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Editor and Proprietor }

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The Exhibition.

The first we attended was the Guelph or Central Exhibition. It was a grand success, particularly in the stock department. The dairy, implements, roots, fruits and flowers were well represented; the fine arts and ladies' department were very well in quality, although the quantity shown did not appear to us quite as large as last year.

Guelph is a good place for stock shows. A great many farmers in the neighborhood devote their attention principally to stock raising. The quantity and quality to be seen at this place is well worth the expense of a visit to those who desire to procure or examine the different animals and classes.

We consider this Exhibition as, perhaps, the most important, excepting the Provincial. A large quantity of stock was exhibited at this place that would have been sent to the Provincial but for their failure in carrying off as many prizes as their owners anticipated, and large numbers of very fine animals were returned to the farms, but a large quantity was, nevertheless, sent. The managing committee was tasked beyond its power to accommodate all the stock that was brought forward, although they retained the carpenters erecting new buildings for stock up to Wednesday, to try to accommodate as many as possible.

The Quebec Provincial Exhibition was held in Montreal the same week that the Central Exhibition was held in Guelph; one of our staff attended the Exhibition there and reports it a failure in nearly every department except Ayrshire cattle. In this class the Quebec Exhibition surpasses our Western Exhibitions. The farmers of Quebec complain of the impossibility to compete with the large capitalist, and say it is of no use for them to try to bring out any of their stock. They cannot afford to expend the time and great amount of extra feed necessary to prepare animals for Exhibition. They have attempted it, and have been driven from the field. This caused dissatisfaction among the farmers, which has been taken up by their wives and families, therefore the ladies' department, we hear, was not nearly as well represented as it ought to have been.

We think an improvement might be made in the prize lists, especially to draw out the farmers and their wives, who are the main support of the country, but the present prize lists are arranged so as to accommodate and suit the importers and great feeders. We by all means wish to see our importers encouraged, but would also like to see the farmer that has raised his sheep or his roots by common and profitable means, encouraged to show the re-

sult of his labors. We hope improvement will be made in this particular, and that the farmers who cultivate the soil may carry off more prizes.

We know of a Government institution sending out productions raised at the greatest expense that time, labor and manures can cost, and carrying off something like thirty prizes. Had these prizes been obtained by farmers, how many would they have encouraged. Farmers every year make attempts, fail, and never attempt again. We say, encourage the productions raised in a natural manner; they should not be competed against by imported productions or prepared hot-house products. Draw a line; state if imported, if forced by hot-house heat or artificial means, or raised by the usual mode of common culture. If we are to keep our Exhibitions successful and popular with the farmers, we must look more to them and their interests, but poor and injurious will our Exhibitions become if the Government expends money against the farmers' interests and checks private enterprise.

The Provincial Exhibition of Ontario, which took place in London this year, has been pronounced by some of our American cousins as the best Agricultural Exhibition ever held on this Continent. This exhibition has been nearer to what we aimed to bring it this year than in any previous one.

There has been nothing approaching a horse race, a dance or ball, no prince, governor or potentate to draw a concourse of people, or distract attention from agricultural affairs; no baby shows or gambling has been brought into play, and, greater still, no prizes have been even offered to the manufacturers of large frame implements, still the Exhibition, even in that department, has never been surpassed in Canada.

We had at this Exhibition the very animals that took the prize at the World's Fair, at Vienna. We never had such a fine show of Durhams; in fact, some judges say that animals could have been picked from our Exhibition that would compare favorably, and, if it were not for the name of pedigree, would sell to competent judges at as high figures as the animals that recently sold at Mr. Campbell's sale for \$2,500, \$27,000, \$35,000 and \$40,600.

A great compromise has taken place; the city and Western Fair men have worked harmoniously with the Provincial Board, and all has passed off well. Such was the demand for space by exhibitors of stock of all kinds that suitable accommodations could not be found by the Association for all that was presented. The Americans also made our Exhibition

more attractive. The Nebraska R. R. Co. made a very fine display of cereals, fruits, woods, plants, &c., &c., from that State. Some Canadians we heard objected to this, but we say let them come on; we are desirous for them to exhibit their products amongst us, for they allow us to exhibit among them. Mr. Jas. Vick, of Rochester had the largest and finest display of dahlias and gladiolas we have ever seen.

Thunder Bay and Muskoka were also represented by productions; they exhibited some good cereals, soil and vegetables; also, a specimen of silver ore was shown from Thunder Bay that may give some indication of the wealth which lies below the surface of the earth in that picturesque region.

We think we have had larger and finer collections of fruit and flowers of Canadian growth than were exhibited by Canadians this year.

HAMILTON EXHIBITION.

The Hamilton Exhibition was not quite as largely attended by exhibitors or visitors as the Directors would have wished or their efforts entitled them to. Their display and preparations deserved the thanks and support of all. The display of stock, farm produce, machinery, &c., was very good, but not quite equal to the Guelph Exhibition.

One great reason why the Guelph Exhibition was better than that of Hamilton was because the Guelph Exhibition was the first held, and many breeders exhibited their stock there previous to going to the Provincial Exhibition, and nearly all those that did not gain as many prizes as they wished, took their cattle to their farms and left the prizes at Hamilton to be taken by the successful exhibitors at the Provincial Exhibition, but after leaving London a considerable number of the prize takers sent their animals to the States to gain additional laurels for our country.

Many of the animals that were taken from the Guelph Exhibition to the farms of the owners, would have carried off prizes at Hamilton, but three weeks of continued exhibitions is rather too much of a good thing for the majority of our farmers to indulge in. The Guelph and Provincial Exhibitions had absorbed two weeks, and thus Hamilton taking the third week stood but a poor chance for a very large exhibition. For a county or united county exhibition it was a very good one.

One thing appears very plain to us; that is that none of these Exhibitions should exceed two days except the Provincial. Three or four days is far too long to call exhibitors away from their business. Next year London, Guelph, Hamilton and Toronto will all be desirous of having good exhibitions, but to be successful they must shorten the time of holding them.

OXFORD EXHIBITION.

The North and West Ridings of Oxford held their Agricultural Exhibition at Inger-

soll. As we returned from Hamilton we stopped at Ingersoll and walked through the exhibition grounds of this comparatively retired but thrifty part of the country. They do not pretend to equal the London, Guelph or Hamilton Exhibitions, yet in some ways they far surpass them.

Perhaps the most important feature noticeable was the very large proportion of ladies and children to be seen here. The contrast was very remarkable, as at the larger exhibitions accommodation for the ladies is not procurable, and very few attend from any distance. The hotels afford very meagre accommodation for them, and on the grounds, even at the Provincial Exhibition, no seats could be found but the damp sod, but at Ingersoll the farmers can drive their carriages on the grounds. These afford a home for the children and the ladies, and they are all right, and can attend the Exhibition and return home in a sort of independent manner. This is a great feature. If the carriages have to be left in some hotel yard or strung along the public road, as in London, they afford no accommodation for the family.

This is a necessity that should be more attended to, namely, having room for farmers' wagons to stand without being subject to a fine by leaving them in the public street, as is too often necessary in many places. The ladies and children at this exhibition appeared to be all at home and to enjoy themselves. This is, we believe, a great advantage to all local exhibitions, because at the hotels the accommodation for the ladies and children is meagre enough. We should accommodate them more.

The next important point in which this exhibition surpassed all the others was in the cheese department, this place being the head centre of the cheese business and the Association holding their Exhibition in connection with the Agricultural Association.

The roots appeared better than at the Provincial Exhibition, and nearly as large in assortment.

In stock, implements, poultry, &c., of course they were not equal to the larger Exhibitions, yet there was a grand display.

The ladies had not been idle in this part of the country; lots of their productions appeared deserving of Provincial prizes, and no doubt would have gained them if there was better accommodation for them to attend, but the expense and time deters many from going far to the Provincial Exhibition.

MUSKOKA AND THUNDER BAY EXHIBITION.

Muskoka and Thunder Bay attempted to make a Show, but had they kept their produce at home it would have been better for them; a great deal of their stock is worse than any to be seen at our exhibitions. The wheat is pretty good and the oat straw is long enough, and the specimens of wool shown were good, but the roots and vegetables are no where compared with our western produce in that line.

That country may do for greenhorns, but sensible Canadians leave it as quick as they can after they have taken the timber off the land.

Shall we Admit Americans to our Exhibitions?

This question suggests itself to us from the fact that at the Hamilton Agricultural Exhibition the representatives of the Nebraska Land Co. desired to exhibit their products, but were refused by the Board of Directors. At the Provincial Exhibition they made a grand display of cereals, plants, woods, &c.

The display drew considerable attention. The space allotted to them was well filled, and the articles were quite a novelty and a feature: the crowd appeared thicker there than at any other part of the building in which grain, roots and flowers were shown. Of course their object was to distribute circulars and cause attention to be drawn to their lands, to induce emigrants and others to go there.

The majority of the Hamilton Board of Directors were of opinion that the Exhibition would be injurious to us to some extent. We admit it might, but the advantages of free trade, free intercourse and the spread of information would be better for us and our country. This is our opinion, and we think the Hamilton Board acted wrong in thus attempting to check the spread of information and good feeling.

We contend that it shows the importance of our country when exhibitors attend and make large displays from such distant parts

as Nebraska. We want good exhibitions, and they help to make them attractive. We had nothing to fear from the samples of grain sent; we saw none of them, excepting corn, equal to our own. As for their wood we can show about ten times as much, and nearly ten times as much from the growth of one acre as they can from 10,000 acres. By closing our doors to them, it would tend to spread a false impression, that is, to show that we were afraid that we were beat.

Besides, we have dissatisfied people in Canada who will go somewhere, and they might just as well be fished up by those who tend to make our exhibitions attractive as to go to Texas or any other part where the inhabitants do not think us worth reciprocating with.

What would become of our breeders of pure-bred stock were the Americans to shut us out from their exhibitions and their markets. Just look at the honors we have gained in Boston the present year at the Great International Exhibition of Fruit. It has fairly astonished the Americans themselves, still there has never been one word said by them as to shutting us out.

Nebraska will not be able to gain such honors in a hundred years as we gained from the Americans this season. Away with the idea of keeping people in darkness; away with all attempts at serfdom. If our farmers, farmers' sons or emigrants covet the broad acres of Nebraska, with its advantages and disadvantages, let them go; in fact, the first attempt to check them would be the best way to drive them from our country.—We are not in chains or total darkness.

The Agricultural Grounds, London.

The first day we went to the Provincial Exhibition in London, this year, we noticed a new bridge thrown across the stream that winds its way through the grounds. On enquiry we found that an Act of Parliament had been obtained by the citizens to allow them to cut up these grounds by opening roads.

We at once saw that the grounds could never again be used for exhibition purposes if this was allowed to be done. We deemed this would be a loss to the Provincial Association, and to the agriculturists of East Middlesex, as we could never procure such good grounds again. We went before the County Council, which was then sitting, and gave them the information, as it was only known to one or two strong party men in the Council, and they had kept it dark from the other members, and were adverse to our being heard on the subject; but the Council at once took action to attempt to prevent the injury being done. Some of the citizens have since got up a petition to endeavor to stop such a disgraceful act.

We issued the following circular to the president and leading members in agricultural affairs, and have some hopes of the evil being averted, which most certainly would have taken place had we not agitated the question, or rather found it out in time and shown the consequences.

To the Directors of the Western Fair, the Directors of the East Middlesex Agricultural Exhibition, the Members of the County Council of Middlesex, and to the Directors of the Provincial Board of Agriculture:—

GENTLEMEN,—

We hear with regret that the grounds on which we now hold our Agricultural Exhibitions are, on the close of the Provincial Exhibition, to be immediately thrown open and divided for individual or city interests.

By a little united exertion on your part at the present time, these grounds can be retained for agricultural purposes. The grounds are admitted to be the best in the Dominion, and they are nearer to the centre of business than any other grounds in the Dominion; we have a nice stream of water running through them.

No such grounds can be procured again.—Our other agricultural grounds have been taken away from us, and shall we lose these we now have for the lack of a little exertion on our part?

Let East Middlesex men immediately wake up and have a meeting at once: the County Council and Provincial Board we have no doubt will aid them, and retain the grounds until an Act can be obtained to set the disputed question at rest. Immediate action is required or the grounds will be taken from us.

Is Plaster Beneficial to Grain Crops.

Mr. E. K. Corbett, of Toronto, says he has particularly noticed the effect of plaster on a piece of barley. The plaster was sown through the centre of a twenty-acre field; throughout the summer the difference in the appearance of the part sown with plaster was most apparent, being of a much more luxuriant growth, threshing the grain one third more was obtained per acre than from the land where no plaster was sown.

We gave in a previous number the reports from the French Bureau of Agriculture, in which it was stated that plaster was of no advantage to the yield of grain, although it increased the growth of the leaf.

We hope some of our readers will inform us of their positive experience in sowing plaster, as this is a debatable question: Does plaster directly increase the production of wheat, oats or barley.

Talks with the Farmers.

We had a good many visitors Exhibition week, and some very pleasant chats with our subscribers. For their cheering words we thank them heartily, and we hope that our subscribers will always drop in on us when in town and give us any item of news that they may have. Mr. Facer, of St. Catharines, told us his experience with Scott wheat. His neighbors said last fall that "he was foolish to go away up to London and pay that wild such a high price for seed wheat, when he could get lots of wheat at home cheaper." But now they have a different tale to tell. Mr. Facer bought ten bushels of the Scott Wheat from us, and it turned out an excellent crop. His neighbors were quite willing then to buy all he produced at \$1.50 per bushel. He wants to know who is the fool now?

Mr. C. S. Vanlurven, of Battersea, bought 10 bushels of Scott wheat from us last year, and, although he sowed it late and gave it no special care, the neighbors liked it so well that they gave him two dollars per bushel for all he could spare this fall, and he could have sold much more if he had had it. No wheat yielded like it in his neighborhood.

Mr. G. McKay took first prize for "Canadian Leopard" in the road and carriage horse section. The judges were unanimous in this decision. "Canadian Leopard" is one of "Anglo-Saxon's" colts.

Mr. McKay refused \$1000 for his horse, and he has now engaged him for next year's services for New York State, for \$1500 for the one year. Good for old "Anglo-Saxon" and his colt.

It was Mr. W. Dickie, of West Nissouri, who wrote the prize essay on "Exterminating Canadian Thistles." Mr. D. has promised some other articles for future numbers.

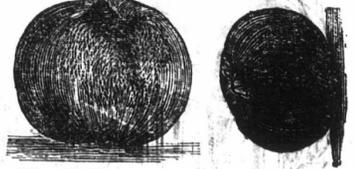
Mr. Wm. Daffran, of Paris, thinks very highly of the Hanson Lettuce which was introduced by us last spring. He says that the Canada Victor Tomato is all that was claimed for it, and that he tried it for earliness alongside of four other kinds, and it came out ahead. We have other reports that do not speak so highly of it.

We made Mr. Jarvis, of Byron, a present of one potato last spring, and he raised from it three pecks, and took 2nd prize at the Provincial Exhibition, which brought with it \$2. Very good for one potato.

Some of our friends say that the Exhibitions are not of as much real benefit to the farmers as they ought to be. The prizes in cattle are carried off by breeders with whom ordinary farmers have no chance to compete, and as for the root crops, a man with a little patch of land in town can, by extra manuring and attention, raise roots and other vegetables which the farmers cannot come up to. Some of our subscribers want prizes to be offered for grade cattle. Some say that root crops which obtain prizes should be from fields of certain sizes.

Sales at the Provincial Exhibition were not very brisk, either in cattle, horses or hogs.—We have heard of but one good sale, namely, that of Mr. John Miller, who sold six Cotswold sheep for the sum of \$470.

The Black Tomato.



Mrs. R. Heatley, of Delaware, received from a friend in the States a few seeds of the Black Tomato. She brought us a few of them. They are entirely new to us.—They grow in a most peculiar manner; each tomato is covered or encased with a leaf like a coating, which appears like the substance of a very fine leaf.

So peculiar and novel was this fruit to us that we instructed one of our engravers to make two cuts, one showing the film or coating beginning to peel off, and the other the tomato without the coat. They are both engraved the exact size of the tomato.

These tomatoes, we understand, are used only for preserves, and are far superior to any other variety for this purpose. They resemble plums, and make a preserve quite equal to the plum.

If any of our readers know more about them we shall be pleased to hear from them.

The Grain Deficiency in Europe.

THE WORLD PRODUCING AN OVER SUPPLY OF BREADSTUFFS.

These two questions are occupying no little attention of statisticians. Placed juxtaposition, as in the heading of this article, they seem to balance each other, and such we believe to be the solution of both questions. There is in Europe, taken as a whole, a deficiency great, but not unprecedented. There is in North America an over supply of breadstuffs for its people. We are not of those who believe that the increase of bread consumers will cause a famine upon the earth. There is a deficiency in some densely populated countries, more or less, from time to time, but the over supply of other countries is sure to be sufficient to meet all deficiencies. Nor has there yet been, nor will be, in all probability, in any land an over supply not needed by others.

In Great Britain there is every year an insufficiency of breadstuffs, though the soil of England is more productive of the necessities of life than that of any other nation, yet such is the greatness of her population compared to her limited area, that she is every year the greatest purchaser of the over supplies of other nations. About one-half of her imported supplies is usually from Russia, one-fifth from North America, and the remaining three-tenths from other countries, including Germany and France. These two latter countries have this season no breadstuffs for exportation; on the contrary, they are importers.

English authorities well versed in the statistics of home products and the demand and supply of grain, estimate that England will require this season an importation of eleven and a half millions of quarters of wheat, equal to ninety-two millions of bushels. Last season her requirement was one hundred and four millions of bushels. This falls short of the previous year's requirements by twelve millions. This decrease of her requires is produced by the superior quality of her grain crop and the very large potato crop.

Though England requires less supplies than in 1872, the demand from Europe for breadstuffs will be greater. France and Germany are now in the market as purchasers, and Russia is the only European country that will be an exporter. Her crop, it is now estimated, will not be over an average. The *Western Farm Journal*, in a carefully prepared article on the subject, says:—"Russia, however, is the greatest wheat producing country of the world. The capacity of Russia to increase

her supply meets the demand according to opinion, gradually now though one. The rather small the Canada prospect grain at than this land require nearly enough though this year's production, Russia of, and the plus to made on is, we have no rope or not able hand, do others the production

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her supplies to the proportion requisite to meet the demand for the current year seems to be involved in some doubt. According to advices from Taganroy the opinion about the new wheat crop has gradually become less favorable, and it is now thought the crop will be an average one. The grain is said to be good, though rather small, and is in good condition. The result of our enquiries is favorable to the Canadian producers. There is every prospect of an active demand for all their grain at remunerative prices, and more than this we do not expect. Though England requires an importation of breadstuffs nearly equal to that of last year, and though France and part of Germany are this year purchasers for home consumption, Russia has large supplies to dispose of, and there is in North America a surplus to meet every demand that will be made on the products of her soil. There is, we hold, no ground for alarm. We have no fear of a grain deficiency in Europe or elsewhere that other countries are not able to supply. Nor, on the other hand, do we dread with Mr. Delmar and others that there is any danger of an over production of food.—Ass. Ed.

The Blackest Deed that Tarnishes American History.

The Modoc Indians had occupied their own lands; the white men encroached on them, introduced ardent spirits, cheated, robbed and ill treated them, abused their women, and threatened to cut off their supply of food. To their continued encroachments, abuses and wrong-doing the poor Indians submitted until their patience became exhausted. They gave notice to the intruders as well as they could to leave them to their possessions, but they would not heed them, and, as a last resource, they took to arms to destroy the white vermin that were destroying them.

They held their councils and reluctantly took the war path, there being no better means known to them. Some were captured by the whites and others killed. Two of the poor captured Indians that were regarded as the foremost of their tribe, were taken by the United States authorities, and, with the consent of the President, hung by their necks until they were dead, which was not done secluded, but in the presence of their wives, children, relations, friends, in fact, before 500 of the tribe they had fought publicly and openly for.

The result was that such a howl of horror and heart-rending sounds arose from these five hundred dejected Indians that ought to touch the heart of the President's wife and every American citizen.

We say, loose your captured Indians, award a donation to their bereaved wives and children, and deal kindly in future to the poor Indian, on whose land you now live.

This article may not be strictly within our sphere, but we cannot allow such an act to pass without notice. This occurred since the issuing of our last number.

The Markham Farmers' Club.

In our last number we referred to our visit to their Club. In our present number we give a report of Mr. Crosby's excellent address before them on dairying in connection with farming. We had the pleasure of addressing the Club at the same meeting.

The President, Mr. John Gibson, an entire stranger to us, although a subscriber to the ADVOCATE, introduced us to the meeting in the most flattering manner. He passed a most elegant eulogy on the independent and straightforward manner in which farmers' rights are advocated through our columns, and advised the farmers to take it, as it was, in his opinion, THE ONLY REALLY GOOD INDEPENDENT AGRICULTURAL PAPER PUBLISHED IN CANADA. Considering the source from which the praise came, we felt highly gratified. It is always pleasant to know that our efforts are appreciated, and we have often had the pleasure of receiving the thanks of farmers, County Councils and Agricultural Societies, all which good words must serve as an incentive to push forward in our labors.

The Schoolmaster Abroad, or Agricultural Education.

SCENE 4.

The Government sent two of its servants to take possession of Mr. Stone's house and farm, at Guelph, during Mr. Stone's absence. They took a pane out of a window and entered. On Mr. Stone's return he was refused admittance, when he also made a forcible entry, took the Government men prisoners and handed them over to the Chief of Police, who put them in the lock-up.



Mr. Stone indicted them as burglars, but was requested not to attend the prosecution. We have not heard of the final disposal of the Government jail birds, but we give an engraving of them in their new quarters.

This really looks like agricultural education; the Government officials to be legally confined in jail. Mr. Stone would not have acted thus had he received his pay for the land, which he justly demanded. He has since received it, and we presume the birds are released from jail.

The Agricultural Emporium.

We have said but little about the Agricultural Emporium since the passing of the Act of Parliament for its establishment. Farmers have been too busy with their crops to attend meetings or engage in such plans; we therefore deferred bringing it much before our readers until the season of comparative leisure.

The charter was printed in the June No. We have had a few applications regarding it, one from Oxford, one from Brant, one from Elgin, one from Guelph, and one from York. The latter named township has promised the first and necessary step towards its establishment.

You will remember that this institution was first undertaken as a Provincial requirement, the site is not and will not be selected until the stock books are opened and stock subscribed. The stock-holders will have the selection, therefore, to have it established in any particular locality; the inhabitants of such a locality should have a voice in its location.

NOTICE.

Should there be any of our subscribers or others that consider their locality would afford better inducements than others, in regard to site, land or facilities for the establishment of the Agricultural Emporium, we should be pleased to hear from them regarding it. Also, we shall be prepared to attend meetings during this autumn, and give explanations in regard to plans and arrangements, and treat on the general agricultural affairs of the country, where suitable arrangements are made for such a purpose and timely notice given.

Stock.

Mr. J. Russell, of Richmond Hill, sold Leicester and Cotswold sheep at the Provincial Exhibition and at Guelph to the amount of \$1075. The highest price he obtained for a single animal was \$150; the lowest was \$40.

Mr. Grey, of Kentucky, purchased a South Down ewe and ram for \$300.

Philip Brooks, of Biddulph, has a Leicester ewe which has taken 21 first prizes

and three diplomas at different Exhibitions. She is now only three years old; she took the first at Guelph and at London this year. Mr. Brooks raised her himself; she has been shown against the imported ewes. Hurrah for Canada!

J. Miller sold seven rams to E. W. Van Etton, Salt Lake, Utah, U. S., at \$55 each.

J. Lawrie, of Scarborough, sold a two-year old Ayrshire bull and one Ayrshire cow for \$300.

Mr. R. Craig, of Brampton, sold to Col. H. Austin two improved Berkshire sows and one boar, all under one year, for \$400; also, a young boar and sow to G. Weedman for \$200, 1 boar aged six months, to Messrs. Pratt & Neal for \$100, 1 boar aged four months to Jas. Orr for \$75, two sows to Jas. Coleman for \$135, one sow under six months to J. F. Halsland, for \$150. These sales he effected in the States during the week of the Exhibition. Well done, Craig.

Agricultural Colleges.

HOW THEY ARE ESTIMATED WHERE THEY ARE BEST KNOWN.

There is a rumor about that the infamous Agricultural College Bill is going to be brought before Congress again next winter. We are willing to believe anything about that body, the unworthy successor of an assemblage once most dignified on earth. But we can scarcely believe that a measure which, only a few months ago, was shown up to be a most bare-faced steal will be allowed a second hearing. Now is the time to act for that cotemporary of ours, which, after the bill had been defeated last year, mainly by the exertions of other and more active journals, wanted it "shown up." "Show it up! Show it up!" in all its enormity, and let not Uncle Sam's last acre be muddled away in endowing easy chairs in which college dons are to doze away a useless existence in drumming into our future farmers' heads the wearisome round of "tuplo, tupleis, tuplet."—Western Rural.

Pay Up.

This month we print 8,000 copies of the ADVOCATE. Our subscription list has increased so rapidly during the past year that before January we expect to reach 10,000.

Among so many we have, of course, some who do not pay up as regularly as they ought to, and, as we are spending a great deal of money on the ADVOCATE in various improvements we require all which is due us. We, therefore, make this appeal to all those who are in arrears, even supposing it is only for one year. Send in what you owe, and do your duty to us and to yourself.

To those who are far in arrears we only have to say that we must have what is due us. We cannot wait always. We never took legal action against any of our subscribers excepting in one case, and then he was let in for very heavy expenses. We do not wish to take such a course again, but we will have to do so unless some of the delinquents cash up.

SHORT HORN SALES.—There was a sale of the stock of F. W. Stone, at Moreton Lodge, Guelph, on the 15th of October. Thirty-six short-horn cows and heifers brought upwards of \$13000, an average of about \$360 each. The lowest price was \$125; the highest \$1000. No less than twenty-nine lots went to the United States, and only twelve remain in Canada.

The sale of short horns, the property of George Brown, was held at Bow Park on the 16th October. Thirty-eight cows and heifers were sold for \$7500, or an average of \$200 per head, and twelve bulls for \$1650, or an average of \$140 each. The best price obtained was \$410; three others were sold for \$400 each, and the remainder from that sum down to \$90. Of the bulls one went for \$85, one for \$80, and one for \$71. Ten Berkshire pigs—sows and boars—brought \$287, or an average of \$28.70.

The Crops of 1873.

REPORT OF THE HARVEST OF 1873 IN THE SECTIONS OF COUNTRY THROUGH WHICH THE GRAND TRUNK RAILWAY PASSES.

Through the courtesy of the officers of the Grand Trunk Railway we have had their valuable report, but, owing to our issuing the ADVOCATE a week earlier than usual, from the Provincial Exhibition being held on our regular publishing week, we have been obliged to defer our making public of its information till the present number. We would willingly insert the report in full could we afford room in our columns, but can only give a carefully prepared synopsis.

The report comprises returns from 148 stations in the several districts through which the railway and its branches pass, and, consequently, embraces a vast extent of country.

Fall Wheat.—In the Buffalo and Goderich district the reports from every section but two are very favorable—the yield not less and generally over the average. Paris and Bright are the only exceptions. At Stratford the average yield is from 40 to 45 bushels per acre. In the Western District an average or over an average yield is reported from 24 of the 30 sections. This district is one of the finest agricultural districts of the Provinces, though with a somewhat inferior tract of country. In the Central District fall wheat is not much sown. It is only reported from 6 stations out of 47. Where sown it is an average crop or a little over. From three places only in the Eastern District there is any report of fall wheat. It is about an average.

Spring Wheat.—The reports of spring wheat are on the whole not so favorable in Ontario. In the Buffalo and Goderich and Western Districts there is an average crop or over in not more than 17 of 47 sections. The crop is on the whole an average in the Central District. In the other four districts spring crops are reported a "fair crop," "good," "very good," "an average crop," "an excellent crop." At Montreal the average is 25 bushels to the acre—Lachine 30. In a few places the reports are unfavorable.

Oats.—The report speaks very favorably of this crop throughout. There is scarcely an exception. In several sections the average yield is 40, 45, 50 or 60 bushels.

Barley.—Of this crop there are comparatively few reports. On examining them carefully we find the crop about an average.

Peas.—A very good crop, in some localities excellent; very heavy in some places—35 to 40 bushels to the acre.

Potatoes and other root crops.—In the Buffalo and Goderich District a good yield, except at one station. In the Western District, the root crops are rather light at Sarنيا and Carlton. In all the other sections potatoes are a very good yield and of good quality. Other root crops yield well. In the Central District the yield of the root crops is good, in some places extra large. The report from the other districts is on the whole less favorable, though the yield is generally good. The estimated yield of potatoes at several places is 200 bushels, at one place 250 per acre.

Hay.—Rather light on the whole. Two-fifths of the returns report a good yield, two-fifths a light yield and one-fifth an average.

Flax.—Of this crop there are few returns, but they are very favorable.

The report of the Grand Trunk Railway, embracing such an extent of country, and comprising carefully-prepared returns from no fewer than 148 districts, may be regarded as a pretty fair return of the yield of the harvest of the country, and a safe basis for general calculations.

The reports of our exchanges from New Brunswick and Nova Scotia and also Manitoba and British Columbia are all favorable, as may be seen from the annexed extracts.

The Colonial Farmer says:—Almost all crops this year have succeeded, and, notwithstanding there has been much dry weather, there is not so much complaint as is often heard when this is the case, which arises from the fact, no doubt, that nothing has sustained serious injury therefrom. Early frosts, however, have had a damaging effect upon the crops in some places, particularly in the upper parts of the Province. There are localities where the buckwheat crop has been entirely destroyed, while in other cases late planting has not given the grain sufficient time to mature so far as to render it safe from those frosts, which are so usual in this latitude. Notwithstanding all

his, the crops will be abundant, which is matter for great thankfulness.

The Victoria (B. C.) *Standard* of the 3rd inst. reports the crops throughout the Province giving promise of an abundant harvest; also that there is a constantly increasing demand for agricultural lands on the part of persons desiring to settle in the country, and that during the past year more land has been taken up for cultivation than in any previous year in the history of the Province, and that there is a larger area of land under crop this year than there has ever been before. The *Standard* goes on to say that in the upper country farmers will have more grain than they will know what to do with. The demand from Cariboo and other mining sections amount to but a tithe of the supply which farmers have on hand. At this office may be seen a sample of a patch of very fine oats grown on the Richmond estate. The stalks have already attained a growth of seven feet, and, before arriving at maturity, will add about two feet additional to their height. We believe the seed was what is known as "side out."

CROP REPORTS IN THE UNITED STATES.

The crop reports received in the U. S. Agricultural Department, though varying much in the different States, are on the whole very favorable. There is an average on the white of within five per cent. of a full average. This is in yield about the same as last year, but, as there is a much greater area under cultivation, the quantity of breadstuffs and all products is much greater, and to this is added the gratifying assurance that the quality is generally superior. The *Western Farm Journal*, speaking of the deficiency in Europe, says:—"That the United States and Canada shall largely increase their sales of breadstuffs to Europe during the present year may be regarded as quite certain." The *Western Rural* says:—"This year the West and Canada are overflowing with wheat." In another column we direct the attention of our readers to the deficiency of breadstuffs in Europe.

Though the crop reports are favorable, they might, with more careful attention to the culture of the soil, be far over what is now the general average.

Ass. Ed.

Clean or Dirty Farms.

This is a subject that must effect every one of us farmers; we should try every means to make and keep our farms clean. Canada thistles are bad enough, but there are worse weeds than Canada thistles.—What is the cause of the spread of so much foul seed? Nothing, we believe, has a greater tendency to spread many kinds than the travelling threshing machines; they will carry nearly half a bushel of rubbish from one farm to another. It is difficult to prevent the spread of foul seeds from this source, unless one has a threshing machine himself or one is owned by two or three farmers that are determined to keep their farms clean.

We know of no better small threshing machine made in Ontario than that manufactured by Mr. Shraman, of Stratford.—He informs us that it is much improved and that it is giving satisfaction to purchasers. A few when first constructed did not work near as well as they do now.

Mr. Shraman would be pleased to give any information in regard to them, and to furnish satisfactory references from farmers who have them in use. See his advertisement on the last page.

Mr. W. Whitelaw, Guelph, has received by the Allan Line two Leicester rams, consigned to him by a friend in Scotland. They arrived in good condition, and are fine specimens of the Leicester breed.—They were both purchased at the late great sale at Kelso.

1874.

Our friends that wish to gain any of the chromos, seeds or other prizes, or who wish to aid their friends and the *ADVOCATE*, might at once begin taking subscribers for 1874. We will give the December number to all new subscribers who forward their subscription during this month. Commence early, as "the early bird catches the worm."

Cattle Feeder.

We would call the attention of persons fattening stock to Miller's Yorkshire Cattle Feeder. The certificates showing its utility should be sufficient to cause each farmer that wishes to economize his food and make greater profits, to try it. Those that have procured it from us are highly satisfied with it, and having come once, we find they return again. This is highly satisfactory. We keep a stock of it on hand.

Will he get Through?

This cartoon appeared in a different style in another paper; we deemed it too good to be lost, especially knowing that our readers like a little fun.

The likeness of each actor is so well cut that persons having seen the different gentlemen, would not need explanations to know who the characters are intended to represent.

The ring master, with whip in hand, is the Hon. G. Brown, the rider is Sir J. A. Macdonald, the first actor is Lord Dufferin, and the clown is the Hon. A. Mackenzie. Of course the result is known to you before this. The bystanders are of course wondering "Will he get through?"

THE CROPS IN MANITOBA.

The quantity of grain raised in the Province this season is much larger than that of any previous one. The yield is immense. We have endeavored to collect accurate information upon this latter matter, and the result is very satisfactory. Wheat will average about thirty five bushels per acre, running between twenty-eight and forty-five. Oats will average at least sixty bushels per acre, running from fifty to seventy-five. The oats are unusually heavy, weighing upon the average over forty pounds to the bushel. The average yield of barley is about fifty bushels per acre. It is also very heavy, but the wet summer has detracted slightly from the proverbial brightness of Manitoba barley. The yield of roots has been something extraordinary. We may specify:—Hugh Grint had seventy-five bushels of oats to the acre, and over fifty bushels of barley. An eighty-eight bushel grist of his (by measure) weighed one hundred and ten bushels. John C. Ball from seven bushels of seed potatoes raised three hundred and fifty bushels. Dr. Morrison raised twelve bushels of onions upon a patch of land twenty feet square. These are all facts, and well worthy of record.—From the *Free Press*.

FARMERS' DIARIES.

The *Cincinnati Enquirer* contains the following:—

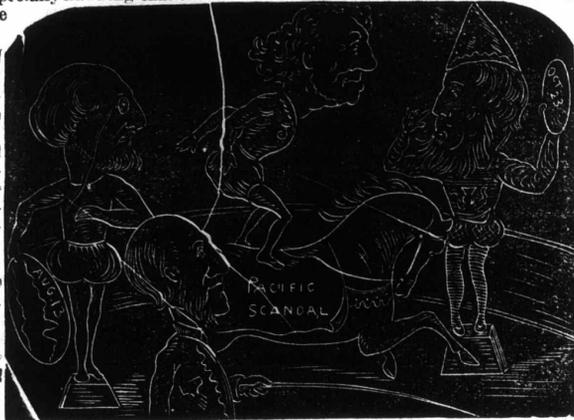
If our farmer friends knew how little trouble it is to keep a diary, and with what satisfaction they would look over it in a few years, we feel sure they would many of them be induced to begin one. A simple record of the weather and the operations of the farm, the writing of which would not occupy two minutes a day, will, in after years, be not only a source of pleasure, but also of great practical benefit; by referring back to the record of former years, one can see how late we have planted certain crops and at what time they matured at the end of each year. One or two hours will enable you to make an abstract, which should be copied into a book kept for the purpose. The diary may be kept with a lead pencil, but the abstract should be copied with pen and ink, and should give a brief record of the weather and crops, and also items of interest to the family, prices, etc. We began a journal of this kind in 1857, and now consider it the most valuable book in our possession.



GARDEN AND FARM.

HINTS FOR THE MONTH.

With November the outdoor work of the GARDEN and Orchard may be considered as suspended for the year. The soil, wrapped in its protecting robe of snow, is to have its winter's sleep. Any work to be done in the garden must be done without delay. We are in hourly expectation of the setting in of winter. Any garden crops not stored should be saved at once, and every



dant crop, other roots also have their peculiar advantages. Carrots are especially valuable as a winter food for horses. Mangolds and beets are valuable for milch cows, not giving an unpleasant flavor to the milk and butter; and for feeding hogs they are profitable. We never had better pork than that fed on mangold and small barley steamed together.

All animals should be well fed and in the house this month. Let not the insufficiency of food cause them to fall off in their condition. The provident farmer is never "Penny Wise and Pound Foolish." Cattle well housed and well fed have a double profit—in their improved condition and in the manure. Let not your cattle seek for food on the grass-land. If it be fed too bare in the fall it will suffer instead of improving from the winter. The frosts will injure the crowns of the grass plants, and also the fields moistened by the fall rains will be *poached*. Keep the plow going as long as the weather permits and the ground is dry. Do not plow or till the ground when it is wet. In plowing have the furrows deep, well cut and clear, so that when the thaw comes the water may not lie in them and you can commence the tillage of your fields in good time.

Add to your manure heap leaves of trees, weeds and muck, all, when rotted in the dung heap, have their value in due season. The manure heap is the farmer's bank.—Ass. Ed.

INTERCOURSE AMONG FARMERS.

Any farmer who does not read the papers, and who does not study the markets, is likely to be suspicious of whoever offers him a price for his products, and his ignorance and suspicion combined are quite likely to lead to an excess of credulity when once thrown off his guard. This is the fruit of isolation. It is quite as necessary to the farmer that he meet, talk and consult with men of his own profession, as well as those employed in other vocations, as that he should plow and sow—if he would be successful. The friction which intercourse gives rubs off the mold and rust accumulated by isolation—gives him new ideas, which propagate others for his brethren's use. Hence the meeting of farmers, even if nowhere else than at the post office or corner grocery, is not to be condemned; nor is the time spent in such intercourse, if it does not beget vicious habits, ill spent. It is to be commended, rather.—*Ex.*

PURE WATER IN WELLS.

A correspondent of the *Scientific American* says he has the best well of water in the neighborhood. His plan is as follows:— Hang in a well, suspended by a string, a coarse canvass bag, with three or four good-sized limestones and one or two lumps of charcoal in it. Have a string long enough to nearly reach the bottom of the well. In a week or two take out the charcoal, throw back the lime stones into the well, with five pounds of soft coal. Put a round or square wooden shoot up at the back of the pump; carry the shoot up higher than the pump for free ventilation. If the pump is out of doors put a "tee" on top; if under cover, a fine wire gauze will do.

PERPETUAL PASTE.

The *Journal of Applied Chemistry* says: Dissolve a teaspoonful of alum in a quart of warm water. When cold stir in as much flour as will give it the consistency of thick cream, being particular to beat up all the lumps; stir in as much powdered rosin as will lie on a dime, and throw in half a dozen cloves to give a pleasant odor. Have on the fire a teacup of boiling water, pour the flour mixture into it, stirring well at the time. In a very few minutes it will be of the consistency of mush.— Pour it into an earthen or china vessel, let it cool, lay a cover on, and put it in a cool place. When needed for use take out a portion and soften it with warm water. Paste thus made will last twelve months. It is better than gum as it does not gloss the paper and can be written on.

Mr. Carruthers, of Glenvale, has a small Siberian crab apple tree, about 1½ inches in diameter, which yielded the large number of 3,747 apples. The tree is only five years old, and such was the weight of the fruit that the branches had to be propped up.



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STOCK & DAIRY
DAIRYING IN SCOTLAND AND NEW YORK COMPARED.

According to Gilbert Murray, there are some interesting features in dairy management peculiar to the south-western counties of Scotland. The cows are frequently let to men who either pay a fixed rent per cow or deliver over to the farmer a stated weight of cheese. These men are chiefly called "bowers." The farmer owns the cows and furnishes a stated quantity of food, the "bower" and his family performing the whole of the manual labor of feeding and attending to the cows and making the cheese. In Ayrshire many dairy farms have a very limited area of permanent pasture, many of the farms being under arable culture, and managed on a five or six course rotation. The cows are principally pastured on the one or two years "seed layers," which, on good land, keep a large quantity of stock. Not unfrequently 24 imperial acres of second years' seed will pasture 22 Ayrshire cows and a bull from the 1st of May to the end of September.

The Scotch dairy farmers as a rule use hay very sparingly. On most farms oat straw is substituted, and of this they have an abundant supply. When cows are let to a "bower" the usual allowance is from five to six tons of roots per cow in about equal proportions of Swede and common Aberdeens turnips, and 2½ hundred weight of bean meal to each animal. The rent per cow varies in accordance with the quality of the pastures and the merits of the herd—from 3 cwt. to 4 cwt (536 to 443 pounds) per cow or, when paid in cash, £12 to £14 (\$60 to \$70) per cow. The present price for ordinary dairy cows ranges from £14 to £21 (\$70 to \$105). Show cows or such as are selected for exportation command from £50 to £70, equal to \$250 and \$350 American gold.

Some of the best Ayrshire herds, it is said, will, when in their best condition and well fed, produce a total of 800 gallons per cow during the season, but, on the whole, 600 gallons per cow during the year is thought to be a fair average. From this it will be seen that the Ayrshire herds yield at the rate of 500 to 600 pounds of cheese for the season. The rent per cow, it will be observed, is very much more than is obtained in America, while it is evident that the cost of keeping the cow under the peculiar management of the Scotch farmer is less than with us. In the dairy regions of New York dairy farms stocked with cows are rented on shares, the landlord getting three-fifths of the butter and cheese, one-half the grain and vegetables raised, and one-half the pork. Most of the grain, however, is fed out on the farm, and, if grain is to be purchased, each party furnishes one-half. Each party also furnishes equal shares of swine for fattening.

The best rented dairies of New York turn off during the season from 400 to 500 pounds of cheese per cow. Probably 400 pounds per cow would be a large average, taking the whole of such herds. At this rate the landlord gets 340 pounds of cheese as his share for the rent, which, if 12 cents per pound be assumed as the average net price, will amount to a little less than \$29 per cow. Thus it will be seen that the American farmer who rents his farm and cows gets only about half as much rent as the farmers in Scotland.

There is no doubt that one of the leading faults in American dairying to-day is the low yield of cheese per cow, and this results not altogether from the breed of cows, but from the manner in which they are managed and from the negligent way in which they are often milked. We know of herds of the so-called "native cattle" which, when managed by careful Herkimer county dairymen, have been made to yield during the summer from 600 to 700 pounds of cheese per cow. These dairymen, however, are not tenants, but are the owners of the herds they milk. We apprehend the Scotch "bower" is a more careful manager and better milker than is usually found among the American tenant dairymen, and this makes a wide difference in the yield of milk, whether the herd be first-class or only ordinary.—*Rural New Yorker*.

VALUABLE IMPORTATION OF CANADIAN CATTLE.

A Liverpool paper of the 17th inst. says:—At one o'clock this morning thirteen head of cattle just imported from Canada were dis-

patched from Lime Street Station to the address of Lord Dunmore, near Stirling. His Lordship has a world-wide fame in respect to agricultural improvements, and as a breeder of short-horns he cannot be surpassed. His enterprise in this direction is unflagging, and, as a proof of this, we may state that one of the animals of which he has now become the purchaser has cost his Lordship not less than a thousand guineas, the total value of this consignment being about £13,500. The most valuable animal of the lot is a splendid bull, known as the 6th Duke of Geneva, which was bought from Mr. Cochrane, the well-known breeder, for the unprecedented sum of 3,000 guineas. A finer animal could not be seen, and in every point it may be said to be faultless. We believe the 6th Duke is considered to be one of the finest sires in the whole bucolic world, and that its purchase was attended by many difficulties which only an enthusiast in cattle breeding like Lord Dunmore would have the courage to meet. Notwithstanding the Atlantic voyage, the animals were on the arrival here in perfect health, thanks to the excellent accommodation provided for them by Messrs. Allen Brothers in the steamer Sarmatian, and to the attention of Messrs. J. Martin and S. Beaty, who officially accompanied the cattle to this country.—*Quebec Gazette*.

MILK FEVER IN COWS.

The following by Prof. Law, of Cornell University, N. Y., upon the prevention and cure of milk fever in cows, which was lately the subject of an article in the *Western Rural*, will be read with interest, since the disease has prevailed to considerable extent in the West among fat cows which have calved late:—

This disease is essentially connected with plethora or excessive formation and richness of blood. Its victims are mainly the cows that lay on flesh rapidly or those that give an abundance of rich milk. A strong, vigorous digestion and great powers of assimilation. Therefore, properties which render their possession so valuable for feeding and dairy purposes are precisely those which predispose them to this destructive complaint. Let a cow of this stamp calve early in June, on our pastures of rich and juicy clover, exposed to the great heats of American summer, with little loss of blood in the process, and she is but too likely to prove a doomed animal. The supply of blood to the womb necessary for the support of the embryo calf is suddenly arrested and thrown back on the system at large. It has not yet become diverted to the udder so as to establish a vicarious secretion of milk. The richness and plasticity of the blood supplied to the nervous centres are incompatible with the due exercise of their functions, and the nervous system, already exhausted by the strain made upon it during parturition, and sympathetically depressed by the loaded condition of the digestive and circulatory systems, is suddenly prostrated, and too often beyond recovery. The suppression of the secretions alike of the bowels, kidneys, skin and udder rapidly aggravates the already unhealthy state of the blood, and death often results from apoplexy or serious effusion on the brain.

Prevention:—Then, the main causes of the disease can be, to a great extent, obviated. It is not desirable to seek to change the tendency of the animal to the production of beef or milk. But, without prejudice to these properties, we can check the production of blood at the time of calving and even reduce the already existing state of plethora. We can keep calving cows in a yard for a week or fortnight before the expiring of gestation; we can restrict their diet to a half or a fourth of what they would consume if left in the pastures; we can see that the bowels are always kept acting freely, either by reason of the nature of the food or by giving two or three ounces of sulphate of soda daily in the food. We can induce a considerable depletion from the circulatory system by giving a dose of physic (one pound to two pounds of Epsom salts, according to size of the animal) to act at the time of parturition or immediately afterwards; we can rub the udder and draw the tits so as to secure an early and free secretion of milk; and we can keep on a very restrictive and laxative diet for the first week after calving. With sufficient care the disease may be almost entirely prevented.

Curative Treatment:—This is so uncertain in its results that it is folly to neglect any measure of prevention. Strong purgatives, stimulants, ice-bags to the head, rubbing the

udder, drawing the teats, copious warm injections, and damp sheets laid over the body and covered by dry ones, or tepid sponging over the surface may all be employed, and, in slight cases, will prove successful. In the earliest stages, while the animal is still able to stand and the pulse is full and strong, bleeding from the jugular may ward off the severity of the attack; later it will only increase it. In cases attended by little fever half-dram doses of nux vomica morning and evening are of great value.

WILL A GOOD MILCH COW CONSUME MORE FEED THAN A POOR ONE?

In the report of the Western New York Butter-makers' Association, printed in the *Country Gentleman* of July 3rd, page 427, occurs the following passage:

"This single cow has made 310 pounds of butter in a single season. He (the owner) had to feed her extra well to get this yield from her. One of his neighbors said that it cost all the extra butter to get the extra feed. All present seemed to agree that good milkers are great eaters, and that more care is required to keep good cows in condition than small milkers."

This is precisely our experience, and we have no other. A brother of ours has tested the matter carefully, and invariably the best milkers were the greatest eaters, and the food consumed was in proportion to the milk and butter realized. And yet it is held by men who stand as authorities that it will cost no more to keep a good milch cow than an inferior one. It requires but little thought to see the fallacy of this.

Is not the excess of milk from a good cow over a poor one obtained from the food she consumes? And thus, the flesh or condition the same in both cows, how will the excess of milk and butter be accounted for, unless there is increase of food to furnish it?—for it has been shown, we believe, that the excrements of a good milker are less rich than those of an inferior animal. If that were the case the thing would be but little altered, as the digestion and assimilation would be defective, and much of the strength would go to the manure heap, which is not the economical way of feeding stock. But increase of feed in a good cow is no argument against securing such a cow. It shows that the machine was all the better for converting food into the product of the dairy, the true object in dairying. It must therefore appear that the less machines that are employed to change into milk a given quantity of food, the less expense, and, consequently, the more profit.—*F. G. in Country Gen.*

HEAVIER WEIGHTS AND HIGHER PRICES.

Many farmers seem to forget, in considering the cattle question, that not only by improving their stock can they increase the size and weight, but that they can obtain a higher price per pound for their cattle.

Take the present prices at Chicago as an illustration. Common to fair steers averaging 800 to 1000 pounds are quoted at \$3.25 to \$4.25 per hundred pounds live weight. Steers in fair flesh, averaging 1,050 to 1,200 pounds, are quoted at \$4.60 to \$4.90. Choice beefs—fine, fat, well-formed steers, averaging 1,250 and 1,350 pounds, are quoted at \$3.40 to \$5.65; and extra beefs, averaging 1,400 pounds and over, are quoted at \$5.80 to \$6.10. These figures are suggestive.

Suppose a farmer ships a lot of three year old steers, in passable flesh, averaging say 1000 pounds each, and receives \$3.75 per hundred or \$37.50 per head. Suppose he keeps a similar lot one year and by good feed has them fat and averaging 1,000 pounds, and selling at \$5.50 or \$71.50. Which will pay the best? For keeping and feeding until three years he gets \$37.50. For feeding one year more he gets \$34.

But mere size and flesh will not bring the highest price. Good forms and good appearance are necessary for this. Rough, coarse cattle will not command the best prices. And the quickest and cheapest way for the stock grower to improve the size and form of his steers is to use a Short-horn bull on the best cows he can obtain.—*Western Farmer*.

WINTERING COWS.

As to wintering dairy cows the first thing needful is a good, warm, comfortable stable, well ventilated, and supplied with plenty of straw for bedding. The cows should be fed regularly; let it be either twice or thrice a day, with good nutritious food, salted every other day; and, finally, good, pure water at their pleasure. Treat them kindly, keep them clean, milk fast and at a regular hour, and allow napping while milking. Never wet the teats, as it is considered, above all things, the most filthy, causing them to crack. Give a few bran mashes before and after calving. Always take the chill off the water given to the cow for a day or so after calving.

LONG-WOOLED SHEEP ON A WORN-OUT FARM.

Mr. R. G. Hill, in an address delivered before a farmers' meeting at Morrisville, Vt., upon Cotswold sheep and their value, said:—

It is necessary that we should be constantly studying the demands of the market. The scarcity of heavy mutton makes it always in good demand and at a good price, and the demand is fast increasing.

The one great trouble in stocking the country with these sheep, and supplying the demand both for wool and mutton, is the fear among many farmers of paying too much for them, although it is plain enough to be seen they are a great improvement over our common sheep; so they go on raising inferior stock in which there is no profit, all their lives, because they fear to run a little risk. Their children are led to think farming a hard, unprofitable business, and leave the first opportunity. Now let the farmer commence with a few of these sheep, and have his children share in the care and profit of them; they will soon feel an interest, and no longer think farming unprofitable. There is no employment on the farm so remunerative and so attractive for children as the care of lambs. The importance of improving old worn-out pastures is apparent to every farmer. There is no way this can be done so easy as in keeping sheep; it will take but a few years to double its value.

The Cotswolds are just the kind to improve springy, swaly pastures. They will thrive on rank, coarse feed, bringing in the white clover and doubling its value in a short time. It is generally admitted that sheep are the best flock that can be kept for the pasture, but for keeping up the supply of hay they are generally supposed to be inferior to other stock. Now the improvement of our mowings as well as our pastures should be considered. No farmer can succeed unless he can keep up his hay crop, and it is of great importance that he should ascertain the best kind of stock for doing this. Having myself commenced farming on a hard, worn-out farm that would not yield one-half a ton to the acre, no one has studied this subject more closely than I have, although some have succeeded better. For twenty years I have milked from twenty to forty cows. For about fifteen years I have kept some sheep; fourteen years past I have kept from fifty to a hundred. Knowing that it was generally considered that sheep were not equal to cows to keep up the mowing, I determined to satisfy myself which was best. Some ten years since I commenced feeding the hay on a small farm exclusively to sheep. This lot was in fair condition, yielding about one ton per acre. I let the sheep have the stable. Spread the manure on the grass, going over one-half of it each year. The grass continued to increase until it yielded not less than three tons to the acre. The manure from this yield gave it a heavy dressing. For a year or two the grass has not been as heavy; the ground appears to be burnt with manure. Last spring I plowed a part of it to re-seed, and sowed it with wheat. It grew very rank, but the weeds grew ranker,—such weeds as grow on very rich ground. This land had been dressed with clean manure from the stable, and the grass had been free from weeds. I here had been no manure put on previous to plowing. That such weeds should grow in a sward well turned shows the ground to be very rich.—*Western Rural*.

WINTERING MILCH COWS.

The *Western Rural* has held as an axiom that, just in proportion to the shrinkage of stock from winter feeding, in just such proportion will be the loss in the next summer's growth. The force of the axiom is intensified in the case of milch cows, for they not only have to recuperate in flesh, but the milk secreted is an extra drain upon the system. An animal cannot lay on flesh and at the same time give large quantities of milk. Therefore it is essential that cows be carried through the winter in first rate condition. The first requisite is a good, warm shelter. Without this, a cow that has given milk all summer, and perhaps through the fall and well into the winter, cannot be expected to come through in the spring strong and fleshy.

One of the greatest mistakes is in not beginning to feed straw early in the autumn.

Good dairymen, of course, feed well all the time, even in summer, as the pastures fail to be flush. Good dairymen need no advice of this kind, for, with them, the proceeds of the dairy are their chief source of revenue. Many, however, who are just entering upon the business make the mistake of not feeding at the proper time. This, in the West, is from the first of July, with perhaps in intermission when the aftergrowth is flush, until the feed is good the succeeding spring; and especially, as soon as the grass begins to fail until grass comes again in the spring.

If one has a good lot of pumpkins in the field of corn, they will be found just the thing to carry the cows along after the corn is cut and shocked. Give them all they will

eat as long as they last. Cut and shock all the corn possible; also, especially if the cows be fed in the yards, the nubbins left on fodder are superior to the best hay for cattle. Indeed, we have wintered milch cows on fodder fed plentifully, and kept them in high condition, and in full flow of milk thus, with the addition of a little meal each day.

Many farmers are afraid to keep their breeding stock fat and to those who know what a really fat animal is the fear is well founded. The bulk of the cattle killed for our own city markets are not fat, but simply what a butcher would call fleshy. There is no fear of getting a milch cow too fat during the winter, if she has given milk the preceding summer. The fear ought to be that she will not gain flesh sufficient during the winter to enable her to milk profitably the next summer. We will give a case in point. Our neighbor who, like us, lives a few miles from the city, on a twenty-acre farm and comes in each day to his business, supposing his cow was farrow, fed her liberally with meal and bran, intending to sell her for beef when she ceased giving milk. The cow finally dried off about the first of March last, and he continued to feed her, intending about the first of May to have her killed. To his surprise, she dropped a calf the last week in April. Here was a pretty state of things. The cow would not sell for first class beef, although really fat and nearly ripe. He supposed she was too fat to be profitably milked. We, however, thought differently and advised careful feeding for ten days, then gradually to increase the feed again to full feed. The calf, although small at first, grew wonderfully, although it never took all the milk of the dam, and at two months old sold to the butcher for twenty-five dollars, and the cow is, at this writing, giving a full mess of milk.

It is not an isolated case. More cows abort from ill-feeding and bad stable management than any other cause. More money is lost by keeping cows too thin than too fat. More cows die from the effects of a hollow stomach than of so-called hollow horn, and more money is lost in dairying from low feeding than from any other cause, always excepting bad management. There is no better paying agricultural industry in the West, one year with another, than the making of first class butter and cheese. There are failures, of course, for it takes a certain amount of money to get ready to make these articles always first rate. There is one consolation, however, to those who determine to excel in this industry and who have the disposition to stand the confinement necessary to success. Good butter will never go out of fashion with consumers, so long as cities continue to grow, and citizens have money to buy with. The taste for good butter is one that, once learned, never leaves the individual so long as life and health last.

IMPORTING BUTTER AND CHEESE.

It would seem beyond belief that butter should be among the articles imported from Europe to the United States, but, according to the *New York Tribune*, such seems to be the fact. It says:—

If our dairymen need a spur, an eye-opener, a lesson which speaks volumes in few 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 because there is an actual scarcity in the market of really good butter put up in attractive shape for small consumers. When we know that one dairyman gets \$1.15 a pound for his product, another \$1, and another seventy-five 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, choicely fed on clean, sweet food; the milking is done in the cleanest manner; the milk is handled as carefully as though it were nectar; the cream is churned with the utmost care by clock and thermometer, the butter is worked with skill, and is made up into 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 ill-housed and carelessly milked, and is churned anyhow, and the difference is amply accounted for.

TALK TO WOOL GROWERS.

The *New York Economist* gives a few hints in the following extract from a lengthy article, which wool growers will do well to give candid consideration:—

It is true it takes time to raise lambs and increase flocks of sheep. As yet there has not been much increase in the production of the staple in our Northern or Western States, but what is lacking in quantity, is to some extent made up in quality, for our markets now present lines of fancy wools from Virginia, Pennsylvania and Ohio which are equal to any wools grown the world over. The superfine fancy clips from Western Virginia are particularly choice, and will bear close comparison with the finest Austrian, Silesian and Australian. These wools will command fancy prices at any time, no matter how stringent money may be, for they are always wanted for opera flannels, fine facedoeskins, or ladies' worsted dress goods, or braids, and yet we fear enough of these grades will never be grown in the States to supply the constantly increasing wants of our manufacturers. The demand for combing wools continues very active—in fact it is urgent, until now prices have rapidly risen, especially for Canadian. From a private letter, written by a well known firm in Hamilton, dated the 3rd instant, we are enabled to make the following extract:—

"Combing wool cannot be got in any quantities at present. The country has been scoured all around for manufacturers in your State, and as high as 44c gold has been paid, and the prospect is it will go somewhat higher. We estimate the clip at 1½ million pounds."

This sounds like high talk. But wait; before the ink is yet dry on the paper we write upon, we have advices still more astonishing, with sales 46c gold for Canadian combing, and the best article is now held at a half a dollar gold. This would carry the price beyond 80c currency, and yet it is not a fortnight since Mr. Walworth asserted he would not pay over 60c for the staple landed in the States. Such are the enormous demands for worsted wools the world over, that everywhere in Europe and America they are bringing prices out of proportion to fine clothing grades. It is a pity our farmers cannot get some of these Canadian sheep and cross them with our Saxony, so as to give us a good grade of one-fourth blood wool.

THOROUGH-BRED STOCK.

The idea is prevalent among a certain class of farmers that it will not pay to purchase thorough-bred stock, for the reason that the value of such stock being far above that of common animals, there is no adequate profit in the investment. There are two serious mistakes made in taking this view. The one is that the cost of thorough-bred stock is excessive, and that an immense profit is made by the breeders selling animals at exorbitant prices; the other is that it does not pay to improve common stock by crossing pure bred stock upon them, and that unless there is large capital available, with fine stables and costly attendance, the condition of these animals so deteriorates that they no longer possess any superiority over any other stock. Now, while year by year the value of the choicest specimens of the favorite breeds, either of horses, cattle, sheep, or swine, gradually increases, on the other hand, fair average animals, in which the blood of the choicest is intermingled, are gradually decreasing in price. The great demand for the best of everything now existing, and the competition of a largely increased number of breeders desiring to purchase the best, tend to cause their increasing price, but the very same increased number of breeders who have stock to dispose of tends to operate in the contrary direction with the average class of stock. It is now possible to purchase full-blood stock of good strains for very reasonable prices—not more than twice or thrice those asked for good native stock. We constantly see reports of sales of bulls and cows of Jersey, Ayrshire, Devon, or short-horned breeds at \$100 up to \$500. These prices are certainly within the means of a vast majority of farmers. If not, now is the time, when co-operation and combination is the fashion, to make this business one of those to be brought under the influence of joint effort. As to the second mistake made, it is only necessary to point out the money value of the product of thorough-bred stock to show that the investment is a profitable one. In addition, it might be shown that the profit is not confined to the

thorough-bred alone, but that the first cross partakes so much of the better qualities of its high-bred parent that the advantage is immense, even at so early a period of improvement. Dairy stock of half-blood Jersey or Ayrshire will produce double the amount that an average native dairy will, or can. In a dairy of twenty-five cows, one pure bred bull, at a cost of \$500, will produce twenty-five heifer calves every two years. The value of these calves is doubled from the moment of their birth on account of their parentage. When weaned the owner would rarely accept \$20 each for them. The \$500 then returns twenty-five per cent. each year in this way alone. But if these calves are raised until they come into profit their product as cows will doubtless be double that of their dams on the whole. Then twenty-five cows each year producing a clear profit of \$50 each, instead of \$25, as heretofore (a low estimate), a difference of \$525 yearly is shown to the credit of the investment. In beef stock a larger margin than this even can be shown, for not only is a greater amount of flesh produced for the same quantity of feed consumed, but the market price of a grade steer is higher for the whole weight of the animal than that of a native. Generally the benefit accruing is equal to a return of the value of a pure-bred bull in the third year, and every year afterward, on the beef sold, in addition to the increased value of the heifers as breeding stock. The same is true of sheep, hogs, and poultry, and were our young stock thus improved each year to come, as far as might be possible, undoubtedly the census of 1880 would show the value of our live stock to be double at least that of the stock enumerated in the previous one of 1870.—*N. Y. Times.*

FATAL CATTLE DISEASE IN NEBRASKA.

Senator Hitchcock has transmitted to the Department of Agriculture at Washington an account of a disease that has ravaged the stock of Dodge Co., Neb. The facts are as follows:—

The herd in which it first appeared consisted of about 150 two-year-old heifers and steers, chiefly Cherokee stock, with which an equal number of hogs were yarded. The inclosure in which the 300 animals are kept contains about two acres; is dry, sufficiently sheltered, and well supplied with freshwater, and with troughs for feeding. The feed was corn in the husk, and all the hay they would eat. The disease, which is limited to heifers, or cows (both the barren and those with calf), first shows itself in a spot having "the appearance of dead flesh as from freezing," on the lowest external point of the vaginal orifice. From thence a species of ulceration gradually extends to the mouth of the womb, the lining of the vagina being covered with numerous small pimples. The eyes of the animal affected remain bright, her appetite good, and there are no other indications of disease apparent until she begins a violent switching of the tail. This is followed by nervous jerkings of the body, bellowings which are fierce and piteous by turns, biting the legs and hips, often so desperately as to tear out masses of flesh, wildness in the eyes, and special madness toward human-kind. In thirty-six to forty-eight hours from the time the spot first appears, and in twelve to fifteen from the time the switching of the tail begins, death ensues.

Post-mortem examination failed to discover any abnormal condition beyond the vagina, except that the small intestines and parts about "the small of the back" showed some inflammation. The flesh of those that died was eaten by hogs and dogs with impunity. After trying almost every known perscription for cattle diseases without avail, syringing the vagina "with coal oil, or lard-oil, which is better" was found to be a "sure cure if taken in time; that is to say, all were saved to which this remedy was applied before the violent switching of the tail began, but none were saved to which it was not applied before the disease had reached that stage. In about six hours after the first injection of the oil the pimples in the vagina begin to disappear. Up to April 30, forty-four cases had terminated fatally. Whether all belonged to the herd in which the disease first appeared is not stated.

Orrin Brown, of St. Joseph, Michigan, kept seventeen baskets of Diana grapes last winter, by simply putting the baskets in a cool, dry cellar, covering them with paper, and leaving them alone. It is said the flavor of the grapes was wholly unimpaired.

SAVING THE FAT AND FLESH.

The flesh and fat of all kinds of domestic animals are made of grass and grain, which cost money. In autumn, when feed begins to fail, and the weather becomes cold and stormy, animals will lose flesh, unless they are well fed and properly protected from cold and wet storms. Every pound of flesh and fat is worth, at a low figure, twelve and a-half cents. Flesh or fat is actually worth much more than that sum, in most localities, as there is no bone, no hair, no hoofs, no horns, nor other waste in those parts of the animals. The fat is always wasted first. The flesh next. Now then, every pound of fat and flesh that is wasted is a dead loss of twenty-five cents to the owner of the stock. When an animal consumes a pound of fat in maintaining respiration and animal heat, the waste is a dead loss, because it can never be retrieved. The substance that composed that fat and flesh is gone. The grass and grain consumed in making it might just as well, in one sense, have been pitched into the Atlantic Ocean. In another sense, it would have been better to cast the grass and grain on the land as a renovator of the soil. Now, to reproduce the number of pounds of fat and flesh lost will cost not less than another twelve and a-half cents worth of grain. There you have twenty-five cents in cash for every pound of flesh produced.

Every person who has half an eye cannot fail to see and appreciate the fact. It needs no further elucidation. The person therefore, who has ten head of cattle, and allows each one to fall away 100 pounds each, loses ten hundred quarters of dollars, or \$250! A hundred pounds of fat and flesh would scarcely be missed in the appearance of some animals. And the same rule holds good with horses, sheep, swine, and all kinds of domestic animals. Every pound of flesh lost is equivalent to so much money actually thrown away. There is the loss. No one can deny it. And there is the error in the management; and the grand practical question is how to save that which has heretofore been lost?—*N. Y. Herald.*

TREATMENT OF CALVES.

Much has been said and written about the best treatment of calves, and so many have advised their immediate removal that we this spring ventured to try it. Out of four so treated (all heifers, worth \$100 each when they were dropped), one died before it was a week old, another is scouring so badly that we have but little hope of its recovery, and a third is ailing and weakly. We have had quite enough of this treatment, and shall return to our custom of leaving all calves with their mothers until they are at least three days' old, and longer if necessary to start them fairly and vigorously on the road of life, a practice which has hitherto produced the most satisfactory results.

I have also experimented—until I have regretted it—on another theory of some modern breeders of Jerseys—that is, to milk the cows quite up to the time of calving if possible. In every case, I am convinced that real and probably permanent injury has resulted. The idea advanced was that a Jersey cow has no other purpose but to bring calves and to produce milk, and that she should be trained to the fullest and most persistent exercise of the lacteal function. The subject has been presented to me so long and so persuasively, and by men whose opinion seemed so well worthy of respect, that I had come to more than half believe it, and have tried the experiment this spring with several animals.

In every case there has been trouble with the udder, and thus far the flow of milk is less than it was after the previous calving. The calves have not been materially affected by it, but the mothers have been in every instance. Hereafter, we shall endeavor to dry off all the cows a month before calving. Up to that time it is well to keep the milk flowing (if only a pint a day), and with Jerseys it is almost always easy to do this, but after that the milking should cease, and the udder should be allowed to become entirely empty of milk preparatory to the commencement of its new period of activity—"springing" regularly and naturally, and having no trace of the old love when it begins with the new.—*American Agriculturalist.*

A company has been formed at Streetsville for the manufacture of beet root sugar.

DAIRYING.

An address

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DAIRYING IN CONNECTION WITH FARMING.

An address delivered at a meeting of the Markham Farmers' Club by Mr. Raymer:—

MR. PRESIDENT AND GENTLEMEN,—In taking up this subject I do it with regret that I am not better qualified to do justice to the same, but I will try to give some hints and ideas, hoping they will show the advantage of keeping and taking care of more cows, and sending a larger quantity of milk to our cheese factories. When we take a view of the past history of this section of the country, it is apparent that we have been noted for grain raising, wheat being the staple of production. Many of our farmers have been made wealthy by following this pursuit. As when the land was in its virgin state, good crops could be raised without manure or much labor, but of late years, wheat growing not being so successful, their attention was then turned to barley, which for a while appeared to be very remunerative; but, to the sorrow of many, has proved very exhaustive to their land, the bulk being shipped to market, leaving very little to return to the ground from whence it came. Others have devoted their land to raising hay for the market, this has no doubt paid many well, but we think this must also be impoverishing to the land, and inconvenient to many who are far from the market, being such a bulky substance to ship. The puzzling question is, what shall we do with our farms to make them pay? Farmers are asking what all this means? And we are favored with a great variety of opinions. 'Farming is played out, says one; 'Our land is exhausted,' says another; 'I tell you, says a third, 'we cannot stand these high wages, it takes all I can raise to pay my hands.' In fact there is some truth in all of these opinions, but not one of them seems fully to meet the case. To say that farming is 'played out' is about as reasonable as to say that men can live without eating. And yet it is quite true that there is a kind of farming that is no longer profitable, and it is about time it was played out. Our land is not yet entirely exhausted; wages are high, but what are we going to do? In years past we have occasionally had as poor crops as now, and poorer prices, but our expenses were not so large. If we go back to old fashioned farming, we must go back to the old fashioned mode of living. We believe farming does not progress with the advancement of the age; instead of looking back we must look forward. Our expenses are far greater than formerly; we live better, dress better, and have more comforts. We do not want to give up these advantages. Old fashioned farming was all very well, and so was old fashioned living, but modern farm life and old style of agriculture cannot long continue; one or the other must be abandoned. Farming implements, tools and machines are vastly superior to those that were used twenty-five years ago, so are our facilities for marketing our produce, but do we raise any more or better hay now than when it had to be cut with the scythe, or is wheat of better quality than it was when reapers were unknown. We have better ploughs, harrows and cultivators, but is our land cleaner or mellowed. Farmers have to compete with each other at home and abroad, and the man will make the most money who can raise the best article and the greatest quantity per acre. But we think in order to keep up the fertility of the soil, farmers will have to keep more stock, and feed more of their crops on the farm, and instead of shipping straw, hay, barley, peas and oats, send them to market in shape of beef, pork, butter and cheese. 'But' says one, 'if we all go into this we will overstock the market.' It may be the case with butter, as we have lost our character for good butter in the old country, and have to depend on home consumption for it; but it is not so with cheese, the demand for cheese is increasing both here and in the old country. If not trespassing too much on your patience, Mr. President, I would read you the opinions of some of our city merchants, relative to the character of the cheese made in this section, and the market for the same.

(Mr. Raymer read letters from the following merchants:—Gibb & Gallow, R. Donald, R. Lawson and Thomas Wakelee, highly recommending the character of the cheese made in this section.)

I believe we have one of the very best localities in the province for producing a good quality of milk. It is in this we have the advantage of making good cheese. I do not think it would be wisdom for me to go into the details of cheese making, or the convenience of cheese factories. You have them

in your midst. But the question to day is, are they supported as they should be? We are prepared in this township to manufacture 70,000 lbs. of milk daily into cheese, without further expense in building or implements. This would amount to (allowing the usual shrinkage) about 650,000 lbs. of cheese for the five months of cheese making, and if sold at the average price we are now getting, would realize \$78,000. We could consume and dispose of from \$80,000 to \$100,000 worth of cheese from this township annually; and yet we are surprised to see so few who take advantage of our factories. We know a man, who is residing within two miles of a cheese factory, milking sixteen cows, and making it into butter. He must be losing, according to Mr. J. Tran's experience, as published in the *Economist* of June 16th last, 73 cents per cow, or a total of \$11.68 per week, which would amount to about \$200 for the factory season, without taking into account the time spent in making up and marketing the butter. We believe there are many enfeebled mothers and wives to-day who have had their constitutions broken down by overwork in making and taking care of butter in our cold and damp cellars. The question might be asked, what should a cow yield during the season? This depends entirely on the quality of the cows, and how they are taken care of, both before and at the time of sending milk to the factory. Mr. President, I do not think that I could better describe the quantity cows should yield than by giving two extreme cases of taking care of cows and the manner of sending milk to the factory. Mr. A. and Mr. B. are neighbors who have farms of equal quality and privileges the same. Each have consented to give the factory a trial. Go to Mr. A's on one of our cold mornings in January or February, and on taking a view of his barnyard we observe an absence of room for his stock, consequently cows, sheep, pigs and old horses are huddled together, the cows with their backs humped up and shaking their heads from the effects of the cold blast upon them. Look at them while they are getting their morning feed of straw thrown upon the ground, what hooking and chasing of each other; perhaps you may see him feeding a few small turnips, and these thrown among the snow. He tells you that he has had very poor luck with his turnips, they do not grow well upon his farm. You see no water at hand; his cattle have to go a quarter of a mile or more to some creek where they are in danger of breaking their legs or killing themselves on the ice. The manure is scattered along the lanes and fence corners, and very little good manure is found in his barnyard. Early in the spring his feed is all gone, you see his cattle staggering out into the fields, grasping at the first blade of grass that shows itself above the ground. His calves being only third-class bring but a small price; very little butter is made before the factory starts. In the first of the factory season, when there is a good growth of grass, his cows for a while yield a fair quantity of milk. However, as the season advances, his fields being overstocked with calves, steers, &c., the pastures become short and the milk rapidly falls. Cows that were giving from twelve to fifteen lbs. per milking now only give from five to six. He has no corn sown with which to feed his cows, as he thinks it does not pay to take time to feed it. He has his milking done in wooden pails, saying tin ones are too expensive, the result is that his milk often goes to the factory tainted, and if it be kept over night often it will be changed quite sour, and when told so by the cheese maker he gets offended. At the close of the season when he gets his account from the factory, having been expecting to get about \$35 per cow, but only getting \$15, he says it don't pay to send milk to the factory; so he gets discouraged in the dairy and gives it up, saying, 'it don't pay.' Permit me now to give a view of Mr. B's stock, let us visit him on a similar morning. Instead of seeing a number of cattle huddled together you see a large pile of good manure. He knows our winters are very long and cold, and has made preparation for the same. His barns are built with good stone foundations. His cows are all housed in good warm stables, and when you enter them it is very much like going into a stove room. The cattle, having had their morning feed early, are quietly lying down chewing their cud. His cellars are convenient, and are filled with roots of various kinds. His cows are well fed the winter through, and they do not go out of the yard for water, if he has not a running spring for them, he has a well or cistern close at hand. Salt is constantly kept in a trough, where they can have access to

it every day. His cows are not turned out to pasture till there is a good growth of grass, and in the spring they look more like beef cattle than milch cows; the cows giving a large flow of milk, the calves are well fed, and he realizes a good price for them. Also considerable butter is made when the price is high, and when the factory starts his cows are milked in good tin pails, and he never allows a wooden one to be used. Milk goes to the factory sweet, clean and good. You might hear the cheese maker exclaim, if I had fifty such patrons I would not be afraid to challenge the world for quality of cheese. His cows keep up a good flow of milk the season through. When the pasture becomes short he has corn or other green food to give them daily. He receives from the factory \$35 or more per cow for his season's supply. He says the factory pays. Mr. President, I have drawn these two examples of supporting the factory from observations, and I am glad to say we have many of the latter class.

Mr. President, we do not expect that farmers of this part of the country will go into dairying so extensively as in some other parts, where land is rough and unillable, but we think there might be a system where dairying and grain growing might be carried on profitably to the farmer, and at the same time improve and keep up the fertility of the soil. As the majority of our farms are 100 acres, we think ten cows might be kept to great advantage; no other cattle should be kept, it is here that many fail to make it profitable, they keep too many young cattle. We have always advocated that it did not pay to raise calves in the neighborhood of a cheese factory. If the cows are well kept and milk sent the season through, at least \$350 in the factory season should be made. By keeping this number of cows there will be a less land to cultivate, in this there will be a great saving of hired help, of teams and wear and tare of implements. If the milk cannot be sent to the factory by milk teams passing, a boy can be kept for the purpose, who should have it for his work to take care of the cows, bringing them from the pasture, and assisting to milk, &c. The horse kept for the purpose can be of use on the farm for scuffling, raking hay, &c. I have known a boy to milk eight cows and take it to the factory, who did not look to be over thirteen years of age. In summing up we claim the following advantages:—1. By housing cows in good warm stables, one-third of the feed is saved; by keeping a large number of cows more manure is made. 2. By having more land seeded down, the remainder can be better cultivated, and thus larger crops realized. 3. Cheese making, as compared with butter making, saves labor and expense. 4. The more cheese made in the summer the higher the price of butter will be in the spring and fall. 5. Cheese brings the most money, as three pounds of cheese can be made out of the same quantity of milk as one pound of butter.

FEEDING REGULARLY.

Success in feeding operations, says the *National Live Stock Journal*, does not depend altogether upon feeding liberally. The usual supply of food should be given with regularity; and when the time comes at which the stock should be fed, nothing should serve as an excuse for delay. The system becomes accustomed to the times at which food is taken, and if the food is not taken at these times, derangement and injury are sure to result. When the stock is not fed at the proper times, the animals are disappointed and thrown into a state of excitement and anxiety, highly derogatory to their improvement. And any one who has a lot of cows lowing up and down the yard, or seen and heard a lot of pigs squealing and rushing from one side of the pen to the other, because the hour at which they had become accustomed to receive their food had been suffered to pass without it, need not be told that such animals are not only not in the way of improvement, but that they are actually losing ground. But this excitement and worry is not the only evil result which follows the delay in giving food; the appetite and digestive apparatus become deranged and some animals will gorge themselves to such a degree as to become quite uncomfortable, even if not made actually sick, while others will not take as much as they require. The successful farmer will never allow his stock to become hungry even for the shortest length of time, and finds it to his advantage to keep his stock comfortable, to preserve them from excitement of all descriptions.

CANADIAN CATTLE IN ENGLAND.

That Canadian cattle are gaining a reputation in the agricultural world, and even in England, where it is generally supposed that cattle raising has reached perfection, is shown by the following from the *Liverpool Post*:—This morning thirteen head of cattle, just imported from Canada, were dispatched from Lime street station to the address of Lord Duimore, near Stirling. His Lordship's enterprise in this direction is unflagging, and as a proof we may state that one of the animals of which he has now become the purchaser has cost his lordship not less than a thousand guineas, the total consignment being about £13,500. The most valuable animal of the lot is a splendid bull, known as the sixth Duke of Geneva, which was bought from Mr. Cochrane, the well known breeder, for the unprecedented sum of 3,000 guineas. A finer animal could not be seen, and in every point it may be said to be faultless. We believe that the sixth Duke is considered to be one of the finest sires in the whole bucolic world, and that its purchase was attended by many difficulties, which only an enthusiast in cattle breeding like Lord Duimore would have the courage to meet.

THE *Peel Banner* notes the following importation of live stock:—Mr. John Duff, of Esquising, who imported the draught horse *Agricola*, has returned from Scotland, after an extremely stormy voyage, and brought with him a fine heavy draught horse, which when shipped weighed 1,680 lbs. for which he paid a very high figure. We understand that as a colt it obtained the first prize at the Wigton Farmers' Association in Scotland, and was considered one of the purest Clydesdales in Scotland. His sire obtained a medal, being the best colt exhibited at the Union Fair, and is half-brother to the Clydesdale Champion, who was never beaten, and sold for the enormous sum of \$2,625 to a party in Australia. Mr. John R. Craig, of Green Grove Farm, Edmonton, has received per s. s. Canadian, from England, eight shearing Cotswold ewes, and a Berkshire boar under one year. The ewes have been winners at the Royal Agricultural Society's Meeting, at the great Bristol and Plymouth Fair, and also at the great World's Fair, Vienna, Austria. Mr. Craig won the great sweepstakes at the World's Fair, St. Louis, last year, for the largest and best flock of sheep, and having added the present importation, he must possess a flock of which any breeder might be proud.

We keep a small herd of cows at Wallington, from which my house in London is supplied with milk, cream and butter. What is not required for our own use is sent to other members of the family, and when there is any surplus the neighbors purchase it. During this spring my son directed, without my knowledge, that the cows should be fed with a small portion of sewage grass, when, without knowing the reason, the butter was so offensive that we could not bear it on the table. The other members of the family were loud in their complaints, and the neighbors for a long time came for no more butter. Upon inquiry I heard of the use of sewage grass, which was immediately ordered to be discontinued, when the cream, milk and butter resumed their former excellence. This seemed too seriously important to pass unnoticed, so I desired my son to repeat the experiment suddenly, without any notice, when the same results again occurred. The cows like the sewage grass, and the milk is slightly increased in quantity by its use. The milk has a slight rancid odor when about twenty-four hours old, and has this quality a day or two after the cows are fed with the grass. The butter becomes bad about a day or two after it is made, and no care in its preparation can avert the rancidity. I have long known that the use of putrid manures affects the quality of vegetables, and have called special attention to the fact in the book of "My Garden." I did not, however, know till lately that the putrid matters could be taken by animals and communicated in the dangerous putrefactive state by the milk to other animals.

This, after all the theories as to the utilizing of sewage, is disheartening enough to great cities who know not how to dispose of waste with polluting the waters, and poisoning earth and air.—*A liner in the London Times.*

FLESH.

Of domestic grain, which when feed begins comes cold and sh, unless they protected from pound of flesh pure, twelve and s actually worth most localities, no hoofs, no ose parts of the s wasted first. every pound of s a dead loss of er of the stock. pound of fat in animal heat, the it can never be that composed The grass and it might just as en pitched into oother sense, it ast the grass and ator of the soil. ber of pounds of less than ano- worth of grain. cents in cash for d.

If an eye cannot e fact. It needs e person there- ttle, and allows ounds each, loses ars, or \$250! A sh would scarcen- of some ani- olds good with all kinds of dom- of flesh lost money actually e loss. No one the error in the l practical ques- has hereto- all.

VALVES.

l written about s, and so many e removal that try it. Out of worth \$100 each one died before e scouring so badly e of its recovery, akly. We have atment, and shall eaving all calves they are at least r necessary to ously on the road as hitherto pro- results.

—until I have re- of some mod- at is, to milk the of calving if pos- a convinced that nt injury has re- was that a Jer- pose but to bring k, and that she fullest and most lacteal function. sented to me so d by men whose orthy of respect, an half believe it, ment this spring

been trouble with e flow of milk is previous calving. materially affected been in every in- shall endeavour to th before calving. o keep the milk day), and with easy to do this, should cease, and ad to become en- tory to the com- od of activity— d naturally, and ove when it be- ican Agricultural-

ed at Streetsville root sugar.



AGRICULTURAL.

BELGIUM SMALL FARMER.

The Flemish small farmer picks up grass and manure along the roads. He raises rabbits, and with the money they fetch he buys first a goat, then a pig, next a calf, by which he gets a cow, producing calves in her turn. But of course he must find food for them, and this he does by staking all on fodder and roots, and in this way the farmer grows rich, and so does the laird. The institution in Flanders in aid of agricultural credit is the manure merchant, who has founded it in the best of farms; for money lent may be spent in the public house, but a loan of manure must be laid out on the land. The poor laborer goes with his wheelbarrow to the dealer in the village to buy a sack or two of guano, undertaking to pay for it after harvest. The dealer trusts him, and gives him credit, having a lien on the crops produced by the aid of his manure. In November he gets his money; the produce has been doubled, and the land improved. The small

cultivated the year 1552. Mine host, Mr. Leidecke, whose pride is the thriftiness of his acres and stock, and the well being of all around him, is the tenth man that has owned these possessions.

Although the land has been in cultivation 320 years, a judicious system of cropping, rotation and manuring has preserved its virgin fertility to a wonderful degree. The farm has 130 acres under cultivation, 16 acres is meadow and the rest is occupied partly by buildings, but most of it is raw land in the valley, which yields some pasturage and also some turf for burning. There are 40 head of cattle, 100 sheep, seven horses and some swine upon it. Fifteen of the cattle are being fattened for market.

The rotation extends over a period of eight years, and is as follows:—1, Potatoes, well manured; 2, Barley; 3, Clover; 4, Rape, well manured; 5, Wheat; 6, Rye and one-half potatoes or oats; 7, Peas and green fodder, well manured; 8, Rye.

The farm is thus in eight years well manured, (the manure being spread mostly in the winter season), besides the good that is effected by the rotation, which yields a proportionate amount of articles for the market and for the necessities of the people. Another rotation that is used by many

much interest in the hotels and restaurants are often herded by some urchin upon the stubble and other out-of-the-way places. The cows and sheep are also herded, but everything is under roof at night.

Hand labor is cheap and workmen are plenty, hence labor-saving machines and rapid working are little known. Most of the plows are inferior, being after the old style, with two small wheels to support the beam. Much of the plowing is done with oxen, usually three together, drawing the plow by rope traces that are attached to a padded board or iron that passes across the head above the eyes. But few yokes are seen. Many of the fields are plowed twice every year. Some are plowed in August quite shallow, and again in the autumn much deeper, but in the spring are only harrowed. Weeds are seldom seen.

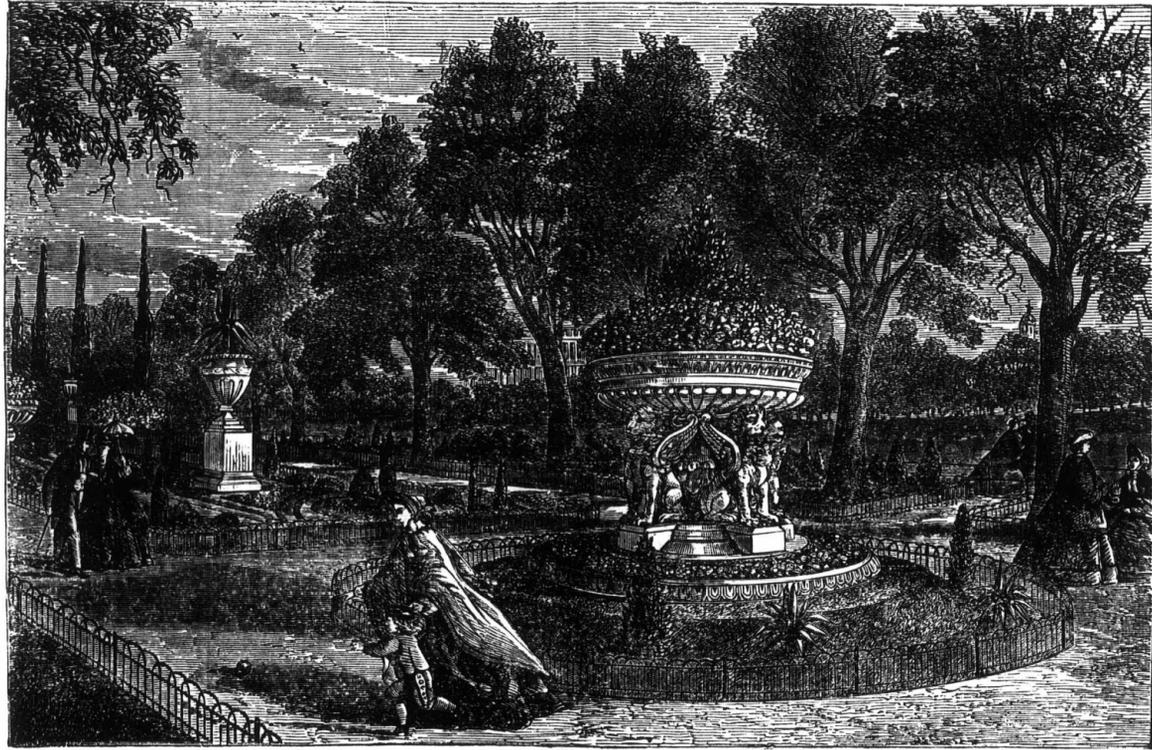
Mr. Leidecke has ten laborers, who are paid yearly, besides their plain victuals, from \$25 to \$50, according as they rank. The cattle are mostly of the Holland breed, and are moderately good. The sheep are healthy and well adapted for mutton, having an intermingling of Southdown blood. The horses are universally well formed, powerful and well kept. But the swine are not to be praised.

prised at the number of women that he saw working in the fields.

We give an illustration of the Regent's Park as he saw it when in old London. He also attended the Austrian Exhibition, and was astounded at the immensity of the building. Ten or twenty thousand people would seem as nothing in it. Mr. Scatcherd returns looking all the better for his trip, and we hope it may give him a longer lease of time in which to serve the public, as we look upon him as one of the most independent and straight-forward members of our Legislature, able and willing to look after the farmers' interests; he may not have so much to say as the great party leaders, but in sterling worth we believe he would weigh down half a dozen of them. We have no doubt but that he has imbibed ideas of economy, beauty and comfort that may in some way or other tell beneficially on our country.

THIN SEEDING.

It is a matter of history that heavy crops of wheat have been obtained by very much less seed than a bushel to the acre. Indeed, a few pints have been known to produce a full crop, but, in such a case, all circumstances must be favorable—the land must be in good heart, clean, and in proper condition, the seed must



REGENT'S PARK GARDENS.

farmer does as the laborer does, each opens an account with the manure merchant, who is the best of all bankers.

The large farmers of Hainault and Namur do not buy manure, fancying they would ruin themselves by so doing. The Flemish small farmers invest fifteen to twenty millions of francs in guano every year, and quite as much in other kinds of manure. When does large farming make such advances?—*Gardener's Chronicle.*

A GERMAN FARM.

The farm of which we are about to speak is a fair average representation of German cultivation of the soil and the carrying on of mixed husbandry. It lies by the Oder, in the vicinity of the walled town of Custrin, which received some of the first French prisoners during the late Franco-German struggle, and is about forty-five miles east of Berlin, in the Province Brandenburg. The country is rolling but not hilly, and the soil is a productive sandy loam.

This farm consists of 160 acres, most of which is upperland, but some of it is in the fertile valley of the Oder, and this latter has not been so long under cultivation. The upperland was once a pine forest, and was first

the vicinity is also thought to be good. It is as follows:—1, Potatoes, well manured; 2, Barley; 3, Beets, well manured; 4, Barley; 5, Oats; 6, Clover; 7, Rape; 8, Wheat.

Clover does well the first year, but not the second, hence it is plowed under after one harvest. Rape, which is grown principally for the oil, brings a round price in the market. Beets are grown to some extent for food for the stock, but mainly for the production of sugar.

The first things that an American notices are the absence of fences and the almost universal manner of the farmers and laborers congregating and living together in small villages, with their not large farms extending out all around, and perhaps an avenue of poplars extending through the centre leading to another village or city. The dwelling is of brick, with tile roof, scarcely ever more than one and one-half stories high. It fronts on a street of the village, and is surrounded on the other three sides by a similarly constructed building, save that it is much larger which encloses also a yard with the dwelling; This latter building has several apartments for horses, cattle, sheep, swine, geese, grain, and sometimes for laborers. Geese, which are much reared in Germany, and whose flesh (*gansbraten*) constitutes an article of

The Germans do not have so many insects to contend with as the Americans, but they also do not have such beautiful fruit. And in general, though one may well speak laudably of German field culture, science, general information and stability, he cannot praise the practical workmanship of the laborer nor the beauty of the farm home.—*Prairie Farmer.*

Regent's Park Gardens.

Mr. T. Scatcherd, the respected M. P. for the North Riding of Middlesex, has returned from a trip through Great Britain and the continent of Europe.

He feels persuaded, after all that he has seen, that we cannot teach the old country people much in regard to the cultivation of the land. The wheat fields surpassed any he had ever seen in Canada, the shocks always appearing to touch each other. The neatness, solidity and order of the farms, farm houses and surroundings bore a marked contrast with American farms.

He attended Agricultural Exhibitions in Ireland, and was particularly struck with the size and strength of the horses, the activity of their grooms, and the decorations of the horses' manes and tails. He was also sur-

be sown early at a proper depth as well as evenly distributed, and, above all, weeds must be kept down during the growing season.

Of course every farmer must know best the nature, condition and capabilities of his own land and, therefore, must know from experience, the quantity of seed most likely to yield the best crop. Notwithstanding, we are satisfied that greatly too much seed is used.

It is a common fault in this climate, not only with farmers, but with nearly all who plant and sow, to plant and sow too thickly. Look at our public and many private gardens as well, and it will be found that nearly double the number of plants are put in the ground that ought to be.

In a comparatively moist climate like that of Britain there is in ordinary seasons sufficient moisture in the soil to feed any number of plants that can find standing room upon it, with the due amount of exposure to air and light. But the case is very different in a dry climate such as ours, where the amount of moisture is limited. Each plant requires a very much larger space in which to seek its food, which must be in a liquid state, for however rich a soil may be in plant food, unless there is moisture to render it soluble it is quite useless so far as the plants are concerned. And the efforts of agriculturalists should therefore be directed in the first place to the deepening of the soil, so as to increase the area in which the roots can search for food, and, what is

hardly of weeds, so from having as their p so well at The time towards c seeding m time for whole of t the thin grossness quen'ly, it being v from that The pr able seas the land moist, an ated and is afforde ment, whi seed wou In the fi might be at wider easily an the atm be strong amount which to use of the search of crop wo able to period. Mr. S bushel which th some ye while in ted to bushels. Mr. I ten acre pecks of tained a bushels acre. Mr. mende a half barley tv el; oat bushels Mr. I Barnes, pecks of when so ing at t peck pe sowing. Prof. as the re ments, that w sown in apart a one bu. The Mechi whole vanced are ad seeding Weekly After to comp into ac at the require clover grown, man's s We the sta because from t reason, has pro is, prac crops take t from th the fer satisfac be thu the su definit the ma Clov strikin findin roots The p top is these

hardly of less consequence, to keep it free from weeds, so as to prevent the cultivated plants from having to compete against those that are, as their presence proves, so much at home and so well able to take the lions share of the food. The time at which the seed is sown goes far towards determining the rate per acre. This seeding must be performed early, so as to allow time for the plants to tiller and occupy the whole of the ground; otherwise, when sown late, the thinness of the plants is liable to induce grossness if the soil is at all rich, and consequently, to suffer more from the attack of rust, it being well known that thin crops suffer most from that evil.

The present being an unexceptionably favorable season in most of our agricultural districts, the land being in good condition, sufficiently moist, and the seeds of weeds having germinated and been killed, an excellent opportunity is afforded for trying, if only by way of experiment, whether a diminution in the quantity of seed would not be in every way advantageous. In the first place a saving of 5s. or 6s. an acre might be effected in seed, and, by being drilled at wider intervals, the land could be more easily and effectively cleaned and exposed to the atmosphere, the plants individually would be stronger, and thus able to extract a greater amount of carbon from the atmosphere, of which to deposit a portion in the soil for the use of the future crops and also to go deeper in search of mineral food, and, while the present crop would be increased, the land would be able to bear cropping for a lengthened period.

Mr. Smith sowed half a bushel per acre, from which the yield was for some years 34 bushels, while in 1859 it amounted to no less than 42 bushels.

Mr. Hallett sowed a ten acre field with 10 pecks of seed, and obtained a produce of 57 bushels of wheat per acre.

Mr. Morton recommends of wheat one and a half to two bushels; barley two to three bushels; oats three to four bushels per acre.

Mr. Hope, of Fenton Barnes, drills about seven pecks of wheat per acre when sown early, increasing at the rate of about a peck per month for later sowing.

Prof. Buckman gives, as the result of his experiments, the conclusion that wheat should be sown in drills 10 inches apart and at the rate of one bushel to the acre.

The celebrated Mr. Mechi and, indeed, the whole of the most advanced agriculturalists are advocates of thin seeding.—The Australian Weekly Times.

CLOVER.

After Indian corn there is no forage crop to compare with red clover, and if we take into account its effect on land, it should be at the head of the list, for, while Indian corn requires very rich land and ample manuring, clover is the most fertilizing crop that is grown, and may justly be called the poor man's manure.

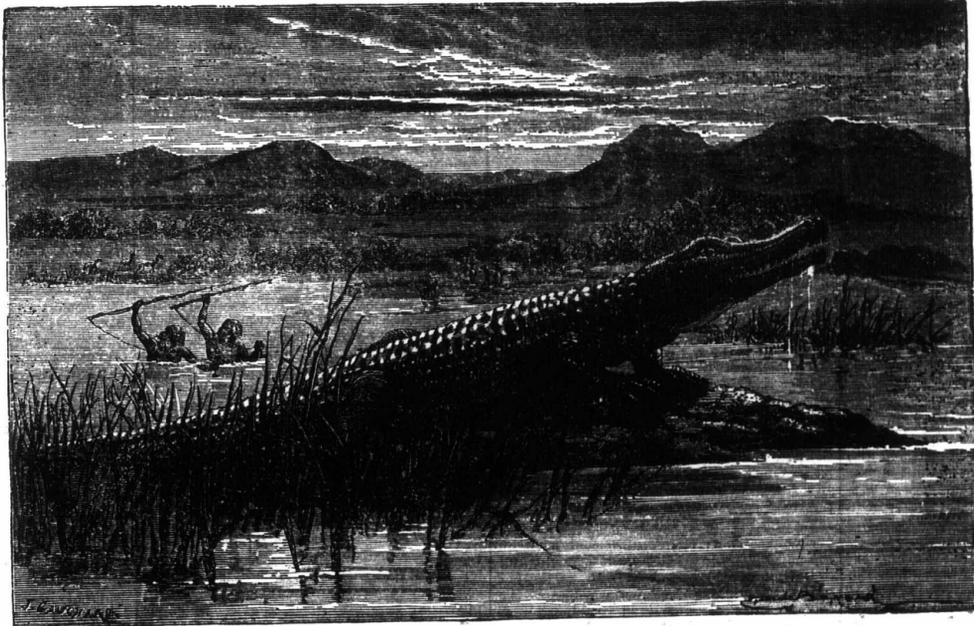
We constantly meet in agricultural writings the statement that clover benefits the land because it derives most of its constituents from the atmosphere. This is an absurd reason, because every plant that is grown has precisely the same peculiarity, and there is, practically, no difference among all our crops as to the proportions in which they take their constituents from the soil and from the atmosphere. The whole reason for the fertilizing effect of clover has never been satisfactorily set forth, and science seems to be thus far at fault in its investigations on the subject. Some things, however, are definitely known which help to account for the manurial value of this crop.

Clover is a very strong tap-rooted plant, striking its feeders deep into the earth, and finding nutriment where the more delicate roots of serial plants would be unable to go. The proportion which the roots bear to the top is large, and on the removal of the crop these are to be left to decompose, and add

their elements to the soil. Not only does the soil in this way receive a large amount of fertilizing matter taken from the atmosphere, or developed in the subsoil, but the very mechanical structure causes a fertile channel to be left, reaching into the lower soil, and easily traversed by the roots of succeeding plants, while the carbonaceous matter that remains after the decomposition of the clover root increases the porosity of the soil, and adds very much to its ability to retain moisture.

Lands that have been exhausted by long continued cropping, without manure, if they can be made to produce even a small crop of clover, may be, by its persistent growth, rapidly and cheaply restored to the highest fertility. Not only will the growth of clover restore the carbonaceous matter that repeated cultivation has burned out of the ground, but its vigorous and deeply penetrating roots extract valuable constituents from the stubborn sub-soil, and these disseminated through the entire root, remain, on its death and decay, easily available for the use of succeeding crops.—American Farmer's Advocate.

It is a remarkable fact that in Buffalo just now a ton of hay brings twice as much as a ton of corn. Abundance of corn can be had for \$15 per ton, while hay readily brings \$30 per ton.



THE CROCODILE.

The Crocodile.

Here is an animal that none of our Canadian herdsmen have yet been breeding. We doubt if there is yet any good sale for these kind of cattle, although they are very handy sometimes when a bad boy needs to be disposed of. We saw none of them at the Exhibition.

The crocodile was once worshipped by the Egyptians, and tame ones were kept about their houses and temples. They decorated them with precious stones and bracelets were put around their fore feet. They don't treat crocodiles so now. Doubtless these wild men that are after this fellow on the rock, will stir him up in an ugly manner with their spears, but probably you would rather be an onlooker at a safe distance than trying any such experiments.

SNOW THE POOR MAN'S MANURE.—It is an old and true saying that "snow is the poor man's manure." One reason why it is so beneficial is that it acts as a most excellent mulch. It contains no more ammonia than rain-water does, and were it not for the fact that it protects the soil against loss of heat and produces other benefits of mulching, it would have no more advantageous effect. The severity of the winters at the north is largely compensated for by the long duration of snow. [By the long continued covering of the hills by snow last winter and during the month of March, may be attributed the heavy crop of English hay yielded by New Brunswick the past summer.—

The Horse.

REMEDY FOR A SPRING KNEED HORSE.

We find the following recommended when this trouble is caused by a contraction of the muscles or sinews:—

Pare down the heels of his feet as low as possible, have him shod with a toe upon the shoe, and no corks. Use a penetrating liniment, which will cause the sinews to stretch.—Take half a pint of spirits of wine, 1 oz. bear's oil, 1 oz. neat's foot oil, 1 oz. spirits of camphor, 1 oz. oil of origanum, 1 oz. oil of sassafras, 1 oz. laudanum; mix it all well in a bottle; rub it in well with the hand. This is a very penetrating liniment, and will effect a cure.

INDIAN CORN AND HORSES.

As the horse is kept for his muscle, he must have food to supply muscle: but great muscular exertion requires more rapid respiration, and this respiration is sustained by the carbon of the food. Therefore, there must be a proper balance between the carbonaceous and nitrogenous elements of the food. We wish to impress upon the mind of the farmer, that the animal which is dependent upon its muscle for its value must have quite different treatment from the animal grown for flesh or milk or wool.

Chaff is better for old horses than hay, because they can chew and digest it better.

Hay or grass alone will not support a horse under hard work, because there is not sufficient nutritive body in either.

When a horse is worked hard its food should be chiefly hay, because oats supply more nourishment.

Oats should be bruised for an old horse, but not for a young one, because the former, through age and defective teeth, cannot chew them properly; the young horse can do so, and they are thus properly mixed with saliva and turned into nourishment.

Canada Horses.

Our neighbors of the Dominion are producing horses much sought after by street railroad and omnibus companies on our side of the line.—These horses are found to be more muscular, more supple of limb, capable of more endurance, stand pavements better, have sounder feet, and are serviceable years longer than Western horses fed so largely on Indian corn. The Canadian horse owes its muscular superiority to the clover, oats and peas upon which it is fed.—Live Stock Journal.

THE HOCK.

A writer in the Sportsman makes some practical remarks on these ills to which horse flesh is heir, that some of our readers may peruse with interest:—

The hock of a horse is a most complex and important joint, and whenever this part is affected, or shows any predisposition to even the mildest of the many disorders to which it is subject, it is never good policy on the part of turf writers to recommend such animals as being likely to win great races. The hock-joint consists of six bones, and these are so closely united as to appear but one. This, of course, allows of but little motion between the bones, yet this little is useful in preventing jar and concussion, and by having such numerous points of contact the joint is rendered stronger. Almost every bone has peculiar bands of fibres, stretching from one to the other in every direction. One of the strongest of these ligaments passes around the back part of the hock, and it is the inflammation of this, in one particular part, that is the cause of curb.—The "net-work," so to speak, of the fibres that pass over the inner side of the hock, is equally liable to sprain, and consequent inflammation, as the ligament which passes over the posterior part,

BLEEDING AT THE NOSE.

Dr. A. G. Morey, of Storm's Prairie, Neb., writes as follows:—

I noticed a question in a late issue, the answer to which does not suit me. The writer asks for a remedy for nose-bleeding. The remedy given is not always at hand. I will give you one that is simple and in almost every person's pocket. It is a piece of paper. Roll it up to the size of a pipe-stem, put it under the upper lip, crowd it up under the lip and gum. It will stop the worst case of bleeding in one minute. I will give you a perfect and permanent cure for this complaint: Take the root of the common nettle, chew it as you would tobacco; follow this up for two or three weeks and you are cured of the habit.

AMERICAN BEER TRADE WITH ENGLAND.

Mr. Bell, an extensive cattle dealer of Glasgow, during the past summer contracted with the proprietors of the Anchor Line to bring him twenty-four head of cattle in each trip of their thirty-five vessels. The cost of transportation is fourteen pounds sterling apiece for freight, insurance and food, in addition to which he sends out a steward with each ship; yet he says he clears from ten to fifteen pounds on each beast, and can at the same time sell better and more cheaply than those who have to depend on English cattle alone. The Anchor Line Company are now building four steamers expressly for this trade.

Garden, Orchard & Forest.

PROFITS IN SMALL FRUITS.

At the Pennsylvania Fruit Growers' Convention, Mr. A. S. Fuller spoke as follows:—

Competition is brisk, and this leads me to believe that there are but two classes of small fruit growers who can make the business very profitable. The first are those who have an abundance of capital with which, in a measure, to control unfavorable circumstances. If they only make a profit of a penny per basket, and sell enough, it will amount to considerable in the aggregate. Cultivators without a large capital having to come in competition would be ruined with prices which gave the extensive producer a small margin for profits.

The second class are those who have a home market, and raise their fruit without any considerable outlay for labor. A man who works in the field himself, and has a family to gather and market his fruit, will find small fruit culture quite profitable, inasmuch as he receives an immediate return for his labor; but should he attempt to extend his operations until a number of hired laborers have to be employed, he will very likely find the profits growing gradually less. It is just here that so many persons have made a most serious mistake in the culture of small fruits. At the beginning they have probably produced a few hundred quarts of fine fruit upon a small plot of land, and this being disposed of at a home market, they resolve to extend operations in the same direction, without taking into consideration the amount of capital necessary to purchase baskets and crates, as well as the extra amount of labor required in production. Even if these things are considered, the fruit grower is very liable to forget that there is sometimes a run of bad weather during the harvest season, also low prices and short crops.

Perhaps some may accuse me of drawing too strongly on the negative side of this question. I beg them to remember that for many years there has been a strong team on the other side. I do not wish to discourage any one from engaging in the culture of small fruits, but merely desire to put them on their guard against expecting too great results.—*Home Journal.*

PEACHES.

When many peaches are to be planted a good way is to put them in boxes, in alternate layers of earth and stones, and placing the boxes where the stones may be kept moist, and exposed to the extremes of the weather. The object in exposing them to the frost is that they may be cracked open, so that the meats can be easily removed in the spring. A few days before the time of planting arrives the stones should be overhauled, the meats removed from the open shells, and if any are not open they should be cracked. There are nut-crackers adapted to the business. The meats should be mixed with moist dirt a few days, and allowed to sprout before being sown in nursery rows, and then nearly every one will come.

FOREST TREE GROWING.

Scarcely a week has passed for the last five years but original articles have been seen in some of the agricultural papers of the country, strongly recommending the planting of extensive groves of trees for windbreaks, protection for stock and buildings, for fuel, for profit and for climatic influences. And the force and logic of the arguments and reasons of such writers as F. R. Elliott, of Ohio; Suel Foster, of Iowa; J. W. Pearson, of Nebraska; R. W. Furnas, of Kansas, and others, have had a powerful influence in inducing the planting of forest trees to a considerable extent. These and other writers have pointed to the pernicious results of the destruction of forests in old countries, and the benefits already resulting from newly planted forests.

While once Sardinia and Sicily were the great granaries of Italy, being wonderfully productive two thousand years ago, and were claimed as the most beautiful countries in the world, the wholesale destruction of their forests has reduced these countries to an almost barren waste.

Hungary has paid a similar penalty in the destruction of her forests. Persia, once extremely fertile, is now literally a desolation and its once joyous and proud people driven to despair.

In Egypt, where rain fell but seldom, no oftener than once in three or four years, but after thirty millions of trees were planted and grew prosperously, from thirty to forty days of rain fall each year.

In Salt Lake City, twenty-three years ago, when the writer was there, he was informed that that country was not adapted to peaches, but now since a great many forest trees have been planted, this same valley, where once peaches could not be grown, has now become the greatest peach producing district in the world.

ASPARAGUS.

Asparagus beds may be made in the fall, at which season there is more time than in spring, for preparing the soil properly. This fine vegetable delights in deep, rich soil, and in garden culture. The land is generally trenched to the depth of two or three feet, and enriched by the addition of abundance of well rotted manure. If the soil is stiff and clayey, the usual practice is to remove it altogether to the depth of two or three feet, and fill up the excavation with rich alluvial soil, leaf-mold, rotten turf, and well decomposed barn-yard manure. By making the beds and setting out the plants in the fall, the latter will make much stronger growth the ensuing year, than if set out in the spring.

Old beds should now be freed from weeds and have the asparagus tops removed, preparatory to the reception of a heavy coat of barn-yard manure, with which they should be covered for the winter. This will protect the roots and enrich the soil, and in the spring it will be so far decomposed that it can be dug into the bed with a garden fork. Asparagus grows naturally in salt marshes in various parts of Europe. In inland districts the application of a top-dressing of salt to the bed is very beneficial to the plants. If manure is not available, a heavy coating of clay from the alleys spread over the beds will be a protection to the roots in the winter. It should be raked off in spring, in order that the stools may not be too far removed from the influence of heat and air.—*Western Rural.*

COAL FOR UNHEALTHY PLANTS.

A correspondent of the *Revue Horticole* states that he brought a very fine rosbush, full of buds, and after anxiously awaiting their maturing, was greatly disappointed to find the flowers small and of a dull, faded color. At the suggestion of a friend he then tried the experiment of filling in the top of the pot, around the bush, to the depth of half an inch, with finely pulverized hard coal. In a few days he was astonished at seeing the roses assume a hue as brilliant and lively as he could desire. He tried the same experiment on a pot of petunias, and soon all the pale-colored ones became of a bright red or lilac, and the white ones were variegated with beautiful red stripes. Some of the lilac petunias became a fine dark blue. Other flowers experienced similar alterations; those of a yellow color remained insensible to the influence of the coal.

HOW TO KEEP WINTER APPLES.

The way that most of the farmers save their winter apples is to hold them up like potatoes, or pile them up in a cave or cellar. By this method you not only lose much valuable time, but lose very many apples; and what you do keep over winter are in a bad condition. Apples may be kept in barrels that are quite open; but the best and cheapest way is to keep them in crates and boxes, made in the following manner:—The ends or head pieces should be ten or twelve inches wide by fifteen to eighteen long. They can be sawed or split. Nail your boards on the bottom and sides, leaving places for ventilation. Have your boards all the same length—about three feet. When you gather your apples from the trees put them in those boxes (be careful not to bruise them) and lay the boxes on each other in your apple house. Two men will handle these boxes with ease. You can look your apples over in these boxes at any time with but little labor. When you are ready to ship, just nail a board over the top and you are ready. In this way you get your apples to market in good condition and handle them but once. Keep your house as cold as possible at all times without freezing.—*Vermont Farmer.*

Grapes are over an average in Nebraska, and Delaware, an average in West Virginia, below an average in all the other States.

TREE PLANTING.

Mr. C. S. Harrison, Manager of the May Flower Colony, Nebraska, makes some startling figures in reference to the present rate of the destruction of our great American forests. During the present summer he visited the pine forests to gather facts and figures with regard to the probable duration of the supply of timber, and finds the prospect alarming. Upon the present system he says the end is drawing nigh, and the supply will last only about twenty years, though the hard wood forests will last a little while longer. The calamity of the States would be terrible if the knell were sounded that we were to have no more pine, and yet there is no substitute; we must have pine.

Mr. Harrison thinks in two years the price of pine must go up, and then it will go higher and higher until the poor man cannot afford to buy it at all. He says we have come upon a crisis, and have delayed planting too long, and it is only just now that it is becoming a fact in our experience that we must plant. We have waited so long that the damage inflicted on our forests can only be remedied by the promptest action. He estimates that 300,000 acres of pine and 200,000 acres of hard wood are cut every year; and to restore the forest average of the country, at the present rate of consumption, will require an annual planting of 500,000 acres, and 2,400 trees to the acre, or 1,200,000,000 trees; an enormous work indeed, and it is a matter of the utmost necessity that we be as industrious in replenishing our forests as we have been in their destruction.

When we contemplate this probable, almost total extinction of our great forests, together with the fact that the great monopoly corporations are just now being wide awake, buying up all the vast coal fields of America, the condition becomes truly alarming.

That in ten years lumber will be double the present price, there seems but little doubt, and this, too, will come upon us too soon to provide a remedy. But trees must be planted by the hundred million, and nowhere in the world do these grow better than on our Western prairies; therefore let the West awake to this important branch of industry. It is a new field, not at all occupied, and offers to many hundred enterprising men a chance to do great good to themselves, to posterity and to the country.

In the first place, raise trees from seeds, as hundreds of millions will be wanted as soon as you can get them ready.

Our treeless Western plains ought to be turned into forests of useful timber, and indeed this must be done in order that the Western farmer may be prosperous in the next generation; and while we are cognizant of the fact that a considerable start has already been made in tree planting, yet we do not know that there has been anywhere any considerable number of acres planted to pines or other evergreens that would eventually be useful for lumber. There is, of course, no middle-aged person who would now make a plantation of evergreens for timber that would expect to reap any pecuniary profits from the sale of timber of their own plantings, but as soon as these acres of timber, growing upon a portion of the farm, are properly started the farm enhances in value from year to year, and will always sell for more than the adjoining farm that has no timber growing upon it. The time may come when, on account of the scarcity of timber, farms upon the Western prairies will be almost worthless. A few will say there is no danger of this, but there is danger; let us not go to sleep and feel secure. Already a farm upon which there is a grove planted, however small, sells for more than it would if there were no trees upon it. Then plant trees—it cannot be done to excess.

DAMAGED TIMBER.—Although the damage done to crops, buildings and fences by the 4th of July tornado in this part of the country was very great, yet, the greatest damage by far was that done to the timber. It is not an uncommon thing to find fine groves of timber of ten, fifteen or twenty acres, almost or entirely stripped clean of every tree on it of any size above six inches in diameter, and those of a lesser size which are left standing are so badly injured by the falling ones that they will decay. And what is worse still is that although the timber may be cleared away the land is left unfit for use for many years by reason of the huge upturned roots on every few rods. A hundred thousand dollars would not compensate for the loss of timber in this county alone.—*Fond du Lac Journal.*

DESTRUCTION OF CANKER WORMS.

The Essex, Mass., Agricultural Society offered a premium of \$100 for "a new, cheap and effectual remedy against the ravages of the Canker Worm." From the Report of the Committee we take the following extracts:—

"The protector used by Mr. Sawyer is simply a trough or gutter laid upon the ground around the tree and filled with coal tar from the gas works. The troughs used by Mr. Sawyer are made of two-by-three joists sawn from two-inch plank. A channel an inch or more deep and an inch and a half wide is grooved out and the stock is then sawn off in a mitre-box at suitable lengths for different sized trees, and the pieces nailed together, one side slightly, so that it can be easily removed when placed around the tree. A square box or trough is thus made which is laid level on the ground around the tree. The space between trough and tree trunk is filled with dirt, the trough itself filled with coal tar from the gas works, and the work is done.

"On plowed land it is easy to level up the earth around the tree, but on grass-ground it may be necessary to carry sand or dirt on which to place the trough. The troughs first used by Mr. Sawyer had a cover of boards to prevent the rain and leaves getting into the tar. But he finds the plain troughs just as effective at less than half the expense, although of course they require a little more care. He states that he made his troughs himself, and that they cost him from twelve to seventeen cents per tree. Of course they can be made from the cheapest, coarsest plank, and after they are laid down the tar will help to preserve them many years. The cost of coal-tar is said to be small.

"Mr. Sawyer states that he found it necessary to stir the tar but two or three times in the spring or fall, and that few troughs required refilling. At the time of holding the annual fair in Gloucester, he told us that by stirring the tar then in the troughs many of them would effectually bar the passage of the grub. These statements seem to show that the trees will require but little labor or expense for several years after the trough is put down. We have also made inquiry of other parties who have used these troughs, and the testimony is unanimous as to their effectiveness when properly used.

"The troughs used by Mr. Leach differ from those of Mr. Sawyer only in having a triangular channel, which Mr. Sawyer admits to be an improvement. Mr. Leach thinks his troughs can be furnished ready for the trees at twenty-five cents each, as orchards average. Of course the expense will largely depend on the quality of the lumber used.

"The application of tar or printers' ink to the trunk of the tree, with or without tarred paper, is probably the most common method of preventing the ascent of the grub. It is generally believed that ink is better than tar, because it requires less frequent application; still there is a wide difference in the estimates of its value by those who have used it.

"These methods of preventing the ravages of the canker worm are all that have been brought to the notice of the committee. Any of them properly used will doubtless prevent serious loss in the crop of apples, but the farmer desires to use that method which best combines economy and effectiveness. None of them will prove satisfactory without the utmost care in their application, for the grub is a most persistent and determined creature and only succumbs to impossibilities. But it is also true, that the more thoroughly the trees are protected the less the attention afterwards required.

"The first year that tar, ink or any substance which kills the grub is used, there is constant danger that they will appear in such numbers as to 'bridge over,' and thus enable some to cross on the dead bodies of their comrades. But after an orchard has been well protected, there is little danger that the grubs will next year go up in sufficient numbers to do this."

Let those who wish to make willow hedges procure large cuttings, none less than an inch in diameter, and fifteen inches in length. Plow a deep furrow on the line for your hedge; set your cuttings in the furrow four inches apart, and angling lengthwise of your row; drive them into the ground so that when you plow a furrow on each side they will be nearly covered, cultivate well for two years, the third spring cut off three feet from the ground, and two years thereafter cut off four and one-half feet high, and it will do to "turn out."—*Homestead.*

The advantage of... W. C. Fla... an essay up... meeting of t... city. We... tages and di... The advan... 1st.—Tha... heat and co... mainly by v... 2nd.—Th... tion of mois... local rainfa... 3rd.—Th... mechanical... wise bend... fruit. The sum... amount. I... tion of tree... take place... result not c... temperatur... aridity, of... more nake... in any deg... of value. On the c... shelter belt... 1st.—Th... their suste... velopment... 2nd.—T... proper ven... in an in... healthy de... ment on th... is necessar... grapes. M... growers al... proper ve... south row... north to p... winds. T... tain exten... The fir... be guarde... tween or... The secon... this:—Th... does at o... or the best... good wit... would su... 1st.—P... the west... will thus... and the n... chard or... Edwards... or more i... orchard, U... 2nd.—T... the north... clumps of... circulation... 3rd.—T... northwa... with a cl... cold air... them lik... 4th.—T... the lat... neighbor... mer beca... winds a... from the... PROCE... There... the most... sun. It... process... call atte... make a... should... of ten... without... it will... month a... lay it d... when y... ently d... half a... the sun... face wa... ready t... insuring... will gr... fruit, h... Stra... States... an aver...

ORCHARDS.
The advantages and disadvantages of Shelter Belts.

W. C. Flagg, of the *Prairie Farmer*, read an essay upon the above subject at a late meeting of the Champaign Horticultural Society. We copy his summary of the advantages and disadvantages of shelter:

The advantages of shelter belts are,
1st.—That they mitigate the extremes of heat and cold, both of which are brought mainly by western winds.
2nd.—That they check the rapid evaporation of moisture, and probably increase the local rainfall.
3rd.—That they protect the trees from the mechanical effect of winds that would otherwise bend them over and shake off the fruit.

The sum of these advantages is a large amount. It is probably that the deterioration of trees and fruits that may claim to take place as the country grows older, is the result not of a decrease of rainfall or mean temperature, but of the extremes of heat and aridity, of cold and drouth that come from a more naked surface, and anything that will in any degree restore the equilibrium must be of value.

On the other hand the disadvantages of shelter belts are,

1st.—They rob the nearer orchard trees of their sustenance and prevent their proper development.

2nd.—They prevent, to a certain extent, proper ventilation of the orchard, resulting in an increase of fungoid disease, and a healthy development of fruit. Even movement on the stem, our grape-growers declare, is necessary for the production of the finest grapes. Many of our Southern Illinois grape-growers also think it essential to provide for proper ventilation in their vineyards by widening the spaces between the north and south rows and having no protection on the north to prevent the free passage of the south winds. The same is no doubt true to a certain extent of the orchard fruits.

The first of these disadvantages can easily be guarded against by leaving wide spaces between orchard belts and the nearer trees.—The second is more difficult. It amounts to this:—That checking the free passage of air does at once good and harm, and we must, to the best of our ability, endeavor to get the good without the mischief. To do this we would suggest the following points:—

1st.—Plant shelter belts in this State on the west side of your orchards only. They will thus tend to break the force of the west and north-west winter winds. If the orchard or field is large it may be well, as Mr. Edwards, of Lamolite, suggests, to plant one or more north and south belts through the orchard, as has been done in the Industrial University experimental orchards.

2nd.—If the orchard is much exposed on the north it may answer to protect it with clumps of trees that will not entirely check circulation of air.

3rd.—If there be hollows running to the northward, these should each be planted with a clump to prevent the ascent of the cold air that would at times be driven up them like the ocean waters into a bay.

4th.—Leave the south and east sides open—the latter to be protected by your next neighbor's plantation, if at all, and the former because you wish to admit all south winds and perhaps some portion of those from the south-west.—*Horticulturalist.*

PROCESS OF DRYING FRUIT IN THE SUN.

There are many processes of drying fruits, the most common being on scaffolds in the sun. It is unnecessary here to describe the process—all are familiar with it—but we will call attention to a fact which none who would make a success of drying fruits in the sun, should overlook. It is that nine times out of ten, if fruit thus dried be packed away without the necessary precaution of scalding, it will be ruined with worms in less than one month after packing. We would therefore lay it down as a rule always to be followed, when your fruit, of whatever kind, is sufficiently dry, dip it in boiling water for at least half a minute, after which again expose it to the sun or place it in an oven until the surface water has been evaporated. It is then ready to pack or send to market. Besides insuring against danger from worms, scalding will greatly improve the quality of all dried fruit, however it may be dried.

Strawberries are over an average in nine States; in all the other States they are below an average.

U. S. FRUIT CROPS 1873.

The following, from the Report of the Department of Agricultural for July, corroborates very nearly a recent article of your own on a similar topic:—

In the northern sections of the country, the intense cold of last winter, and in the southern, late severe frosts and freezes in the spring, did immense injury to the fruit trees and grape vines, and, only in a less degree, to the strawberry vines. Vast numbers of peach trees and many apple trees were killed outright, (as will be seen from the subjoined extracts,) and very many more were seriously injured. The injury to apple trees was more serious and extensive than was apparent when the report for May and June was made up.

Many trees that leaved out and bloomed profusely have since died; and where apples appeared to be well set the complaint is general that they wither and drop off. Insects are doing more or less injury to the portions of the crop which are otherwise in fair condition. In Kansas an "apple tree blight" prevails somewhat extensively. It is described as closely resembling the "pear tree blight."

Apples are below average in condition in every State except Oregon, (where but few are produced).

Pears, the condition of which is not reported by figures, promise relatively better than apples and peaches.

Grapes.—The average condition of grapes in Nebraska is represented by 106; Delaware, 103; West Virginia, 100; in all the other States it is below 100; North Carolina, 60; Pennsylvania and Ohio, 62; Illinois, 63; California, 70; Indiana, 72. The remainder range between 77, (Tennessee,) and 98, (Oregon.)

Strawberries.—The average condition of strawberries was, in Nebraska, 127; Delaware, 125; Oregon, 113; Kansas, 106; Maryland and Alabama, 104; Mississippi, 101; Arkansas and Minnesota, 100. In the remaining States the range was from 61 in New Jersey to 96 in California.

BEST FENCE FOR A HEDGE AROUND AN ORCHARD.

Another correspondent enquires, regarding the best kind of fence for enclosing an orchard. Three years ago we set out a short hedge of the common thorn that grows wild in the fields. We ploughed a ridge, and on the top transplanted a number of thorn bushes about 18 inches apart. They grew very well, and the next spring we trimmed off the first year's shoots, but the plants have not grown as vigorously as we anticipated, and we are not sure that one common thorn will stand clipping, as the English hawthorn plant will, and make such impervious hedges as are everywhere seen in England. If it would however, it might check the depredations of boys, as they have a remarkable faculty of finding out where the best apples grow.

But for a screen from the winds we can recommend the setting out of the White Spruce. Every farmer knows the difference between the white and black spruce bush. The former is lighter in the color, a much more vigorous grower, and shoots out earlier in the spring. Both kinds generally infest our pastures, and require a good deal of vigilance in cutting them down, the best time to do which is when the ground is frozen, and before the snow falls. They should be set out six feet apart. Two or three rows can be set out four feet apart in the row, three trees in one row opposite the vacant spaces in the other. The proper time to transplant them is when the little bud just begins to swell, and loses the skinny capsule that protects it, which is the first week in June or earlier, according to the growth of the season.

A screen of white spruce will in 8 or 10 years form a first rate shelter to fruit trees from winds, or a pretty screen in front of barns or around barn yards.

CABBAGE WORMS.

Put ten cents worth of coppers into a sprinkling pot; put on water; let it stand till cold, and sprinkle the cabbage at night before the dew falls. This will do for 100 or 150 heads. Sprinkle the same as you would a floor to lay the dust. The dew at night will wash off the sprinkling water. Sprinkle the cabbage twice or three times a week.—Mr. Soudard raised a hundred in this way last year, and I have eaten some of his cabbage, which was nice.—*Country Gentleman.*

MOSS COVERED APPLE TREES.

Mossy trees in an orchard generally indicate too much moisture in the soil—that is, that the soil needs drainage and the trees require stimulating. Give the ground under the trees a good top-dressing of muck and ashes, drain the ground thoroughly, scrape off the moss from the trees with a hoe, and wash trunks and large branches with strong soapsuds.

But we should perhaps observe that while mossy trees generally indicate too much moisture, it is not always the case; for trees on sandy soils are often mossy; and soils are covered with the same species of moss.—Moss, therefore, often indicates poverty of soil, or uncongenial conditions in some way; it may be a want of moisture as well as too much. Stimulate the growth at any rate, as we have above suggested, whether the soil is dry or wet.—*Colonial Farmer.*

FUMIGATION FOR PLANTS.

Mr. J. C. Niven, of the Hull Botanical Garden, recommends, in the *London Garden*, tobacco fumigation for cleaning green flies from certain house plants infested by them. His plan is to lay the plant on its side in a wash-tub, throw over it a damp towel, or better, "a bit of glazed calico lining," and then, through an opening at the bottom, have "your husband" insert the end of a pipe, and through it let him blow tobacco smoke until the plant gets a good fumigation. The flies will be found at the bottom of the tub when the operation is finished. The plants should be perfectly dry when the operation is performed, but if a towel is used it should be freshly washed and wrung out before using, and be without holes. The pipe stem should reach to the bottom of the tub. As to the husband, if the owner of the plants hasn't got one, a substitute will answer—the point being to effect the fumigation thoroughly.

SALT FOR STRAWBERRIES.

D. Stewart, of Upper Alton, Ill., believe in salt. He says:—"I believe in it as a heavy dressing. I find on manuring the ground that I have applied salt to strawberries at the rate of fifteen and a half bushels to the acre. I did this early in the season to kill the beetles, and the leaves of the strawberries were not injured. The cut worms were doing great damage to my asparagus beds, eating into the crowns of the plants; and I applied salt at the rate of twenty bushel to the acre. I consider salt as a perfect remedy, against any injurious insect, as well as an excellent manure for the land."

PROFITS OF QUINCES.

An Ohioan, who has three-fourths of an acre of quince orchard, from which last year he sold 300 bushels of first-class fruit, spades the ground in spring, and scatters a peck of coal ashes around each tree, also a quart of salt, and another quart when the quinces are half-grown.

PROTECTION FROM INSECTS.—I am using a remedy for driving away insects and bugs that works to a charm, and if any of your readers have not tried it I advise them to waste no time with soot, ashes, &c., but ask their druggist for order for them a pound of carbolic acid, No. 5, which will cost 75 cents. If air-slaked lime is to be had, use a teaspoonful of acid to a quart of lime; mix well and dust over the plants. One application is frequently sufficient. The cabbage flea (Jumping Jack) threatened to destroy my plants of cabbage and ruta bagas, but one dose was sufficient to clear the garden of them. If the lime is not slaked, take one teaspoonful of acid to a pint of hot water, and slake the lime with the mixture.—*Cor. Cultivator.*

Most flowers commence to droop and wither after being kept in water twenty-four hours; a few can be revived by substituting fresh water, and a pinch of saltpeter in it will tend to keep them bright and fresh. But badly withered flowers can be made fresh by placing them in a cup of boiling hot water, deep enough to cover at least one third of the stems; by the time the water has cooled entirely, the flowers will have become bright and erect. Now cut off the ends of the stems about an inch, and you will be surprised at the reviving influence of this treatment. Thin-petaled, white and light colored flowers, however, will not become so fully restored as high-colored, thick-leaved blossoms.

ORCHARD TREES KILLED BY WORMS.

An Ohio correspondent of the *Germantown Telegraph* thus relates how his trees were killed by insects at the roots, and the remedy he applied:—

A neighbor of mine had a very thrifty orchard, and but few trees died until they had been planted about eight years, and commenced to bear. At this age they began to die, and to all appearances they were as thrifty as trees could be; but they kept dying, and in four years they were all dead. He never could ascertain the cause. The tree would be dead at the surface of the ground the roots all dead, or nearly so, and the body and top green, and would sometimes bloom and bear a crop of small apples. My neighbor told me there was no sign of any worms about the roots, and that the cause of the trees dying was a mystery.

I have noticed all over the country that more or less trees have died in young orchards. I have an orchard of forty acres, two-thirds apples. Some have been planted twelve years, and a few have died in the manner I stated above. On examining the root of the tree closely, a small, light-colored hard worm was found under the bark. I have also found more or less of these worms in the roots of nearly every tree that has died. In some trees I found over fifty, in others only two or three, and in a few cases none, but discovered where they had been. They are always found under the surface of the ground, between the bark and the wood. These worms are so small that it is sometimes difficult to discover them. In length they are from one-fourth to three-fourths of an inch long, and of the size of a fine cambric to a common sewing needle, and of a light color. The tree shows no sign of decay until it is ruined.

There is but one effectual remedy that I know of to protect the trees against the ravages of these worms. My experiments with trees have been very satisfactory. A part of my orchard I sprinkle every Spring with strong lye; I take an old broom and apply the lye to the body of the tree, and it cleans the tree from moss and destroys the eggs of insects, and enough lye will go to the roots to destroy worms. Besides the lye is a great nourishment to the tree. To a part of the trees I put three quarts of unleached ashes close to the trunks. This forms a lye which will destroy the worms. I have never had a tree die when treated in this way.

The past three years have been pretty favorable to the production of insects, and detrimental to the increase of birds; therefore the insects have overbalanced nature's scale in their favor. But we are to blame ourselves too a great extent for the insect force over that of the bird power. We have some pitiable farmers among us, who are so miserly that if they see a bird taking a few cherries they will pop it over; and if they see a red-headed woodpecker helping himself to their early apples, they will kill it, not considering for a moment that the bird has been working for them late and early the whole season, and now they are killed for their incessant labor.

THE BEST SOIL FOR FRUIT.

Much has been said and written in regard to the cultivation of fruits, and the adaptability of certain kinds of soils for certain kinds of fruit. For instance, that soil will bring good apples, and that good pears, &c. This idea contains a good deal of truth; but not all truth. For example, I find after an experience of eighteen years in fruit growing, that my greatest success is in putting the different varieties of apples and pears in certain localities where the greatest results can be obtained. I am forced to the conclusion that nearly all upland soil varies very greatly, from the fact that when I planted my grounds first, I supposed if any variety of apple or pear would do well anywhere on it, every variety would do equally well. Such is not the fact, and for want of a proper knowledge of adaptability of certain varieties to certain spots, I have been under the necessity to re-graft one half of my grounds. When I first planted the Buerre Clairgeau pear, I planted it on the strongest, or what I thought was the best pear soil I had. The trees were unthrifty, scarcely grow at all, and what few fruit they bore were wretchedly small, nasty specimens. I tried this variety in different places, all on strong soil—all were a failure. I had condemned the variety as worthless, and top grafted all; meantime I had previously grafted one tree over, standing on high thin soil, and to my

surprise, when it bore fruit it was of the largest and most perfectly developed—and the tree thrifty. I find the Beurre d'Anjou on strong soil is a rapid grower; on thin soil it will starve. I re-grafted one over that stood still on high thin soil with Beurre Clairgeau, and it was very thrifty. The Doyenne du Comice I find does far better on thin soil than on strong. The Golden Beurre of Bilboa is a very poor grower on thin soil, and rapid on strong. Had I left my orchard as I first planted it, one half would have been worthless as on these principles do the whole or greatest success of fruit growing depend—on putting varieties where the soil will produce a thrifty tree and good fruit. I have never seen any very perceptible benefit from leached or other ashes when applied to the pear; but all varieties of apples are greatly benefitted.—*The Gardener's Monthly.*

GRAPE CULTURE.

A correspondent, whose locality is some three miles above Washington, on the Potomac river, communicates the following to the Department of Agriculture. One thousand vines were planted in the spring of 1866—one half Concord, and the balance other sorts:—

"I procured first class vines, and planted them with great care, as follows:—Selected ground sloping to the southeast and east; plowed it from eight to ten inches deep, harrowed it fine, and planted in rows eight feet apart both ways; set an eight-foot stake at each plant, and mixed with the soil, about the roots, one quart of ground bone and a shovelful of old well decomposed stable manure; pruned all the roots, also cut the top or vine back to three or four buds, and when the buds had grown from one to two inches, rubbed off all but one, the strongest; trained that to the stake by tying, and pinched off at second leaf all lateral shoots, thus concentrating the growth in the one cane; gave them clean cultivation.

"The next February, when there was no frost in the wood, I cut it back to three or four buds of that year's growth, and let only two buds grow; trained and managed these two canes the same as the one the year before. During the following February I cut the two canes back to three and a-half feet long, removed the stakes, and built a trellis over each row, in the following manner:—I set eight-foot cedar posts half way between each vine, commencing with one set four feet from each end of the rows, and nailed to these posts white pine strips full one inch thick by four inches wide, the first one foot above the ground, and the second four feet above that from lower edge to upper edge; then nailed to these strips good white pine laths, nine inches apart. I then tied the canes, on the two-arm system, to the lower bar; trained and tied the shoots from these canes to the trellis.

"Each shoot bore this year from three to four bunches of grapes; pinched each shoot off at from three to four leaves above the last bunch of grapes, and as it grew again, pinched it off at second leaf, and so on to the top of the trellis. When the clusters ripened, I was well repaid by the beautiful sight they presented. Both bunches and grapes were very large and perfectly formed. Some of the vines yielded fifteen pounds each, and as beautiful and perfect as those grown under glass. The Concord surpassed all other varieties in all the desirable qualities.

"The soil and sub-soil prove to be perfectly adapted to the growth of the grape, being composed of about equal parts of sand, loam and clay, and containing considerable quantities of mica, with a sub-soil of rotten rock, into which the grape roots penetrate several feet. It is also just porous enough to absorb the rains, consequently no draining is required."—*Horticulturist.*

PROTECTING SHRUBS AND VINES.

We find in an English magazine the following remarks concerning the protection of such shrubs and vines as are injured by the extreme rigors of the winter. Some of our readers may be glad to profit by them, though to many the methods advised may be already quite familiar. We might add to what our English friend suggests, the fact that coarse evergreen boughs, stuck in the ground around the more tender and valuable evergreens, will guard them against their most formidable enemies, the cold, sharp winds, and the bright morning sun shining upon the frosted foliage:—"There are few good gardens which do not

contain small shrubs that require a slight winter protection. Rhododendrons, Roses, and a few of the more delicate evergreens are the plants generally protected. The usual method of doing this is to tie them up with long, straight straw, drawing the branches in close together, forming a conical bundle that sheds rain or snow. In cities and their suburbs one can see thousands of plants done up in this kind of 'strait jacket' every winter; and I have known a good many to come out in the spring as dry as pipe-stems, and of course dead. Such straw jackets may answer very well for deciduous shrubs, but the leaves of evergreens require moisture even in winter; and a far better plan of protection is to place several stakes about the plants and put straw or hay in loosely about the branches and stem. The stakes may be set leaning in towards the stem, forming an open, loose cone that admits rain, but does not retain a large quantity of snow. All that is required for such plants is a slight shading and something to ward off the cold and drying wind; but there is no use attempting to prevent freezing. All tender deciduous shrubs I protect by laying them down and covering with soil; and evergreens by surrounding with straw or hay, held in place by stakes or loose bands.

"No class of plants are more easily protected in winter than climbers, and yet few persons seem to know how to do it. I have often seen large plants of Clematis and Honeysuckle inclosed in a straw or bastmat jacket, from the ground up to the topmost shoot, requiring an hour of time to each plant, when five minutes would be sufficient for giving a much better protection. The more tender sorts, as some of the choice varieties of the Clematis, may be coiled about the stakes close to the ground, then covered with earth or a little coarse manure or matting. I have protected scores of half-hardy climbers in this manner, and never lost a plant from the effects of cold. The half-hardy Clematises in particular are greatly benefited by this kind of protection, and their buds remain plump and healthy, and they bloom much more freely in consequence."—*Flower Garden.*

Agents Wanted.

We want a few FIRST-CLASS agents. To such men we will guarantee a good salary and steady work. We have had one agent working for us four years on salary. Now is the time. If you want only to work for us in the winter let us know, and we will make arrangements with you for that time. Send your name, previous business, references, &c., and if they are satisfactory and your canvassing ability good, you may be sure of a good berth. Address Agents' Department, FARMER'S ADVOCATE, London, Ont.

Hedges for Canada.

PRIZE OFFERED.

We will give a prize for the best article that is sent into our office on the subject of hedges suitable for Canada, and the best mode of cultivation; the article not to exceed one and a half columns, and to be in this office by the 20th of November.

To the Gentlemen in Canada who think Agriculture of more importance than Politics, or to those that wish Agricultural interests and influence to supercede such questions as "Pacific Scandals" and Agricultural scanduls, or timber and electioneering scanduls.

We wish to receive the services of the most independent and the best informed gentlemen to take charge of the different departments, namely:—Stock, Seed, Veterinary, the Dairy, Horticulture, Implement and general Agricultural management. We are now prepared to offer a better remuneration than ever to gentlemen engaging as regular correspondents, or to editors in the different departments. It is our intention to make this paper second to none in Ontario or in value to any agricultural paper in the Dominion. We have now the largest circulation in the British Colonies. We are on friendly terms with all American papers in our exchanges or have done business with them.



POULTRY YARD

CATARRH IN FOWLS.

A writer in *Land and Water* attributes catarrh or roup to damp quarters, or frequently to insufficient feeding.

Breeding in-and-in also occasions it sometimes, because such stock becomes physically weak.

Most forms of the disease will yield at the outset to good food and better care. Bread crusts soaked in rich ale are recommended, but we suppose a spiced and varied diet of anything which fowls relish will usually end in aggravated and dangerous symptoms. When the discharges become thick and clotted, the disease is certainly contagious. It is communicable through the water vessel, or from scratching over the same food. As to treatment in the advanced stages of the disease, it says:

It is only with birds of value that attempts at cure should be made, which should be to purge out with a dose of castor oil first. Bathe the head and nostrils with a warm, weak solution of carbonic acid, keeping it from the bird's eyes. When the matter is free from the nostrils, slightly syringe (with a small ear syringe) some of the solution of the same. Dry well the feathers about the head and neck. Pills of the following parts should always be at hand, and one night and morning administered while the birds are ill: gr. oz. of camphor, gr. oz. of valerian, gr. oz. of cayenne pepper, gr. oz. of lobelia seed powder, gr. oz. of gum myrrh; make into forty-eight pills.—*Farmers' Union.*

HOW TO MANAGE POULTRY.

I am one of many who not only believe, but know from experience, that there is no stock kept by the farmer that will pay so large a return, for money expended, as a well-managed poultry yard. As we cannot compete with our western farmers in the production of pork, with grain at ten cents per bushel, let us devote some attention to poultry, that will pay us five hundred per cent more than pork; and as to manure, will produce for each bushel of food a much more valuable quality of manure. Small potatoes, beets, pumpkins, cabbages—in fact any crop usually fed to swine, can be profitably dealt to the fowls.

Now comes the question, how shall it be done? Without theorizing, I will give my method of keeping. Select 200 young fowls—Nov. 1st, in laying condition; place them in separate coops, from 12 to 15 in each; at night put one bushel of small potatoes, beets, or pumpkins in your boiler, which should be convenient to the coops, adding one quart of onions; boil fifteen minutes; then add four quarts of corn meal; after well mixing, cover the mess, and in the morning your fowls will enjoy a warm breakfast at a trifling expense. At noon feed oats, and at night corn, taking care that they are supplied with clean water and plenty of shells. Silt the mess occasionally, and once a week a little fresh beef is very beneficial.

A flock of 200 well-fed fowls can be kept at an expense of 75 to 80 cents per day. My winter eggs sell at the door at 40 to 50 cents per doz., therefore the price of two dozen eggs feeds my flock; and when I collect from eight to ten dozen per day, we can easily figure the profits. The manure fully compensates for the cost of feeding, &c.

It is as necessary for the farmer to have a warm room to start his early chicks in, as a hot-bed is for his early vegetables. Now is the time to heat this room. Sit every hen you can get, so that March 1st will find you with 200 or 300 chickens; the young cocks will bring \$1

each in June. Here comes in your profit, as the same cocks would not command higher prices if kept all summer for Thanksgiving, and your pullets will commence laying early in the fall, taking the place of the 200 hens, which will be found fat and ready for Thanksgiving market.

Having experimented with nearly every known breed, I unhesitatingly pronounce the Light Brahmas and the Partridge Cochins, as egg-producers and market fowls, far superior to all others.—*J. S. Ives, in Rural New Yorker.*

MEAT FOR FOWLS.

Adult fowls when moulting, and young ones when feathering on, need meat with their daily food. I am well satisfied, from my own experience, that Brahmas and other large breeds will do much better, and make far stronger and healthier fowls if so soon as they will eat it, a little cooked meat, chopped fine, be fed to them every day. Those who have never tried it will be surprised to see at how early an age and with what eagerness the chicks will eat the meat. It should be cooked and cut up fine, so they will have no difficulty in swallowing it. This season I have some of the finest Brahmas I ever raised. I fed them meat almost every day, from the time they were well feathered. If they had been on a grass run where they could have gathered insects, they would not have needed meat so much; but I think, under any circumstances, meat would have been beneficial. My experience has also taught me that it pays well to feed meat to hens that are laying, to keep them at it, and to those that are not laying to induce them to lay.

I am very confident that the fowls closely confined on small runs are greatly benefitted by meat. Without it they are very apt to pluck off and eat their feathers, till they present anything but a fine appearance. Not long since I saw a pen of what might have been fine looking fowls if they had not plucked off each other's feathers till some of them were half naked. I asked the owner if he fed his fowls meat. A little meat fed daily to those fowls would have caused them to present a much better appearance.—*Poultry Record.*

PRESERVATIVE QUALITIES OF EGGS.

The eggs of the improved breeds keep better than those of common fowls. The keeping qualities depend upon a fine compact shell and thick living membrane. The eggs of common fowls are coarse and porous, and admit air too rapidly. The eggs of Guinea fowls keep better than hen's eggs. The color of the yolk also indicates the keeping qualities of eggs. An egg with a pale-colored yolk can be kept fresh longer than one with a rich orange-colored yolk. This rule applies to eggs when preserved in salt or lime. "Fat eggs," as the Germans term them, laid when insect food is abundant, cannot be preserved with any certainty. The albumen of eggs preserved in lime or salt deteriorates and is unfit for many purposes of the confectioner.

DYSENTERY IN CHICKENS.

Simple dysentery can be checked by giving them pulverized chalk mixed with a little boiled rice and milk; or mix alum with their drinking water, so that you can by tasting just perceive its presence in the water, and let the food be entirely dry for a day or two. The disease is caused in the first instance generally by feeding them with cold and too wet food.

LIME FOR FOWLS.

Domestic fowls need more lime than wild fowls because they lay more eggs. The wild fowl lays a "sitting" and then incubates, while the domestic lays on indefinitely. Crushed raw bones are among the very best articles for supplying lime. The pieces of bones found in patent fertilizer preparations cannot be recommended as healthful.—*Poultry World.*



We engaged an artist to engrave a few of the implements that were at the recent Exhibition, and which appeared to be improvements on old machines. The above we consider one. We are now preparing others; also, engravings of stock, &c., and they will appear in future numbers. This sawing machine appears to possess many advantages over the old ones, but we hope a public trial will take place to test the merits of each. We will give \$5 towards such a trial. Some of the manufacturers that consider their machines the best might make a donation, and a sawing machine trial would soon be arranged for. At the present time all consider their own the best. The above machine is manufactured by L. D. Sawyer & Co., of Hamilton, from whom particulars may be obtained. It is put out as a champion. It would be well for intending purchasers to send for circulars.



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MINNIE MAY'S DEPARTMENT.

I am very much pleased to have so many correspondents to aid me as I have this month. Every wife, and, I may almost say, every girl, has some peculiarity in which they excel. Some understand the cooking of meat, others the cooking of vegetables, others pastry or preserves, others clothing, others fancy work, &c. Now, you see how much good it will do all of us to have an interchange of ideas. We will have a Reciprocity Treaty—you will tell me what you know and I will try and help you in what you don't know. I am satisfied that by your help we will make this one of the most valuable and interesting columns in the ADVOCATE. Thanking you all for your kind letters,

I am your friend,
MINNIE MAY.

PARIS, Sept., 27, 1873.

DEAR MINNIE MAY,—Tell Maggie Knowlton that I have been trying to find a receipt for grease spots, but as yet have not been successful. When I do I will let her know. In the meantime the best thing I can furnish her with is care. For my own part I am not much troubled with them. For her benefit and others who think well to try it, I send you a receipt for

Starch Polish.

White wax 1 oz. spermaceti 2 oz. melted together with a gentle heat. Prepare your starch in the usual way. Drop in a piece of the preparation about the size of a pea, say for a dozen articles more or less. I have not time to write my opinion of John K. this time, but must reserve it for another letter; but I cannot refrain from saying that "Obey" shows itself in a wonderfully capricious manner.

Your friend,
LIZZIE ELKINGTON.

Ingersoll, Oct. 13, 1873.

DEAR MINNIE MAY,—I would like to be admitted into your columns, and I will do my share in filling them up. Here are two very good receipts

For Taking Out Grease Spots.

Take an ounce of ammonia and put it in a pail of clean water. Put the cloth in and let it soak five minutes, and then wash it in soap-suds and rinse. Iron it when damp. Another receipt is:—Take magnita and sprinkle it on the cloth and put a piece of brown paper on it. Then put a warm iron on the paper, and let it stand awhile.

I would refer John K. to 1 Peter chap. 3, also Colossians iii., 19-20. The Royal House is ruled by the Bible.

HATTIE HAVILAND.

Preserving Autumn Leaves.

A new way of preserving autumn leaves is given as follows:—Iron them fresh with a warm (not hot) iron on which some spermaceti has been lightly rubbed. This method preserves perfectly their lovely tints, and gives a waxy gloss which no other one secures. The process is very rapid and very agreeable, and no lady who has ever tried the tedious and uncertain experiment of pressing will ever again resort to it after once trying this new and better way.

Mosa, Oct. 15, 1873.

DEAR MINNIE MAY,—I am much pleased with your column, and wish to be admitted as one of your helpers. Here is a receipt for

Steamed Indian Pudding.

Take one teacup of sweet milk, half a teacup of buttermilk, half a teacup of molasses, two teacups of Indian meal, one of currants, one tablespoonful of saleratus and a little salt. Put it in a basin. Set in a steamer over boiling water for two hours. Serve with a sauce made of butter and sugar or sweetened cream.

I remain your appreciative friend,
MARY JACKSON.

Willowdale, Oct. 13, 1873.

DEAR MINNIE,—I thank you for inserting my letter in your column last month. I had not told James I was going to write to you, so, when he was looking over the ADVOCATE and saw my letter, he exclaimed, "Why, Eva, so you've been getting into the paper, hey? Well, you are a good wife, and I am so proud of you that I feel satisfied you will do me credit anywhere." James is a real good husband and takes an interest in everything that I do, and he says that since you have admitted me into your column he will get up a good club for the ADVOCATE. This is the way

To Cook Corned Beef.

Don't boil it, for corned beef should never be boiled. It should only simmer, being placed on a part of the stove where it may simmer uninterruptedly from four to six hours, according to the size of the piece. Let the meat remain in the liquid until it is cold, if it is to be served cold, or, if you want the meat tender, let it remain in the liquid until next day, and then bring it to the boiling point just before serving.

EVA J. ALLEN.

Effect of sunlight on flour.

It is maintained that the inferior quality of certain kinds of wheat and rye flour is frequently due to the action of sunlight on the flour. Even when in bags or barrels the gluten experiences a change similar to that occasioned by the heating of the mill. The tendency thus imparted to it to become lumpy and to form dough without toughness is similar to that of flour from moist grain or of flour when it is too fresh or made from grain ground too early or when adulterated with cheaper barley meal. Such flour can be improved by keeping for some weeks.

It has been discovered by the eminent botanist, Mr. Pynvert, that the *Lilium curatum*, besides being a beautiful plant, is a grand specific against house flies, and that a single specimen of it in an apartment will keep it clear of those troublesome insects.

Annie Long last month asked me to give her some idea about making up fancy notions.

Toilet Tidy.

Take prepared cardboard about a quarter of a yard square, shaped as in Figure A, worked in Berlin work, with a border formed of crosses and a neat pattern in the centre. A strip of perforated cardboard about half a yard long and half a quarter wide is patched to match the back. Figure B is worked to match the back of Figure A. Both pieces are bound with scarlet ribbon. Then take a piece of card-board a quarter of a yard long and half a quarter wide, round off two of the corners, as in Figure C, and bind all round with narrow scarlet ribbon. Sew the strip of cardboard (Figure B.) to the rounded part of Figure C., and sew the two ends to Figure A. at G. & H. Ornament with scarlet bows. Hang at the side of the toilette on the wall.

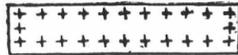


Figure A.

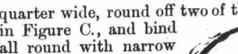


Figure B.

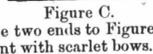


Figure C.

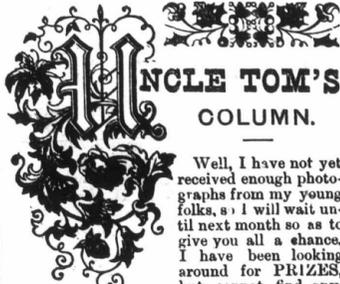


Figure D.

This is how it will look. The toilet tidy may be made any size or shape, and may be used by invalids if hung at the back of the bed. It is also pretty for parlor use, and is handy for holding odds and ends. Figure E shows the pattern of the star above mentioned.

I am having a number of sketches made of various nick-nacks such as the above, also of decorations and drapery for household furniture and various other ideas which I know will interest all of you, and will help in beautifying your homes. They will be printed in future numbers.

MINNIE MAY.



UNCLE TOM'S COLUMN.

Well, I have not yet received enough photographs from my young folks, so I will wait until next month so as to give you all a chance. I have been looking around for PRIZES, but cannot find anything so nice as the chronos, so I offer one of Vick's beautiful chronos to the boy or girl who sends me the best lot of indoor games before the 20th of this month. Winter is coming on with its fine long evenings, and all of us youngsters will be gazing around the fire or fun and frolic. I for one mean to enjoy myself, so I want each of you to tell me the best games you know of. You have all played "Consequences," I have no doubt, and "Post," and "Puss in the Corner." Well, these are what I mean by indoor games. Next month I will offer a prize for the best collection of FORGETTERS for such games as require them, so be collecting.

My niece Lillie Gaskin, of Olinda, asks:—138.—What is larger for being cut at both ends? Ingersoll, Oct. 13th, 1873.

Dear Uncle Tom,—I suppose you think I have forgotten you, but such is not the case. I was very sick last month so that I could not attend to the puzzles, but I shall try this month. I am in favor of Hattie R.'s plan, and shall send my photograph as soon as I get it taken, which I think will be next week.

Good bye, dear uncle. I am your affectionate niece,
HATTIE HAVILAND.

I am very sorry to hear that you have been sick, Hattie, and will forgive you for not writing last month.

Frank Smoke, of Paris, wants to know if *butte* is not of the feminine gender, as his teacher says it is neuter. Frank can tell his teacher that it generally belongs to the feminine gender.

William E. Anderson, Rednersville, sends some very good puzzles:—139.—What trade would you recommend a short man to adopt?—140.—Why is a present of coal sure to be received thankfully?—141.—When may people said to be half witted?

Thanks to Lizzie Elkington for a very nice letter and her photograph. We will be able to tell next month if we will have enough to get up the picture. I have handed her other letter to Minnie May.

Jessie Philip, Dundonald P. O., sends answers to puzzles. Thomas Freethy, Rob Roy, asks:—142.—Why is a newly hatched chicken like a cow's tail?

Jacob M. Sherk has been some way overlooked, and hauls me over the coals for it. He is not very mad, however, for he sends in answers to October puzzles. If he will send in some good games in competition for the prize this month he will not be forgotten. I have handed his other letter to Minnie May.

Another bright boy, one of my nephews, hearing his father say that a man ought to stick to his business, rubbed some tar on the handles of the plough, and when his father took hold of them he did stick to his business. His father rewarded him for his smartness by taking him on a whaling expedition.

143.—An act well done, to land a claim, Backward or forward spelt the same; The essence of sweet flowers I in me, Forward or backward still the same; The world I shun, its joys disclaim, Backward or forward 'tis the same; A woman, yet no parent's claim, Forward or backward spelt the same; An ancient instrument of pain, Backward and forward still the same; A foreign kingdom next I name, Forward and backward spelt the same; The even surface like a plain, Backward and forward still the same. Now, these initials take and place, And you'll an Irish county trace, ANSON ADAMSON.

144.—I 8 0 2 D A Y. JOSEPH RAY.

145.—I am composed of 12 letters: My 12, 3, 10 is a girl's name, My 1, 2, 4 is something used in writing, My 7, 11, 1 is a part of the face, My 5, 9, 7, 8, 2 is a kind of medicine, My 2, 6, 2, 5 are parts of the face. My whole is one of the middle States. W. DICKIE.

My nephew, Willie A. Rutherford, is always on hand to keep on my work. He sends his photograph to go into our big picture, for which I thank him as I want all my steady-working nephews and nieces in it. Willie says he is going to work for the prize this time, and he looks like a boy that had lots of fun and games in him.

How is it that I have not had a letter from Louisa Haviland for some time. Hattie is a capital girl and writes often, but it looks as if Louisa wanted to drop my acquaintance. Now I want her to try for the prize this month, and I would like to have her in the picture.

146.—Why do you always take off the left boot last? AGGIE BENSON.

Francis Nelson asks:—147.—What has two ends and a middle, and the middle goes first? The following is a very good puzzle, and will require lots of study:

148.—3 farmers, A, B and C, went to market to sell eggs. A had 10 eggs, B 30, C 50. They each sold their stock at the same price per egg, and after all were sold, they found that each had the same amount of money. How was that? J. WALLIS.

THE PERFORMING SHADOWS.

Cut same figure as the witch below out of a piece of heavy card; then take two threads and tie them in back and front, as shown below.

FIG. 1.



Hang up sheet between your figure and the audience. The figure will hang just behind the sheet, and two or more of you take lights in your hands and go behind the figure. Have no light where the audience is. Each light properly held throws a distinct shadow upon the curtain, and several figures appear to be moving upon it.

FIG. 2.



Emma L. Hanes, of Morrisburg, is not doing as she promised. What about the long letters I was to receive from her? Will somebody find out what is the trouble?

149.—My first is in fish that live in the lakes, My second is in quails that live in the brakes; My third is in moles that live in the ground, My fourth is in wolves that live all around; My fifth is in mermaids that live in the sea, My sixth is in wonder what all this can be, My whole is a metal as you can see.

KATIE R.

How a London girl got twelve commercial travellers into eleven bed-rooms, and yet gave each one a bed-room:—

"Now," said she, "if two of you gentlemen will go into No. 1 bedroom and wait for a few minutes, I'll find a spare room for one of you as soon as I have shown the others to their rooms." Having thus bestowed two gentlemen in No. 1, she put the third in No. 2, the fourth in No. 3, the fifth in No. 4, the sixth in No. 5, the seventh in No. 6, the eighth in No. 7, the ninth in No. 8, the tenth in No. 9, the eleventh in No. 10. She then came back to No. 1, where you will remember she had left the twelfth gentleman along with the first, and said: "I've now accommodated all the rest and have still a room to spare, so if you will please to step into No. 11, you will find it empty."

Of course there is a hole in the sauceman somewhere, but it is for you to determine exactly where the fallacy is.

Now, boys and girls, here is some fun for you.

Correspondence.

Montreal, Sept. 21st, 1873.

DEAR ADVOCATE,—

As I like to see the ADVOCATE, and admire its independent course, I will attempt to respond to your appeal that you so often make, that is, to write for the paper. I have never written for the press before, so you can alter, correct or reject as seems best to you. Should you make use of this I may write again.

The Provincial Exhibition held in this city closed last week, and as it is the first one I have ever seen in this part of the Dominion, I must say that I was surprised to see such a large concourse of people. They call this a good exhibition in this part of Canada, but there is no comparison between it and the exhibition held in your part of the country, the only things of value, in my estimation, being the Durhams, sheep, hogs and implements, and these are nowhere to be compared to those in your western exhibitions.

The Ayrshires were more numerous here and appeared much better than yours in the west.

There were some good horses shown, particularly in the blooded class; other classes were not equal to yours.

I think in vegetables, fruit, flowers, and in spring grain this exhibition would quite equal any I have seen in the west.

There is one great complaint made here by the farmers who depend on the soil for existence, that is, that the prizes are not intended for them; that it is of no use for any farmer to go to the expense of bringing the best sheep that can be raised on a farm-yard to compete with the stall-fed, pampered and imported animals; therefore but few sheep and cattle are to be seen, except those owned by some wealthy merchant or stock speculator.

The farmers here say that they want stock exhibitions at which farmers can compete; they say the exhibitions are not to show what farmers can do, but what money can do. The longest purse can purchase and show the best stock, and the prizes are held up as emblems to show Americans, and in fact they say the stock is for them, as Canadians cannot purchase these pampered animals. Many of them are unfit for breeding after being fed for the exhibition, therefore if they have good animals it would only spoil them for breeding to attempt to carry off the prizes.

I really think the Montreal girls are lazy, indolent, shiftless or careless. The display in their department was not half as good as it ought to have been. The bouquets of flowers were really very fine, but on enquiry we learnt that the gentlemen had even more to do with them than the ladies. Some of them are pretty enough themselves, but the old motto is: "handsome is that handsome does." Let us see their handywork in greater profusion in future.

E. HAIGH.

MR. EDITOR,—

At present this neighborhood is being canvassed for the purpose of ascertaining the mind of the farmers in regard to supplying a cheese factory with milk. Various opinions prevail respecting it. A large majority are opposed to the movement, thinking that it will not pay them to sell milk at the price offered, viz:—8 cts. per 10 pounds delivered at the factory; neither are they (that is, the majority) willing to form a committee of management and pay for the manufacturing of the milk at the rate of 2 cts. for every pound of cheese made. In fact, they want to see it thoroughly tested before they will consent to support it to any great extent. But, while the majority are opposed to what they consider a novelty, there are a few of the enterprising class of the community who stand ready to send all the milk that they can to the factory next season, which at best can only be a very limited supply on so short a notice, as our land is principally under tillage for the raising of wheat, that being our staple cereal.

Now, I would like that you or some of your numerous correspondents would enlighten us a little by giving some facts and figures bearing on the subject, and how farmers support cheese factories in good wheat raising districts,—in a word, will it pay the farmer to make the change from producing wheat to producing milk. From my knowledge of the interest you have always manifested in every movement that was for the welfare of the farmers, I am induced to send you this correspondence. If, after reading it, you consign it to the waste basket all right, for, if you give the desired information, it will be thankfully received.

MINORITY.

Craigvale, Oct. 17th, 1873.

If "Minority" will read the address of Mr. Raymer on dairying in connection with farming he will find the information he desires.—Ed.

PATRICK REGAN'S HISTORY OF THE GOVERNMENT FARM.

Toronto, October the 17th, 1873.

MISTHER EDITOR,—Here is the thrue and reliable history of the Agricultural College an' Test Farm, an' if its plaisin' to you, print it.

You've been struttin' around wid de Government Farm a draggin' in the mud shoutin' "Who'll thread on the tail av me coat." By jabers I will, yer honor. I'll thread on the tail av your coat. I know all about it, an' I'll show to the country what tearin' success we're making av it. We're learnin' the country how to do harrowin', and log rollin' and agricultooral affairs generally.

Long ago I remember radeing about you startin' an idee of a Agricultural Test Farm. You slashed down the bush thin wid your ADVOCATE, you piled up the logs and brush, an' wid your spaches through the country, you ploughed it up.

Well, ould Clarke, the pracher that taches farmin, finds out what you're after, and sez he to Carling, who is a big man, sez he, "Honored sir, there's a fellow been a squattin' on your land, and hes got a splendid piece all ready, and he'll make capital out of it; and, honored sir," sez he, "that farm belongs to the country," sez he, "and, honored sir," sez he, "of you'll take possession and drive off that intruder, I'll sow the piece for you for a consideration," sez he, "an', honored sir," sez he, "I'll sow it scientific," sez he, "for I've been Editor av an agricultooral production."

Well, Carling he goes right in for it, and he gets a lot av Tory seed, dirty at that, and full av wild oats, and John's son had filled it with chess, for he always runs to chess does John's son. Well, he sows this seed right over your ploughed field, an' he harrows it wid Professor Gritts reports—to keep the hungry crows av Gritts from pickin' out the seed, but he made a great mistake—he didn't rowl it.

The Christie smoother wud hev been just the thing to make it all right. Av course it takes money to make the Christie smoother roller to go over the ground, but it raly makes things look smooth and oily, and it ain't asy for the wind to take hould an' tear it up.

Well, it looked all right for the thunderin' thieves, but one day ould Carling woke up and found he was dead, an' McKellar, a grand ould fall ploughman, took hold av the lines.

The first thing was a helther-skelthering of fellows thryin' to get into the right side, and among the rest comes Clarke, and sez he "Honored sir, wud you examine the site av that patch that Carling has been blatherin' about. The whiskey we got down there was wathered so I think there must be a swamp under the land; and, honored sir," sez he, "for a consideration I'll get a man wid a tail to his name that'll say what I axe him, for, honored sir, sez he, "them Tory plants is mane things to have on a farm," sez he, "They're as bad as Canada thistles to drive out, honored sir," sez he, "an' they're a dirty crap anyhow," sez he, "They might do," sez he, "for makin' Indee rubber will for their elastic consciences," sez he, "but my word for it, honored sir," sez he, "you'd best cultivate the acquaintance av my frind, and eradicate the crap wid a good fall ploughin'."

Well, this set ould Mack a thinkin', an' along comes the Christie smoothing roller man, an' he sez the same thing. He sez, "Carling came along afore he was discharged an' commenced a ploughin' an' a harrowin'

the feelins av our Board av Agriculture, an' all my smoothin' an' sleekin' afterwards didn't make the thing look right. I say," sez he, "tear into him. Root out the crap. I'll boss the job," sez he, "an', if any body is contrary, leave them to me. "I'll smooth 'em off. Ef there's anything I understand it is smoothin' and log-rollin'."

Well, off Mack sends to find the man wid a tail to his name and Christie goes off till his farm in Kansas to see if he had room for some stock which Mack sez will be coming from Europe for the benefit av Canada.

Then in comes the man wid the tail to his name, an' he digs a hole in the patch, an', sez he, there's no grit in this sile, sez he, an' then Mac sed that ud never do. If the sile didn't hev grit he knew lots that did, an' be the same token so do I.

Now, there was a hurryin' an' a scurryin' to find out which had the grittiest sile, an' we had a grand time of it, for you must know I was on the Committee, and ate and drank my fill, be order av His Excellency, me frind Mack. The Government understood the thing capitally, for they belonged to gardenin' by nature. There was him wid the carrotty head an' the other wid the turnup nose an'—an' you know who wid the raddish face.

Well, as I sed afore, we was examinin' an', examinin', and there was lots of grit everywhere, so we were bothered completely. There was too much av a good thing altogether, an' we didn't know what to do, until along comes the boss, and he sez in his smoothin' rollin' way, "Ef you want grit you must go to Shtone," an' that was a capital idee, an' we went to Guelph an' tuk the Shtone farm.

"Now, thin," sez Mack, "for agricultooral experiments," an' here is our experiments so far, an' after raiden them, till me if you can that we ain't setting a good example to Canadian farmers, an' tachim' them a new way av agricultooralin'."

Here is some av the harrowin' details. Our first experiment was in stock. We had an elephant which the ould Government had left on our hands, an', as I hev show' you before, we did well wid it. It was a grand experiment, an' deserves to be recorded.

Our second thrial was wid agricultooral implementis. Shtone was show about rollin' away, so we sent down a seed to start him an' take possession of the sile, but Mither Shtone, wid sum cow-hide and tow, made sum say he made a scharlet runner av him, but I say he turned him into a sulky rake, which was a grand agricultooral success.

Then next, for a third experiment, the boss sed he wanted chape stock, an' he wanted good enough to buy \$200,000 worth av fine siltock in the Ould Country, an' try the experiment av bringin' them an' sellin' them to him chape to go to Kansas. Now, I see you object to this rale wise skame, but I say wouldn't it hev been creditable to Canada to hev shoocted Mither Christie's farm in Kansas, an' all at our own expinse. But I'm afeard you have spoiled these experiments wid your foolish objections.

Our fourth experiment for the benefit of the Canadian farmers was one of fall plantin', and who should understand this better than our ould Mack. Well, as I sed afore, the Shtone wouldn't move unless we pried him out wid a golden bar. Well, Shtone went off one day to the Exhibition, and in steps the bhoys—frinds of mine—be order of Mack, and thinks to take root in the ould Shtone farm, but back rows Shtone an' bangs our bhoys into jug, wich was not the plantation we'd calculated on. Answers Mack, sez he, "Shtone, take it aisy, rowl aff me bhoys, an' you shall hev your gold."

Well, I've towld you about our experiments on the farm up to this date, an', as I considher we are doin' credit to Canada an' her farmers, I will kape you posted in our doins. But never say again that we aren't workin' for the benefit of the Canada farmer.

Yours agricultooraloally,
PATRICK REGAN.

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

The Markets.

Our latest reports from Detroit are that wheat has declined during the week, partly owing to the condition of the money market, and also in part to the large receipts of grain flowing from the West. There have been over eight millions of wheat shipped abroad, with considerable supplies from European ports, and from deliveries of home-grown grain, there has been a slight decline in the British markets. There is now in sight nine millions of bushels of wheat, and twelve millions of bushels of corn. From the 23rd of August to the 11th of October there has been exported over 12,000,000 bushels of wheat, 287,000 barrels of flour, and 5,400,000 bushels of corn. Of wheat in store in New York there is only an equivalent to a week's supply of the home and export trade, or about 1,200,000 bushels. There is estimated on the lakes, however, in transit, 2,400,000 bushels, and on the canals, 2,300,000 bushels. WHEAT—The decline continued during the week, but appears to have settled, and there is a better feeling in the market for the past two days, with a tendency to advance. CORN—Has remained fair and steady. OATS—Have been rushing on the market for the past week, and there is a decline of three to four cents per bushel. BARLEY—Steady at high rates, and wanted, with a slight supply. RYE—In fair demand at 73c. to 75c.

CHICAGO—Good cattle are scarce and in limited demand, in other grades the supply is excessive. The pens are well filled with Texan and Cherokee cattle, which cannot be sold immediately at any price. HOGS.—The range of prices has been from \$3.60 to \$4.25.

BUFFALO—Heavy Canadian lambs of 75 lbs. sold at \$6. Wool.—The wool business is very quiet at present. In Boston and New York, holders of wool are steady, and manufacturers are buying what material they want just as it is needed. London sales show no abatement in the price of Colonial wools, and there is an active demand for all that is offered, at somewhat higher prices than prevailed at the close of the last quarterly sales. Michigan fine wools have sold in New York and Boston markets during the week at 49c. to 53c.

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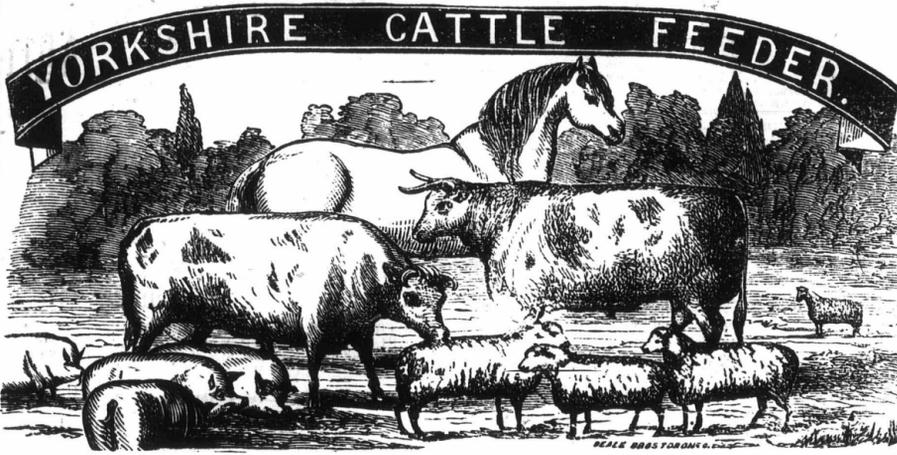
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Bow Park, Brantford, 7th July, 1873: Messrs. Hugh Miller & Co., My Dear Sirs.—Your Yorkshire Cattle Feeder is all and more than it is represented to be; a tablespoonful daily works marvels; it sharpens the appetite, helps digestion, and gives a healthy tone to the whole system. Yours truly, GEORGE BROWN.

Bangor, Pickering, April, 1872: Hugh Miller & Co.—I have used your Yorkshire Cattle Feeder to cattle that I was anxious to make up quickly. It had the desired effect, and is the best thing I ever used. I strongly recommend farmers to use it. SIMON BEATTIE.

Landing, March 29th, 1872: Hugh Miller & Co., Toronto, Sirs.—After using your Yorkshire Cattle Feeder this winter for my stallions, I must say that it is a first-class article, not only as a Feeder, but as a regulator of the system. I



have not had occasion to use any other medicine for my horses to keep them healthy. Independent of its feeding properties, which I think cannot be excelled by any other so-called Cattle Feed, I should advise all horsemen to use it as a regulator as I believe it to be safe and efficient. I hope farmers and others will give it a trial; they will find it a great saving to them in fodder and doctor's bills. I am, yours respectfully, WM. LONG, Importer and Dealer in Entire Horses, Landing P. O., Ont., Yonge St.

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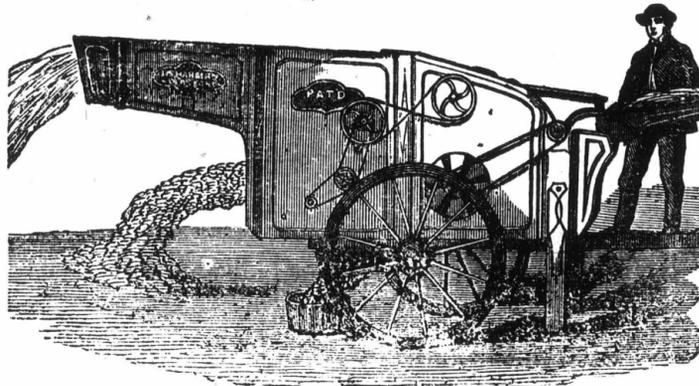
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