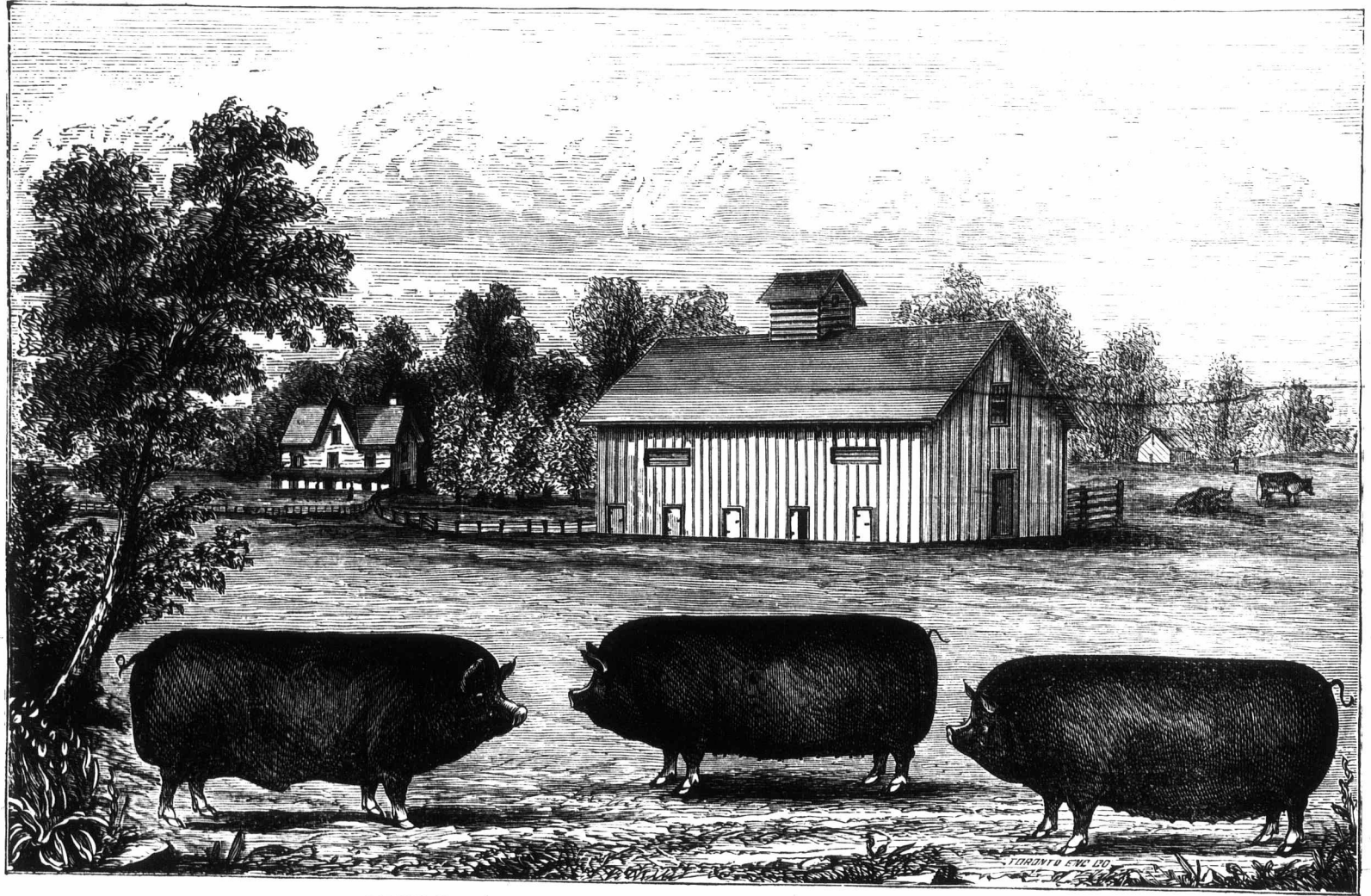
There are cases occurring every year of certain strains of blood commanding prices not known until recently; though instances can be quoted of animals bred with the nearest possible affinity, having realized extravagant rates. This question admits of great latitude, and the subject suggests an amount of argument which does not appear on the

The breeders of Devons of the present day are disposed to favor more scale than formerly. The same animal that now takes prizes was not the favourite in the show-yard some years ago; the small animal has made way for a larger one. I am disposed to think that change is due to the lightness of flesh the smaller animal carried, and in some measure to the fact that few could be found possessing the constitution it is so essential to preserve.

The Hereford is a breed that has always found favour at the hands of both grazier, butcher, and consumer.

The late Lord Berwick, Mr. Green, of Marlow, Mr Shirley, and others have herds possessing hardihood of constitution, with hair and heavy flesh, without that inclination to produce superfluous fat with absence of flesh, which is occasionally seen in our show-yards in the present day.

I must not forget to mention the beautiful and symmetrical polled Angus, and his heavy flesh; and his companion from the extreme North, with his long and shaggy coat which defies the cold blast of that exposed district; both of which afford some of the best beef the epicure can desire, and which finds admirers wherever they are introduced.



BALMORAL FARM, LOBO, THE PROPERTY OF MR. ALEXANDER McARTHUR.

to act as invigorator to the general system, whilst others as determinedly pursue the system of line breeding, as the one leading to that perfection which it is the object of all breeders to attain.

The cross-breeding may command more flesh or robustness of constitution, but experience tells us that, as sires, animals bred in that manner rarely command prices equal to those that are bred from one direct line of ancestry. I have often known men with ordinary stock purchase a good sire for two or three successive crosses, and, by that means, have materially increased the value of their stock, and have then used an animal bred by themselves, and the result has been most disappointing; the germ of perfection was not sufficiently marked and distinctive to warrant the practice, and thereby they have reproduced some of the weaknesses that were apparent prior to their first investment. The other course is that of "In-and-in Breeding"—a fashion much followed by certain classes of breeders.

There is little doubt that some extraordinary results have been attained, and many animals so bred have commanded most fabulous prices. The

surface. Similarity may be arrived at to a greater certainty than by any other course, but the opponents of the system affirm that you beget a lack of constitution in many so bred; the necks, heads, and general muscular development are not of that character to commend them to the general breeder, who is in favor of a more robust animal. There is a temptation to those possessed of animals commanding such extreme prices to continue to breed from the weakly and delicate misfits which occasionally appear. The continuation of the use of such animals is prejudicial, not only to the owner, but to the purchaser of stock with that predisposition, the only recommendation to which is the somewhat fictitious price which they bring.

Many breeders of sound and moderate views object to the introduction of any distinct line of blood into their herds. They prefer the use of an animal possessing a strain of character and line of descent predominant in the herd where such introduction is desired. Breeding from any two separate breeds will always produce good butcher's animals, but the next cross is generally a disappointment.

### "Balmoral" Farm, Lobo, the Property of Mr. Alexander McArthur.

This farm is claimed by some to be the best farm in Lobo township, which is generally admitted to be unsurpassed in the county of Middlesex. The farmers of Middlesex, like the farmers of some other counties, consider their locality the best in Canada; at any rate, the soil is of an excellent quality, being a rich clay loam. Mr. McArthur has been a successful farmer, and feeling bound to excel, has lately devoted his time and means in establishing himself as a stock breeder. He has a lot of very fine Berkshires; he procured his stock from Mr. T. S. Cooper, the gentleman who made the finest display in that class at the Centennial Exhibition; in fact, we do not doubt but his stock is the best to be found in the world.

Mr. Chapman, the artist who drew the picture, has made some slight alterations in it to meet his



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fancy; of course all the pigs could not be made to stand quiet. Artists are always allowed a little liberty.

The piggery is constructed on the improved principle, and is worth a visit from those contemplating building one, and live within easy distance of his locality. We had a cut made of the interior, which appears in the opposite page, to show the plan and some of the fixtures, that will no doubt be of use to others who are about to build.

The three pigs seen in the foreground are Sombo XV., Smitheren III., and Sweet Seventeen. Mr. McArthur gained the Triple, Double and Sweepstake prizes at the last Provincial Exhibition in Hamilton. The value of this class of swine is such that a special herd book is now kept for them. We wish Mr. McArthur success in his attempt to add greater honors to the reputation already gained by Canada.

**Interior of McArthur's Piggery.**

The view is so distinct that description is not required.

The fastenings used for the doors, as shown in the engraving, are of a simple pattern, and very useful. We believe they will be adopted in preference to the fastenings now in use.

The upper part of the staple is made round, the bottom part square; the catch is made square to fit. The catch when raised revolves, but cannot turn when it drops to its place as the door is closed. The cuts shown are half the size of those used in the piggery. If you show this picture to your blacksmith he will make a fastening. You will find it very handy. The iron for the fastening should be half an inch thick, and the other irons in proportion. The invention is a really useful one, and can be utilized by any practical farmer.

**Dairymen's Convention.**

The American Dairymen's Association hold the convention of 1877 in Ingersoll. Their programme embraces topics of very great interest to all our farmers, as the dairy business in all its bearings is one of the greatest importance to farmers. The good market for our dairy products is not the only source of profit. Stock-feeding for dairy or shambles implies the improvement of the soil. The convention will take place on Jan. 9th, 10th and 11th. We hope very many farmers will avail themselves of the present opportunity of hearing addresses and discussions on the dairy interests of the Dominion.

The following order of business will be observed:—  
Tuesday, at 11 a. m.—Organization and appointment of Committees.

**SUBJECTS FOR DISCUSSION.**

Tuesday, p. m.—“The Dairy at the Centennial,” by the Secretary of the Association. “Butter Making at the West,” by J. Stewart, of Manchester, Iowa, recipient of prize Medal for best butter at Centennial, at June display. “Progressive Butter Making,” by H. C. Green, of the Meadville Republican, Meadville, Pa.

Tuesday Evening.—“The Fitness of Things,” by Hon. Henry Lewis, of Frankfort, N. Y.

Wednesday, a. m.—“Leaks in the Dairy,” by C. L. Sheldon, of Lowville, N. Y. “Cheese Manufacture,” by Hon. Thomas Ballantyne, M. P. P., of St. Atford, recipient of prize medal for best Canadian cheese at the Centennial, in October display.

Wednesday, p. m.—“Canadian Dairying,” by C. E. Chadwick, Ingersoll, Ont. “Dairying and Fertility,” by Prof. E. W. Stewart, of the National Livestock Journal.

Wednesday Evening.—Address by Hon. George Brown, Senator, Toronto.

Thursday, a. m.—“The Refuse of the Dairy—its Use and Abuse,” by J. S. Van Duser, of Husbandman, Elmira, N. Y. “The Cheese Interest of Canada—Present, Past and Future,” by Adam Brown, Hamilton, Ont.

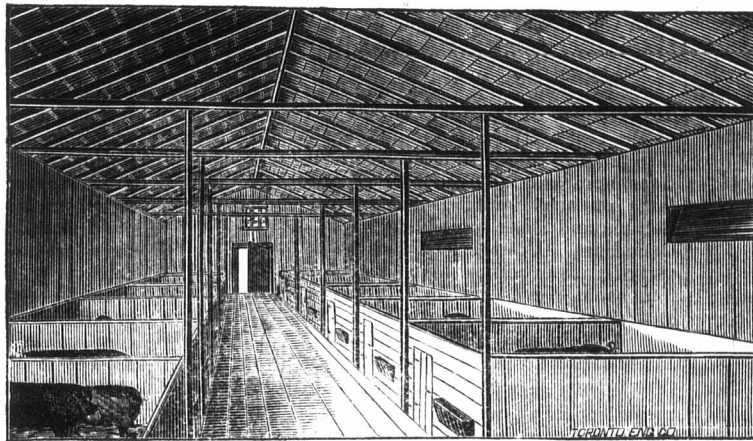
Thursday, p. m.—Reports of Committees and miscellaneous business.

Prof. G. C. Caldwell, of Cornell University, has been invited, and is expected to be present and address the Convention—subject not named.

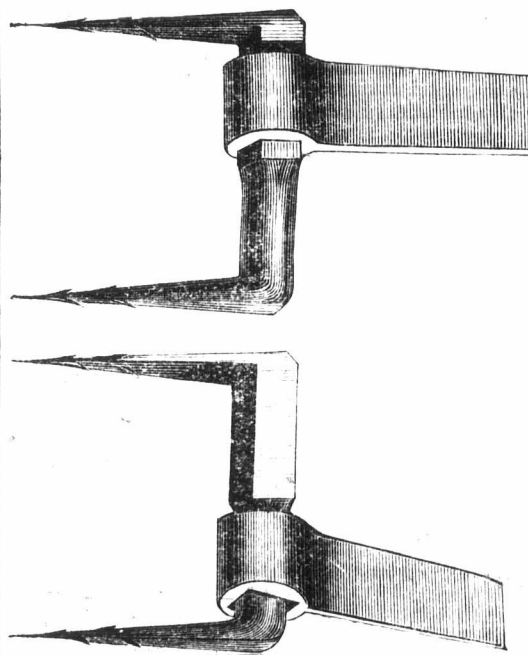
Other persons having any facts or topics appropriate to the occasion are desired to present them, and all interested in the dairy are invited to be present and participate in the discussions. After each address time will be given for questions and discussion.

Rooms will be provided for the exhibition of dairy goods and dairy apparatus, and committees appointed to make examinations and reports of the same. Liberal displays of both are solicited.

L. B. ARNOLD, Secretary. HON. HORATIO SEYMOUR, President.



INTERIOR VIEW OF MR. McARTHUR'S PIGGERY.



IMPROVED DOOR FASTENING.

**Wheat Bran for Cattle.**

Chemists have long believed that wheat bran contains much material for making animal blood and flesh. The analysis of wheat bran and flour, by Dr. Hubbell, a noted pharmacist of Philadelphia, presents these facts. One hundred pounds of wheat yield 76 pounds of flour and 20 pounds of bran. The flour holds in it of tissue-making elements—gluten, albumen, etc.—1.65; of phosphates, and other salts, 0.70—total, 2.35 per cent. While the bran contains of tissue-making elements, 0.10; salts, bran is, therefore, four-fold more nutritious than phosphates, etc., 7.05—total, 10.15 per cent. The flour, or being one-fourth as heavy as flour, it has in fact as much real value, as a food, as flour itself. Wheat flour from the mill consists mainly of starch, the blood-flesh-and-bone forming materials or ele-

ments of the grain are rejected in the bran because of the ignorant opinions of other generations. According to this high authority wheat bran constitutes a decidedly important article of food, whether for man or beast.

**Canadian Sheep in England.**

We have already from our Canadian standpoint taken a view of our exporting of sheep to Europe. How it is viewed from the English standpoint we learn from an article on the subject in the London Globe. The capabilities of the Dominion for supplying the deficiencies in British produce, both cereals and meat is becoming fully appreciated in Europe. The shipment of our produce promises to be beneficial to English consumers as well as to British American producers.

Here, then, we have the commencement of what may prove an almost inestimable boon to the English people of small means. The capabilities of the Dominion for raising sheep are practically unlimited. During the last few years the annual exportation of sheep from Canada to the United States has averaged half a million, and this in spite of the trade being hampered by a twenty per cent. duty. It is estimated that this twenty per cent. more than equals the total cost of bringing sheep from the Canadian ports to Liverpool. Hence they could be sold for the same price in England as they fetch in the United States. This is, we believe, considerably less than the existing rates in the United Kingdom, and the effect of importations, if carried out extensively, must be to bring down our market to a level with the American. It would be too sanguine to expect much relief from this source for some time. A trade of such magnitude as this would need to be to produce any effect on prices, could not be established in a day.

But, in the present state of affairs, any news is welcome which affords a reasonable hope of a good time coming for people of limited means. The price of butcher's meat in London is, to a certain extent, prohibitory, unless those who want it go to the trouble of making their purchase at Smithfield market. There comparatively moderate prices prevail, owing, we believe, to the slackness of trade having diminished the consumption of meat among the labouring classes. But the rest of the metropolis, almost without exception, remains the victim of an inordinately high tariff, for which no reason is apparent, except the joint determination of retailers to maintain existing rates. The public will certainly have every cause to rejoice if this Canadian sheep traffic proves successful.

It is natural to expect that with a humid climate and soil generally alluvial, Holland ought to have a breed of cattle to correspond, and that milking rather than fattening qualities ought to be the predominant characteristics of that race. Such is found to be the case in practice. Dutch cows are large and heavy, are excellent milkers, and put up flesh rapidly. It is a curious custom of the country, that, while the milking qualities of the local races are not so excellent as in former years, farmers pursue a strange method for upholding these qualities. They give as little nourishment as possible to the calves, in the belief that this plan prevents precocity in running up fat. They send the heifers to the bull when very young, and pending the period of generation the animal is liberally fed. The average yield of milk of a Dutch cow is about 660 gallons per annum, and oftentimes as much as 850; the proportion of butter is about five per cent. The average weight of a fat cow is from six to nine cwt. The construction of the sheds is curious. The building consists ordinarily of double stalls; the separating space is filled with straw and rape stems in summer, which diminish thus the excessive heats of that season; there are also apertures ten feet from the ground, for the admission of fresh air. In winter the space between the walls is filled with turf, and only so much air admitted as is required for ventilation. The apertures are provided with curtains to exclude insects and excess of light. The cattle are partly grazed and partly house-fed, and there is a decided objection to the introduction of other races—Durhams for example for crossing purposes. Besides, Holland claims to be the cradle of the Durham breed. Improvement of races is kept up by the scientific selection of the best breeds.

**The Property of Mr. McArthur.**

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## Agriculture.

## The Corn Crop of Illinois for 1876.

A correspondent of the *Prairie Farmer*, who has taken great pains to ascertain what the yield of the last crop really has been, writes to that paper in no very encouraging terms. When we take into consideration that it is not wheat, as with Canadian farmers, but corn that is the staple article of produce in that State, and that on corn they rely as the means to enable them to pay their heavy taxes and meet their many other engagements, we will see what a crushing misfortune the reduction of the yield of that crop fully one-half must be. The correspondent travelled through the State for the purpose of learning by his own careful examination what yield the crop had really given, feeling convinced that the report of the State Board of Agriculture was more favorable than was warranted by facts. We give extracts from his communication as follows:—

"During the summer of 1876 I made arrangements for a more general survey, and carried them out by going up and down the State, from Cairo to Dunleith, and across it, from Danville to Quincy; and in addition, made several other excursions into districts where the corn crop was reported to be particularly good and into others, where the reverse of a pleasant picture was presented. As the result of these railroad journeys, I am prepared to offer the opinion that compared with the corn crop of 1875, that of 1876 is not over half as large. That is, in 1875 the state supply gave us two bushels, where in 1876 we have but one.

"I do not think any good end would be attained in pointing out these counties and parts of the State where the corn crop has failed badly, or disastrously carrying with that failure small grain, hay and even potatoes in the general wet weather, rain—when the stricken farmer has neither grain enough to keep his small stock of hogs, cattle and horses over winter—no means to meet his engagements, no money to pay his taxes, and where some of them are almost in a condition to feel themselves to be without hope and without God in the world." For while such an advertisement would be of little or no benefit to the sufferers, it might do a great deal of harm to them and to the bankers and business men of such a community. It is enough perhaps to say, that of the 55,000 square miles of all Illinois, in at least 10,000 square miles of it, the crops are shorter than they have been remembered to be, and then the condition of business men in such districts is deplorable and that of farmers pitiable. Of those excursions, and some others I do not note, which took me into 60 of the 101 counties of the State, and gave me a fair opportunity to judge of the crop in at least 50 of them, and if those 50 fairly represent the average of the whole State, I do not see how the yield per acre can be estimated above 20 bushels. Consulting this year's crop returns and such other figures as had accumulated at Springfield, he calculated in his last report, the area of the corn crop of 1876 at nine million acres nearly. This on my estimate of 20 bushels to the acre, average, would make 180 million bushels. His figures as to yield, made up no doubt with great care, make the crop a trifle over 202 million bushels, or something less than 30 bushels per acre. More or less, the corn crop of Illinois is very short, shorter even than that of 1874, and so short in some districts and counties as to amount to a public calamity. According to this carefully prepared report of the correspondent of the *Farmer*, a deficiency of 180 million bushels of corn exists."

## An American Opinion of Canadian Agriculture.

The *German Telegraph* speaks of Canadian agriculture, as represented at the Centennial Exhibition, in this wise:—

In whatever direction we looked on the Centennial grounds, it was impossible not to note the credit which Canada did to herself by her exhibits. She may well feel proud of the eminence she has attained, of the victories she has achieved. There are always some who think there is some ulterior object in everything; and we have heard it suggested that the Dominion made a strenuous effort to appear at her best, in order that the people of America might see that others could prosper as well under a Monarchy as under a Republic, and to keep down any desire of her own people for annexation to the United States, by showing how

prosperous they are now and the wisdom of letting well-enough alone. And then there are plenty of knowing ones who are quite sure that this or that State, or society, or person, would have done as well as Canada "if they had only known," or if this thing, or if that thing, &c.—the stuff we always hear when people get badly beaten. For our part, we know well that the American people as a whole love fair-play as well as the proverbial Englishman, and are not disposed to abate one jot of the justly-earned honors of Canada in this great world's fair. The motives that may have induced the display are nothing to us. She was there in the face of all the world with her varied products, and she has reaped the lion's share of the honors.

As the awards are being made, it is wonderful to note how many medals go to Canada for agricultural products. The work of two groups of judges has just been made public—horned cattle, and pomology and special agricultural products, and an analysis shows that Canada has—not the lion's share, for that implies a forcible possession, right or wrong—but a liberal slice from the great Centennial Wedding Cake.

In the case of the horned cattle awards, we note that sixty exhibitors take medals from sixteen different countries or States, and of these Canada takes thirteen—more than one-fifth of the whole. The vicinity of Philadelphia has eleven, with seven to the rest of the State; but the vicinity to the fair grounds ought to have been an additional inducement, and we cannot think but—taking these facts into consideration—our own people of Philadelphia and State have been badly beaten by the Canadians. Connecticut does pretty well with six awards; then comes Iowa and New Jersey with four each; New York and Illinois with three each; and then one each to Massachusetts, Indiana, Maine, Nebraska, Virginia, Kentucky, Kansas and England.

When we examine the pomological and special agricultural list, we find just the same Canadian pre-eminence. Of three thousand exhibits examined, the group makes two hundred and thirty-five awards. These cover fruits, vegetables, legumes, models and other incidentals. One hundred and fifty-eight of these are for fruit of various kinds. Nineteen of these are Canadian, or about one-eighth of the whole, which is wonderful when we remember that the fruit is regarded as particularly the attribute of more tropical climes. Pennsylvania has twenty-two—nothing remarkable when we regard the proximity, and the difficulty of getting perishable fruits from a distance; and even this is distanced by Massachusetts, which has twenty-seven. Iowa comes next with seventeen; Michigan and New York come next with ten—this, however, including several to the enterprising firm of Ellwanger & Barry; Connecticut twelve, New Jersey nine, Oregon seven, Ohio and Kansas three each; the Netherlands, Indiana, Nebraska, Delaware and Florida, two each; and one award each to Austria, Georgia, Wisconsin, Minnesota, Jamaica, North Carolina, Maine and District of Columbia.

Now, considering the advantages which some of these States have, it is remarkable that Canada should do so well. She has done herself infinite honor and credit; and the beneficial results which will undoubtedly flow to her from her efforts she richly deserves.

## The Growing of Roots in Canada.

From the *Michigan Farmer* we copy an article on this subject. It is unnecessary for us to refer to a branch of husbandry of which we have so frequently spoken in our journal. We have again and again pointed out the great profits to be derived by farmers from the growing of roots for stock feeding, and we are pleased to see that their cultivation is every year extending throughout the country. Now that we can send our beef and mutton to the English markets, we have the greater inducement to pay more attention to the feeding of our stock and providing food for them for all seasons. We abridge the article above referred to as follows:—

The growing of roots in Canada is becoming a part of their system of farming. We in Michigan are beginning to understand that something of the same kind must be done here, and many of the most intelligent and successful farmers are giving a partial attention to the subject, and the fact is very prominent that those who try it once stick to it, and wonder that they have not tried it before. But this root culture induces a very general change on the farm, and the handling of more capital, as well as constant attention and alterations in many

ways that all farmers are not prepared for. Still roots and their culture are working their way just as they have done in Canada, while that climate is, if anything, somewhat more severe than that of Michigan.

It has long been felt by farmers and others in Ontario that the capabilities of the province as a root-growing country have never been fairly demonstrated. The exigencies of climate compel the holding of the principal fall shows no later than the beginning of October, a season at which root crops have not nearly perfected their growth. Consequently, the roots shown at the Provincial Exhibition have been immature, not having obtained anything like the weight that other roots left in the ground have attained a month afterwards. It is evident that Canadian farming has got to undergo a radical change, or the land will be impoverished by the eternal succession of grain crops that are wrung from it. And as roots were the "salvation of English agriculture," so the success of root-growing in Canada, as exemplified in the show lately held, may be said to mark a new era of prosperity for the Canadian farmer. Canada has got to grow more stock before her agriculture can be considered fairly and permanently prosperous. To feed that stock we must grow roots, not only for their intrinsic value as food, but for their known property of assisting in the assimilation of other food. It has been the general notion of our farmers that roots cannot be grown profitably in Canada. The firmest believers in this doctrine are those farmers who never tried to grow them. Certainly last summer must be allowed to have been one of the most trying on record for a crop popularly supposed to need, in order to arrive at perfection, a continuous drenching. It is but half known yet that a soil which is kept constantly loose and porous never dries out; that an inch or so under the surface of such a soil is moist in the severest of drouths. The two principal exhibitors of the great roots now on show did not water them at all, but trusted to deep cultivation and constant stirring of the soil to furnish the requisite moisture. And yet they have succeeded, in one of the hottest of our hot seasons, in producing roots that not only surpass anything of the kind ever seen on this continent before, but fairly hold their own with those grown for exhibition in England itself. It must be allowed that these roots received more special attention and treatment than could be bestowed upon an ordinary field crop, but what then? The fact is demonstrated that roots can be grown here, and under unfavorable circumstances at that. No more effective way of root-growing could be found than by showing that it can be done here as well as in England. Much interest has been shown all the season through in the competition set on foot by Mr. Rennie, and we should not be surprised if in other years the competition would be much greater.

One of the roots shown, a yellow globe mangold, reaches the enormous weight of 41½ pounds. The largest specimens grown for show in England exceed this but little and seldom. Mr. Burgess' long red mangolds were a magnificent lot, and included one root of 38½ pounds, but in this class he was excelled by Mr. Simpson Rennie, who showed six specimens of remarkable solidity and symmetry. The heaviest of his carrots is 6 pounds, a weight exceeded by a pound by a single specimen of the second prize lot.

Some idea may be formed of the vast numbers of stock in Texas and the cash value there a head from a purchase made lately in the south-western part of the State of 40,000 head of cattle and 2,000 horses for \$140,000 in silver, being \$3.50 a head all round for cattle and horses.

At the royal farm buildings, Claremont, recently, there were put up to auction 112 fat oxen, the short-horns, Devons and Herefords having been fed at Claremont Park, and the polled Scots at the Home Park, Hampton Court. There was a large attendance of buyers. The Herefords fetched \$1,062, or an average of \$102 each, which is a pretty good price.

In France there are 3,019 veterinary surgeons exclusive of those belonging to the army. This is an average of one surgeon to 1,142 horses. The French government pays out annually for the support of its veterinary schools 750,000 francs, about \$150,000. In Prussia there are 1,296 veterinary surgeons, exclusive of the army, an average of one surgeon to 1,545 horses.



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**Food Value of Beef.**

In a recent number of the *Farmer's Advocate*, in an article on "Winter feeding of Stock," we spoke of the relative values of lean and fat stock, referring to the fact that in our Canadian markets well fattened beef sells readily at thirty to forty per cent higher price than it would if lean or even half fattened, and that the difference is still greater in the markets of Britain. In a paper recently published in the *Journal of the Chemical Society* shows from a carefully prepared statement of the analyses of a lean cow, a fat ox and a very fat cow, showing the real comparative value of beef in each of these conditions, and also the comparative value in each of the four classes into which the food is divided by the method observed in England.

The authors refer to the work, &c., which Lawes and G. lbert have done on this subject in showing the modifications which take place in the animal organism during the process of fattening, namely, that the quantity of dry material is notably increased, and that while in oxen in moderately poor condition the water is about two-thirds of its total weight, in a fat ox it is only a half; also, that the more nutritious character and superior taste of a fat animal are due to the increase of dry material. But of this increase two-thirds consist in fat; the increase of proteids is only from seven per cent. to eight per cent., and of inorganic materials, one and one-half per cent.

This relation between the assimilated materials first becomes perceptible in the last month of the fattening. At the commencement, the increase in fixed materials is only from thirty to forty per cent., and according to J. Ruhn, the production of a living kilogramme costs twice as much at the end of the fattening as it does at the beginning.

From a variety of analyses which are given, the flesh of the fat animal in every case is richer in fixed material than that of the lean animal; and though the flesh of a lean animal possesses a more uniform quality than that of a fat one, yet the poorest parts in the fat one possess higher nourishing value than the best in the lean animal.

COMPOSITION OF OX FLESH.

| Fat Ox.                            |       |       |        |
|------------------------------------|-------|-------|--------|
| Water.....                         | 77.97 | 74.98 | 76.80  |
| Fixed material.....                | 22.03 | 25.02 | 23.20  |
| Fat.....                           | 0.95  | 4.00  | 4.33   |
| Muscle substance.....              | 20.08 | 20.02 | 17.87  |
| Ash, calculated as 1 per cent..... | 1.00  | 1.00  | 1.00   |
| Very Fat Cow.                      |       |       |        |
| Water.....                         | 76.15 | 73.26 | 57.81  |
| Fixed material.....                | 23.85 | 26.74 | 32.19  |
| Fat.....                           | 2.82  | 5.76  | 8.812  |
| Muscle substance.....              | 20.03 | 19.98 | 22.378 |
| Ash, calculated as 1 per cent..... | 1.00  | 1.00  | 1.00   |

The animals experimented on were a lean ten-year-old cow, a fat five-year-old Flemish ox, and a very fat seven-year-old Glaner cow.

The authors noticed a great loss of weight during the transport of the meat from Brussels to Gembloux; parcels which weighed in Brussels 225.3 grains, weighed in Gembloux only 192.2 grains, indicating a loss of 16.65 per cent. of water.

The nitrogen was determined in average samples, and the figures given are the average of two determinations in each. Nitrogen: Lean cow, 14.0 per cent.; fat ox, 14.88 per cent.; very fat cow, 15.9 per cent.

What may be learned from the table is that the best piece (loin) in the fat ox and the very fat cow, contains from twenty-one per cent to twenty-eight per cent. more fixed materials than the corresponding piece in the lean one. The difference in the composition of the different pieces of the lean cow is but small; in the piece containing most water (paunch) and that containing least (neck) it is less than five per cent., and, curiously enough, the worst piece is richest in fixed material. The flesh of the neck improves but little in value by the fattening, but the flesh of the loin has increased in dried material to a noteworthy extent.

The authors consider the method in England of dividing the food into four classes of corresponding values, a good one. If the first be represented by 100, the second would be 74, the third 61, the fourth 42, and while the richer classes pay more highly for the better parts, the poor are enabled to obtain the others at a more reasonable rate.

**Inoculating Arable Land.**

The Duke of Manchester has tried experiments on his estate at Kimbolton, which are well worth consideration by all concerned in the breeding of live-stock. Desiring to convert arable land into pasture, he did not sow grass seeds, but with a machine, made by Messrs. Howard, of Bedford, he cut ropes of sod two inches wide out of an old pasture. These ropes were carted to the field that was to be converted, were broken into pieces about two inches square, and were then placed in regular rows on the surface of the ground by women and children, who gave each piece a slight squeeze with the foot after laying it. The rows are marked by the counters of an empty corn drill drawn over the land; and, after the inoculation is finished, the field may be rolled whenever necessary. It was in November, 1873, that the first field was thus treated. By the following autumn it was completely covered with grass, and "was nearly as level and as good as old grass land;" and in the second year was "fit for grazing." And as regards the pasture from which the ropes had been cut, we are told that "after the first year the gaps in the turf are scarcely perceptible."

Thus, the tendency of grass to spread and fill up bare places has been turned to profitable account. The subject is not new, nor is this the first time it has been mentioned in these pages; but the making use of such small pieces of sod to inoculate the land is new. The cost is about three pounds an acre, which, as we are informed, is less than the cost of sowing with grass-seeds; and "there is no falling off experienced in the third, fourth, or fifth year, at least to the same extent as when land is laid down to pasture with artificial grasses.—*Chambers' Journal.*"

**Co-operation in Farming.**

W. F. J., in a communication to the *Country Gentleman*, on Co-operation in Farming, gives some good practical suggestions. Among our Canadian farmers much that he advocates is of every-day occurrence, especially so in places but lately colonized, where helping to bear one another's burdens is a good rule generally practised. Whether all the suggestions of the writer will be thought suitable, or on the whole judicious, is a question for every one or every family to decide for themselves, but they are to judge. We transfer the article to our columns:—

An important advantage of large farms is that they enable the farmer to employ more help and to do the work by groups of laborers rather than by solitary individuals. It is a well attested fact that two men working together can and generally will do more than twice as much as one; and three, four or more can work together with proportionate advantage. It was one of the compensations for unpaid labor in the old slavery times that the colored people almost always worked in gangs. When they did not it was considered an especial hardship. Colored people preferred to belong to a rich master owning many slaves rather than a poor man. Undoubtedly one reason for this was the advantage of being with and working with a larger number of companions. There is more to do on a large plantation as well as a large farm; but "many hands make light work." It is not only pleasanter but easier to work with others than to work alone. Every Northern farmer's boy knows how "lonesome" it seems to hoe or plant alone in a large corn field; how the work drags and how tired the worker becomes. A dozen men and boys making twenty-four rows in a "bout," changes everything; a much smaller number can work with nearly the same advantage. Work of this kind should never be done by isolated laborers. They cannot accomplish as much alone, and the fatigue is far greater.

Working in the same field with others is a stimulus, and decidedly advantageous. In a harvest field with a self-raking reaper the binders see each other only occasionally, but how the countenance brightens when the turns come together, and the driver of the reaper cheers and encourages all. Raking and binding after a cradle, as I remember it, was equally social work. There was a constant strife between cradler and binder to see which should excel. Under this stimulus some of the largest day's work on record have been performed, and sometimes by men who were not good for much else. They needed the stimulus of competition, and were good for little without it. There are many more such men than we think.

Our Northern farmers, owning small farms and mostly working them with little help, live too iso-

lated a life. The remedy is not altogether in farmers' clubs, Granges and meetings for social enjoyment during the season of rest. These are all good, but they do not reach the greater difficulty—the isolation of farmers in their fields and during the working season. "It is not good for man to be alone," not only as to the necessity of marriage, but this is nearly as applicable to the need for society and companionship in work. Thousands of farmers become insane—some more and some less, and in a great majority of instances this aberration is the direct result of a solitary life. Farmer's wives suffer from this cause more than the men, especially where children keep the housewife closely at home. Children are companions only in a partial sense. They stimulate the affections, but they are more or less duplications of their parents, and do not demand the mental activity required by association with intelligent adults.

Farm help is not usually so nearly on an equality in mental culture and intelligence as it was forty or fifty years ago. It is quite rare that farmers now-a-days seek, or seeking find, intelligent companions in their hired men. I know many exceptions to this, but what I have written is the general rule. Farmers mistake in this, for no matter how ignorant and thoughtless their help, they ought to make the most of it. This is not only a duty, but their decided interest. Any hired man will do more work, and do it better, for being treated as an intelligent being rather than as a slave whose only use was to dig and delve for his monthly wages. This consideration should be more thought of in hiring help. Any man whom you cannot afford to associate with you cannot afford to hire at any price. Intelligence and moral worth are as important on the farm as anywhere, and if they do not command as high a price it only shows that they are not fully appreciated by farmers.

After all, I suspect that the true remedy for the isolation of farmers is to be found in co-operation with each other. "Changing works" used to be common in all new settlements, and it is a great mistake that this custom has ever been left to die out. The farm help should so far as possible be domiciled in separate houses built for their use. This plan generally secures a better class of workmen, besides the further advantage of two distinct families on the same farm. If possible, neighbors should build their houses in clusters, and in all cases should live and act like neighbors. The German custom is to have small villages of farmers, whose land often lies one, two or more miles distant. Our practical Yankees scorn this way of doing things. "It is too unhandy for the work." So everything is sacrificed to convenience for work. We labor harder and accomplish more than the people of any other country, but the effect is seen in broken down constitutions and prematurely old men, and in our farming population the effects of an almost complete isolation from social life. By-and-by we shall learn that more is gained by co-operation than by isolation. Farmers will work together, and their wives will also. The baking for a dozen families may be done in the summer by a fire in one large stove or range, and a housewife will no more think of doing the week's washing by hand with the present slow processes than her husband would of reaping his grain with a sickle, or threshing his entire harvest with a flail.

**Spare the Quails.**

The following article, which we transcribe from the *Rural World*, takes up a subject of the greatest importance to farmers. While the vermin that prey upon every crop of the farm, garden, and orchard, are increasing daily, our feathered friends that aid us so effectually in our increasing warfare with the pests, are slaughtered on every hand by those whose effective allies they are. Spare the birds—*spare the quails.*

Now, I do not believe that birds can ever, under the most favourable circumstances, destroy the vast hordes of grasshoppers that infest our country, but I do believe that quails and other birds can be made numerous enough to clean up the chinch bugs and many other insects, which do us more harm in the aggregate, in a term of years, than grasshoppers. If quails had proper protection, they would almost always be found right where chinch bugs were at work in the wheat and corn fields.

Let us have a low protecting quails for five years. It will take at least two years to get a stock on hand sufficiently large to produce any marked effect. It will not do to let people kill them, even on their own lands. I might raise quails for all my neighbors, and in turn they might all raise bugs for me.



"No man liveth to himself," are the words of the Book of books, and no man's bugs will stay where they are raised, as I have learned to my sorrow. If people have not judgment nor interest enough to protect and spare the birds on their own lands, let the law step in and teach them a profitable lesson. Let petitions be prepared all over the State for the better protection of insectivorous birds, and send in early to our next Legislature, with such a list of names as will insure us attention and respect.

In the meantime, let farmers keep quail-hunters out of their enclosures, as they have the right to do, until we can get such a law as we want for their protection.

Farmers, your boys might trap a flock or two of quails during the winter, and perhaps get a dollar for them, all in cash, and by the same transaction you will give the chinch bugs a wagon load of grain, and lay the foundation for the destruction of your own and your neighbor's crop another year. I believe that a flock of quails is worth at least three times its market value in one season to the farmer, and in many cases ten times as much.

In a future article for the *Rural World* I will mention some ways in which we can assist in increasing the number of useful birds. W. R. E. Savannah, Mo., Nov. 2, 1876.

### Correspondence.

#### The Crop Yield for 1876.

Sir,—In the township of Suwak spring wheat from about twelve to twenty bushels per acre; but the latter amount only on one farm, where the grain was sown late—too late for the hedge, and the great heat was over before the straw began to change color, so that it had a chance to fill well. One of my neighbors had a yield of Spring Wheat, part of which was badly filled, and a poor sample; this grew on soil the usual depth for this part of the country; the other part produced wheat well filled, and an excellent sample; but this part of the field had only a foot of soil lying in a flat limestone rock. Lime possesses the property of attracting moisture from the atmosphere; so that lime when applied to land has a better effect in a dry summer than a wet one. For my own crops, what Scott Wheat I had was sown immediately after harvest, it ripened early; but the grain shrank considerably. Of a field of Treadwell Wheat, which was sown very late, one half was winter killed and re-sown with peas; the other half, though rather short on the ear, gave an excellent sample, better if anything than the wheat of the same variety which took the first prize at the County Exhibition. The Treadwell Wheat appears to suit my soil best, and I have sown no other variety this year. It was looking very well till the frost and snow came on the 14th October; this checked the upward growth, but as the weather became mild afterwards the check will probably prove beneficial by making it strike root downwards. My Spring Wheat was a fair crop for the season. I had both the Genesee and Glasgow varieties; the Glasgow proved the best as the Genesee is more apt to rust, unless sown very early and the summer proves dry, when it gives the best crop and makes the best flour. We had not much rain in June in this section of the country, so that the hay is only a moderate crop, although better than last year. Oats, peas, and root crops good, as we had showery weather during and after harvest, though not rain enough to interfere seriously with our harvest operations. We had rain on six days in August, six days in September, or seven days rain and four days now in October, though in no case was there a whole day's rain at any one time. The rain, however, seems to have been only local. In a township not more than twenty miles to the eastward, the drought dried up the pastures, and injured the root crop also. For the benefit of any of your readers who may be short of hay, I can recommend a method of feeding horses which proved very successful with us last winter, viz., in cut straw, pea straw is best if well saved, and sprinkle it with pickle from a common garden watering pot, and mix chopped feed (oats and peas.) This will stick to the damp straw, and in this way my horses, one of them a three in foal, stood their walk well through the winter, reserving some hay for them till the spring. In this manner one ton of hay will be sufficient for three horses from now till the grass season commences next spring. For oxen or cows the cut straw also sprinkled with pickle should have some bran mixed with it. Milk cows, of course, are better for a regular supply of roots, sugar beets, seeded turnips or carrots throughout the winter. An occasional feed

of turnips or sugar beets may be given to horses, but carrots are better, if to be had. In these hard times farmers must study economy, but not to such an extent as to pinch their stock. I have kept young pigs through the winter on sugar beets, cut up and fed raw every day with my leavings from the house, but no grain. As for parsnips, I prefer leaving them in the ground till the spring, they are valuable then either for cows or table use, but they must be taken up as soon as the frost leaves the ground, after they have begun to sprout they are very little use.

SARAWAK.

#### Michigan Pomology.

Sir,—The Michigan Pomological Society was organized at the city of Grand Rapids, Kent County, July 5th, 1871, since which time it has become one of the most active and important societies in the interest of agriculture in the State. It has become a settled fact that Michigan as a fruit growing region is second to no other State in the Union. Michigan apples are now looked upon as "A. 1" in all the apple markets of the world. Her peaches are of the choicest varieties, and the crop abundant in certain localities on the lake shores which so nearly surround the State. Pears are cultivated in large quantities and of all varieties known in the market. Plums and cherries, notwithstanding the ravages of the Curculio, are being raised with reasonable success, and grapes are found of the finest quality.

All these, with a fair show of the smaller fruits—so delicious—are all nearly the outgrowth of this organized effort of the fruit men in the above Society. It holds its meetings quarterly in different parts of the State, thus giving each section, with its peculiar fruit, an opportunity to exhibit its product. Its last meeting has just closed—a three days' session at the beautiful City of Coldwater, in Branch Co. There was a good attendance and a splendid display of apples, grapes, preserved fruits and flowers.

The exercises consisted of addresses, discussions and reports of committees, among the most important of which was an address by President T. T. Lyon, who was chairman of the committee on fruit at the Centennial; he gave the Society his experience there and a description of the various exhibits of fruits. Another important lecture was by Prof. A. J. Cook, of the Michigan Agricultural College, at Lansing. His subject was the "Canker Worm." The Prof. illustrated his lecture with charts and diagrams, showing this pest in all its stages.

This insect, by the way, is just beginning to get a foothold in this part of the State, and it was with the deepest interest that the orchardists of Southern Michigan listened to his exposition of its habits and work. There were many other papers read, all of which were commendable efforts, and with the kind hospitality of the citizens of Coldwater, this was one of the most profitable meetings perhaps this Society ever held.

The officers for the next year will be Hon. T. T. Lyon, of South Haven, President; Prof. C. W. Garfield, of the Michigan Agricultural College, Secretary, and H. Dale Adams, of Kalamazoo, Treasurer.

The next meeting will be at Pontiac, Oakland County, in January. H.

Adrian, Mich., Dec. 12, 1876.

#### Spring Wheat.

Sir,—A most important question is asked when one says: "What is the best description to grow?" That is, what variety is most likely to yield satisfactory results? Of course in answering this question there are many considerations to be regarded, description of soil, condition of soil, climate, etc.

Most of the spring varieties are coarse, and are not held in favor by millers, and that is one reason why we, in England, are reluctant to sow wheat in the spring when we can avoid it. The French farmers are growers of spring wheat to a far larger extent than we are, but they have ever been complaining that their spring wheats blight or break down, and that they grow rough kernel.

Recently a new variety of wheat has been propagated here by Capt. W. Delf, who farms at Great Bentley, W. Colchester. This wheat is held in very high esteem as a fine white wheat which grows upon a red straw and in a chaff which is both red and rough; it is both an autumn and a spring wheat, and is very much sought after, not only in England, but in Germany, France, Belgium, Holland, Hungary, Russia, etc.

The London *Standard*, in speaking of this wheat,

which is appropriately styled the "Mainstay," says: "We saw the finest sample of wheat that we have seen this year (1875) at Ipswich market. It was a very fine white wheat, which weighed 66 lbs. per bushel, and made 4 shillings per quarter more than any any other wheat at market."

At Chelmsford, where the best wheats in the kingdom are shown, was offered the finest sample by far, the "Mainstay." The *Chronicle* speaking of it says, "It is really superb."

A large farmer speaking of spring wheat said that he put his in last March, and it was the best crop he had.

At the Centennial Exhibition this wheat carried off the only prize medal awarded for grain in the British section; the continental journals are loud in their praise of Capt. Dey's success, for the rare wheat and barley grown, he having bestowed great care in selection, etc.

The Societe Centrale d'Agriculture, France, has elected the originator of the "Mainstay" wheat Honorary Corresponding Member of the Society, and he has received the gold medal of the Institution.

There is sufficient evidence both in this country and on the Continent of Europe that the "Mainstay" is a very valuable wheat; it is very robust in its growth, the straw is very stiff, containing a deal of silica, and its roots strike down a great depth, it will stand a great deal of knocking about at harvest time, no amount of wind and storm has any effect upon it, it stands erect and does not lose its grain.

We send you these few lines, which may be a guide to some of your readers of the *FARMERS' ADVOCATE*, a journal from which it is not difficult for farmers on this side of the Atlantic to gain information. ANGLIAN.

[As we have other English correspondents, we give the name of Anglian to the writer of the above article, from whom we expect more communications.—Ed.]

#### Artificial Manure.

Sir,—I see in your valuable paper a prize offered for the best article on artificial manure, written by practical experience by a Canadian farmer. My experience on artificial manure was on turnip ground. I manured one acre with barn-yard manure spread on top of the ground, ploughed in, after that harrowed and drilled up; another acre manured with dung in the drills; the third acre no manure but the artificial manure. The turnips on the artificial manure were much better than those sown on the manure ploughed in; the dung in the drills turned out the best. My experience on artificial manure, I can safely say that a fair yield can be got without any barn-yard manure by sowing the artificial manure, as I have given it a fair trial this year.

Ancaster, Dec. 4, 1876. RICHARD O'HARA.

[The next article must be more complete than this. We award a prize offered for an article on Artificial Manure to the writer of this article, although we should have preferred one giving more particulars in regard to soil, cultivation, and measured results. As the competition for this prize is not large, we think it judicious to offer another prize on the same subject, as some may not have had time to write.—Ed.]

A second article on the use of superphosphate has come to hand since our award of a prize to the foregoing communication. To the writer of this second one we also give a prize, and hope to further particulars of the application of the superphosphate in competition for the additional prize we now offer, and other competitors too will be found in the list.

Sir,—We are highly pleased with the *ADVOCATE* and consider it conveys a great deal of useful information. Our wheat crop was poor the past year; the midge was rather bad in the early sorts, and the Scotch rusted badly, the first time I have known it to rust in twenty years. The two previous years it was first-rate on rut ground and summer fallow; it yielded from 25 to 30 bushels per acre. Our turnip crop in July promised first-rate, but resulted in not half a crop; drouth and caterpillars were the cause. Our other crops are about an average, excepting hay, which is above.

Please inform me through the *ADVOCATE* of the best way to apply superphosphate to the turnip crop, as I intend to try a barrel or more. I have a drill that will sow salt or any fine substance with the seed. Would it answer sown in that way?

ALEX. SMYTH, Mariposa.

[Mr. Smyth will find on another page the information required concerning superphosphate.—Ed.]



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Will our esteemed correspondent "Prairie Farmer," Orford, who wrote in December No. concerning steam ploughs, kindly forward his address to this office as his letter has been mislaid.

SIR,—I am much pleased with your paper, and have sent you a new subscriber and induced more of my brother farmers to subscribe for what I consider a very useful paper. The crops are rather light in this section of the country the past season. I would ask space to say a word on a subject which I consider of great importance to the farmers of Ontario; that is with regard to traveling agents and the large percentage they receive, and which comes not out of the manufacturers' pockets, but out of the farmers' in the high prices we have to pay for machinery which we know can be made for less money by twenty or twenty-five per-cent, if our manufacturers had fewer agents to protect at the farmers' expense. Some are doing away with them, and the increased patronage they receive speaks the farmers' thoughts on the subject.

Blenheim, Dec. 18, 1876. T. N. PARNALL.

SIR,—Some two months ago I prepared some notes in regard to the case of superphosphate of lime for you, but failed to send them. I used two barrels on my own crops, barley, potatoes and corn; on the barley I sowed broad-cast, 175 lbs. of super to two bushels barley. I am satisfied the yield was increased 3% and matured 12 days earlier by actual date. The potatoes and corn I planted in the usual way, covering lightly with earth, then I put one handful of super to three hills, again covering with earth to prevent the super from evaporating. I had a splendid crop of potatoes, much better than those planted in the same field without super. The corn grew very vigorously from the start and matured in ninety-three days from planting. It would have paid me well if I had used \$50 worth of it.

Wooler, Ont. JOHN A. MCCOLL.

DEAR SIR,—I would enquire of you or any of the readers of the ADVOCATE, why it was that our apples were more wormy this season than ever I have seen them before? And it seems to be general all over the County of Bruce; and I have observed that some kinds of apples are damaged more than others. The Seek-no-further was the most cored with me, except the Fall Strawberry and Holland Pippin. In fact, the Northern Spy and Green Newton Pippin did not escape the —. If the disease continue much longer our fruit won't be worth much for marketing or for home use. We read of a great many cures in the papers, and of some remedies in the ADVOCATE; but it seems with all the washing and scouring we give the trees, yet with all our diligence, the enemies go on with their work of destruction. I gave my trees last spring a thorough washing of soft soap, suds and chamber lye, and I fancied I had to some extent cured the disease; but when I went to gather the fruit I found out to the contrary, for we scarcely can get apples enough to bake without worms. I have examined closely to see whether it be in the blossom or when the fruit is setting, or when further advanced, that the fly works. It failed me at any time to see the fly working. Some say they are in the ground all winter, and that they come to life in the spring.

I hope you will give us some practical information as regards the depredaters, so that we may be able the next season to prevent their ravages if possible.

I would like to ascertain which is the best way to save apples during the winter—in barrels or on boards in bins; and also which is the best mode of pitting in the ground. Last year I pitted Green Newton Pippins, Northern Spies, Alexanders, and Seek-no-further; of the latter I lost seven bushels by decay.

My plan was as follows:—I dug a trench eighteen inches wide and one foot deep; I piled the apples about two feet high all along the pit; I fixed rafters made of scantling across the pit, then I sheeted with boards so that the boards did not press against the apples; then covered with earth. This year I have pitted my apples according to a recipe I have seen in the *Christian Guardian*; that is, to dig holes in the ground and put the apples therein, but not any higher than the surface; then cover them with a few inches of clay, so that they will freeze all winter. In the spring the apples will come out fresh and good. So the recipe says.

MATTHEW COUCH.

Walkerton, Dec. 11, 1876.

[The injury done to our fruit is every year increasing, and it will require increasing vigilance to defeat them. To do this it will be necessary to

have recourse to our allies, the feathered tribes and others. Encourage the multiplying of birds, protect them from all enemies, place bird-houses in gardens and orchards. Plant and preserve trees as well for the homes of birds as for shelter. Keep fowls in the orchards; let your fowl-houses be situated that, if not in garden or orchard, there should be direct access from it to them. They should be fed in them; corn-meal or other food scattered under the trees, that the fowl may pick up the insects with the food, and scratching the surface, make havoc among the young broods.

Keep pigs in your orchard as much as you can with regard to the under crops, if it be cropped; they will eat all the fallen apples, and put out of the way of doing harm thousands of broods of predatory insects.

The washing of fruit trees as you have done is a remedy for the bark louse, not for the codding moth which is the enemy you have to control with; hence the mistake and the failure. The codding moth must be searched for in the stem of the tree and cut out. It is one of the most difficult to contend with of all the insect enemies that infest our orchards.

As to the pitting of apples, you will see some good suggestions in another column of this ADVOCATE.—ED.]

**The Provincial Exhibition.**

SIR,—In your last number of the FARMERS' ADVOCATE you gave some very good suggestions about the Provincial Exhibition for 1877. Now I wish to offer a few suggestions in regard to the Provincial Exhibition which, if adopted, would, to my mind, prove more beneficial to the Province in general than the present system. There is certainly a great expense incurred annually under the present perambulating system, and we are well aware of the large amount of money those cities have to spend every fourth year in erecting additional buildings for the accommodation of the exhibitors. No doubt many of the ratepayers of London dread to have the Provincial Fair being held there, knowing the additional tax that will be laid upon them.

The plan I would suggest is this:—Let the Provincial Exhibition be entirely done away with, and the Government give a grant of twelve thousand dollars to be divided thus: two thousand each to London, Guelph, Hamilton, Toronto, Kingston and Ottawa; the grant to be given annually for three years, the fourth year the grant to be withdrawn from those places and given to hold one great central exhibition at Toronto. There should be a guarantee given from all those places that receive this grant to hold no Exhibition the fourth year, but all unite to make this great central fair a grand success. This fair should be held for two weeks, and all articles for exhibition (excepting live stock) should be on the ground not later than Tuesday the first week, and live stock to be on the ground on Saturday, ready for the judges to commence their work early on Monday the second week; the judges would then have ample time to go through their work judiciously and not be hurried as they are at present. Under this plan the prize list could be raised to twenty-five or thirty thousand dollars. There could be several classes added to the prize list, which would give a large number of animals a chance to exhibit for which there is no class at the present time. Such an exhibition would be looked forward to with great interest by the mechanic, artist and stock-breeder, and would attract visitors from all parts of Canada. These are my views, and I think they should commend themselves to everyone that feels an interest in the agricultural associations of Ontario. I hope some one abler than I am will take hold of the subject.

Nissouri, Dec., 1876. AN EXHIBITOR.

[It is well to hear suggestions from practical men. Subscriber has some experience in the management of Exhibitions as well as exhibiting. Many would object to the plan suggested without being able to give publicity to a letter. All changes should be discussed. Such men as exhibitor do good in causing others to desire improvement.—ED.]

**Cotted Wool.**

SIR,—I notice in your last number an enquiry as to the cause of cotted wool. I have found by experience that change of food or atmosphere is not the primary cause of cotted wool. I think the cause is hereditary. I remember purchasing a ram lamb about twenty years ago, and I found when I came to shear him that his wool was badly cotted. I thought it arose from not being properly cared for, but the second year it was cotted as bad, if not worse, and his lambs were also

cotted, and continued so more or less year after year. A few years ago I had a mongrel-bred ewe whose wool was inclined to cot. I had three or four crosses from her, and their wool had the same tendency. I have had no trouble with cotted wool since I kept nothing but pure-bred sheep. My advice to Mr. Best is to keep an eye to his sheep at the time of shearing, and any whose wool has a tendency to cot should be turned over to the butcher. Select none but free open wool ewes for breeding, and put them to a pure-bred ram of whatever class may be thought fit to breed from, and there need be no fear of being troubled with cotted wool any more.

J. FRANKS, Harrietsville.

[Thanks to Mr. F. for his communication. In the letters we receive daily, and in conversation with subscribers, we have proof that one good aimed at by our publication is being fulfilled. The observations on agriculture are not merely glanced over, and then thrown aside. They are read, compared with known facts and actual experiments. The readers should compare notes with one another and with us on topics of the greatest interest to the science and practice of agriculture. This is the most advanced education—the learning for ourselves from the light around us.]

**Horses for England.**

I see in the October number of the FARMERS' ADVOCATE a paragraph written by two eminent veterinary surgeons of London, wishing to know the best class of horses to sell in England.

Being a dealer myself, and having been in Canada this summer buying horses for England, I am prepared to give you the best information I can.

What we require most are good carriage horses, from 15 hands 3 inches to 16 hands 1 inch high; color bay or brown, with high knee action, long necks, and to show plenty of breeding, and from 1,100 to 1,300 lbs. weight. Such animals are always good to sell in our market.

I should say to breed such from your mares you should use a coach or a three-parts bred stallion, with big flat legs and high knee action; but be careful to keep from anything appertaining to the cart horse, or the horses called in Canada general purpose, which, by using such of late, you have nearly already ruined the breed of horses in Canada; and, in conclusion, remember it is not the speed that is required for England, but the style.

JOHN G. LONG.

Spofforth, Wetherby, Yorkshire, England.

**Another Supposed Swindle.**

SIR,—Enclosed you will find a drawing of the six-clevis harrow, of which my next neighbor bought one farm right to make and use it; and so did other farmers in this township. The harrow contains six pieces of timber, and is put together with taps and bolts. Do you know if there is a harrow made in London of the same kind, or a man named James H. Thorp, who sold the right? Goulburn, Dec. 25, 1876. A SUBSCRIBER.

[We have examined the paper you have forwarded to us, and we do not know of such a person in this city. We can see nothing in the plans of this harrow to consider it equal to the harrow now in general use; no agricultural paper has given any account of it that we have seen. It appears to us as a useless affair; if it was worth anything it would not be necessary to sell it by travellers, but let it openly be known: if farmers will be swindled we cannot help it.—ED.]

SIR,—I see by letters in the ADVOCATE that the caterpillars have destroyed the turnips in other parts of the country as well as here. If each of our farmers would raise a good brood of turkeys and drive them into the turnip or mangold patch every morning, they would find that it would pay them. The turkeys are splendid hands at picking off the caterpillars. I believe I saved my crop of mangolds by driving the turkeys among them.

Thornbury. MARTIN BELLERY.

**A Step in the Right Direction.**

SIR,—Enclosed please find payment for thirteen copies of the FARMERS' ADVOCATE, for one year.

The foregoing members of the South Grey Agricultural Society having obtained prizes entitling them to an agricultural paper—a special prize offered by James H. Hunter, M. P. P.—is the way in which you obtain this club.

S. E. LEGATE, Sec. South Grey Agl. Association.



### Garden, Orchard and Forest.

#### Protecting Grape Vines in Winter.

The needful preparation for winter by covering the grape vines has, we may conclude, been made in almost all instances. Still an article in the *Rural New Yorker* on this subject is so plain and practical that we reprint it. Some vine-growers may even now profit by its suggestions, late as the season is, and to others it will be useful for references when the most fitting season shall have again commenced. The value of the vineyard, wherever the growing of vines has been judiciously carried on in Ontario, has been remunerative, in some sections of the country very profitable, and as it is yet in its infancy, we hope the country will be found deserving the name "Vineland" given to Canada by its early discoverers:—

In several of the Northern States, and in the Canadas, grape-vines of all kinds require protection in winter. In some localities where there is little danger of the vines being killed down, it has been found that protection from severe cold insures productiveness, and we are inclined to believe that protection to the grape in winter might be practiced with benefit in many regions of country where it is now considered quite unnecessary. A few years ago strawberry growers would have thought it a waste of money to cover their strawberry plantations with any kind of mulch as a protection to the plants in winter, but it is now done quite extensively, and is a very profitable investment. It is not done, however, because there is any great danger of the plants of the more hardy kinds being killed out by frosts, but they may be very much weakened, and the fruit-buds inclosed in the crowns during winter very much injured by exposure, if not entirely destroyed.

Now, the fruit buds which are to produce grapes next year are already formed on the vines, and it is quite important that they should not be injured by cold, or in any other way, if a full crop of fruit is to be obtained another season. Of course, in the warmer parts of the country, the more hardy sorts generally pass the winter unharmed, but the tender kinds require protection almost everywhere in the Middle States, and the most hardy in many of the Northern States. This is well understood by most of the cultivators of grapes; but we think few of them practice protection to so great an extent as would be found profitable through an increase of vigor in the growth of the vine and in quantity and quality of the fruit.

There is a safer method of protecting vines in winter than bending down the canes and covering them with earth. Before doing this they should be pruned, leaving say one or two buds more upon each bearing cane than will be required for fruiting, as the terminal bud is more liable to injure in handling, either in layering or taking up in spring, than the others, and if they go safely through, it is a very easy matter to rub off the surplus shoots when they appear. Three or four inches in depth of earth is sufficient protection even in the coldest localities.

But it often happens that vines are trained upon some system which prevents or would make bending down to the earth in order to give protection, extremely difficult, consequently some other plan must be adopted. Where there is but a small number of vines, old sacks may be spread over both sides of the trellis, or boughs from evergreens set up against them, or almost any material which affords shade and protects the vines from cold winds, may be used, except where more protection is required. Where vines are trained against walls it will, of course, only be necessary to cover one side requiring only half the material used in protecting both.

In training vines with protection in view the stems may be set at a slight inclination in the direction they are to be bent down in the fall. A slight crook in the main stem will, after a while, be produced, but if the vines are bent down every fall there need be no fear of injury or breaking, even when the canes become large and old. A slight protection often prevents a total failure of the crop and frequently proves to be a very profitable operation.—*Rural New Yorker*.

An agricultural society in Massachusetts, desiring to encourage tree-planting and the re-forestation of poor lands in that State, have offered prizes for the best plantations of larch, pine, ash, and other trees suited to different localities and soils. The prizes range in amount from \$400 to \$1,000, and special instructions are published to guide competitors.

#### Effect of Draining an Orchard.

The *Gardener's Chronicle* once related a case of an orchard of apples and pears, plums and cherries, which were planted in a heavy clay, trenched down to an iron pan on which it rested. For a few years the trees grew very well, that is to say, as long as their roots were near the surface and got the warmth of the summer's sun; but as they advanced downward the growth became small, and by degrees less and less, till at last the trees ceased to grow, and nothing flourished except gray lichens, with which the branches soon became covered. The owner was advised to drain the field three feet below the pan. In the first year afterward vitality was roused so effectually that the lichens began to disappear, cast off by the swelling bark, and decrepitude in its last stages was by the end of six months put off for youthful vigor. In the second and third seasons after drainage the trees made shoots from four to five feet long.

Prof. Lindley remarked that this sudden change was no doubt caused by the elevation of temperature, as a consequence or result of very deep drainage. Rain becomes heated by the surface soil and carries its temperature with it as far as it sinks into the soil. The gain in this way is estimated at from ten to fifteen degrees in summer—an enormous gain, making the soil a hot-bed and nothing else.

#### Gladioli for Winter.

It is to be regretted that these highly ornamental bulbs are not generally cultivated for winter blooming. They are as easily grown as hyacinths and bulbs of a like nature, and their cheerful appearance for house decoration during our dull winter weather, will amply repay the little labor they give.

To insure success, select in spring, bulbs which have not pushed their buds. These should be kept dry until about September 1st, when they may be potted in rich sandy loam, single bulbs in five-inch pots. I sometimes put as many as twenty-five bulbs into about fourteen inch pans, and if the bulbs are chosen of equal length and forwardness they will come into bloom together, and give a splendid mass of flowers for parlor or other decoration. As soon as potted they may be placed in the greenhouse until they have made considerable growth, after which they may be moved to a warmer position, and watered occasionally with liquid manure.

Those who have no greenhouse, may plant the bulbs about the middle of July in the open air in a rich border. When they have made a growth of a foot or fifteen inches, they may be dug up and potted; and before there is any danger from frost, should be removed to a sunny window in the house, and kept well supplied with water. The best time to dig is after a continued spell of dry weather, when the soil is rather dry; and if they are potted and well-watered as soon as lifted, they receive no apparent check whatever, but will give as good spikes of bloom as those ordinarily flowered in the open air. I have a bed in an intermediate house of about three hundred bulbs which I have lifted in this way, and they are all giving indications of bloom.

Bulbs grown this season in the open ground, and well matured, may be potted for spring flowering; they do not require to be covered to induce them to make a root growth, which is the case with hyacinths and some other winter flowering bulbs; but I think it best to avoid giving much heat in the beginning, as this would be apt to cause them to make too weak a growth for bloom when forced in this way.—*Gardener's Monthly*.

GRAFTING CURRANTS.—The *Rural New Yorker* says:—Lovers of the currant and gooseberry have reason to feel jolly over the success which seems to attend grafting them upon the Missouri currant (*Ribes aurum*), which is not liable to the attacks of the borer. Besides, they are exempt from the milldew. And thus by a single, happy hit, the two great drawbacks to currant and gooseberry cultivation have been overcome. The beauty of these little trees when loaded with their pretty berries, as displayed at the Centennial, is of itself enough to insure their general cultivation. It would be well for those who intend experimenting with grafting currants to bear in mind that there is a great difference in the varieties of the Missouri currant, some making better stocks than others.

#### Orchard Manuring.

There would seem to be no good reason why, if we wish to raise good orchard fruits, we should not manure our trees. People often look at trees growing on rocky hillsides and argue therefrom that trees can grow without manure. They know that potatoes and other vegetables must have manure or they will not thrive, but they regard trees as a different order of vegetation, something that can thrive and flourish where nothing else would. But, in the case of trees on rocky hillsides, the land is often anything but poor. The rocks themselves frequently contain valuable mineral matter, which, as the rock decays, is presented in a form that plants can feed upon. Then whatever vegetation grows among the rocks remains there to decay, and even leaves and other foreign substances that blow into the crevices formed by the rocks make a valuable plant-food, on which the tree thrives. Indeed, trees in apparently poor, rocky places are really much better off than many trees in orchards, where they are in what appears good land. In more level land trees must be manured. In many cases it is as necessary to the best success that trees have an occasional manuring as it is that any other crop should have manure. There have been many discussions as to whether manure for fruit trees should be applied broadcast or plowed in. For orchard trees there is no rule; it depends on circumstances. If the trees are on ground where vegetables are grown, the manure is of course turned in for the benefit of these crops, and the roots of the fruit trees fight with those of the vegetables for some of it, and get it, too. But there are many orchards where no crops are grown but the trees, and then it is an excellent practice to apply manures as a top-dressing at least every other year, if you would have them bear an abundance of good fruit.—*Boston Home of Chemistry*.

#### Chestnut Plantations.

In making chestnut plantations, the seed should be planted where the trees are to remain. They should be much nearer than twenty feet apart, as the young trees may be thinned out when partly grown, and make valuable timber for various purposes; and those that remain will be taller and free from limbs if near together. A good way is to plant every alternate hill in every alternate row of corn, with at least two chestnuts, so that one tree may be taken out after they grow, and thus secure more uniformity. Cultivate with the corn the first year; the second year the land is plowed carefully and planted with beans, potatoes, or a second crop of corn, and the cultivation continued. By the third year the young chestnuts will have made a fine growth, and should be lightly cultivated for a year or two more with a wheel cultivator or shares harrow. By this time they will form a handsome plantation of young trees seven or eight feet apart each way. It must not be overlooked that the chestnuts will not grow at all if they are allowed to become dry in the shell; as soon as gathered they must be mixed with damp sand, earth, muck or moss, and be thus kept till planted in a fresh, healthy condition.—*Country Gentleman*.

THE NEW PEACHES.—Charles Downing writes to the *Rural New Yorker*:—The new peaches—Alexander's Early, Amsden's June and Honeywell—all ripened this year so nearly at the same time that it is difficult to say what is the difference, if any. Last season the Honeywell ripened two or three days in advance of Alexander's Early, both growing near together; this season both are ripe at the same time. In another garden near here Alexander's Early and Amsden's June worked on the same tree, were in eating the same day, which would make the three varieties ripen at the same time. The fruit of each, in form, color, flesh and quality, are so near alike that I am unable to see any difference. The Honeywell, however, has no glands, while the other two have. If the record as to their origin is correct, there is no doubt that they are all of different origin, but not yet distinguishable, and all are probably seedlings of Hale's Early. I have not seen High's Early Canada this season, but as shown last year, think it similar to the above kinds. The Early Beatrice, in the same neighborhood, ripened about the same time, but was less in size, not as high colored, but more melting, higher flavored and quite free from the pit, while the others adhered slightly. Now I do not say these peaches will all ripen at the same time, neither can any true decision be arrived at until all are planted in the same locality, near each other, the trees well established and to have borne three or four successive crops.



**Growing Large Bunches of Grapes.**

Mr. John Curror, of Eskbank, Dalkeith, Scotland, gives the *Garden* the following account of his mode of growing a bunch of grapes, weighing 26 pounds, lately shown at an Exhibition in Edinburgh:—

The vinery in which the large bunch of Raisin de Calabre grew that I staged at the international fruit and flower show at Edinburgh, is a small lean-to house with a southern aspect. It measured 20 feet in length by 14 in breadth, and 11 feet in height at the back, and is heated by four rows of 4-inch hot-water pipes. The vines were planted in 1868, and produced four bunches each, the third year after planting. They are planted three feet apart in the inside of the house, with an outside border 13 feet wide and 4 feet deep, the soil of the border being composed of one-half yellowish clayey loam and one-half light gravelly strongly impregnated with iron. With this soil are mixed a few half-inch bones and a small quantity of manure. The border is top-dressed every year, inside and out, with three inches of cow or horse manure, and gets no protection from rain during winter. There are five vines in the house besides the Raisin de Calabre, viz.: two Black Alicantes, one Lady Downes, one Rowood Muscat, and one Mrs. Pince, all of which carry bunches about the average size. The Raisin de Calabre which bore the 26 lbs. bunch produced three other clusters, one of which weighed 6 lbs., another 10 lbs., and one that still hangs on the vine is calculated to weigh about 18 lbs. This gives just 60 lbs. of grapes for one rod about 14 feet long. The vines are usually started about the 15th of February, when the house is shut up for two weeks without fire-heat. The third week they are assisted by a little fire-heat, and are also syringed several times each day until they break into leaf, after which the syringe is never used. I leave from two to three inches of air on all night, both at back and front, according to the state of the weather, and give very little fire-heat, except when the vines are in bloom, until the grapes begin to color. The inside border gets a thorough soaking with water three times a year—at starting with clean water, again after the berries have set, and finally, just before they begin to color, with guano water. Under this treatment the leaves grow large and leathery, which, with well-ripened wood, I consider to be the secret of getting large bunches of grapes of good quality.

**Destruction and Supply of Timber.**

The destruction of the old forests in North America is a subject above all others connected with the natural wealth of the country that engrosses the attention of thinking men. All admit that to the denuding of the country is to be attributed much of the failure of crops, now of so frequent occurrence, and many parts of the country already begin to feel the scarcity of timber for the many purposes for which it is required. The following article from the *Western Farm Journal*, on the destruction and supply of timber, is well worth our consideration:—

Now that the West is fully alive to the necessity of planting timber, not only to supply the annual waste of the country, but also—and this is really the most important item—as a means of ameliorating the climate, and preventing the recurrence of destructive storms, it may not be uninteresting to our horticultural readers to know something of where the timber annually cut for market goes to.

It has been estimated that 80,000,000 of young trees are consumed every year by railway companies for ties alone. Besides these there is used enormous quantities in the building of cars, for fuel, fencing and other purposes. The fences of the United States are estimated to have cost \$1,800,000,000. To keep these in repair costs over \$100,000,000. The destruction of timber in clearing up new farms in timber countries is still immense, insane as it may seem, that such valuable property should be ruthlessly burned. It is estimated that between the years 1860 and 1870, fully 10,000,000 acres were so burned.

The Forest lands of the United States are rated at 380,000,000 acres, and the total annual consumption of forests is estimated at 5,500,000 acres. Of this 2,500,000 acres is required for fencing, and 2,000,000 acres for lumber, leaving 1,000,000 acres for other uses.

About 50,000,000 cords of wood are yearly consumed; 5,000 acres are necessary for charcoal, and 20,000,000 feet of lumber are annually produced. In other words, 40,000 acres are cut for ties, 600,000 acres for fuel, and 2,000,000 acres for lumber.

Oregon and Washington Territory contain now

the only great tract of timber untouched, covering one-half of the first named, and one-third of the latter. When this vast belt of timber is broken into, and it will be soon after the Pacific railroad is built, there will then remain no great timber belt in the United States. Michigan has already been so seriously encroached upon that they are already beginning to feel the effects in climatic changes. Wisconsin is fast following. It is estimated that what timber remains in Michigan, Wisconsin and Minnesota will have been virtually swept away in ten years.

Where does it go? To all the lake cities and the East; every town and farm in Ohio, Indiana, Illinois, Iowa, Missouri and the South. Kansas and Nebraska alone consume 50,000 acres of Wisconsin lumber each year.

The Eastern States are thoroughly denuded of valuable timber. Even the once great forests of Maine are becoming almost extinct. Pennsylvania has but a limited supply, and the only wooded tract in New York is the Adirondact, and this principally on account of its inaccessibility. The South has much timber, but as a rule only in situations difficult of access.

To those who have seen the exhibit of cultivated timber in the Iowa section of the Agricultural Hall at Philadelphia, and the comparatively short time in which this has been grown to its present size, the problem of the cultivation of timber will not be one difficult of solution. It is the fact that on all good prairie soils timber may be grown as a source of profit, if the farmer can wait for his returns for a few years. The difficulty is, most people, even those fully alive to the importance of the subject, put off planting year after year, thinking next year I will begin. Alas! next year, like to-morrow, never comes. Thus the day of profit is also delayed. We reiterate what we have often written before: on all prairie farms belts of timber will pay in the protection they afford to crops alone, and the growth is clear gain. It is difficult to make many understand this. Nevertheless some do, and these are the ones who will soon reap profits, while their fellows are waiting to see how that class succeed.

**Fruit Trees.**

Fruit trees, by the average owner of land, should be planted for family reasons—that is to say, in order to have a supply of fruit always at hand on one's own place. It is strange that people should have no better reason to give for purchasing fruit trees than that they could not get rid of the peddler without, though they must pay high prices for poor trees, which may never turn out as represented, unless the peddler of trees is a purer being than the peddler of other articles. Still, it is well that some trees are planted—and even trees bought under such circumstances as these, may as well be cared for, for they will, or may, be of some use in the end.

Many persons ask what land is best for certain fruit trees, and what manures are the best to use. There is no doubt but that some soil is better for trees, and some manures more effective than others, but this is in a professional sense, where special excellence is desired, and need not worry the average man. There is no soil nor any manure that is ready to one's hand but is quite good enough for ordinary purposes.

The trouble with most people, and the reason why trees so often fail is, that the roots are allowed to get dry. Dry roots are a worse condition of things than poor roots; and then the earth should be hammered in very tightly about the roots, and the trees severely pruned. Not one tree in ten thousand need die if these things are really attended to.

The after culture of trees is very simple. Keep out insects from the stems of the trees near the ground; do not disturb the surface roots by digging or plowing near them; and spread on the surface above the roots, now and then, something for them to eat.

**MOSS ON YOUNG TREES.**—We hear the enquiry many times every year—"What shall we do to prevent moss growing on our young fruit trees?" It may be removed by washing with weak lye, or thin lime whitewash, or strong soapuds. Or it may be simply scraped off, if thick, and the bark then washed with soapuds. Moss is more apt to grow on feeble, stunted trees, with old rough bark, than on thrifty smooth ones, and hence good cultivation and vigor are best to prevent it. Sometimes it is the result only of the trees being much shaded, in which case it is not to be regarded as a formidable evil in itself.

**EARTHING UP TREES.**—It is often advised to raise the soil about the trunks of trees as a protection against mice, and for other purposes. But it is questionable whether in guarding against one form of injury we do not run the risk of another. We have noticed a tendency in trees thus treated to rot around the collar, and there is also danger of the earth getting permanently raised so high as to shut out the small rootlets and fibres from that access of air which is essential to their healthy growth. Sometimes in raising a piece of ground or levelling it for a lawn or other use, the general surface is elevated a few inches. The result is either a stunted growth or actual death to the trees, whose roots thus become too much buried. Boxing around the trunk is resorted to in some cases to obviate this evil, but it is ineffectual, because it is not the stem of the tree merely, but the entire expanse of roots, which is affected. When improvements are undertaken which involve raising the ground where trees are already growing, we may as well face the necessity of making a new plantation, for there will never be any satisfaction in the old one if it is doomed to deeper burial.

Owing to the failure of the English orchards this year very large shipments of apples are being made to Great Britain. When the crop of apples fails at home the English generally look to Jersey and Guernsey for their supply, but this year that source could not be relied upon. Single American houses are shipping as much as 15,000 barrels a week to Europe, England, as said, being their principal destination.

Although, says the *Scientific American*, there are no available statistics to show the exact rate of speed with which they are using up the wood supply, it is easy to see that it is being done with great rapidity. Taking the legitimate use of lumber, industries based on its manufacture, constitute the second point of magnitude in America, and are only exceeded by the iron interest. About 150,000 persons are stated to be employed in producing sawed lumber alone; \$143,500,000 are invested therein, and 1,395,000 laths, 2,265,000,000 shingles, and 12,756,000,000 feet of timber are yearly manufactured. On the secondary interests based on the use of lumber as a raw material—carpentry, cabinet-making, ship-building, &c.—millions of people are employed. According to Prof. Brewer's assertion, wood forms the fuel of two-thirds of the population, and the partial fuel of nine-tenths of the remaining third. Add this to the former estimate, and some idea will be obtained of the enormous drain upon the American forests that is constantly in progress. As a fact, it is well known that in 1871 as many as 10,000 acres of forest were stripped of their timber to supply Chicago with fuel, and yet no attempt is made to reproduce.—*Land and Water.*

**FREEZING APPLES.**—A sprinkling of sawdust was put in the bottom of the barrel, then a cake of ice, fitted in the sawdust, then apples set on end as thick as could be packed, then sawdust sprinkled on these apples again, and so filled, and packed away in the ice-house, covered well with sawdust, and they were fresh and good when taken out. I have found good apples in the leaves under the trees in the spring, where the snow laid on. Apples can be frozen up in the fall in tight barrels and kept so till spring, then rolled into a cool dark cellar to thaw gradually and be all right. I put away a barrel that way once, in a closet in an upper story, and they froze up. It stayed there until warm weather, when I rolled it to the cellar and thawed it out and it was as good as ever.—*Ohio Farmer.*

New forests are said to be growing up in the western part of Massachusetts faster than the old ones are cut off. Especially in the hill towns is this the case. Many a locality that was improved as farm land twenty and thirty years ago, is now covered with a vigorous growth of young forest, the rapid increase in the population of the outlying agricultural districts having rendered such a change inevitable.

The descendants of the short-horn cow Duchess, which Col. Morris, of Fordham, bought at the Earl Ducie's sale in England in 1853, have reached a sale of \$5,000,600. The mother of all this wealth began her existence in 1850.

At the last Falkirk cattle fair, Scotland, there were 8,000 to 10,000 cattle on sale, and between 1,200 and 1,500 horses. Sales ran lower than last year in the cattle ring; the horses were of too high a grade for farmers' use, and consequently did not go.



**Poultry Yard.**

**Feeding Fowls.**

There is much difference of opinion as to the best method of feeding grain to poultry. Some leave open a barrel of shelled corn, and say that less is eaten in this way than in any other. It is true that after the first few days poultry will eat less when grain is constantly by, than when fed twice or thrice each day all that they will eat by throwing it on the ground and letting them scramble for it. This is because of the strife among them for the largest share. The quantity eaten when the barrel is left open will be great for a week or so, and then the fowls will become cloyed. It is not a good practice, because the cloying process is a fattening one, and excessive fattening and thrift are not compatible. Of course, in fattening for the table this practice is good, but not in the ordinary management of fowls kept for general purposes. Even after the first rush and gluttony are over, there will be too much consumed daily. The better way is to throw down twice a day just enough and no more—never as much as they will swallow. Practice only can determine the quantity required to keep them moderately fat. They should be handled occasionally (night is a good time for this) to find out their condition.

The caution respecting over-feeding does not apply to young or partly grown birds. Give them all they will consume. There will be no danger of injury by over-eating if fed from four to a dozen times a day, according to their age. They require a highly nourishing diet, for they develop very fast and make great demands on the material stored up in their tissues. Making half-grown fowls too fat is simply impossible if they are allowed plenty of range and inducements to keep in almost constant motion. All young domestic animals require abundant exercise. Confining young Chickens in pleasant weather indicates a lamentable ignorance on the part of the breeder. In fattening adult fowls, induce them to eat as much as possible for fifteen or twenty days, and then kill them before they become diseased or enfeebled in digestion. For a time they will take on flesh rapidly, and the knack consists in butchering just before the appetite is satiated, and a reaction of the system prevents a further accumulation of fat.

**ICE FOR SITTING HENS.**—J. E. Smith, Durham, N. H., states that he has cured an obstinate hen of a desire for "setting," by putting several lumps of ice in her nest. Such uncongenial nest-eggs must certainly exercise a demoralizing influence on the would-be mother, but in some cases the operator may surely calculate on requiring duplicate eggs.

**WINTER FOOD.**—In the morning we must feed boiled potatoes, or wheat bran, scalded and fed warm, as it digests easily and warms the hens up after a long, cold night. At night we must feed corn, oats and the like. At noon, vegetables, such as cabbages, raw potatoes, onions, apples, and the like, chopped up together with plenty of pepper. Meat is relished well once or twice a week. Coal ashes are of great benefit to the hen-house; put them in a box or in the corner of the house, changing them every day; the hens pick out all the little bits of slate, which serve to make eggshells. Old plaster is good, for it helps to make shell. Hens should have plenty of clean water or thick milk (the milk I think preferable) every day; there is more profit in feeding milk to the hens than to hogs.

**WARM POULTRY-HOUSES.** In clear winter weather, no matter how cold the air is, if the sun shines brightly, and the air inside the poultry-house cannot escape, a surprising amount of solar heat may be collected in the house by having considerable glass on the south side.

The *Rural New Yorker* tells a correspondent that if he will "keep his fowls well supplied with lime and gravel, or brick-layers' rubbish, and animal food (fresh meat) in some form, it may prevent or cure his hens eating their eggs." But as soon as the fowls are hungry again after their repast of fresh meat (which will be in about ten minutes), they will eat either more fresh meat or eggs, if accessible, and prefer the latter. Another remedy is to scatter china eggs all around the poultry-house for fowls to peck at until disgusted, but we have found that they will not entirely cease pecking at either china eggs or the genuine ones.

**WINTER PRECAUTIONS.**—Too many birds should, under no circumstances, be crowded in the same room. Houses, fountains, nests, feed-boxes and yards must be kept clean and well disinfected.

Fresh, pure water for drinking, and diet changed frequently and given with discretion. Dusting baths, lime and broken or ground bones, charcoal, gravel, a limited amount of fresh meat and green food should all be provided. By adhering strictly to these requirements you need have little fear of disease.

**Poultry Shows for 1877.**

Ontario Poultry Society will hold their show in Galt, from the 16th to 20th January, when about \$2,000 in prizes will be awarded. D. ALLEN, Sec.

Southern Poultry Society will be held in Brantford on the 20th to 23rd February, when we have every assurance of a good exhibition. Their prizelist will be out in a few days. W. SANDERSON, Sec.

National Association of Fanciers will be held in Chicago on February 12th to 17th. C. J. WARD, Sec. and Treas.

**Value of Oats for Feeding.**

There is a valuable article, bristling with statistics on this subject in *Le Journal de Agriculture Pratique* for June. The writer (Mons. L. Grandeaun) observing that the general opinion having been that the heavier the oats weigh the more nutritive they are, states that the General Omnibus Company having for several years allowed the agricultural laboratory to make experiments, these have resulted in showing that there is no relation whatever between the natural weight and the nutritive quality of oats, the greatest difference per 100 kilogrammes found in the analysis being: In water 3.26 k.; azotized matter 3.33; fatty matter 3.64; starch 7.32; cellular tissue 7.36; and ashes, 2.22. The azotised substances and the sum of the hydrocarburets (fat, starch, &c.) varied to the greatest extent in a hundred parts of the former 35.42, and of the latter 19.70—hence, says he, the first conclusion: "That for large consumption of oats, such as those of carriage and omnibus companies, there is real interest in knowing the composition of oats, whether for purchase or for mixing rations. Giving a table of the mean analysis of nineteen kinds of French and twenty-one of foreign oats he says: "These remarkable differences between the mean composition of the oats of the two series bear mainly on their absolute richness in azote and amulaceous matter. The oats of Bohemia, Hungary and Germany, richer in protein substances, and at the same time poorer in starch, present a nutritive value superior to the mean of the nineteen French sorts analysed." To what cause, then, he asks, must we attribute these differences? To the soil, the climate, the kind cultivated, the manure, or the year of harvesting? That the nutritive value of oats, as regards the relative proportion of the protein to the non-azotised properties, was utterly independent of weight, was shown thus: "Irish black oats of 1874, the most nutritive of all analysed, weighed 44 kilogrammes a hectolitre, whilst Poitou grey oats, weighing 51.1 k., only stood eleventh in nutritive value. The oats of the Haute Marne, and of Burgundy, weighing respectively 40 and 40.2 k. per hectolitre, were far in advance of black and white Swedish; and grey Brittany oats, weighing respectively 50.5 and 48.48 k. per hectolitre. Finally, the two last oats in order of nutritive value, white Russian of 1874 and grey Brittany of 1872, weighed the one 43.5 k., and the other 42 kilogrammes. In a great many rural and M. Grandeaun might have added, town works, the ration of oats is still given by measure, without taking into account the weight per hectolitre of the grain.

**The Cost of Crops.**

But few farmers, we think, spend a thought on the actual cost to them of any of the products of their farms, per bushel, per hundred weight, or per acre. They content themselves with knowing that the farms, as a whole, are paying their expenses and a little over. Still it is well to know of each crop, if it be profitable, and if so, what profit does it pay. The process is a simple one, and these long winter evenings give a good opportunity to those who have as yet made no calculation, to make a commencement. Will some of our subscribers examine the calculation of a Michigan farmer given below, and compare it with such items of his own farming, and let us have the result?

**THE COST OF WHEAT, BY ACTUAL ACCOUNT WITH THE FIELD.**

Not long since I was somewhat amused at reading in your paper a report of the proceedings of a certain Farmers' Club, in which was given some rough guessing on the cost of raising wheat. I have aimed to keep an exact account of the labour done upon my wheat crop which has been harvested the past season, and have attached to it and the other items

of expense what I considered to be a fair valuation.

Below will give you my account with a field of twenty-three acres, which may at least amuse your readers:

|                                           |          |
|-------------------------------------------|----------|
| 11 days' Plowing at \$2.50 per day.....   | \$27 50  |
| 51 " " Dragging " " " " " " " "           | 13 75    |
| 33 " " Drawing manure at \$2.50 per day   | 8 75     |
| 6 " " Spreading do. at \$1.25 " " " "     | 7 50     |
| 5 " " Ganging at \$2.50 per day.....      | 12 50    |
| 23 " " Drilling at " " " " " " " "        | 6 25     |
| 23 1/2 bush. seed at \$1.20 per bush..... | 28 20    |
| Harvesting.....                           | 57 85    |
| Threshing.....                            | 20 76    |
| Interest on land at 7 per cent.....       | 20 76    |
| Taxes.....                                | 119 70   |
| Wear of tools.....                        | 7 36     |
| Total cost.....                           | \$320 12 |
| Deducting \$1 per acre value of straw.... | 23 00    |

Net total.....\$297 12  
Machine measure gave 427 bushels, which, at the above estimate, would be a trifle less than 70c. per bushel. The soil in which this crop was raised is a sandy loam. The wheat grown in another field the same season cost me 80c. per bushel.—J. K., in *M. Farmer*.

**CHEESE FACTORY—SOMETHING FOR THE HARD TIMES.**—This is the fourth year for the Kintore Cheese factory. It has paid a profit of about 28 per cent., and the previous year the profit was 25 per cent. It is owned by about sixty or seventy partners; Mr. James McLeod, President. The cheesemaker's salary is one dollar per cwt. The number of cows whose milk was sent to the factory was 700 the past season, 11 of them the property of the writer. The price of cheese sold in August was 10 1/2c. per lb., and the two following months 11c. So money can be made even in the hard times. JOHN LAY, Kintore, P. O.

Miss Edith Head will please forward her P. O. address, as it has been mislaid.

Sir,—I am troubled with the bark lice on my apple trees. I have tried different kinds of washes, but cannot get rid of them yet. Please give the best remedy. J. SEMONT, Lakeville, Cornwallis, Nov. 25th, 1876.

**[FOR THE BARK LOUSE.]**—Scrape off the rough, scaly bark without disturbing the sound bark beneath; then soak well with lye. Some add to the lye carbolic acid. Their breeding and hiding place is under the scales and in the little corners of the rough bark. For the scraping we prefer a cow's rib to a knife. The rib does not wound the bark that is to be preserved.]

**Commercial.**

The markets have for some time been very inactive; in the English markets, owing to a great measure to the unsettled state of political affairs in Europe, buyers and sellers have in consequence been inclined to bide their time and wait the course of events. Prices have, however, been firm, and in some cases have again advanced.

Receipts of grain in Canadian markets have not been large. Stocks stood in Toronto on Monday as follows: Flour, 6,512 bush.; fall wheat, 35,959 bush.; oats, 17,195 bush.; barley, 438,407 bush.; peas, 29,926 bush. English markets took a start in the latter part of last week, which has been firmly maintained ever since.

**ENGLISH MARKETS.**  
Liverpool, Dec. 27. Wheat steady; Corn firm; California White Wheat, per cental, 11s 5d to 11s 9d; Red American Spring Wheat, range of No. 2 to No. 1, per cental, 10s 3d to 10s 9d; American Mixed Corn, per qr. of 150 lbs., 27s 6d; Canadian Peas, per qr. of 50 lbs., 38s 6d.

**TORONTO MARKETS.**  
Barley, 50c to 65c per bush; Spring Wheat, \$1.18 to \$1.20; Red Winter, \$1.15; Treadwell, \$1.15 to \$1.25; Deihl, \$1.15 to \$1.22; Oats, 41c; Peas, 70c to 74c; Flour, from \$4.70 for superfine, to \$6.50 for superior; Hogs, 86 to \$6.80; Butter, 18c to 21c.

**MONTREAL MARKETS.**  
Flour, extra, \$6.10; Choice Western Strong Bakers', \$6; Grain quiet and unchanged; Hogs, 87 to \$7.10.

**NEW YORK MARKETS.**  
Wheat, \$1.25 to \$1.45; Bye Flour, \$4.50 to \$5.15; Corn, 60c to 64c; Barley, dull and unchanged; Oats, 38c to 52c; Cheese, 7c to 14c; Butter, 20c to 30c.

**CHICAGO MARKETS.**  
Wheat, \$1.25 to \$1.28; No. 3, \$1.12; Rejected, 96c to 99c; Corn, 45c; Oats, 34c; Rye, 72c; Barley, 67c.

**LONDON MARKETS.**  
Grain in all classes very steady during the week: Wheat, Deihl, \$2 to \$2.05 per cental; Treadwell, \$1.80 to \$2; Red Winter, \$1.80 to \$1.90; Spring, \$1.85 to \$1.95; Barley, \$1 to \$1.20; Peas \$1.12 to \$1.15; Oats, \$1.15 to \$1.18; Corn, 90c to \$1.10; Beans, \$1 to \$1.27; Rye, \$1 to \$1.10; Apples, 30c to 50c per bush; Potatoes, 70c to \$1 per bag; Dress'd Hogs, 85.50 to 86.50; Beef, per 100 cwt., \$4.50 to \$6; Cheese, 10c to 11c; Roll Butter, 25c to 26c; Keg Butter, 17c to 18c; Hay, per ton, 8s to \$10; Turkeys, each, 50c to \$1.50; Geese, 40c to 50c; Ducks, per brace, 50c to 60c; Cordwood, \$3.50 to \$4.25.



red to be a fair valuation. account with a field of may at least amuse your

Table with 2 columns: Item description and Price. Includes items like 'per day', 'at \$2 50 per day', 'at \$1 25', 'per bush', 'per acre', 'per cent', 'per bushel', 'per ton', 'per cord', 'per bushel', 'per ton', 'per cord'.

THING FOR THE HARD year for the Kintore paid a profit of about 28 this year the profit was 25 about sixty or seventy Lead, President. The dollar per ewt. The sent to the factory of them the property of cheese sold in August two following months made even in the hard LAY. Kintore, P. O.

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Commercial.

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MARKETS. Corn firm; California 1.50 to 1.75; Red American No. 1, per cental, 1.08 3/4 to 1.10; per qr. of 150 lbs., 27.5 1/2; 28.38 1/2.

MARKETS. Spring Wheat, \$1.18 to \$1.20; \$1.15 to \$1.25; Deihl, \$1.15 to \$1.20; Four, from \$4.70 for Hogs, 86 to \$6.80; Butter, 18c

MARKETS. Western Strong Bakers, 86; Hogs, 87 to 87.10.

MARKETS. Hour, \$4.50 to \$5.15; Corn, 60c; Oats, 35c to 52c; Cheese,

MARKETS. \$1.12; Rejected, 96c to 99c; 2c; Barley, 67c.

MARKETS. during the week: Wheat, 81.50 to 82; Red 81.50 to 81.95; Barley, 81 to 82; Oats, 15 to 18; Corn, 90c to 91; Apples, 30c to 31; Butter, 17c to 18c; Hogs, 85 to 86; Cheese, 10c to 11; Eggs, 40c to 41; Cattle, 50c to 51.50; Geese, 40c to 41; Cordwood, 83.50 to 84.25.

The Story.

"I Came to Ask—"

Two pretty, old-fashioned cottages standing near each other on a secluded tree-shaded country road, separated by a little meadow, which from the birth of Spring to the death of Autumn rejoiced in waving green grass and white daisies and yellow dandelions, and after that wore a robe woven of snow-flakes as fair and pure as when they fell from the skies, until old Winter, to whom the robe belonged, hearing the returning birds ask for the violets, gathered it about him and vanished again.

In one of them, the larger, in front of which was a neatly kept lawn, and at the back a small hot-house and miniature vegetable garden, lived Miles Guernsey and his man, Mike, the one an old bachelor, the other, as he described himself, "a widdy man, thanks be to the Lord that sint her rest."

In the other—Rose Cottage they called it, for in rose-time it was completely surrounded by roses; they filled the space in front and clambered over the porch and up the sides of the house—had lived a quiet elderly couple for many years, until about a month before my story (if it may be dignified by that title) begins, when they went to heaven on the very same day, as they had often prayed to, loving old souls, and left Rose Cottage waiting for new tenants.

"Just as I'd got comfortably settled," grumbled Miles Guernsey, "to be all upset again! Other old men and women live till they're a hundred. Why couldn't these have done so instead of dying at the early age of eighty? And there's no knowing who'll take the cottage. Somebody with cats, dogs, and babies, I've no doubt—three kinds of animals I detest."

"Thru' fur ye, boss," said Mike, with an ominous shake of the head.

There was something else Mr. Guernsey insisted he detested, and that was an old maid. "A man," he used to say, "don't need smiles and kisses and pet names and children hanging around him to keep him sweet, but a woman does. Of course some of the poor things can't help their forlorn state; the men don't propose, or they do and run away, or their parents cut up rough, or they have invalid relations to take care of. I'm very sorry for them; they have my heartiest sympathy; but, all the same, I don't like 'em."

And so when Mike came one lovely June morning to tell his master the Cottage was rented, adding, with a sly grin, "An' shure it's an owld maid an' her mother," Mr. Guernsey said something of which he ought to have been ashamed, and which, for that reason, I shant set down, and then went on sarcastically, "And now we'll have all sorts of 'sacet, cunning' pets,' I suppose; but if any of them come near my premises"—furiously—"I'll poison 'em, drown 'em, wring their necks. Do you hear, Mike?"

"Faith, I do," said Mike, grimly. "I've lived here ten years," resumed the master, "in peace and quiet, driven here by an old maid in the first place, and it will be hard indeed if I am driven away by another. With a piano or guitar, no doubt?"

"Aither that last or a fiddle, sur," said Mike. "I sor the gurril a-carryin' it in yesterday in its own nate little coffin."

"She'll play and sing from morning till night, out of time and tune, and I shall be obliged to close all the doors and suffocate."

"Anyhow," suggested Mike, "there can't be no babies."

"Thank heaven for that," said Mr. Guernsey, fervently; "though I don't know but what the guitar's worse. You can scare young children by making faces at 'em. When do they move in, Mike?"

"To-morrow, sur," said Mike. "Och, but its dreadful!"

"We'll go a-fishing, Mike. Be ready to-morrow morning at day-break, and we'll stay away a week. I never could bear the noise women make when they're putting a house to rights, as they call it; and if I can't stand it after we come back, why I'll pull up stakes and go for good, that's all."

"Yis, sur," said Mike. When Miles Guernsey and his man returned from the fishing excursion, Miss Osborne and Miss Osborne's mother and an English maid of all work were installed in Rose Cottage, and sure enough the first sounds that greeted the ears of the fishermen were the pleasant tinkling of the guitar, and an equally pleasant voice singing an old-fashioned love-song—not out of time, however, and decidedly in tune.

And the very next day a small dog, after sniffing curiously about on the outside for a while, squeezed himself nearly flat, and, crawling under the front gate, frisked gaily over the tiny lawn, and from thence up to the porch, where sat the lawn's owner reading the newspaper.

The intruder was a bright-eyed little terrier, slightly lame in one of his hind legs, and he proceeded to caper about the old bachelor as though in him he recognized an early but long-lost friend.

"Mike!" shouted Mr. Guernsey. "Sur!" shouted Mike, running out with a potato in one hand and a knife in the other.

"Remove this dog."

"Remove it is, sur," said Mike, dropping both knife and potato.

But "this dog" clearly objected to being removed. He skipped nimbly around in a "what larks!" manner; darted under the garden chairs, got entangled in a woodbine that was climbing to the roof of the porch, and tore it down; seized the knife Mike had dropped, in his mouth, and made off with it; and the "widdy man," making after him, slipped on the treacherous potato and came down with a whack.

"This thing must be stopped 'at once!' exclaimed Mr. Guernsey, setting his broad-brimmed hat firmly upon his head and grasping his cane. Out of his own gate he marched in the most dignified style, along the path, through the rose-crowded garden to the door of Rose Cottage. "I want to see your mistress," he said to the black-eyed maid-servant who answered his ring.

"Which?" asked the girl.

"What?" retorted Mr. Guernsey.

"Oh! I thought p'raps you didn't know the old lady's laid up with rheumatiz—got cold moving. Will Miss Osborne do?"

fond of roses. The white muslin curtains were looped back with sprays of half opened ones; a vase filled with them stood on the centre table; on the hearth lay shells from which they peeped, and a vine that ran up the window outside had been coaxed through a broken pane, and hung, heavy with sweet white buds, over the picture of a handsome young man in the dress of a clergyman. The guitar leaned against the arm of a cozy, old-fashioned crimson sofa; a hanging shelf of books occupied one corner of the room; a mirror, whose tarnished frame was almost hidden by a pretty arrangement of autumn leaves, hung in the other. "Humph! she's got some taste," said the old bachelor to himself, and began, without knowing why, to wish he were at home—in fact, was meditating an inglorious retreat, when the old maid entered the room.

Tall, graceful, with chestnut-brown hair parted simply over a frank un wrinkled brow, and gathered into a silken net at the back of her head; honest grey-blue eyes that looked full at you; arched eyebrows two shades darker than the hair; small, straight nose; cheeks a little faded, but still throwing out pink roses on occasion; lovely mouth, with the faintest suspicion of a shadow at the corners, which was instantly lost in a sunshiny smile.

"Our neighbor, Mr. Guernsey, I believe?" she said, in a remarkably pleasant voice.

"Yes," replied Mr. Guernsey, blushing violently (the idea of it! an old bachelor, forty-five his last birthday, blushing because an old maid looked at him!), and having uttered this monosyllable, he dropped his hat, and put his cane through the crown of it as he stooped to pick it up again. The hat in his hand once more, he went on: "I've called to see if you—that is, your mother—I mean both of you, of course—in fact," with sudden inspiration, "I came to ask if you would like some trout; just out of the water yesterday."

"Oh! thank you; you're very kind," said Miss Osborne, a little surprised in her voice, and a puzzled expression in her eyes; and at that moment Mike's rough tones broke in from outside:

"I've got him, boss, an' the devil's own time I've had to catch him. Bedad, he's the liveliest lame dog I iver met in me loife, an' he's put down the other vine an'—"

"Good-day," hurriedly said "the boss," flying before the old maid's questioning looks, and spinning off the stoop with such impetus as to almost knock down his faithful retainer. "Shut up, you idiot!" he said, in a hoarse whisper. "Drop that dog, and go home and fasten the vines up again."

"Howly Moses!" ejaculated Mike, as he disappeared in a hurry; "is it mad he is?"

"Oh, dear!" exclaimed the old maid, raising her pretty hands and eyebrows as she caught sight of the "fine little fellows'" dirty paws and drooping tail, "he's been in some mischief. I'm sure he has; I saw your man. What has he been doing, Mr. Guernsey? In the kindness of your heart you're screening him; I know you are. Oh, Waif! Waif! if you weren't lame, I'd whip you. I picked him up in the street one day, Mr. Guernsey—the pink roses were in full bloom now—where some wicked boys had left him after breaking his leg, and I took him home and nursed him well again, and the poor thing became so attached to me I couldn't bear to leave him behind when we left the city."

"Of course not," said Mr. Guernsey, adding, rather irrelevantly, "I don't wonder at it. Good-morning!" And so the acquaintance began.

"What a fool I've been!" said Miles, as, once more on his own porch, he picked up his newspaper again; but, bless me, who'd want to hurt a lame dog?"

A week passed away, during which Mr. Guernsey only caught occasional glimpses of his fair neighbor as she came out into the garden among the roses, with a plain straw hat shading her face, and tied with a bit of blue ribbon under the chin. "I always liked blue ribbon," sighed the old bachelor. "She used to wear it." "She" was the young girl he had loved some twenty years ago, and from whom he had been separated by the machinations of his father and her old maiden aunt.

All was calm and serene, when one morning Mike burst into the library, where his master sat, and gasped out, "Thim lamb chops, sur, the dilicate tender wuns I mist for yer dinner, they're gone, an' the burrid's most frightened to death, sur, an' no lies—or may I iver shake another worrid—than fourteen kittens in the wood-shed, an' all on account of Miss Osborne's cat, the thafe uv the wurrid."

"This certainly must be stopped at once," said Mr. Guernsey. "Give me my hat, Mike," and away he went, growing angrier and angrier at every step. His lamb chops! and no more to be had until to-morrow—good gracious! And fourteen kittens—gracious goodness!—to say nothing of the canary in a fit, perhaps its power of song scared away forever!

He actually banged the gate of the garden of roses; but his anger, which was up to "butter melts" at least, fell to "zero" when he entered the pretty parlor. There sat the old maid, in a low rocking chair, idly swaying to and fro, dressed in a loose flowing wrapper, without a ruffe or puff, with a golden-hearted daisy in her hair and another at her throat, and by her side stood the lean, lank cat with a squalling kitten hanging from its mouth. "Poor Mary Ann!" she was saying; "but where, oh, where are the other—" when she raised her kind eyes and met the not at all irate glance of the old bachelor. "Glad to see you again, Mr. Guernsey," she said, in her frank voice, rising and holding out her hand. "Mother is much better, thank you"—in answer to some rather indistinct query on the subject. "Run away with your kitten"—to the cat. "Not a very handsome cat, is she, Mr. Guernsey? Poor thing! she came to our door one cruel cold night last winter, half starved, and with the tips of her poor ears frozen off. I took her in, warmed and fed her, and she wouldn't go away again. To tell the truth, I didn't try very hard to make her; and I couldn't bear to desert her, when we came here, any more than I could Waif. He and she, odd as it may seem, are very fond of each other. But one bad habit, I'm sorry to say, I can't break her of, or haven't as yet—a result of her early vagabond life in the streets: she steals." Then suddenly noticing a queer expression on the face of her listener, she continued, eagerly, "I hope she hasn't been annoyin' you in any way."

Straight into those still child-like eyes did Miles Guernsey look, and say, deliberately, "Oh, no, not at all. I came to ask if you—that is" (growing a little incoherent), "your mother—of course I mean both of you—would like a fresh cucumber or two and some green pease"—with a flush of pride; "I'm ahead of all the neighbors." He meant the pease were.

"A thousand thanks," said Miss Osborne.

"Nine hundred and ninety-nine too many," said Miles, actually smiling at her. "Good-day." And when he re-appeared in the study, he had a daisy in his button-hole.

Mike came out of the dining-room, where he had been soothing the canary with a crisp lettuce leaf. "Well, sur?" said he. "Hang the bird's cage where the cat can't reach it, lock up the chops after this, and drown thirteen of the kittens," quietly said Mr. Guernsey.

"Mad, is it?" Mike soliloquized. "He's madder nor fifty hatters."

"Good heavens! what man in his sober senses," Miles Guernsey asked himself, "would hurt a frozen-eared cat?"

Summer passed away, carrying with her the fragrant roses and thousands of other beautiful flowers; autumn, in richly tinted rustling garments, gathered the gold and brown and crimson leaves to her bosom, and bade the earth farewell; winter came, and flung down snowy flakes upon and hung glittering icicles from the roofs of the cottages and the naked branches of the trees—and the neighbors had only met a dozen times. But in that dozen times Miles Guernsey had managed to learn (principally from the old lady, a delicate, sweet-faced woman, from whom the daughter had inherited her pleasant eyes) that the picture of the handsome young man in the parlor was the portrait of Rosa's lover who had died fifteen years before in a foreign land, where he had gone for his health.

"Rosa was well-nigh broken-hearted at first," said the old lady; "but time has softened her grief, and now she can speak of him as calmly as she can of the darling little sister who died when she was a child." From the same source he learned that Rosa's father had been a speculator, unlucky in all his speculations, and that when, his last great disappointment breaking his heart, he departed this life, there was very little left for his widow and children. "Robert, my only son," said the old lady, "helps us all he can; but lately he has married a sweet girl, who has patiently waited for him five long years, and now Rosa and I will have to live more economically than ever, if that be possible. But, dear me, how I do run on, and how Rosa would scold me if she knew it! but you are so kind and sympathetic, Mr. Guernsey, that, short as our acquaintance has been, I almost regard you as one of the family. Rosa, my dear, I should like Mr. Guernsey to hear that new song your brother sent you last week."

"And would Mr. Guernsey like to hear it?" Rosa asks.

"How can you ask me?" said the old bachelor. "I am always pleased to hear you sing." By which remark you will perceive he had become entirely reconciled to the guitar.

It was the evening of Christmas-day. Miles Guernsey sat alone in his parlor, thought on his brow and a pipe in his mouth, when Mike entered with a dainty rose-perfumed three-cornered note.

"From the owld maid, sir," said he.

"Miss Osborne, you mean," said his master, sternly. "Don't call her an old maid again."

"Would Mr. Guernsey"—so the note ran—"give Mrs. and Miss Osborne the pleasure of his company this Christmas evening? Brother Robert and his wife have come down from the city, and there would be a little music, a little supper, and what."

"Wait, and I'll write an answer," said Mr. Guernsey. And while Mike waited, he began to talk again. "She sure she heard the news, sur? the village is full uv it. They say she oughtn't 'a done it; that it's incuragin' wickedness an'—"

"Who the dickens are you talking about?" asked his master, turning impatiently around, pen in hand.

"The owld—I mean Miss Osborne, sur," answered Mike.

"And pray what shouldn't she have done?"

"Taken Bessie West's baby, sur."

"Taken Bessie West's baby?" Go on this moment, Mike, or I'll brain you with the poker."

"Well, you see, sur," Mike, thus admonished, went on glibly enough, "ye know that unfortunate story about Bessie West, the purty sewin'-gurril?"

"Yes, yes—Heaven knows I do. Not a woman's tongue within ten miles, except one, but has wagged about it."

"Well, sir, last night she died, an' she sint for the owld—I mane Miss Osborne. For she was frighted uv the other women, they'd been so hard to her—had 'cess to 'em!—an' half uv 'em wid childer uv their own, an' not knowin' what they're comin' to; an' the owld—I mane Miss Osborne, wint—"

"Of course she did," interrupted his master. "Go on."

"An' she prayed wid the poor thing, an' closed her eyes; an' whin she came away she fetched the young wun wid her, an' they do say she's a-goin' to 'dopt it, an' they'll niver shpake to her agin'."

"Which would be a very great pity!" said the old bachelor, with emphasis, and rather a diabolical grin.

"Yis, sur. An' now I suppose we'll be after movin', shure, for it only naded the baby to make it complete; owld—I mane Miss Osborne, cats, dogs, an' babies."

"Get me my great-coat," was the only reply he received. "I'll answer the note personally." And the great-coat on, away started Miles Guernsey for Rose Cottage once more.

"Bedad," said Mike, with an intoxicated wink, "it's mesilf knew he wouldn't stand the baby."

Miss Osborne's parlor was that night, if possible, brighter and cheerier than it was on the summer day the old bachelor first entered it. Instead of roses, Christmas greens dotted with brilliant red berries looped back the curtains, entwined the pictures, and drooped from vases and shells, and right over the tall wax candle burning on the centre table hung a bunch of mistletoe (sent with kindly greetings and a real English plum-pudding from some kinsfolk across the sea), its waxen berries gleaming like clouded pearls among its slender green leaves. Miss Osborne had evidently not expected her guest so soon, for she sat before the glowing grate fire with Bessie West's baby on her knees, its small pink toes held out toward the welcome warmth, and itself cooing and gurgling after the fashion peculiar to extreme youth.

How lovely she looked, with a spray of holly in her hair, a tender light in her eyes, and the loose sleeves of her dark silk dress falling back from her shapely white arms, as she held the child with motherly grace, and softly sang a dreamy nursery rhyme! Miles Guernsey thought of a beautiful Madonna he had seen in Rome as he looked earnestly at her, a moment before she became aware of his presence. (The black-eyed maid-servant going out in a hurry as he reached the door, he had entered unheard.) At last she started up, the roses in her cheeks sweeter and pinker than ever. "A merry Christmas!"



she cried. "How good of you to come so early! "I'll go call brother Robert."

"I don't want to see your brother," said the old bachelor—"at least not yet. I came to ask—"

"I was sure you would," said Miss Osborne, breaking out into a laugh like a young girl's. "I told mother so this morning. I know what you came to ask."

"Are you quite certain you do," said the old bachelor, an odd smile spreading over his face, until it danced in his handsome dark eyes.

"Quite certain," said the old maid, seriously. "But we really don't need your help, Mr. Guernsey; for although we are far from rich, we have enough to share with this dear little one, sent to me, it seems—don't think me foolish—as a precious Christmas gift on the blessed Christmas day—the day Mary clasped her beautiful Boy to her heart in the stable of Bethlehem. See, isn't she pretty? And so plump! Take her in your arms. I am sure you, who are so kind to cats and dogs, must almost love this motherless little girl." And she laid the child in the arms of the man who had never held a baby before, and who looked down upon it with something very like tears glittering in his eyes.

"Yes, it is pretty, and plump, and everything you say. Rose—pardon me, Miss Osborne; but please take it back. I'm afraid of it. It's making fearful mouths at me, and I'm sure it's going to scream," said the old bachelor, after holding baby exactly two minutes, the tears, if they were tears, gone, and the smile back again. "Do take it, I beg, or I shall drop it."

The old maid held out her arms. He placed the child in them.

"And now you must go to bed, baby," she said, turning away; and then turning back to say, with another merry laugh, "You'd scarcely believe it, Mr. Guernsey, but Walf is jealous, and so is Puss and her daughter."

And there they were—Walf on one side of her, and the cat and her kitten on the other; all the objects of his detestation grouped together in one terrible tableau!

"One moment, Miss Osborne, before you go," he stammered. "I have come to ask—"

"Ask anything I can grant," said Miss Osborne, encouragingly, "and I will grant it, for you have been a kind neighbor—I hope I may say friend—and this is merry Christmas—"

"You to be my wife," interrupted Miles Guernsey, a wonderful look of love lighting up his face.

"The baby would have been dropped then if he hadn't caught it. But he did catch it, and the old maid too, in his strong, tender arms."

"I won't tell you what she said, but I will say that nowhere on earth was there a merrier Christmas party than that at Rose Cottage that Christmas night; and I will say, further, that the following summer a Mrs. Miles Guernsey helped to superintend the culture of the early cucumbers and pease in Miles Guernsey's miniature vegetable garden, and that a number of rose-bushes found their way across the daisy-spangled meadow and over the fence to the border of the neatly kept lawn, and on that same neatly kept lawn a wee baby girl tumbled about unimpaired, with Walf as a constant companion and Mary Ann, the cat, as an occasional visitor. And I will still further say that the next Christmas there was a grandma in the house, and a grandson with his mother's light brown hair and his father's dark eyes, and the most abject slave to both little ones was Mike, the "widdy man."

THE END.

### Be Employed.

Happiness is almost sure to result from the useful occupation of time. When persons are actively engaged in their several callings or professions, time thus usefully employed is conducting to respectability, honor, and wealth. The whole combined must be a never-failing source of self-satisfaction. Those who have no regular business or profession, are apt to resort to the expedient of beguiling their hours by some pursuit or amusement to supply the place of business. Their endeavor is to fill up time agreeably. The idler in the country may devote himself to the sports of the field, making dogs and fast horses his principal companions, while the village or city idler will fill up his evening hours in frequenting theatres, card parties, balls, &c. These, however, are by no means the most eligible modes of employing time; nor are they productive of genuine self-satisfaction. Pursuits of a more tranquil nature, such as study, reading and music, should engage the minds of those possessing leisure; but even these dainties will taste better if seasoned with some hard work.

True Politeness is benevolence personified; it is the practice of kindness. There is virtue even in the form of politeness; it may be merely mechanical, still, like an air cushion, although there is nothing in it, it is very comfortable in use. Why not cultivate a pleasant mode of recognition for every one we meet on the street, however slight the acquaintance? It would many a time lighten the load of some sorrowing heart, or cause some new resolve to "try again" when on the very verge of no utter hopelessness, by the inspiration of the feeling "there's somebody at least cares a little for me." It elevates the lowly to have their superiors greet them courteously; it unwittingly to themselves, begets a resolution to act more worthy of such recognition; to earn it by a better behavior, a more tidy dress, a more dignified deportment.—W. W. Hall.

### The Modern Novel.

A modern novel is condensed thus:

VOL. I.

A winning wife,  
A sunny smile,  
A feather;  
A tiny talk,  
A pleasant walk  
Together.

VOL. II.

A little doubt,  
A playful pout,  
Capricious;  
A merry miss,  
A stolen kiss,  
Delicious.

VOL. III.

You ask mamma,  
Consult papa,  
With pleasure;  
And both repent  
This rash event,  
At leisure.

### Prize for One New Subscriber.

To any subscriber sending us one new name, we will send a beautiful lithograph of the celebrated painting by Thomas Faed, R. A., called "The Offer." A very handsome young woman, neatly attired, is leaning against a marble mantelpiece in a graceful attitude, reading a letter. The envelope and a few flowers which have been sent to her are lying at her feet. A fire is blazing in the grate, and a large mirror and writing materials are on the mantel. A door is standing open, showing her father busy in the shop adjoining. We can't half describe the beauties of the picture. It is 22 x 26, and is superior to any picture we have ever sent out, or that we have seen with any paper in Canada at such a price.

"THE OFFER" is fit for any gentleman's parlor or any farmer's home. It will please everyone that sees it, and on your wall will make your home cheerful and attractive. In tone and finish the picture is exquisite, and is well worth \$2 without the paper. We guarantee satisfaction to everyone that earns this picture. If you are not entirely satisfied with it we will give you 50c. for it if returned to this office within ten days. The selling price of this very handsome and pleasing picture was \$3. They have been reduced, and we have made such arrangements as to be able to fill our engagement.

For two subscribers we will send a handsome gilt-edged manual pocket diary for '77, bound in morocco.

Should any prefer choice seeds, plants, useful books or cash, they will receive a liberal reward for their trouble in obtaining subscribers at the rate of 25 cents for each new subscriber.

The following from a correspondent shows how the "The Offer" is appreciated:—

Enclosed find \$1 for another new subscriber. His name is —, P. O. Send another "Offer." The picture has pleased me and everyone that has seen it first-rate. I could get a lot of subscribers if you would give me the picture.

W. S., Woodstock.

[The picture is given only to old subscribers that send in one new name. All subscribers that want it and cannot get in a new one shall be supplied at the lowest possible price. We positively refuse to sell one to a new subscriber, as we have at great expense procured it for our subscribers. Agents wishing to use the picture to aid in canvassing may secure it with the paper at an additional cost.]

Any person sending in four new subscribers' names, accompanied with the \$4, will receive their paper free for 1877; if five new subscribers are sent in you may have the handsome picture "The Offer" and the paper for 1877.

### Dancing.

I am much interested in dancing. I am not a dancer either, but would like to know why that amusement is condemned so severely, while others are liked which I don't believe in at all. That is, I think they, or some of them, are more hurtful than dancing. I do not think there is any harm in having a social dance at a friend's house or your own, where you know every one, and know you are in good company. Yet I don't believe in going to dances where you have to pay; for there every one can go, and the company is too mixed. I feel like dancing when I am lively and happy; I would not dance any other time.

I would like to know what the readers of the *Advocate* think about the parties where they play kissing plays, tell stories, in fun of course, but they don't dance,—think it a sin! For my part I would give up the parties every time. And, besides, there some people that will not exert themselves enough to get exercise in any other way.—A SUBSCRIBER.

### Happiness at Home.

It has been said by a philosopher that every cross word uttered or angry feeling experienced, leaves its unerring mark on the face. This can be verified by a close observation of the countenances of those around us whose tempers and habits are familiar to us, and its truth thus established. And if the lineaments of the face show traces of such things, how much more must the general moral and mental system be affected by them? Nothing is more susceptible of proof than the statement that one angry word brings on another, except the good old Biblical saying, that "a soft word turneth away wrath." Many people, really possessed of a sincere desire to do right in all things, allow themselves to fall into the habit of using ungentle and even unkind words to those around them when, if their attention were called to the fact in the right way, they would be astonished at themselves. They mean no harm, but they do harm, both to themselves and to their associates. More especially is this harm perceptible in the family circle, where the developing child is the proud imitator of all the acts of its elders, and particularly those which are pronounced and noticeable. Here is where the carelessly sown seeds of ungentleness are eventually ripened into a harvest of harshness and too often gathered in a crop of vice and crime. Too frequently are these sins of the parents visited upon the children, even of the third and fourth generation.

This all results from a lack of full appreciation of the meaning of "Happiness at Home." Happiness is made, not born. It may with reason be argued that it is an impossibility to be happy at home when one is crushed by the cares of life—by difficulties crowding on every side. But that brings us to the very point we are seeking and leads us to repeat, that happiness is made, not born. If a man firmly resolves to throw aside the vexing cares of business, or a woman the aggravations of domestic life, when the family is united, as most families are once in twenty-four hours, the thing is done. After the excitements of the day the nerves are naturally pretty "high strung," and an effort is required to prevent their disturbance upon the slightest provocation; but each effort renders its successor easier of accomplishment. Thus, a habit of gentleness, cheerfulness and kindness can be acquired, which nobody sees but to appreciate, admire and desire. The children acquire it in youth and are saved the subsequent efforts at self-control, while the neighbors are softened by contact with it, and the result is what we all should seek—"Happiness at Home."

### Mind and Health.

The mental condition has far more influence upon the bodily health than is generally supposed. It is no doubt true that ailments of the body cause depressing and morbid conditions of the mind; but it is no less true that sorrowful and disagreeable emotions produce disease in persons who, uninfluenced by them, would be in sound health; or if disease is not produced the functions are disordered. Not even physicians always consider the importance of this fact. Agreeable emotions set in motion nervous currents, which stimulate blood, brain and every part of the system into healthful activity; while grief, disappointment of feeling, and brooding over present sorrows or past mistakes depress all the vital forces. To be physically well, one must, in general, be happy. The reverse is not always true; one may be happy and cheerful, and yet be a constant sufferer in body.]



**Minnie May's Department.**

**A Few Words on Cooking.**

MY DEAR NIECES,—Now "I feel a little jealous of Uncle Tom," for he receives a great many more puzzles for his department than I get recipes for mine, and cooking is an art upon which so much of our daily life depends, it is of the highest importance that it be well performed. We may not all be able to procure the finest kinds of food, but we must all try to make the best of what we can procure. By a certain degree of skill and attention, very humble fare may be dressed in such a manner that it will rival the most expensive dishes, both in savoriness and nutritiousness. Mere scraps, which a careless individual would throw away, are put to a proper use, and by means of certain auxiliary seasoning are brought to table in a new and attractive guise. When a dish has a slovenly appearance both the eye and the appetite are offended, therefore, it is consistent to prepare food for the table in the most tasteful and agreeable manner. One of the chief points to be attended to in cooking is cleanliness. We must have our hair neatly brushed and pinned up, as nothing presents a more slovenly appearance than to see the hair hanging loosely about one's shoulders. The next point of regulation is to keep all the saucepans and other utensils perfectly clean. Another essential point in cooking is attention. We must not expect to put a joint of meat or a turkey to roast and only to go back at a certain time and find them ready for dinner. No, dear nieces, that kind of inattention will surely spoil everything we undertake to cook. A good cook is pretty frequent in her visits to the fire, and perfection in cooking is only attained by experience and careful attention.



THE CINDERELLA PASTRY ORNAMENT.

We have given various recipes for making pies. We have seen them made in various forms. For common use, the plain crust, without any ornamentation, satisfies the appetite as well as if great labor was bestowed in ornamenting them; but when we have visitors we like to be with the times. We therefore give you a little representation of a Yankee notion for crimping and ornamenting pies and cakes. It is called the Cinderella. The crimping wheel is made of white metal, and rolls the edge on the pies and cakes, and the back part forms a star. The above pie shows the work done with the Cinderella. G. J. Aspenell & Co., of Cheshire, Conn., U. S., are the manufacturers of this invention. We do not know if any person in Canada has yet procured any of them, as they are called the Centennial notions. MINNIE MAY.

**Recipes.**

**SPANISH CREAM.**

One quart milk, four eggs, half ounce gelatine. Pour one pint of milk on the gelatine, then add the other pint of milk, and stir it over the fire in a farina kettle. Beat the yolks of the eggs with three tablespoonfuls of sugar, and stir into the milk just before it boils. When it comes to a boil, take it off, stir into it the whites of the eggs, beaten to a stiff froth, with three tablespoonfuls of sugar. Flavor with vanilla; pour into moulds. Use the next day.

**AUNT SUSANNAH'S MOLASSES PIE.**

Cover a plate with paste as for pumpkin pie; spread over this crust three tablespoonfuls of flour, and a spoonful of butter cut in small pieces, and five tablespoonfuls of Orleans or maple syrup (the latter is the best). Bake in a moderately heated oven. When nearly done, stir till the ingredients are well mixed, then let it finish baking.

M. E. A.

**APPLE FRITTERS.**

Make a batter of milk, flour and eggs. Cut apples in slices, dipping the slices in the batter, and frying them separately. They are done when lightly browned on both sides. Another, and perhaps more common way, is to cut the apples in small slices and mix them with the batter, frying them a spoonful in each fritter. Fritters may be made in with currants in the same way. Serve with sugar sprinkled over them.

**WELCH RAREBIT.**

One teacupful of minced cheese, one teacup of milk, one egg, butter the size of a butternut. Boil the milk, butter and cheese till they are a smooth paste. Add the egg, well beaten, and turn at once upon half slices of toast well buttered. Serve hot, with mustard to add, if desired. Have care about curdling the milk by too hot a fire.

Another way is:—Toast slices of bread, and butter them. Slowly toast some slices of cheese in a pan in the oven; spread some of the melted cheese on the bread, then another layer of bread, then cheese, then bread, and so on until you have enough, then finish off with cheese; set it in the oven, and let the heat melt the last layer until it spreads over all.

**CORN-STARCH PIE.**

Large tablespoonful corn-starch, wet with cold water; large teacup boiling water; let it cool; cup of sugar; yolks of two eggs; spoonful of extract of lemon; then add the ingredients together and put on a plate with one crust; place in the oven to bake; when done, to be frosted. For frosting, whites of two eggs, two tablepoons sugar, then set in the oven to brown. JENNIE A. YOUNG.

**A DANISH DISH.**

One pint of currant juice, one pint of water, half pint of sago, two cups of sugar. Boil all to-

gether until the sago is soft. Pour into moulds, and set on ice.

**BOLOGNA SAUSAGES.**

Take equal quantities of bacon, fat and lean beef, veal, pork and beef suet; chop them small, season, pepper, salt, &c., sweet herb and sage rubbed fine. Have a well washed intestine, fill and prick it; boil gently for an hour, and lay straw to dry. They may be smoked the same as hams.



WORK DONE BY THE CINDERELLA.

**ALMOND ICING.**

Beat the whites of three eggs to a froth and add a pound of almonds beaten very fine, with a little rose-water, and by degrees one pound of white sugar. Lay the icing on the cake, set it in the oven to harden, and then add the sugar icing, which should be three-quarters of an inch thick.

**MOTHER EVE'S PUDDING.**

If you would have a pudding observe what you're taught: Take two pennyworth of eggs when twelve for the groat; And of the same fruit that Eve had once chosen, Well pared and well chopped, at least half a dozen; Six ounces of bread (let your maid eat the crust), The crumbs must be grated as small as the dust; Six ounces of currants from the stones you must sort, Lest they break out your teeth and spoil all your sport; Five ounces of sugar won't make it too sweet; Some salt and some nutmeg will make it complete; Three hours let it boil without hurry or flutter, And then serve it up without sugar or butter.

**SUGAR ICING.**

Beat the whites of five eggs till they will bear the weight of an egg, then with a wooden spoon mix gradually with them two pounds of dried and sifted pulverized sugar; work together a few minutes; add a teaspoonful of lemon juice. Spread it all over the cake, covering the almond icing thickly and evenly. Dry slowly in a cool oven. This cake will keep a long time.

**BATTER OR YORKSHIRE PUDDING.**

Take a quart of sweet milk and mix in it a large cupful of flour, making the mixture very smooth. Beat four eggs and strain them into the batter. Add a little salt and mix altogether. Butter your dish or tin and pour the batter into it. Place the dish under roasting meat. It should have a nice browned appearance.

**TO BOIL A TURKEY.**

Boiled Turkey is one of the most delicate and excellent dishes which can be brought to the table, and should be dressed with as much care as possible. Make a stuffing of chopped suet (or butter) crumbs of bread, chopped parsley, pepper, salt, and nutmeg, which wet with an egg and milk. Put this stuffing into the breast, leaving room for the stuffing to swell, after which draw the skin of the breast over the opening and sew it neatly across the back; by which means when the turkey is brought to the table with the breast uppermost no stitching will be seen. Place the liver in one wing and the gizzard in the other, turning the wing on the back, and fixing the wings to the sides with a skewer. Cut the legs off at the first joints, and draw out the sinews; then pull down the skin and push the legs inside. Put in a cloth and boil for a length of time, according to size and age. The sauce used is various, as parsley and butter, celery, or oyster sauce. A very delicate sauce can be made of melted butter, boiled macaroni and milk.

**A HOME-MADE CARPET.**

An Eastern Lady says:—Have any of you a spare bed-chamber seldom used, which you would like to carpet at little expense? Go to the paper-hangers' and select a paper looking as much like a carpet as you can find. Having taken it home, first paper the floor of your bedroom with brown paper, then over this put down your wall paper. A good way to do this will be to put a good coat of paste upon the width of the roll of paper and the length of the room, and then lay the paper, unrolling and smoothing at the same time. When the floor is all covered, then size and varnish; only dark glue and common furniture varnish being used, and the floor will be all the better for the darkening these will give it. When it is dry, put down a few rugs by the bedside and toilet table, and you have as pretty a carpet as you could wish.

**Behaving at a Party.**

The rules for any party are not different from those for behavior at home. You dance and play and make yourself pleasant, just as you do at home always. This ought to put some of you on your good behavior, for, try as you will, and put on all you can, you can't show anything better in company than your old home everyday manners. You may set out to be very polite, but unless you are polite every day, the shabby, rough, common style gives all the impression that people can get of you. Manners are not like clothes, that you can put on fine or coarse at pleasure, but like your spine and shoulders, that grow straight or crooked, as you carry yourself all the time. And let this be a caution, never to have manners too fine for everyday, or to try to be so nice that you can't carry it out. I mean, don't use too fine language, or try to be too sweet, or tire yourself out waiting on people, just to make an impression. Don't smile every time you speak to any-one; it looks silly, and you should allow somebody at home to make fun of you a good many times to break you of the habit. Smile when there is anything to smile at, but to grin or giggle when you say any common thing, like "It's a pleasant day," makes you look little better than a fool.

**It is Better.**

Better to wear a calico dress without trimming, if it be paid for, than to owe the shopkeeper for the most elegant silk, cut and trimmed in the most bewitching manner.  
Better to live in a log cabin all your own than a brown stone mansion belonging to somebody else.  
Better walk forever than run into debt for a horse and carriage.  
Better to gaze upon bare walls than on a brilliant display of charming but unpaid-for pictures.

Jan., 1877

ing. I am not a like to know why that so severely, while others believe in at all. That is, think there is any harm at a friend's house or your very one, and know you Yet I don't believe in you have to pay; for there e company is too mixed. I am lively and happy; er time. what the readers of the parties where they play s, in fan of course, but it a sin! For my part I s every time. And, be- that will not exert them- in any other way.—

**at Home.**

philosopher that every angry feeling experienced, on the face. This can be tion of the countenances tempers and habits are h thus established. And such trace traces of ungentle and se around them when, if t to the fact in the right tonished at themselves. they do harm, both to sociates. More especi- ble in the family circle, d is the proud imitator of and particularly those d noticeable. Here is seeds of ungentleness o a harvest of harshness a crop of vice and crime. tins of the parents visited of the third and fourth

lack of full appreciation ness at Home." Happi- It may with reason be sibility to be happy at by the cares of life—by every side. But that t we are seeking and happiness is made, not olves to throw aside the r a woman the aggrava- n the family is united, n twenty-four hours, the excitement of the day etty "high strung," and event their disturbance ation; but each effort er of accomplishment, s, cheerfulness and kind- ich nobody sees but to ire. The children ac- saved the subsequent e the neighbors are soft- and the result is what we ss at Home."

**Health.**

far more influence upon generally supposed. It nts of the body cause tions of the mind; but wful and disagreeable n persons who, uninfu- in sound health; or if nctions are disorder- lways consider the im- reable emotions set in which stimulate blood, system into healthful ointment of feeling, orrows or past mistakes To be physically well, appy. The reverse is e happy and cheerful, er in body.]



Nucle Tom's Department.

Built on the Sand.

BY ELIZA COOK.

'Tis well to woo, 'tis well to wed, For so the world hath done Since myrtles grew, and roses blew, And morning brought the sun. But have a care, ye young and fair, Be sure you pledge with truth; Be certain that your love will wear Beyond the days of youth! For if you give not heart for heart, As well as hand for hand, You'll find you've played the unwise part, And "built upon the sand."

'Tis well to save, 'tis well to have A goodly store of gold, And hold enough of shining stuff, For charity is cold. But place not all your hope and trust In what the deep mine brings— We cannot live on yellow dust Unmixed with purer things. And he who piles up wealth alone Will often have to stand Beside his coffer chest, and own 'Tis "built upon the sand."

'Tis good to speak in kindly guise, And soothe where'er we can; Fair speech should bind the human mind, And love link man to man. But stop not at the gentle words, Let deeds with language dwell; The one who pities starving birds Should scatter crumbs as well. The mercy that is warm and true Must lend a helping hand, For those that talk, yet fail to do, But "build upon the sand."

MY DEAR NEPHEWS AND NIECES.—Our New Year's greeting is to wish you all a Happy New Year. It seems but a short time since we did the very same thing. As we grow older the time passes so swiftly and the ever changing events make it so absorbing, that we are scarcely aware of its rapidity; though I remember when I was a school-boy the time seemed long from Christmas to Christmas and from New Year to New Year.

Yes, the days seemed particularly long just before Christmas, and not unlike many of you now, we hung our stockings up in a conspicuous place with great expectations from Santa Claus on Christmas Eve. But the holidays are over now, and we trust you have all enjoyed your visits, your presents, your vacation, and all the pleasant things that good old time affords, and are again back at school talking it over with your school-mates. No doubt some will be saying "Oh dear! I wish it was Christmas again."

How often at the beginning of the year do we wish our friends a Happy New Year! A pleasant wish it is, but if it is mere empty words it does not make any one happy. We must follow up our words by deeds if we would have our wish to come to pass.

We wished you a Happy New Year, and shall try to contribute to your happiness through our columns. Though we have not the pleasure of seeing many of you, we can hear from one another once a month.

UNCLE TOM.

Prize Puzzles.

The prize offered in last issue has been gained by Miss V. S. McCollum. The competition was very close, as many have sent in a lot of really good puzzles. We shall give some of them in future numbers. Some have sent good puzzles which have appeared before in this paper; therefore they cannot compete. As an appreciation of the attempts, we have decided to send each competitor a small present for a New Year's gift. They have been mailed to you; we hope by this time you have received them.

1—HIDDEN BIRDS.

I went bird-nesting one time and took the eggs of the following birds:

- 1. To steal and a preposition.
2. A boy's name and a small horse.
3. A liquid, a personal pronoun and a consonant.
4. What a tailor does and a vowel.
5. What boys are fond of.

V. S. MCC.

2—NUMERICAL ENIGMA.

I am composed of 13 letters: My 12, 15, 7, is a bird. My 12, 10, 12, 4, 6, 3, 2, an animal. My 9, 8, 7, is a fish. My 5, 1, 11, is a metal. My whole were the dying words of a poet. E. ELLIOTT.

3—ENIGMA.

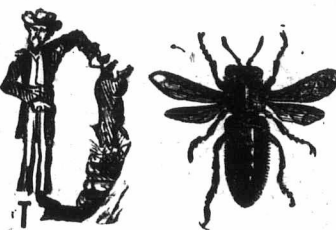
My first is large, small, and thick and thin, And my outside in general shows what's within; Its outside in colors outnumbers all scenes, And yet it is within every one's means. The rich and the poor, the Church and the State, The schoolroom, the bench, and rooms small and great; The scholar, the dunce, all have me in lore, — But the dunce often deems me a very great bore; Yet who can I harm as in second I lie? Both first and second, indeed, please the eye, Except in some cases where frequently used, Then we may seem as if much abused. My whole may be seen in the room or hall: Now, what are the words that make up my all? E. ELLIOTT.

4—GEOGRAPHICAL PUZZLE (Illustrated.)



5—CROSS-WORD ENIGMA.

My first is in mouse, but not in rat; My second's in dog, but not in cat; My third is in ring, but not in knock; My fourth is in stocking, but not in sock; My fifth is in robe, but not in dress; My sixth is in push, but not in press; My seventh's not in walk, but it is in run; My eighth is not in bow, but it is in gun; My ninth is in white, but not in brown; My whole is the name of a Scottish town. EMMA TURNER.



6—ILLUSTRATED REBUS.

- 3. We have made Ellen a May crown (2 rivers).
4. Do nothing rashly.
5. Oh, I only paid you three shillings and you want four.
6. He began gesticulating to help him to understand.

8—HIDDEN FRUIT.

- 1. The township of Marmora is in the county of Hastings.
2. Get me a pea, Charles, and I will show you a nice trick. E. E.

9—RIDDLE.

I'm sometimes of copper and sometimes of tin, Of iron I also am made, One element I always carry within, Of another I'm never afraid; For so constantly they tear me I seldom am known To be left by the one or the other alone. J. H. CROSS.

10—ENIGMA.

Places in New Brunswick: 1. A bag and a collection of houses. 2. A man's name and a weight. 3. Conversation and an article of food. 4. A liquid and a game of cards. MARY BOWMAN.

11—NUMERICAL ENIGMA.

I am composed of 21 letters: My 20, 17, 16, 6 and 4, 8, 11, 19, 12, 1, is a product of my 19, 5, 15, 10. My 18, 5, 11, 15, is within my 6, 2, 14, 12, but 16, 3, 13 on 7, 18 = 2, 17, 15, 9. My whole is the name of a subscriber to the FARMERS' ADVOCATE. T. M. TAYLOR.

12—Take that which when we possess we no pleasure can taste, And the initial of what we too frequently waste; These joined together will quickly declare What ruins the health of many a fair. T. M. T.

13—To a weapon much used by the sly archer Cupid A part of the face must be join'd, Which done with much ease, unless you are stupid, A town's name of note you will find. T. M. T.

14—ENIGMA.

A word of two syllables will express A condition of cold and hot distress; Two letters more make a syllable less And a vast addition of distress. MARY W. McEVERY.

15—ENIGMA.

All civilized nations through the wide world, Most useful pronounce me to be; The high and the low, the rich and the poor, Oh what would they be without me?

In castle and hovel alike I am found, Even now your eyes I'm before; (1) If you glance 'round your room, I there meet your gaze, In one form at least (2), perhaps more.

I am worn by the ladies and gentlemen too; (As merely a substitute then,) (3) With my face clean and smooth, I am very much used By those known as "Knights of the pen." (4)

I may at your window hang gracefully down, (5) Perchance at your tea-table stand; (6) In summer the place of a fire I take; (7) Or be seen in some fair lady's hand. (8)

And now, in conclusion, pray take my advice; I'm never used up, bear in mind; For a process gone through, I again reappear, And as money saved you will find. V. S. MCCALLUM.

16—DIAMOND PUZZLE.

1, a consonant; 2, a place for repose; 3, is seen in every town; 4, a messenger; 5, a cover for plants; 6, what men should all be; 7, a philanthropist; 8, a division of Prussia; 9, an abstract noun; 10, of divine institution; 11, a complete participle; 12, a girl's name; 13, a vowel (or a consonant). The above form a diamond. The centre letters read downwards and across will give the name of a great philanthropist. JAMES M.

17—RIDDLE.

It foams without anger, It flies without wings, It cuts without edges, And without tongue it sings.

Names of Those Who Have Sent in Correct Answers to December Puzzles.

J. W. S. Richardson, Maria Clemens, A. D. Anderson, William Roughton, E. Elliott, Nelly M. Adams, Freddie Bell, Mary Johnston, Mrs. E. McCubbin, Marian McKay, Mary W. McEvery, Jennie A. Young, Sarah Jane Sharp, John Wright, Janet Davidson, Mary B. Adams, Joann Bell, Lizzie Elliott, Thomas Bird, Minnie Learens, T. M. Taylor, Kate E. Crerar, Harry Naikes, A. J. Taylor, L. Jarvis, Elenor Nest, Saml. Hunt, Minnie Morris, Louie Hairbrother, Eliza Cook, Emma Ball, Thos. Jones, J. Pierce, Stephen Glover, Charlotte Smith, F. Simpson, Nora Leach, Eva Nebb, Charles Green, Frank Lambeth, A. J. Smithe, Wm. Gould, John G. Robson, L. Sifton, Abraham Willis, Francis McLean, A. G. Loose, Mary Craig, Susan Jones, Laura Gemley, Jacob Weeks, George Leslie.

Answers to December Puzzles.

152—The lips. 153—Flog, log, og, o. 154—Tooth, toot, too, to. U N T A N T G U I D E 155—U N I C O R N D R O N E U R N 156—Christmas. 157—Honesty. 158—Glaas, lass, ass, ss. 159—Supplement. 160—Juan, Hernandezy. 161—The letter L. 162—Contentment is gain. 163—The letter H. 164—'Tis an old maxim in the schools, That flattery is the food of fools; Yet now and then your men of wit Will condescend to take a bit. 165—Plum, currant, fig, date, apple, water-melon, 166—Norfolk, Essex, Somerset, Kent.



The Shepherd's Darling.

O Winter, ruthless Winter! Why is the world so small? You crowd us all in the valleys— In the narrow cabins all.

And if I pass, by any chance, My darling's house a-near, I scarcely see her little head From the little window peer.

And if I take my heart in hand, And enter her cottage door, She sits between father and mother And looks down at the floor.

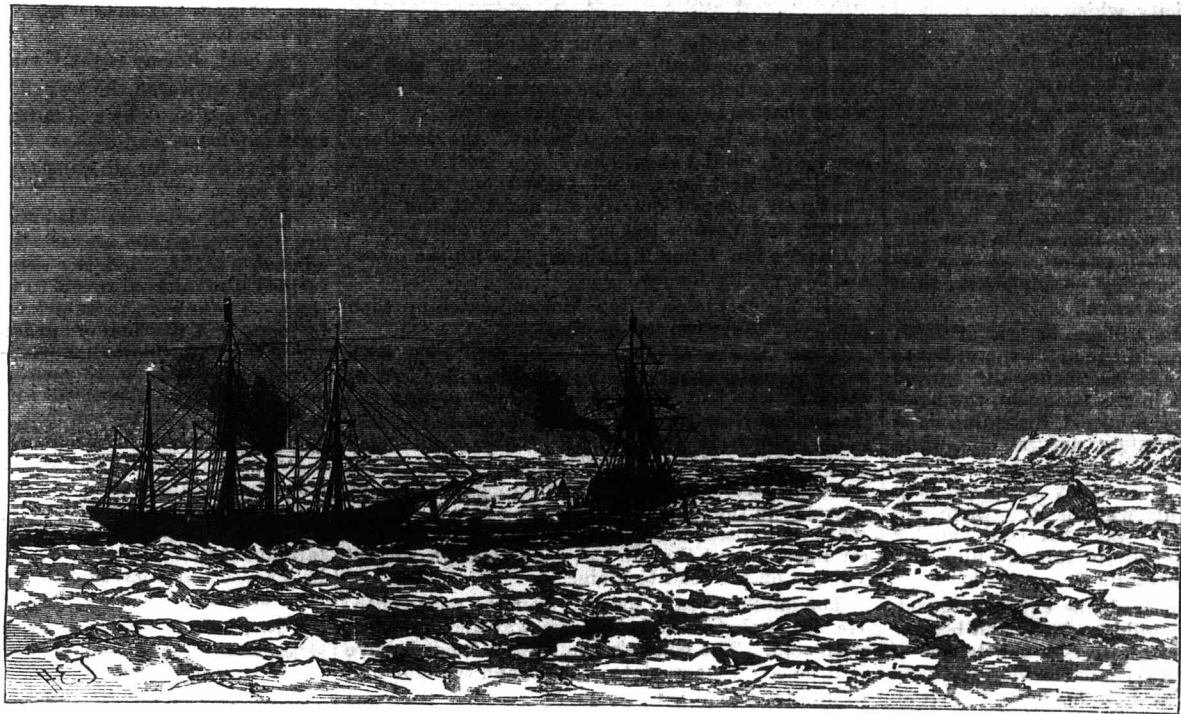
O Summer, lovely Summer! Thy world is all so wide! The nearer we climb to the hill-tops, The broader on every side.

You stand upon the cliffs, my love, I call from out the blue, The echoes bear my words afar, Yet no one hears but you.

And if I fold you in my arms, Upon the hill-tops green, We see o'er all the land abroad, And yet we are not seen.

British Arctic Expedition.

Heroism has not yet become extinct. It still lives in the hearts of the British tars, and it is at the present day as true as when first written that, "Our ships are British oak, Hearts of oak our men." The spirit of nobly daring, the power of unflinching endurance, were well exemplified in the British Arctic Expedition, of the scene of which we now present one engraving, representing the Discovery steaming through the ice, with her consort the Alert in her wake. They were unable to reach the North Pole, the object of the expedition, being prevented by an impenetrable and apparently immitable field of ice, or rather mountain on mountain, piled



THE ALERT AND THE DISCOVERY IN THE ICE.

through the untold ages. The expedition, however, has not been fruitless. They have been able to add much, though not all they had contended for, to our former knowledge of those hyperborean regions. Another engraving of Arctic scenes will appear in our February number. Captain Nares, in describing the process of forcing their way through the floes, says:

"It will be difficult ever to efface from my mind the determined manner in which (when the Alert had become embedded in the ice, which, by her impetus against it, had accumulated round and sunk under her bows, and a great quantity, by floating to the surface again in her wake, had helplessly enclosed her abaft) the Discovery was handled in her advancing to our rescue. Having backed some distance astern, for the double purpose of allowing the debris ice from a former blow to float away, and for the vessel to attain a distance sufficient for the accumulation of momentum with which to strike a second blow, coming ahead at her utmost speed, she would force her way into the ice, burying her bows in it as far aft as the foremast: the commanding officer on the bowsprit, carefully conning the ship to an inch, for had the ice not been struck fairly it would have caused her to carom off it against ourselves, with much havoc to the two. From the moment of the first impact the overhanging stem necessarily caused the ship's bow to rise three or four feet as she advanced from twelve to twenty feet into the solid floe, and imbedded herself, before the force of the blow was ex-

ended; and as the ship's way was stopped, the overhanging weight, by settling down, crushed the ice down still further ahead. Frequently, on these occasions, her jibboom was within touching distance of the Alert's boats! But after a little experience had been gained, such confidence had we in each other, that there was not the slightest swerving in any one instance."

HUMOROUS.

Why is a dog's tail like the heart of a tree? Because it is furthest from the bark.

The nation that produces the most marriages is fascination; and perhaps the nation that produces the most divorces is alienation.

There is said to be something consoling for every ill in this life. For instance, if a man is bald-headed his wife can't pull his hair.

A negro held a cow while a cross-eyed man was going to knock her on the head with an axe. The darkey observing the man's eyes, in some alarm inquired:—"You gwine to hit whar you look?" "Yes." "Den," said Cuffee, "hold this cow yourself."

It is told for a fact that a little flaxen-haired boy of five years old, who had passed the afternoon at the Boston Art Museum, looking up in his mother's face said:—"If all the mammas when they die turn into mummies, do all the papas turn into puppies?"

dressed the shopman thus:—"It is my desire to obtain a pair of circular elastic appendages, capable of being contracted or expanded by means of oscillating burnished steel appliances that sparkle like particles of gold leaf set with Alaska diamonds and which are utilized for retaining in proper position the habiliments of the lower extremities, which innate delicacy forbids me to mention."

A QUEER WITNESS.—A young man of very good character hired a horse from a livery-stable to go to a town twenty miles distant. Unfortunately, about half way out the horse was taken ill and died. The liveryman sued him for the value of the horse, representing that the horse had been killed by fast driving. One of the young man's witnesses (rather green, or supposed to be, and who had a peculiar way of talking very low) was called to the box, and questioned thus by the plaintiff's counsel:—"Are you acquainted with the defendant?" "Y-a-a-s" (very slowly drawled out). "How long have you been acquainted with him?" "About three years." "Well, sir, please tell to the court what kind of a reputation he bears, as to fast or slow riding on horseback." "Well, I suppose if he was riding with a company of persons who rode very fast and he didn't want to be left behind, he would ride fast too; and if he was riding with a company of persons who rode very slow, and he did not want to go ahead alone, he would ride slow too." "You seem very much inclined to evade answering questions properly,"

said the judge, much enraged. "Now, sir, having stated how the gentleman rides in company, I wish you to state how he rides when alone." "Well, having never having had the pleasure of riding with him when he was alone, I don't think I can tell."

A prisoner was up for two frivolous charges, as his lawyer designated them, viz., forging a note of hand and stealing a horse. On running his eye over the jury, the lawyer didn't like their looks,

so he prepared an affidavit for continuance setting forth the absence in Alabama of a principle witness. He read it in a whisper to the prisoner, who, shaking his head said, "Squire, I can't swear in that dockymint." "Why?" "Kase hit hain't true." The lawyer exploded loud enough to be heard throughout the room. "What! forge a note and steal a hoss, an' can't swear a lie! I leave such a confounded fool to his fate."

Some years ago a gentleman in Liverpool, who had the misfortune to lose his nose, was followed by an Irish beggarwoman, and who kept exclaiming:—"Heaven preserve your honor's eyesight!" The gentleman was at last irritated by her importunity, and said, "Why do you wish my eyesight to be preserved? nothing ails my eyesight, nor is likely to." "No, your honor," said the woman, "but it will be a sad thing if it does, for you will have nothing to rest your spectacles on."

The dreams of love, to continue true, must not take too visible a form, nor enter into a too consecutive history; they must float in a misty distance; the soul in which they hover can no longer think of the laws of existence; it inhabits another world; it forgets itself in the ravishing emotion which troubles it, and sees its well-loved visions rise, mingle, come and go, as in summer we see the bees on a hillslope flutter in a haze of light, and circle round and round the flowers.—Taine.

THE FIRST LESSON IN MUSIC.—An Irish gentleman called on an eminent singing-master to enquire his terms; the master said he charged two guineas for the first lesson, but only one for as many as he pleased afterwards. "Oh, bother the first lesson," said the applicant, "let us commence at the second."

Said a distinguished politician to his son: "Look at me! I began as an alderman, and here I am at the top of the tree; and what is my reward? Why, when I die, my son will be the greatest rascal in the city." To this the young hopeful replied: "Yes, dad, when you die—but not till then."

The judge asked an Irish policeman, named O'Connell, "When did you see your sister?" The policeman replied, "The last time I saw her, my lord, was about eight months ago, when she called at my house, and I was out." The judge: "Then you did not see her on that occasion?" The Irishman answered, "No, my lord, I wasn't there."

"Jake," said the blushing damsel to a lover that her father had forbidden the house, "I don't care if your feet are big; I love you just as much." "Wall, Sally, I don't mind so much about the size of my own feet, but I wish your dad's were a little smaller; I should feel more confident, you know, about staying."

A PAIR OF GARTERS.—A very modest young New York lady who wanted a pair of garters ad-

ness we no pleasure frequently waste; ly declare fair. T. M. T. by the sly archer

d, less you are stupid, find. T. M. T.

express distress; able less ress. W. McEVERY.

wide world, e; and the poor, ut me?

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ps more. lemen too; (3) I am very much

f the pen." (4)

efully down, (5) and; (6) ke, (7) and. (8)

e my advice; l; in reappear, nd. S. McCALLUM. LE.

epose; 3, is seen 5, a cover for be; 7, a philan-; 9, an abstract; 10, of divine titution; 11, a com- te parteciple; 12, a 'sname; 13, a vow- or a consonant).

he above form a mond. The cen- letters read down- ds and across will e the name of a at philanthropist. JAMES M.

ags.

Sent in Cor- r Puzles.

Anderson, William Freddie Bell, Mary Kay\*, Mary W. Mc-Narp, John Wright, Bell, Lizzie Elliott, or, Kate E. Creerar, Elenor Nost, Saml. Eliza Cook, Emma er, Charlotte Smith, Charles Green, Frank G. Robson, L. Sif- A. G. Loose, Mary bob Weeks, Georgc

Puzles.

4—Tooth, toot, too,

laas, laas, ass, ss. 161—The letter tetter H.

is, is, wit

nelon, 166—Nor-



### The Home Circle.

#### The Fatal Test.

An aged man, my fellow-traveller, related to me the following story, as we sat in the warm chimney corner of a comfortable country tavern, after a day's travel in a stage-coach. He assured me that the test was tried during his father's time, with such results as are here narrated:—

The snow was falling thick around a small house at some distance from the little village of—, in Massachusetts, on a Christmas Eve seventy or eighty years ago. The widow within did not give it a thought, for she expected the arrival of no husband, and her children were snug and warm by the fire.

There came a knock, however, and she answered it speedily, with an exclamation of surprise at such an occurrence on such a night.

A youth stood without, who asked permission to warm himself, as he felt the death-sleep creeping over him. Instantly the widow's eldest son drew him into the house, and taking the reins of his horse from his stiffened hands, zealously attended to the comforts of the beast. The eldest daughter prepared some hot coffee, and the mother herself took off the stranger's hat and coat. Everything that kindness could suggest was done for him; and when he had become in some measure comfortable, questions as to his inducements to travel were put with an earnest simplicity which rather warmed his heart than gave offence.

He had been several times much moved by the tenderness shown him; and he did not hesitate to tell them frankly about his affairs. He was a very handsome stripling; his name was Arthur Vernon, the only son of a rich widow. He was now on his way to New Hampshire, taking a large sum of money from his mother in Boston to his aunt, who was left in debt by the sudden death of her husband. The stage routes were impassable from the deep snow, and he intended, as the need was urgent, to perform the journey on horseback, then the most common mode of travel.

He had stopped at the village tavern at—, having determined to spend the night there; but as he imprudently mentioned the money he carried before several travellers in the bar-room, the landlord privately advised, even urged, his riding on as fast as possible, that he might not be obliged to travel the next day with those who had heard his rash words; and that while they supposed him asleep, he might be on his way far from them and possible danger. Arthur was still cold and his horse fatigued; but the landlord supplied him with another and sped him onward.

The deep snow of the road was entirely untroudden; therefore he had ridden slowly and become chilled. Thinking it better to risk the danger of delay and of being overtaken in the morning than to become sleepy and fall from his horse to certain death by the wayside, he had concluded to stop and warm himself by their fireside before he entered the forest through which the road now led. The little family had listened breathlessly, and for some time the silence was unbroken, until Mary said, with a shudder—"It's a horrible road. People say—"

"Hush, dear," said her mother; "Don't repeat those idle tales. No sensible person, such as this young man, would believe them, to be sure; but when he is riding through the woods alone, they may seem fearful to him."

Arthur asked for pen and paper, to write a few words to his mother, and Charles promised to take the letter to the village post office.

"I will not lose what is perhaps my last chance of letting her hear from me," he said.

When he had finished the note he insisted upon continuing his journey, and they did not urge him very much to remain, trusting much to the wisdom of the landlord. Charles Morrison brought his horse, and after a farewell, almost as affectionate and sad as if he belonged to the family, he departed, Charles accompanying him to point out the entrance to the wood, and Mary calling after him to "ride fast."

He said, just before leaving the door, "Oh, how unwilling I am to leave you! But go I must."

When Charles returned they talked until bedtime of their admiration of the stranger and their pity for him. Mary's heart bled for the poor youth, hastening onward through the winter's night, haunted by a dreadful fear.

Early the next morning, Charles Morrison stopped on his way to school to inquire of the landlord concerning the stranger who had so deeply interested them. He learned joyfully that the horse, which Arthur had promised to leave at the next tavern, had been found there and brought home, thus making it almost certain that he had escaped danger, at least for that night.

No one at the tavern, however, had seen the youth, but it was probable he had feared to enter, and, after putting the horse in the stable, had sought shelter at some hospitable farmer's. He would be likely to continue to do so, and for a day or so avoid the inns.

The landlord, who feared losing custom if he displayed such a suspicious temper, swore that young Vernon was a fool who could not keep his tongue between his teeth, but must needs betray the friend who, out of prudence for him, had risked getting into trouble himself. He protested he suspected none of his guests of any design upon the young man's money, but thought it best to send him on, as he himself had led to his imprudently mentioning his business before strangers. But when Charles took a private opportunity of questioning him, he confessed that he felt uneasy when he saw an ill-looking man glaring at young Vernon several times. After he had sent the youth away, he took occasion to say, at the supper-table, that the poor fellow had fallen asleep on his bed without undressing, "just for a blind." He noticed that the suspected man's attention was attracted. Soon after he had missed him, and learned that he had been to the stables, and had been told by the hostler of Arthur's departure. When the fellow returned to the bar-room, he said he had been so refreshed by the supper and something warm that he believed he would ride on.

"I shook in my shoes, Charley," the landlord concluded; "but I should have been 'most too smart if I'd meddled, for it's all turned out all right. That man stopped quietly all night at the next tavern, and Vernon left my horse there all safe."

Charles ran home light-hearted with the news, and Mary sang for joy.

"If he only don't dog him and catch up with him yet," muttered her brother.

A few weeks afterwards came two men with eager inquiries about a young stranger called Arthur Vernon, who had left home on a journey into the interior of New Hampshire, and of whom the last news came from this village. They could trace him no further, and were obliged, after a vain search, to return to his sorrowing mother without any clue to the mystery of her son's fate. Neither could they discover anything about the suspected stranger, except that he had gone through several villages on the road to Maine.

The landlord really grieved over the poor youth. He feared that he had lost his way and perished with cold. The widow's family would not believe that he could meet a fate so hard, and thought him ill in some out-of-the-way place.

The winter passed away, and the matter was still a mystery.

The deep snows of a New England winter lingered till late in the spring in the wood near Widow Morrison's house. It was totally untroudden, as it was believed in those superstitious times to be haunted by a murdered woman, whose cry of dying agony still resounded through its depths.

Charles, however, was free from fear, and he often roamed through it in search of game.

He was out with his gun one day in spring, when, attracted by the screaming, hovering crows, he approached a wild, rocky spot, and saw, gleaming among the loose stones, long, golden hair. He believed he recognized it. Another glance, and he turned sickened and sorrow-stricken to haste to the village and direct the proper persons to the spot.

A rifled pocket-book, with the name of Arthur Vernon upon it, left no doubt of the identity of the body. A fractured skull and a hatchet lying beside him made it almost certain that he had been murdered. Yes, murdered almost within sound of a pistol-shot from the widow's cottage, so that death had been waiting for him just outside its hospitable door. Charles and Mary remembered how his last words had been of his unwillingness to leave them, as if his instincts told him for what he was exchanging their warm shelter.

Many years passed. Charles Morrison became the schoolmaster in—, Mary was married to the young orthodox minister, and the landlord still welcomed travellers. It was November. Again

the snow fell in driving waves, and pattered like hail against the windows of the little cottage, where the enlarged family of Morrisons dwelt in love together.

There came a knock at the door, and the widow, saying it reminded her of poor Arthur's knock, sent one of her sons to open the door. The hostler from the tavern said he wished to see Charles immediately. His coat and hat were on in a moment, and he followed the messenger as rapidly as possible.

The landlord was awaiting him in a private room, and told him that the man whom he could not help suspecting to be Arthur's murderer had arrived, and taken a room for the night. He confided to Charles his plan for his detention by an old superstitious test. He felt so sure that the murderer was now in his house that he had sent for Charles and several other men of the village to witness the conviction, and secure the guilty.

Supper was not yet ready, and though the stranger was very hungry and impatient, the landlord hoped to detain it long enough for the others to arrive.

As each came, he was informed of the suspicions the landlord had formed—and then they dropped into the bar-room as if accidentally. All entertained full belief in the efficacy of the means proposed, though Charles in a different manner from the others. When he entered the room he stamped the snow from his boots, and drew near the blazing wood fire, beside which sat a stout, grizzled man, of dark and savage aspect, gloomily playing with the tongs.

"A cold, stormy night," said Charles.

"Ay," answered the traveller.

"And one to make a man fear evil things, have strange fancies, and look on the gloomy side."

"More cause for shutting up about it!" was the surly reply.

When all were assembled and drawn around the fire, Charles led the conversation to a natural topic on such a night, when the driving storm without seemed like infernal revels to the witches of olden time. There were those present who still believed in them, and this led by apparently natural transition to ghosts and to haunted places, among which Morrisons' woods were mentioned. The sullen stranger seemed displeased with this turn in the conversation, and for the first time opened his lips to protest with an oath his disbelief in ghosts.

"Stranger," said Charles, "you will not find many people about here to agree with you in your disbelief. Many a person who has been along the wood-road after dark has heard what they dare not talk about in a lonely place—neither can they disbelieve. But I have not heard it, and those who have are here to tell for themselves."

"No; let's be done talking about it," said the stranger to the old Justice, who was giving a preparatory "ahem."

He would not be silenced, and began in a weak, trembling voice, "I have heard it, and since neighbour Wright goes home my way, and I'll have company, I don't mind telling you about it, though I think it no shame to be prudent."

"About what?" said the stranger, fiercely.

"Well, I had to come through the wood that night, and I was determined to close my ears to every sound, but I was not more than half-way across when it came, and I trembled like a leaf. It was the most dreadful cry—"

"Who cried? Did you say anyone cried or groaned?" broke in the greatly perturbed stranger.

"I don't say who, but it was a long moan or wail, that sounded as if it gurgled through blood. Ugh! it makes me shudder now!"

Charles narrowly watched the stranger. For a moment he seemed almost paralyzed with dread. But he rallied, shook himself slightly, as if to loosen the fetters of fear, and asked, sneeringly, if that did not happen long ago in old times, when such things were common.

"No," said the Justice; "I heard it myself, stranger, and not three months ago."

Gloom again sunk upon his brow, and he remained silent. The conversation was resumed and the topic still discussed, the stranger seeming to listen with secret uneasiness and terror.

"Heaven is just," said Charles, "and that is why murders will out. The very stones would cry out, or perhaps the bones of the murdered testify, as they really do according to the belief of the people here, when the murderer touches them."



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es, "and that is y stones would cry murdered testify, the belief of the touches them."

"How so?" asked a traveller who was present.

"It is an old usage," replied Charles, disregarding the winks and coughs of the landlord, "to make a knife and fork handle of a bone of the murdered man, and to place them at every stranger guest's plate at the public inn. If the murderer should take them up, they will adhere to his hands, and so convict him. Now our landlord here has such a knife and fork. I have been looking at them to-night—they have a skull and cross-bones traced on them. They have never convicted anyone yet."

"But they may," said the Justice; "for I have heard that the test has been tried hereabouts and found true."

"Well, I've no need to be afraid to touch them, thank heaven!" said the traveller who had asked about them.

The gloomy stranger's face was hidden by his handkerchief, which he pretended to be using.

"Supper is ready," screamed a shrill voice from the kitchen. All received a hearty invitation from the landlord to partake of it, and all rose, but the stranger fell back to his seat again, for his knees refused to support him. He stooped to pick up his handkerchief, and the others passed on to the table before him. It would have been regarded by them all as proof positive that he dared not undergo the trial, being guilty, had he refused to come to the table; but he did not, he soon followed them, and took the vacant seat.

His hard old features were pale and ghastly. His eyes rested with horrid fear on his knife and fork. They were common-looking enough—he saw no death's head. His color came back, and he looked up boldly, but as his glance travelled around it met every eye keenly bent upon him, and there was a dread, awful silence. He paled slowly before the fixed and suspicious gaze, but turning his eyes slowly away from its fascination, he again looked at the knife and fork narrowly. He saw the fatal sign, and he fell back insensible.

"It is the judgment of Providence," said the landlord, solemnly; and the Justice said, "Amen!"

"It is the power of conscience," said Charles, triumphantly.

It began, however, to seem not the legitimate thing. They wished to see the knife and fork adhere, and these soon busied themselves in endeavoring to revive the senseless man. They partially succeeded; a strong shudder passed through the huge, stout frame, and he opened his eyes. After vacantly staring for some minutes, he suddenly started up, looked with bold defiance into every eye, and though his face and limbs twitched convulsively, he seemed to be recalling the force of his will.

Pressing his hand for a moment over his ungovernable features, he burst into a mocking laugh, and seized the fatal tests. Instantly his hands closed upon them, and he was thrown into frightful convulsions.

It was not over for an hour. Even after death, the rigid hands could not be made to unclose, and he was buried with those tokens of his guilt still grasped tightly.

The verdict of the coroner's jury was "Visitation of God." In our day it would probably have been "Epilepsy."

When supper is served, a boy will look out for some little girl to wait on, and bring her what she asks for, a plate of oysters or a cup of beef tea, which is fashionable for parties now, or some cold tongue first, cake and jelly with ice-creams, and the grapes and candy afterward, if there are such things. But a gentleman does not take his supper till he sees that whoever he waits on has all she wants first. At a sit-down supper people look out for themselves more. Don't try to eat all the good things you can, and don't carry off anything in your pocket to eat afterwards. Don't be greedy, and what is more, don't speak of it if you see anyone else greedy. Remember the good old rabbi who was wakened by one of his twelve sons saying, "Behold, my eleven brethren lie sleeping, and I am the only one who wakens to praise and pray." "Son," said the wise father, "you had better be asleep, too, than wake to censure your brothers." No fault can be as bad as the feeling which is quick to see and speak of other people's wrong.—Wide Awake.

Faint Heart Never Won Fair Lady.

A charade that may be acted by some of the young members of the household; it will be amusing to the old, and preferable to many other amusements.

CHARACTERS.

MRS. OSBORNE, a young widow. COLONEL HECTOR O'LEARY, } her suitors. MR. LINDSAY,

PROPERTIES.

Furniture for a Parlor. Table, Books, Bell, etc.

Mrs. Osborne.—Another bouquet, and with it this time a copy of verses. This is the fourth bouquet within two days, and I strongly suspect the giver is a handsome young officer who so gallantly stopped my horse as he was going toward the river, rather faster than his mistress's inclinations warranted. What a fascinating bow he made, and how beautiful his smile was! Pshaw! I am thinking of him again, and at such a time! when I am expecting Mr. Lindsay, the young millionaire, to visit me, and, I strongly suspect, propose to me. I will accept him. He is young, so am I. Handsome! I, too, or my glass deceives me. Rich, and I am not poor. He is a fool, and I am not, so I will rule. My dear departed Osborne was an old tyrant, and when I marry again, I am determined to be the head of the house. Lindsay is not so handsome as the young officer. Bah! I am thinking of him again. He fairly haunts me. [Takes the verses from bouquet, and puts them in her bosom. Bell rings.] Ah! here comes my future lord and master!

Enter COLONEL O'LEARY.

[Aside.] The young officer! Colonel. Madam, I have dared, uninvited, to intrude myself upon [the notice of one, whose beauty has—

Mrs. Osborne, (haughtily.) Enough, sir! Intrusion is the proper word, and as you find it is so, you will, of course, instantly free me from it.

Colonel. Nay, I have dared so much, that I cannot consent to abandon the siege before a single shot is fired.

Mrs. Osborne. Sir, this is unwarrantable. A stranger—

Colonel, (pointing to bouquet.) Madam, you hold my card.

Mrs. Osborne, (tossing it aside.) So, you are the person who pesters me with flowers, and—copies of verses. Such verses!

Colonel, (eagerly.) Then you have read them? Mrs. Osborne, (aside.) What a goose I am!

[Aloud.] You will allow me to return them, sir. Colonel. You are cruel. Never mind. Some day you'll read, cherish, nay, love them.

Mrs. Osborne. Sir!

Colonel, (handing her a chair.) Pray be seated, madam. It must fatigue you to stand so long.

Mrs. Osborne, (aside.) His impudence is really refreshing. [Aloud.] Mr.—

Colonel. Colonel Hector O'Leary, madam, at your service.

Mrs. Osborne. Colonel O'Leary, I have already stated that you intrude. Will you force me to dismiss you in a more decided manner? [Takes up a bell from the table.

Colonel. Madam, a gentleman never remains where his presence is distasteful to a lady, yet if you will allow me just five minutes I will then release you, never to intrude again. [Aside.] Now, old fellow, your time is limited, be awake; she's worth the trouble. By Jupiter, what a perfect hand that is upon the bell, and what a queenly air she has!

Mrs. Osborne. Be it so, then. Five minutes. [Places her watch upon the table.] Now, sir, your errand.

Colonel, (also seating himself.) If you have read my verses, you will see how fierce a flame consumes my heart.

Mrs. Osborne. I think there is something about a flame. [Looks round.] Where are they? Colonel. I have not seen them.

Mrs. Osborne, (taking them out of her dress.) Oh, I remember. I have no pocket, so I slipped them in here.

Colonel, (aside.) Next her heart, by Cupid!

Mrs. Osborne. Now, let us see what it is. Oh! by the way, here is a line about black eyes. Mine are blue.

Colonel. Blue? Mrs. Osborne. Yes. Can't you see that?

Colonel, (rising, and standing directly facing her.) Are you sure?

Mrs. Osborne, looking up at him.) Yes; see! Colonel, (bending over her.) I see such a flood of light, with two dazzling meteors in the midst, that I am bewildered, and cannot judge of color.

Mrs. Osborne. Flatterer! [Looks down. Colonel. Nay, now you veil them, and I am in the dark again.

Mrs. Osborne, (looking again at the verses.) There is another error.

Colonel, (kneeling, so as to bring his face on a level with hers, and looking also at the paper.) Where?

Mrs. Osborne, (pointing to a line.) Here! You speak of my image haunting you, and the agony of seeing me and not being able to pour out your—your—What is this word?

Colonel. Love!

Mrs. Osborne. So it is—love. Now this is a false statement. You never see me.

Colonel. There's not a day when from my heart there does not rise a vision, seen once, never forgotten. A face so fair, that were the queen of beauty, Venus, to rise again from the sea, she'd throw herself upon its waves, so envious—

Mrs. Osborne. Ah, I understand; see me in imagination.

Colonel. Mrs. Osborne. Clara!

Mrs. Osborne. Why, who told you my name was Clara?

Colonel. Ah, love is a keen detector. I took some trouble to find out the first name of the future Mrs. O'Leary. [Rises.

Mrs. Osborne. Future Mrs. O'Leary?

Colonel. Certainly! You do not imagine I sent bouquets, saved you from drowning, or at least a wet habit, and finally found my way into your presence, without some hope of reward?

Mrs. Osborne. This is the most unparalleled assurance I ever heard of. Colonel O'Leary, if I have ever—

Colonel. Oh no, you never have, but you will. I do not wish to hurry you. I allowed a whole week for courtship, and then—Clara—

Mrs. Osborne. This is too much. I blame myself severely for having permitted your stay for so long a time. I have the honor, sir, to wish you a very good morning! [Attempts to pass him.

Colonel, (standing before her.) Not so. Do not leave me in anger. Forgive me, believing it was only my deep, earnest love that—

Mrs. Osborne. Enough, sir!

Colonel. Well you silence even my excuse? My passion is my only apology. If you will not heed that, I am indeed, despairing.

Mrs. Osborne. Allow me, if you please, to pass.

Colonel. When may I call again?

Mrs. Osborne, (amazed.) Call again?

Colonel. To-day, or to-morrow?

Mrs. Osborne. To-day?

Colonel. So soon. Thanks! I will be punctual. [Seizes her hand, kisses it, and exit.

Mrs. Osborne. Did ever a poor woman have such a suitor? To-day! No, that will never do. I will tell the servants not to admit him. [Goes toward door.

Enter MR. LINDSAY.

Mr. Lindsay. G-o-o-d morning. [Bows, and drops his hat; in attempting to pick it up, drops his cane; tries to get that, and steps into his hat; finally leaves both, and sits down.]

Mrs. Osborne, (concealing a smile.) Good morning, Mr. Lindsay. [Silence for a moment.] Fine weather, Mr. Lindsay.

Mr. Lindsay. V-e-r-y—very fine. I—I— [Stops, embarrassed.

Mrs. Osborne. We have had such lovely weather, lately. I have enjoyed my rides on horseback very much. Do you ride, Mr. Lindsay?

Mr. Lindsay. I—yes—when—you know—if the—on a gentle horse—I—I— [Stops again; tries to pick up his cane, almost loses his balance, and sits very erect.]

Mrs. Osborne. It is a delightful recreation. [Silence again.]

Mr. Lindsay. I call—to—to—ask—that—if— Mrs. Osborne, (looking at him, with grave attention.) Yes.



Mr. Lindsay. To see—if—you—I—or—  
[Stops.]  
Mrs. Osborne, (aside.) Why don't he speak out? Will you have me? That's what he wants to say.  
Mr. Lindsay. To see if—you—had seen anything of the gloves I left her yesterday. [Aside. I can't propose when she looks at me in that way.]  
Mrs. Osborne. Your gloves? No.  
Mr. Lindsay. Oh, I found them in my hat. I came to-day—to see—if—  
[Stops again.]  
Mrs. Osborne, (aside.) Oh, why don't he speak? It will be so apropos. I want a protector against that impudent officer. Fancy his expression when I tell him I am engaged. [Sighs.]  
Mr. Lindsay. You know, Mrs. Osborne—you must—have—seen—that—that—  
Mrs. Osborne, (aside.) Oh, he will set me frantic! [Aloud.] Yes. Mr. Lindsay, I have seen.  
Mr. Lindsay. I am glad of it.  
Mrs. Osborne, (aside.) Will he stop there?  
Mr. Lindsay. If I—may—hope—that—that—  
[Stoops for his cane, loses his balance, and comes down upon his knees, in front of Mrs. Osborne.]  
Mrs. Osborne. Don't prostrate yourself.  
[Laughs.]  
Mr. Lindsay, (rising, with his hat and cane.) Madam—I—I—wish you good morning! [Exit.]  
Mrs. Osborne. Was there ever such an idiot! "I—I—you—you." I almost prefer the officer's style. [Goes forward and sits down, facing audience.]  
Enter COLONEL O'LEARY, back. [MRS. OSBORNE does not see him.]  
He is very handsome. His eyes are splendid, I noticed, when he looked into mine.  
Colonel. It must be myself.  
Mrs. Osborne. And what a pretty compliment he made. He would woo in a different style from my friend Lindsay. Really, his impudence is almost fascinating. "I allowed him a whole week for courtship!" Positively, I should not be surprised to see him kneeling at my feet at this moment.  
Colonel. Shall I take the hint?  
Mrs. Osborne. Oh no, that is too lowly a position for his lordship. He kissed my hand. [Raises her hand.] Here! Next time he will probably clasp my waist, and kiss my cheek. [Rises. Colonel springs forward, throws his arm around her, and attempts to kiss her; she draws back.] Sir!  
Colonel. You said to-day! so I came. I cannot live an hour away from you, having once enjoyed your dear society.  
Mrs. Osborne, (haughtily). Colonel O'Leary!  
Colonel. Will you not say Hector? I shall hold my name a thousandfold more dear when those lips have syllabled it.  
Mrs. Osborne. Will you drive me, sir, to calling a servant for protection? [Takes up the bell.]  
Colonel. Replace it, madam. I go! But if you ever want a friend, a protector, nay, a servant, remember, Hector O'Leary waits for his word of recall. [Going. Suddenly returning.] One little favor, before we part, perhaps to meet no more. Will you say Hector?  
Mrs. Osborne. How will it affect you for me to say Hector?  
Colonel. Thank you for complying.  
Mrs. Osborne. Complying?  
Colonel. Did you not say it! [Takes a ring from his finger.] I have something here to show you.  
Mrs. Osborne. Will you leave me, sir?  
Colonel, (coming nearer). One moment; see, I had this engraved for my betrothal ring. You see the emblem? a lover's knot, and in the centre the words are entwined—Clara and Hector. [Takes her hand and slips the ring upon her finger.] It fits!  
Mrs. Osborne, [trying to take it off]. Sir, this insolvency— [Aside.] It will not come off.  
Colonel. You see the ring is as persevering as its giver. Mrs. Osborne, I love you! Will you be my wife?  
Mrs. Osborne, [laughing]. Your wife!  
Colonel. Will you state your objections? I will overcome them. There is plenty of time. A whole week.  
Mrs. Osborne. Why, it would take a week to name my objections.

Colonel. Then we have no time to lose. [Offers her a chair.] Pray be seated.  
Mrs. Osborne, (aside). I will crush his pretensions now, finally. [Sits down.]  
Colonel, [sitting opposite her]. Madam, I listen.  
Mrs. Osborne. In the first place, you are an utter stranger.  
Colonel. An utter stranger, when you wear my ring, and call me Hector?  
Mrs. Osborne. I know nothing of you, save your name.  
Colonel. Yet I am the brother of your dear friend, Mrs. Marshall. You will own my family good?  
Mrs. Osborne. Y-e-e-s!  
Colonel. I have property independent of my profession; quite enough to live on. I am no fortune-hunter, you will grant.  
Mrs. Osborne. I—really, sir—  
Colonel. You have already said that I am handsome and fascinating; I love you devotedly; my superior officer will give me a good character. What more can you ask?  
Mrs. Osborne. Sir, I—  
Colonel. I love you! First, from report; for sister's letters were filled with your praises, and I hastened home, determined to win you. I saw you—need I say how far the reality exceeded my wildest hopes? Your beauty enchanted me, your wit enthralled me! If you are obdurate, my heart is broken. I have proffered my suit, and I await your answer. For, [with dignity] impudent as I appear, I would not force my love upon any woman. [Rises.]  
Mrs. Osborne. I really—I— [Aside.] What can I say?  
Colonel, [aside]. She hesitates! She's lost!  
Mrs. Osborne. Colonel O'Leary, as the brother of my dear friend—  
Colonel. No, no! If you will not be gracious on my own merits, I will leave. I will not shine in my sister's reflection.  
Mrs. Osborne. Well, then, since you will have it so, in your own person I welcome you to my house. [Extends her hand.]  
Colonel, [seizing it]. And heart?  
Mrs. Osborne. I yield—to your superior impudence!  
Colonel. Dearest!— But we will spare our friends here my ecstasies, only asking them if my wooing and Lindsay's reminds them of any proverb?  
Mrs. Osborne. Proverb?  
Colonel. Yes; do you not know it?  
Mrs. Osborne. I do not recall any now.  
Colonel. Then our friends here [to audience] will, I am sure, help you. [Curtain falls.]

Office Receipts.

From Adams & Co., New York, "The Peep Show;" one of the most interesting, amusing and instructive books for the young we have seen this year; it is very handsomely illustrated.  
Also the "Lays of Ancient Rome," by McCauley; and the "Lays of Scotch Cavalier," by Aytoun. These publications are of noted standing. The price is \$1; it is well worth the money.  
GEMS OF THE DANCE—a music book, containing 240 pages of choice music, waltzes, polkas, galops, quadrilles, &c. Price \$1.50. Published by Oliver Ditson & Co., Boston. This is one of the choicest music books we have seen for the amount of new music it contains.  
We have a very handsome companion picture to "The Offer." It is the same size and as expensively gotten up. It is called "Accepted." By sending one more new subscriber you can have this handsome picture.  
Each one of our nephews or nieces would be much pleased with the very handsome picture, "The Offer." You should try and get it. Every one that sees it is highly pleased with it. By sending in one new subscriber for the paper you will procure it.  
Our readers will welcome the advertisement of the popular seedsmen, Messrs. D. M. Ferry & Co., of Detroit, Mich. Their Seed Annual for 1877 far surpasses their previous numbers. This firm, one of the largest in the seed business, needs no endorsement from us.

Double the Circulation.

A greater attempt than ever is to be made this year to double the circulation of this journal. To do this, we will give a much greater inducement to really good agents, than we have ever before offered; or to any one of our old subscribers, or their sons, that will undertake an active canvass. Send for terms.

Ontario Agricultural College.

REPORT OF EXPERIMENTS IN FEEDING PIGS.

Mr. William Brown, the farm manager, has kindly forwarded to us the full report of the results. As it has arrived just as we go to press, we cannot give the full statistics, as it would delay this issue. The results have been carefully noted by Mr. E. H. Carpenter, one of the students.

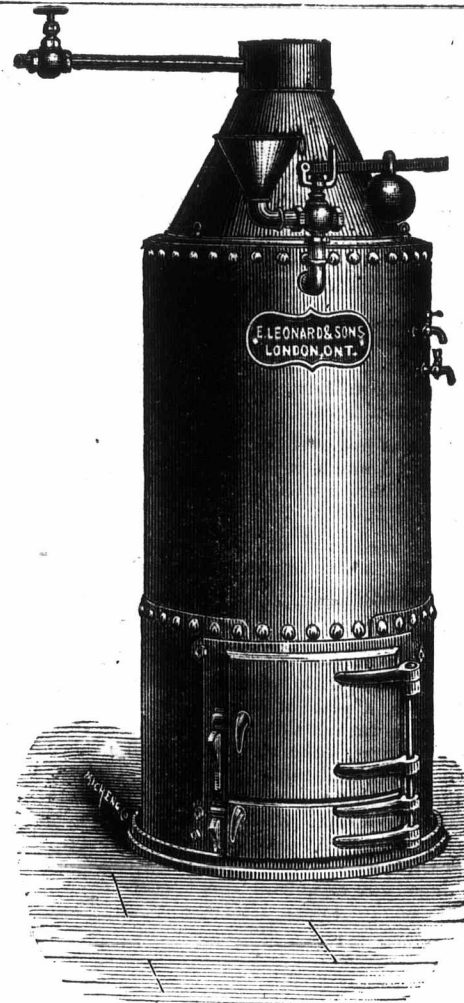
The following is the result of a series of experiments, conducted with much care and accuracy at the Ontario School of Agriculture, for the purpose of ascertaining which of the two feeds, pease or corn, it is more profitable to feed, and also to find out whether it is most profitable to feed these two grains raw or soaked in water, or, as in the case of pease, boiled.

For this purpose, five comfortable pens were set apart, each bearing a large numbered ticket, so as to avoid any mistake in feeding.

Pens Nos. 1, 2, 3 and 4 had each two pigs in them, pen No. 5 having but one. We omit the figures for future reference.

It was demonstrated that pease fed in their raw state again take the lead, with soaked and raw corn not far behind. And now, in summing up the whole, we learn the following fact:—That boiling pease, soaking pease or soaking corn is but a waste of time and money. It is well to observe that although pease cost a few cents more than corn the bushel, a bushel of the former, fed in its raw state, makes many more pounds of flesh than a bushel of the latter fed in its raw state.

ERRATA.—The cuts of fastenings on page 9 should have been placed the reverse side up.



AGRICULTURAL STEAMER Saves One-third of Food IN FEEDING CATTLE.

Send for pamphlet on the subject to E. LEONARD & SONS, London.