THE FARMER'S ADVOCATE

AND HOME MAGAZINE.

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THE FARMER'S ADVOCATE

—AND—

Home Magazine.

WILLIAM WELD, - Editor and Proprietor

The Only Illustrated Agricultural Journal Published in the Dominion.

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THE FARMER'S ADVOCATE, LONDON, ONT., CANADA.

New Brunswick's Provincial Exhibition.

[By our Special Correspondent.]

DEAR ADVOCATE,—My time has been so fully occupied since the close of our exhibition that I had well nigh forgotten that many of your readers (who I trust take a kindly interest in the Provinces by the sea) might desire to have a pen and ink sketch of the results.

It affords your correspondent no small pleasure to be able to say that the exhibition was a most complete success, not only as an exhibit of our products and manufactures, but financially as well, and this you know is an important thing.

As an exhibit of our agricultural productions it was generally admitted to be superior to any of its predecessors.

The classes of Short-horns, Ayrshires and Herefords were especially good, and in Devons the exhibit was good in quality, but not extensive.

In Sheep the exhibit was confined principally to Leicesters, Southdowns and Shropshire-downs, with a fair show of each as regards numbers, but as regards quality, very good. Quite a number of Shropshire-downs were also shown by W. Longworth, of Prince Edward Island, and found many admirers.

The show of Swine was very fine, Berkshires and Chesters taking the lead. The animals exhibited showed careful breeding and gave great satisfaction to our farmers, many of whom have a weakness for making fine pork, although not to the same extent as our brethren of Ontario.

The show of Horses was much in advance of former exhibits, and the result most gratifying to all who witnessed the display. The Percherons imported by the Government some three years ago were in the show yard, together with many of their progeny, and lent additional interest to this department. The very large attendance of visitors that continually thronged the stock yard gave a positive proof of the deep interest that is now being felt and taken in the improvement of stock in this Province. We are prepared to admit that Ontario is much ahead of us in this department of our agriculture; at the same time we hope to be not too far behind. The spirit of the times is for improvement in this direction. Our people are becoming fully alive to its importance and necessity, and we are confident that they will not readily consent to see their neighbors far in advance of them. The rapidity with which the cattle trade is assuming such large proportions begets an interest to participate in its advantages, and this of itself will prompt our farmers to action.

In Farm Produce the exhibit was but a fair sample of the country's productions. We have always been able to grow vegetables sufficiently large to satisfy any reasonably minded man, and those, too, of the best quality. The most satisfactory exhibit in this department was that of wheat, the show of which, as regards quantity and quality, being a great improvement over that of any previous exhibition. Some forty-five samples were shown—all bright and plump—weighing from 63 to 65½ lbs. per bushel. Lost Nation variety seemed to predominate, but many good samples of White Fife and Rio Grande were shown. The increase of wheat grown in the Province this year will be equal to 25 per cent. over that of last year. The result is that the rural population of the Province will about have their bread, leaving only the cities and towns to be provided for.

In Domestic Manufactures the show was not any more extensive than we remember to have seen on former occasions, but the quality we judged superior. In domestic cloths, knit goods and ladies' fancy work the display was very fine indeed, and many were the enconiums passed as laces and needlework of beautiful designs and exquisite workmanship were examined.

The show in Manufactures of Metal, although not as extensive as it might have been, under other circumstances, was very creditable. Possibly before going into details I had better explain those other circumstances. A few years ago St. John had a manufacturers' and mechanics' exhibition, which was a great success. At that time our manufacturers had ample time and orders were not pressing, but, on the contrary, were few and far between, and it was not necessary then to make any sacrifice or refuse orders, that they (the manufacturers) might take part in the exhibition. Now, however, the case is different. Nearly all our manufacturers are unable to fill their orders as fast as required, while they are working overtime to enable them to keep abreast of their work. From this cause many of our leading manufacturers were unable to take part in the exhibition or show their goods; and while the reasons must be very satisfactory to the country, it nevertheless detracted from the display made.

The heaviest piece of machinery on exhibition was a turn-table, made for the Canada Pacific Railway by Mr. Hazelhurst, of St. John. This monster casting, capable of carrying the heaviest locomotive and tender, was easily moved on its circle by a slight pressure of the hand. Its construction was quite simple, but very effective. The centre is composed of a circle of steel rollers, which carry the weight of the table and all that may be placed upon it. Mr. Hazelhurst has quite a large contract with the Dominion Government for turn-tables for the C P. R. R. He also exhibits stoves, ploughs, &c.

Harris & Co., of St. John, showed heavy shafting and nail plate, together with quite a display in stoves, &c. This firm is now very busily engaged in furnishing cars for the Grand Southern Railway, and their orders prevented them from doing as much as on former occasions.

Chesley Bros. exhibited ship knees, of which they are extensive manufacturers.

In Agricultural Implements Messrs. McFarlane, Thompson & Anderson, of Fredericton, and Messrs. Cossitt Bros., of Ontario, by their agents, Johnston & Co., of Fredericton, were the largest exhibitors. Each had a fine display of labor-saving machines. Messrs. Todd, of Fredericton, also had a large display of ploughs.

The products of our manufacturing establishments were the subject of very favorable comment.

The exhibits of Messrs. Parks & Son, of the New Brunswick Cotton Mills, were a fine display, as visitors to the Ontario Exhibitions, where Messrs. Parks & Son have exhibited their goods, can fully testify. This firm have erected extensive additions to their manufactory, and will in a very short time be in a position to double their products. Their goods have an excellent reputation, and find ready sale in the several Provinces of the Dominion.

In Cloths, all wool and cotton and wool, or union, the products of the Elgin and Mispec Mills were fine samples.

Messrs. Manchester, Robertson & Allison made a fine show in ladies' and gents' furnishing goods, of which they are extensive manufacturers. We also noticed that in furs Messrs. C. & E. Everett, of St. John, had a very rich and costly display.

Probably in no department of our Provincial manufactures has there been such rapid strides for the last two years, as in the manufacturing of Furniture. In this department Messrs. Stewart & White, of St. John, stand at the head. This firm, previous to 1878, imported large quantities of furniture from the U. S., and much of it of a very costly kind. Since the new tariff, however, they have manufactured at home, and the results are very satisfactory. They are now enabled to give their customers a better article than formerly, at less price. Their display at the exhibition was far ahead of anything of the kind either imported or manufactured previously in St. John. Perhaps no department in the whole exhibition proved more successfully that our mechanics only require a fair field in order to prove their skill and cunning. The Messrs. Howes and C. E. Burnham also showed goods in this department.

Leather goods were shown in great variety, as were also carriages and sleighs.

Pianos in various styles were exhibited by G. R. Bent, whose musical instruments have quite a Provincial reputation.

While writing of the display in metal castings I ought to have made mention of the very fine display of stoves, furnaces, &c., made by Mr. Faucett, of Jackville, and by Emerson & Fisher, of St. John.

There are still many departments that deserve to be mentioned, did space permit. It must, however, answer for the present to say that all departments were well filled. The throng of visitors was large during Wednesday, Thursday and Friday. The opening on Tuesday, although raining hard, was good, and came off with much *eclat*, Governor Wilmot opening the exhibition with a short address, and supported by Governor Harverland, of P. E. Island, who referred to the satisfaction it gave him to be present. Much credit is due to J. L. Inches, our Secretary for agriculture, who had the larger share of the burden of management.

S. L. P.

English Letter, No. 19.

[FROM OUR OWN CORRESPONDENT.]

Liverpool, Oct. 4th.

The past month has presented very few features of interest for your readers. It is essentially the holiday month. It is noteworthy, however, that it witnessed the departure of your Ministers who came over to negotiate for the ways and means for the completion of the Canada Pacific Railway, that vast undertaking which is to have so great an influence on the future of the Dominion. Of course you know all about the terms upon which they have accomplished their mission. For many reasons I am inclined to think the course they have adopted the best of the alternatives which presented themselves. The process of making an appeal to the public purse on a large scale, is a very tedious and expensive one, and I cannot but think that a somewhat more liberal grant of land to a small company or syndicate of capitalists, letting them solve the problem of raising the ready cash, is in the end the most economical and in almost every way the best plan; and I think you have reason to be satisfied with what has been done. No doubt the Canada Pacific Railway will soon become a solid fact, and the value of its influence in developing the great North-West cannot well be over-estimated. I was reading some curious railway statistics the other day, which show the marvellous effect they have in developing new countries. In Europe the highest average of railways to population is ten miles to every ten thousand inhabitants, and this, strange to say, is in Sweden. The next highest—Great Britain—is only a portion over eight miles per ten thousand of population. But directly we cross the Atlantic the proportion springs up tremendously, for in the States the average is over thirty-two miles per ten thousand. There can be no doubt that this great development of railways is the main cause of the rapid opening out of the Western States and Territories, rather than any superiority of climate or soil over the Dominion.

We have had the usual statistics about the exodus from Canada to the States; no doubt there is a certain genuine movement of the kind, but it is far smaller than the United States officials and newspapers would have us believe. "A Canadian visitor" from this country, writing to the Daily News, ably exposes the hollowness of these figures. He says:—"If I take a fancy to cross over to Sarnia to buy a basket of grapes, I am classed as an emigrant, and no note is taken of my return; and similarly, all along the line; or if I go to England, *via* New York, I am classed as an emigrant, and if I come back the same way, I am classed again." I notice that these statistics are quite silent on the point of how many people from the States enter Canada yearly. That, of course, is quite another question.

Your great officials who have been over here have not devoted their attention exclusively to railway matters. The Hon. Mr. Pope, in particular, as becomes the Minister of Agriculture, has had one eye open for good things in his own special line. Amongst the purchases made on his behalf were a two year old bull and three heifers of the Polled Angus variety closely allied to the celebrated Tellyfour blood. The bull was highly commended in his class at the late Royal show at Carlisle. These animals were shipped by the S. S. Ontario on Sept. 9th. Mr. Pope has also purchased at high figures a Cheviot ram, and a fine young Clydesdale stallion.

Some Canadian harness horses, imported by Messrs. Douglas & Hendrie, have been winning honors at our local shows lately; one took first prize and another second in their respective classes at Southport, and the latter of these, a bay gelding, was afterwards awarded first prize at Birkenhead.

The exceptional spell of fine weather which I referred to in my last letter continued until the middle of September; we then had a few days broken weather, and then another short spell of sunshine, enabling the northern farmers to secure the balance of their crops satisfactorily. I hear of occasional cases of disappointment, but on the whole there can be no doubt the harvest is a really good one. It must not be supposed, however, that the English farmer has thereby been rescued from all his troubles. If he has more to sell he finds the markets glutted and prices fearfully low. The Chelmsford Chronicle (Essex) recently contained one hundred and eighty advertisements of sales by auction of farming stocks, produce, &c; and nearly the whole of these arose through farmers giving up their occupation. The Agricultural Gazette of the 27th ult. opens an article on the agricultural situation with these portentious words: "The terrible catastrophe of suicide,—saddest of all deaths—has been frequent among farmers during the existing agricultural crisis." You will see, therefore, that all is not yet retrieved.

I have just been shown some samples of grape sugar, glucose, and syrups, manufactured in Toronto. I am not a very deeply versed judge of such things, but I should think that they ought to be close rivals of similar States products.

There is nothing special to note about the cattle trade, which goes on in a tolerably even groove. *Apropos* of losses referred to in my last letter, I observe that during the past month, in one cargo of nearly two hundred, only about twenty were landed alive; nearly the whole of those lost were washed overboard. The Great Eastern is shortly to embark on her Texan cattle importing enterprise. The idea is to bring twenty thousand head at a time, and to make four voyages a year. For reasons which I have already given you, I don't think it will do.

The ground game act is now the law of the land, and it has become part of the tenant farmer's right of occupation to kill off every head of hares or rabbits on his holding, if he likes. As, however, tenants generally like to be on good terms with their landlords, I fancy that in ninety per cent. of the farms, the act will work very little alteration, except perhaps as regards rabbits, for which landlords don't care much, and which breeding so much faster than hares, are a greater nuisance. These, no doubt, will this winter be killed off extensively, and then will come a scarcity. I enquired prices last Saturday, and one small dealer offered to take two hundred couples a week, and to pay me sixty cents a couple, and half freight charges. If, therefore, any of your readers have any to send, there is a market ready.

In my letter in your September number appears the phrase "buyers for Canadian horses." I wrote, or intended to write, "houses." It rather effects the sense of the passage.

Warm quarters, as well as plenty of nutritious food, must be provided for all stock. When stables are cold, animals consume much more food to produce the same results as when they are kept warm. Cold freezing weather dries up cows rapidly, but this may be mitigated to a great extent by providing warm stables. It is claimed by men of large experience that grain—clean, well cured grain—or hay from cultivated grasses, makes the sweetest, heaviest and most perfect milk. Beets and carrots, without grain, make thin milk. Potatoes and slops injure its flavor and make thin milk. Grass or hay, and bran alone, makes thin milk, although wholesome. Grain must be used with grass, roots or hay, to make rich milk.

P. E. Island.

A very successful exhibition was held in Charlottetown, at which nearly all the magnates of Prince Edward Island attended, and several from the other Maritime Provinces. Professor Sheldon and Mr. Sparrow, two English delegates, were also present. A dinner was provided, and a pleasant and profitable time was spent, with speeches, &c. These are the right kind of exhibitions to encourage, and much valuable information is often obtained at such gatherings. We think that Ontario has a pattern to follow in many respects when we look at the small isolated Island, and yet we must acknowledge, from personal observation made during the past summer, we consider that the Islanders are a better average class of farmers than those in Ontario. They are careful, loyal and honorable. We saw more green hedges on this Island than we have seen in Ontario. Their land may not on the whole be as fertile, but there is greater care taken, and some of the farms we saw on this Island would compare favorably with the best we have seen in Ontario. When we inquired into the public expenditures we found that real, live, active farmers had the control of them; and the public service was in most instances performed by officers, not, as in Ontario, for the purpose of making all the gold capital they can and all the political power they can obtain, no matter at what sacrifice to the interests of the farmers or the country. In P.E.I. the leaders in agricultural matters have labored for honor and to do good to the country, and their services are paid for not by the revenue in cash drawn from the farmers, as our expensive and cumbersome Board of Agriculture is paid, but by the thanks and gratitude of all well-wishers of agriculture.

The Island has a Government Stock Farm, the total cost of which, we were informed, was the small sum of about $1,500 last year. They raise a number of Shorthorn cattle, and send them to the different counties to sell for what they will bring. Thus they are doing good service. The farm is well cultivated, and is a great credit to the Island, to the directors, and to the manager. They are all active working people that have anything to do with it.

The English delegates, Mr. Sparrow and Professor Sheldon, expressed themselves much pleased and much astonished at the extent and fertility of our Dominion, and particularly with P. E. I. and its inhabitants. They had enjoyed themselves better during the five days they had spent on the Island than any other time spent on this continent.

Mr. A. Simpson addressed the meeting. He said that he had visited nine of the United States, and was not afraid to say that little P. E. Island possessed more essentials of comfort than any of them. We coincide with Mr. Simpson's remarks, and would say to any of our friends who have time and means, and desire to know anything about the pleasures of breathing a cool and pleasant air, and enjoying a pleasant climate, fresh green hedges and country, just go down to that Canadian Gem of the Sea, and if you cannot live and enjoy yourself for a few weeks on that Island in the summer-time, you need not hunt around this earth any longer for comfort or pleasure.

NEW BRUNSWICK.—The Provincial Exhibition, held at St. John, is said by the Maritime Farmer to have been the best ever held in the Province. The show was interesting as being that of a Province which has sprung into existence within ten years. The show of horses, cattle, sheep and swine was choice and more extensive than that of former years. The parade of the prize horses and animals at noon on Friday was an animated and exciting scene.

Manitoba.

On a recent date Mr. Christie, from Limerick, Ireland, called at our office. He had just returned from Manitoba, whither he had been to spy out the land and report to his friends in Ireland. Mr. Christie is a large farmer in Ireland, occupying 700 acres of land; three brothers farm 1,800 acres in that country, for which they pay £1,300 rent, equal to about $6,500. He infcrmed us that the farming has been so unremunerative there during the past three years that they lost even more money than the rent annually. No wonder they desire to look about them. And thousands are in a worse plight than Mr. C. and his brothers.

Our Government gave Mr. C. passes over the road to Winnipeg. When in Winnipeg the Government guide, a Mr. Reid, the head of the guide department, (there is now a guide department, established to direct visitors or settlers to different parts of the Province,) took Mr. C. in charge. He hired a span of horses and drove Mr. C. and other delegates over the country. They took their tent, and after a muddy and disagreeable drive they reached Portage-la-Prairie. At this point one of the examiners of the country, for whom the conveyance was engaged at $7 per day, concluded he had seen enough and experienced hardship enough, and would go no further. Mr. Christie, however, stuck to the party, although at that time feeling rather dissatisfied with the mud and water; but he proceeded. The next few days they travelled through rain, mud, and poplar and oak scrub brush. He describes this as being worse than the previous part of the journey—something to be dreaded rather than desired. On the third day the weather cleared; the brush and bad roads were passed, and a better tract of land appeared, at which he was better pleased.

He went to the Tiger Hills, Oak Creek, Sauris River, Cypress, Milford, Crystal City, &c. He expressed himself highly pleased with some of the land over which he passed. He thus describes a spot that pleased him, or rather astonished him, more than any other:—It is on the ocean of prairie, a river runs through it;there is a fine slope to the river, large, fine, fertile flats, plenty of timber and good water. A Mr. Long has made a location there, pre-empted some land, and, with his family is now living there alone. The nearest settler to him is 45 miles from his house, and the nearest post-office is 70 miles distant. Mr. Christie appeared so delighted with this spot that we asked him if he would like to settle there. He said he would if he could depend on a railway being run into that part of the country within twenty years. Mr. C. says the great want of the country was railways, and he thought, if proper facilities were offered, the British capitalists would open up railways in a short time to all parts of the country. We explained to him the enormous cost the railroads and the opening of this country had been already to the farmers of Ontario, and informed him that the present cost had been equal to about one quarter of the value of every farm in Ontario, which must be borne by the Ontario farmers. He agreed with us that all the expenses of opening up the country by railroads, and for immigration purposes, should be borne and paid for by the land and the products of the land, and that it would be easy so to arrange it. But the facts that Ontario has to look at are these:—In what way are we to be remunerated for our expenditures? We are paying, paying, paying, and the lands of the land grabber are the objects for which we are making these payments. They have the country locked up against the real industrious settler; they have driven thousands across the lines; and yet we are called upon to enhance the value of their locked-up lands, and they are to be made millionaires by our hard-earned money. The advance in value of the lands by the construction of railroads and increased immigration to that country should certainly meet and bear the expenses, and not the pockets of Ontario farmers.

Mr. C. had visited the Industrial Exhibition in Toronto, and had been astonished at the great superiority of our agricultural implements, but as for the exhibit of our fabrics, fine arts, etc., to be seen in the main building, he remarked, when comparing them with the exhibition in Ireland of the finer works, that Ireland would beat our display as far as you could see a horse on a common.

The Provincial Exhibition.

We shall be pleased to shake hands with our old antagonist, the Toronto Globe, and openly discuss the merits and demerits of the past and present management of the Provincial Exhibition. At the same time we would deem it but fair for our old contemporary to give THE FARMER'S ADVOCATE due credit for having, many years ago, pointed out the necessity for a change, and for having expressed similar views to those now held by the Globe. We have repeatedly expressed our disapprobation of the management of this once most valuable institution. We have suggested plans whereby, we believed, its lost prestige, lost popularity, and lost honorable position might perhaps in time be restored. We do not believe there is one honorable and honest farmer who has exhibited at the Provincial Exhibition but will admit that there are some members on that Board that have acted, and have influenced the Board to act, in their management, more for others than for the interests of the agriculturists; and that the real interest, for which this Association was first formed, has been entirely subverted. It has been our opinion that the laws relating to the Association have been too suddenly changed, without the knowledge or wish of the farmers, to enable old members to retain their seats at the Board. The mode of electing or appointing members to sit on this Board has been so managed that the real farmers' voices when voting have been of no avail. Were this obnoxious mode of selecting improper persons, and passing laws to maintain them in their seats, abolished, and the farmers allowed to elect annually every member of the Board by a direct vote, and every member to be necessarily a new man who had never sat at the Board before; or had it been a compulsory retirement after three years' service, then we might have, or may perhaps yet have to look with confidence on the Provincial Association. Every intelligent farmer should remember the very damaging charges made against this Association by the Chief of Police of Ottawa. We have never heard that that official was prosecuted or made to apologise, and his charge was of a most serious nature. This journal has frequently exposed and condemned improper acts of that Board, and they never have been able to refute the charges made against them. Any attempt to hush up or varnish over their misdoings has in no case satisfied any independent farmer. This growing dissatisfaction has decreased the popularity the Provincial Exhibition once enjoyed. No efforts and no expenditures the Government can make will restore confidence in the present Board of Directors. It has been the duty of every member to expose and discountenance any error, any injudicious expenditure, and any improper act or deed either countenanced or aided by those who have had the power of influencing the others.

It is our opinion that nothing short of an entire removal of the whole of the present Board, including the Secretary, can ever give confidence to the farmers or prosperity to the undertakings of the Provincial Board. There are just as good men to be obtained as any of the present Board ever were before they became corrupted. "Evil communications corrupt good morals."

Our Maritime Provinces—No. 4.

We omitted to number all our articles, but for future reference we deem it best to do so; therefore No. 1 will be the article on page 145, July; No. 2, page 171, August; No. 3, page 224, October. We are prepared to furnish several other articles on these loyal, healthy and valuable Provinces.

NOVA SCOTIA GOLD FIELDS.

On July 6th we went to the ferry and crossed the river to Dartmouth There we hired a livery horse and drove to the celebrated Montague Mines, a distance of only about seven miles from Halifax. The road was good and the scenery pleasant until we arrived within about 1½ miles of the Mines; here the road was very rugged, stony and difficult to find. It might be called driving over rocks and boulders; in some places the earth, or rather the rocks, had been excavated to a great depth close to the road. Rocks, rough rocks, and rougher rocks, was the principal impression left on our mind, except when we approached the city (as it might be called in the West); but here we will call it Montague. Well, there was a store—we could not call it a one-horse one; a half-mouse would be better. But, then, this store is a king of an establishment when compared to a western or northern city store. There were a few low board houses, or rather shanties, some within a stone's throw, others within cannon range. The tops of a crusher or two were to be seen, pretty well hid by the immense mounds, piles, rows and hills of rock that had been excavated—a more improbable, dreary, hard-looking place for people to live we never before beheld. At some places men were working with pick, drill and windlass; at other places steam engines were employed to haul up the rock and crush the quartz.

We visited two of the principal mines, one by the Montague Gold Mining Company, principally owned by Keye, Gaylor, Simmonds & Watson. Just as we entered a bucket of quartz was hauled up; we picked up some of the rough-looking stuff, and to our surprise, we plainly saw gold in one of the pieces. We asked for this small piece, and it was with great reluctance that the manager consented to our taking it away. We presume it is not worth five cents, but being the first that we had ever seen at any gold field, we felt a desire to possess it. We were shown some very fine specimens of real nuggets. We tried to purchase one, but it being against the rules laid down, we could not succeed. At this mine the quartz was being crushed; this is done by a series of heavy hammers attached to a shaft, some descending and others rising. A continual thump, thump, thump was heard, and a stream of water was rushing through the quartz as it was pounded to atoms; the small particles were washed away like sand or mud as it was pounded or crushed in passing from this pounder or crusher, as it is called in mining terms. The debris is washed by the flowing water over a series of flat metallic sheets or plates; these flat sheets are prepared or coated with mercury (quicksilver); this adheres so tightly to the plates that it cannot be washed off. As the sand, grit and debris are all washed over these plates in a continual and gradual stream, the fine gold is attracted and held by the quicksilver, and all the other substances are carried off by the water. At a proper time the mill is stopped, the water turned off, and the metal plates are scraped. The quicksilver and gold are both scraped from the plates together. In this form the substance has a bluish appearance, and one would hardly think that it was of much value. This combination is then placed in a retort and strong heat is applied, which causes the quicksilver to descend in a liquid form, leaving the gold in a pure but porous state. The

gold is then melted and poured into molds, and is ready for market in the form of gold bars.

We also visited the celebrated Rose Mine. This is carried on by an American company, and everything is much more systematic; the buildings are neater. The crusher was not at work, but a large quantity of quartz was piled up ready to be crushed. This mine had been cleaned out, that is, the rubbish had been removed to show the bed of a fine vein of quartz, as several of the owners of this mine had appointed to meet here on this day. We forget the names of all the gentlemen, but there was the Professor, Captain, Doctor, Colonel, Major, etc., etc. We all put on mining dresses; some descended one shaft, and others at another. The Professor and your humble servant descended one that was 90 feet deep. The crevice or opening in the rock was nearly perpendicular, and almost as flat and smooth as a wall the whole distance down. We never had seen such a long, straight seam in any stone. The rock had been taken out by the miners to enable them to work the vein lying at the bottom of the shaft. All the stone had a bluish cast except the gold-bearing rock; this was a bluish white, nearly resembling marble in appearance. We were each furnished with a wax candle. We entered the shaft, got into the ladder, and commenced our descent, carrying the candle between two middle fingers, thus enabling us to hang on to the ladder. As we descended dampness and cold almost chilled our hands, but down, down, down we went, from ladder to ladder, hung one on the other, straight up and down. I tell you I was glad when I reached the bottom, but when I got off the ladder my feet were in water. There was a very fine quartz rock which we walked, or rather crawled, along by the side of. I might almost say waded, for the water was rushing over the quartz rock. By holding our candle close to the rock we could see specks of gold. One piece was nearly as large as a five-cent piece.

We were satisfied. We did not admire the water or the dampness, and requested of the Professor and our guide that we should ascend. We were soon on the ladder, and bad as the descent was the ascent was worse. We started up with right good will, but we found it such hard work that we had to stop to rest several times. The rest consisted of hanging on this perpendicular series of ladders. I was afraid my hands would cramp. There was no other choice but to hang on or fall down; but we succeeded in reaching the top.

No, thank you! You may dig the gold out in wheelbarrow loads if you can get it, but for our part we are quite satisfied. We have had all the gold mining we want, that is, under the earth. There are plenty who will risk life and health. People get used to the different occupations they follow.

The latter mine has yielded many thousands of profit to its owners since we were there, and we hear the present showing is still more profitable. Many people have gone into mining in this and other localities, and lost all they had; a few have become independently rich. One man's success is spread willingly by everybody, but dead men tell no tales, and a person may just about as well be dead as dead broke for all the world cares about him. What pleasure or profit is there for an editor, a reader or a speaker to recount the misfortunes of individuals? To our readers we would say, let miners follow the mining business, but you follow the plow, and your average of success will be far in excess of the average miner's, in this or any other country.

(*Continued on page 256.*)

The coal shipments from Pictou, N. S., in one week amounted to 7,564 tons. The shipments for the season to date are 225,668 tons.

Canada and the English Press.

The agricultural resources of Canada have become a subject of daily discussion in the English papers. The products of this new country that have been imported into England have shown them what they may expect when the Dominion territories will be opened up and brought under cultivation in a few years. A correspondent of Bell's Weekly Messenger has written to that paper a report of the Toronto Agricultural Exhibition, from which we take a few notes:—

There was a number of very high class beasts, one of which, a white four-year-old steer, exhibited by a Mr. Russell, of Pickering, will, I expect, puzzle our feeders in England to beat at our next fruit and field show. It is said to turn the scale at 2554 pounds, and is full of quality.

The sheep were probably the finest exhibit ever made at the annual Toronto Exhibitions, and indeed would reflect credit upon many districts in the old country. Of course, no opinion can be ventured as to the kind of sheep best suited for the Dominion, as so much depends upon climate and locality here as in Great Britain. Probably the Cotswold have more than maintained their position; but the Leicesters, Lincolns, Southdowns, and Shropshire Downs were well represented in their respective classes. Canadians are very astute in the matter of breeding. Hon. J. H. Pope, during his recent visit to England with Sir J. Macdonald and Sir C. Tupper, purchased a draft of the finest Cheviot sheep that could be met with. By this means he intends to improve the breed of sheep in the vicinity of his home in the Eastern townships of the Province of Quebec. It is the custom here to use Shropshire Down rams to cross with Chevoit ewes, in order to produce the highly-prized mutton so successfully raised in the North; but having no such groundwork to commence upon, it is confidently expected that an importation like this, by Mr. Pope, will, by crossing with the already fairly-bred Canadian ewes, produce a lean and juicy class of mutton calculated to meet the demands of a first class London trade. The fault with Canadian sheep has hitherto been, that they have "dressed" a larger proportion of fat than is desirable.

The pigs were, as usual, a grand class. In fact, to such a high pitch has this animal attained that it is deemed scarcely requisite to import high-bred stock from home. In fact, it is a moot question whether it would not be to the advantage of English breeders—more especially of those who have been pursuing a course of in-and-in breeding—to introduce Canadian and American-bred boars amongst their stock.

On a second examination of the horses, I found a very superior class of short-coupled Clydesdale stallions. Amongst the nag classes I observed a few very neat little stallions, which, I feel confident, will do very little good to the rapidly-developing export trade, because of the absence of size, the majority of them being little, if anything, over 15 hands. In conversation with Canadian breeders, I find that there were signs of dissatisfaction at the class of stock being got by Clydesdale sires in the Dominion. The Canadian farmer must have a sharp, quick-moving horse, and whilst this breed has left all its coarser characteristics behind it, it has certainly degenerated the hardy, active-moving little Canadian animal, which hitherto has been so much admired throughout the American continent. It was on all hands admitted that the horse for Canada is the good big Cleveland bay, which would give size without destroying quality. One great difficulty has had to be contended against at this show—the want of a catalogue during its first week. This defect arises from no fixed day being named for the entry of stock, and as this enables the exhibitor to suit his own time and himself, the public is thereby placed at a great disadvantage. This doubtless will be very soon rectified.

In England it is customary—as we well know—to have the reapers, mowers, &c., stationary; but I am sure that could the authorities of every one of our home exhibitions have seen the Canadian implements slightly raised from the ground, with bands attached to the wheels, and placed regularly in full working order by the engines, this system would at once be universally adopted. Of the Toronto mower I mentioned in my last, I may state that I had a second opportunity of witnessing it at work, in company with several prominent English, Irish and Scotch agriculturists, who were so well pleased with it that they immediately gave orders for several machines, of which we shall doubtless hear much more after awhile. Earnestly would we direct the attention of our implement makers to it.

An extraordinary exhibit of grain, grasses, roots, vegetables, etc., brought from the Province of Manitoba, was placed in the central buiilding, and attracted immense crowds of visitors. Potatoes, swedes, mangels, and especially kohl-rabi, although secured some weeks before arriving at maturity, reflected much credit upon the country.

Soapstone, or Talc, Adulteration.

A mineral known as soapstone (it also goes by the name of "talc") is taken from beds in some sections of the U. S., principally at Gouverneur and Hallesborough, and after being piled up to dry, is ground, forming a substance about as heavy as flour, which it somewhat resembles in appearance, but is quite tasteless. The manufacturers realize a large profit—not less than $10 per ton, when it is sold in the market for $20, which is the usual price. No one seems to know the legitmate use of the substance, although it is used in the manufacture of paper, but it is said to be more as a filling to give weight than anything else; nevertheless, it has found numerous purchasers, and a recent writer says it may be looked for in any food articles which cost over 3 cents per pound; but the last place we would have expected to have found it is in butter, but the dealers in New York city, who handle large quantities of western butter, noticed of late the tubs which generally held from 50 to 52 pounds when full, now frequently contain from 56 to 58 lbs.; this increase of from 6 to 8 pounds on the same bulk was noticed only in the western packages. But the most experienced butter dealers could discover no foreign substance, and could in no way account for the mystery; but recently a prominent dealer in dairy produce, while on a western trip, discovered the fraud. A firm in Cincinnati, known as the "Cincinnati Facing Company," is engaged in the manufacture of powdered soapstone, which is claimed to have a ready market, supplying a legitimate demand; but it has now been discovered that the farmers, dairymen and butter-packers use it to adulterate butter. It greatly increases the weight, without affecting the bulk very much. And now soapstone, which costs 1c. per pound, is sold at the market price of butter, and consumers eat $\frac{1}{8}$ of a lb. (2 oz.) with each pound of butter they consume.

The Americans who practice this fraud will, no doubt, realize a profit for some time; but it will doubtless have the effect of reducing the demand for their dairy produce, and will, no doubt, be very injurious to the trade with England, if adulterated butter is shipped there. This fraud has not, to our knowledge, made its appearance in Canada; but it is very probable it will, if there are not strict measures put in force to prevent it.

The trade in wood pulp for paper making is extending in Norway. The article is used on a large scale by paper makers in France and England. The woods fitted for reduction to pulp are abundant in all the Maritime Provinces. This might be an industry worth working up.

ENTOMOLOGY IN THE SCHOOLS.—At the meeting of the fruit convention held in Guelph recently, the following resolution was unanimously carried:—Moved by Mr. Arnold, seconded by Mr. Saunders, "that entomology and natural history should be taught in our schools as a basis of education." Mr. James Anderson, and several others, spoke to the motion, all being in favor of petitioning the Minister of Education to introduce entomology and natural history in our schools.

Agriculture.

Commission Merchants and Farm Produce.

We have often been asked whether it is better for farmers to market their own produce, or trust it to merchants—middle men, as the Grangers call them. This depends on circumstances. As a rule the merchant understands the markets better than the farmer, and can send the produce where it will sell the best. The merchant's business is to buy and sell, and by experience he becomes expert at it. "Every man to his trade" is a good maxim. We have no such fear of merchants as some of the radical Grangers express. They form a very essential part of every business community, and should be encouraged. They are accused of being too sharp and taking the lion's share of the profits. This may be true in some cases, but as a class we have found them as honorable as other folks. Now and then a merchant makes a fortune, but ten merchants fail where one farmer does. When farmers turn merchants the failures are in greater ratio, for a man needs training to become a successful merchant. Farmers' stores, with farmers to manage them, have seldom been a success.

Notwithstanding all this, there are circumstances under which it is better for farmers to save commissions and sell directly to consumers. If one can find a hotel, or a restaurant, or a family, in which he can sell all his butter or produce of any kind, he had better do it. The price is generally better, the trouble little, if any more, and there is no discount. But such opportunities do not come on every farm, and every farmer has not the mercantile tact for availing himself of them. It would be a blessed thing if all farmers would study the laws of trade more than they are wont to do, certainly so far as to keep accurate accounts of their business, and to be acquainted with market prices and supplies, for we verily believe that much of the success of farming depends upon the ability to sell the produce to good advantage.—[Ex.

The American Sweet Chestnut.

This is one of the trees that everyone planting trees of any kind should plant more or less of, as it combines more useful qualities than any other of our native trees. There is no use here of enumerating these qualities, for they are well known to nearly all. All will admit who have seen it growing in its native habitat, that it is very beautiful, of very quick growth, its wood of great commercial and domestic value, its fruit, or nuts, the best of all. Why, then, is it not planted by everyone everywhere? Simply because it has fallen into disrepute from having been found "hard to transplant" by nearly all who have transplanted it. But this is not really the case, and this reputation has been gained because, as a rule, those who have planted did not have trees of the right kind or size to plant. It is with the chestnut as with many other things in horticulture. We should try and learn something of the thing we wish to do before we undertake it, and thereby save ourselves much cost and labor with no good results.

The chestnut can be transplanted of considerable size if it has been properly handled, and the planting carefully done; but such planting and trees are expensive.

The way to do it is this: Procure one-year trees, or two years transplanted, from some nurseryman who makes a business of growing them from seed. They cost but little; if you want but few, they can be sent safely by mail; or, let your nearest nurseryman know your wants in winter or early spring, and he will order for you. Plant these small trees on any reasonably dry soil, and cultivate them well, and you will soon be proud of your chestnuts. We have seen them growing finely and producing nuts abundantly on nearly every kind of soil; we have seen them this year of six different sizes and ages, on different kinds of soils, all showing a nice crop of nuts, and one lot only six years from the seed, many of them showing nuts, one of them having twenty-one burs, with three nuts to the bur. And we can say, after thirty years experience with the chestnut, a well known horticulturist finds them just as easily grown, healthy, and hardy, as a horse chestnut. If any of our readers have had a different experience, we would be glad to hear from them.

The Messager Official of Russia says that the wheat crop of that conntry is generally below an average, except in Esthonia; in some districts it is very poor, and great losses have been suffered from storms and insects.

Too Much Timothy Seed.

"Old Farmer" writes concerning the over production of timothy seed:

"All men engaged in agriculture are of course liable in one way or another to make mistakes—to fall into erroneous practices, and I have for years been convinced that there is more timothy grass seed alone than there ought to be, or than is beneficial to the farmer or his soil. In ripening its seeds, timothy requires similar ingredients to those required in producing wheat—phosphoric acid, a leading ingredient of guano, and of phosphatic manures, being required in ripening the seed of timothy. Nitrogenous ingredients are also received by this crop during the stages of its rapid growth, before the seed matures or the stalks become firm and stiff."

Timothy is also remarkable for the great abundance of seed it produces. This fact—its enormous extent of seed production—shows conclusively why it is more exhausting to the soil than most any other crop; at all events, it seems safe to say that on account of the phosphatic elements withdrawn from the soil in maturing its seed, and from a large supply of these elements being required in maturing the vast abundance of seed that timothy grass produces, this grass crop, instead of resting the soil—as many farmers assume it to do—really exhausts the ground as rapidly as is done in growing wheat; a fact which should be considered by many who seem to make the growing of timothy seed too prominent an object. If the purpose be to rest the soil—to give time for atmospheric influence to disintegrate its more compacted parts, and thereby set free and make available the crop elements which the soil contains—if this be the object desired, peas or turnips are more suitable than timothy. And clover in comparison with timothy is a far better renovator of the soil, from the fact that the clover roots bring fertilizing material from greater depths than other roots penetrate to.

In raising a crop of timothy seed, it is probable that the soil is exhausted almost as much as it is replenished by a crop of clover. Hence it is important to guard against exhaustive crops, particularly for old long used soils, whose need is renovation by the addition of nitrogen, which clover, plowed in, supplies, thus bringing the land again into a condition favorable to the raising of wheat.

Many of our best farmers who do not overstock their pastures, frequently allow large quantities of timothy to go to seed in pasture fields; which must take much virtue out of the land to ripen the seed, the greater part of which is wasted. True, the dry stalks are left on the land, in which there is about the same value as in any other dry straw. The seed also drops to the ground, some of which grows; but by far the greatest bulk is lost.

Clean Cereal Food.

While ingenuity seems almost to have exhausted itself in devices to secure the entire purification of the grain of wheat before it is ground into fine flour, it is strange that so little care is taken with other grains in the preparation for bread making. Even wheat designed for "Graham" flour is rarely cleansed as it ought to be, and it is notorious that for this kind of flower the lower grades of wheat are commoly used. When it comes to rye and buckwheat, and especially to corn, we may say that they are, as a rule, ground in their filth, original and acquired, and so come to the table for human food. Wheat must be cleansed to make white flour. This whiteness is a prime element in the price, and therefore of main consequence to the miller. The cleanliness or otherwise of other flours and meals is not so manifest to the eye of the purchaser, and the millers handle them as though it made no difference what is ground up with the grain. This fact is known to many, and prevents them from eating what they would otherwise regard as wholesome and agreeable food. The extent to which this disregard of cleanliness concerning an important class of our food materials is carried, is so great that it is often detected by the taste, and people who are fond of bread made from the coarse meals are given a disgust towards them which endures through life.

It is difficult to designate a remedy for an evil like this, so far as the people of towns and cities are concerned; but farmers carrying their own "grists" to mill can inaugurate the reform by insisting upon the thorough cleansing of all grain before grinding. If they will do this they will establish a standard and secure a general use of the proper apparatus in all custom mills, which will extend in time to merchant mills, and be a wonderful boon to all bread eaters.

Plants Protecting Themselves.

There are few things more unsightly in small gardens than any sort of dead litter or leaves; hence it is no uncommon thing for the old leaves to be cut and trimmed as closely as possible off plants. After the past severe frosts a good many of the leaves of plants look, and are, in fact, sere or dead. The result is that the next frost after they are thus bared of their natural covering passes through the next tier of more tender leaves, and the plants are cut through to the heart and die. Such has been the fate of many, while those that have been left undressed are safe and sound beneath a heavy natural thatch of dead leaves, placed in the best possible position for affording the most powerful protection. Thus, by observing nature's ways, our plants would often be much safer.

Not a few plants have their roots literally frozen through from similar causes. Dead fallen leaves are nature's covering for the roots to keep them warm. We remove all these, and allow the frost to reach the roots, and then marvel much at the plants suffering in consequence. In cases where dead litter must be removed for appearance, the best substitute for it may often be found in a top-dressing of loose rich compost, or even in keeping a loose surface on the soil itself. It cannot be too often repeated that a loose surface on bed or border works toward the preservation of uniformity of temperature throughout the year. In summer it keeps the earth cool, in winter it keeps it warm; and it is in the extremes, more than any actual amount of heat or cold, that injures or kills either the roots or tops of plants. What, leaves or a loose surface is to the roots of plants, the dead or dying top is to their stems and branches, and hence the importance of leaving those natural protectors where nature placed them until all danger is gone.

Tree Culture on Waste Lands.

Hitherto the abundance of natural timber in this country has made it easy to dispense with timber culture, and for the most part our land owners have taken little interest in such slow growing crops. This state of things, however, is rapidly passing away. The demand for special woods for manufacturing purposes is steadily and rapidly increasing, while the natural supply is diminishing and must ultimately become quite inadequate. Meantime there are millions of acres of land suitable for timber culture and for nothing else, except poor pasturage, that our land owners are allowing to lie waste and idle for lack of a little forethought, and too frequently our would be thrifty farmers will risk their surplus means in wild cat speculations, promising but never yielding large and speedy returns, when the same money spent in planting timber would soon covert their worthless swamps and stony places into valuable properties.

A correspondent tells of a piece of land that was planted with walnut twenty-three years ago. This land was flooded every Spring and Summer, and was unfit for any ordinary cultivation. The trees are now from sixteen to twenty inches through, and have been sold for $27,000. No particulars are given as to the cost of planting the grove or the amount of attention it has had during the years of growth. There can be little doubt, however, that the investment was small in comparison with the return, and the land would have otherwise remained entirely unproductive. To the contrary, the timber crop was so much clear gain. It is clear that our national resources might be enormously increased by a similar utilization by timber culture of lands which are now left unused and unproductive; and the planters would find their groves a surer investment for the security of their family possessions than any savings bank deposit.—[Scientific American.

A syndicate of Toronto cattle dealers is said to have contracted with the Allan and Dominion Lines of steamships for space for twenty thousand cattle for the ports of Liverpool, London, Bristol and Glasgow. The prospects of the cattle trade must have brightened very much of late to warrant anyone entering into any such an agreement.

THE VALUE OF A SPARROW.—English sparrows are declared to be very useful little creatures in more ways than one. It has been discovered that they are very fond of Canada thistle seeds, and eat them with such avidity that in some places, where the sparrows are numerous, not a single seed can be found in the thistle down that is very plentiful there. Notice—Strive to see if this is true.

PRIZE ESSAY.

Sheep vs. Cattle.—For the General Farmer.

Every act of man relative to stock handling may reasonably be ascribed to one or two motives, or perhaps both, viz.: pleasure or profit. That sheep, representing a certain amount of capital, will, upon the consumption of a similar cash value of food, (other things being equal) yield as great, if not greater profit in their way than cattle representing the same capital investment, is, I think, too self-evident to every intelligent mind to require direct demonstration. Let an illustration suffice. The writer last fall sold a pair of spring calves for the sum of $21.00, this having been at the time considered by disinterested parties an extraordinary price, (tho' it did not cover expenses) and bought with the same two ewes and five ewe lambs, and now at the date of writing he has sold $51.00 worth of wool and sheep, besides having still on hand at least $35.00 worth of sheep.

During the remainder of this discussion we shall deal chiefly with demonstrations of an indirect nature, such as is manifest in the detail management, trouble, expense and risk of handling each of the two classes of animals as compared with the other. With the generality of farmers, an early cash return of profit, with the least possible outlay in capital, handling, risk &c., is extremely desirable and will be most acceptable. Now that sheep husbandry is much better calculated and much more reasonably likely to fill the bill in these essential respects is what we shall attempt to show. The general farmer, of Canada, is a man of a very moderate amount of surplus funds, and hence is not equal to the task of a direct heavy investment. And sheep being much smaller, and each costing less money, may be more easily collected together in a herd than cattle, by piecemeal and as opportunity may offer. Moreover, sheep begin to multiply very much earlier, and continue to do so more regularly, rapidly, and unquestionably with less outlay. Besides this, an important consideration with most farmers in Canada is that each has already quite too much to look after, without the additional tax upon his energies of a stock which is likely to require a considerable amount of attention. Now, as a rule, sheep draw much less heavily upon a man's care than cattle do. Indeed, sheep may be successfully managed in a general way and in large numbers by a comparative youth or a female, whose strength and attentiveness would be anything but adequate to the task of attending a herd of cattle representing a like sum of money. Then, again, the vast majority of farmers have not fencing at all suitable to the requirements of a large herd of cattle, while a comparatively inferior fence will suffice to effectually turn sheep. In this all important respect alone, sheep husbandry has an advantage over that of cattle as three is to one. Moreover, with the general farmer, foul weeds are as a standing army feeding upon his capital resources, molesting his general peace of mind and interfering with his every transaction. Now, sheep are among our best scavengers, very greatly outstripping cattle in this respect. Indeed, in this particular, a healthy and sufficiently numerous herd of sheep will act as a body guard, both offensive and defensive. In fact, so practically correct is this, that no ordinary farm weed can possibly withstand the onslaught, so that he who keeps sheep will have the happy experience that in his herds he possesses very becoming and desirable, as well as successful helpmeets, in the great and paramount work of subduing the earth. But, not only do sheep rid the farm of noxious weeds and at the same time profit themselves by their consumption, but they also return them to the soil in the improved form of excellent manure, which they seldom neglect to distribute with infinitely greater care and uniformity than cattle ever do. We have always observed that where cattle have grazed, unless much valuable time has been consumed in spreading their droppings (and time is money), there are large tufts of unpalatable grass, which neither the cattle themselves nor anything else will eat until long after its season. And this evil continues, unless remedied in the above specified manner, year after year, to the great annoyance of the husbandman, while noxious weeds remain the undisputed occupants of the soil, delighting themselves with the fatness of the farmer's vested capital. Moreover, in most localities, there will be seasons in which, even if there be no natural scarcity of water, there will be, by means of severe droughts, so great a scarcity of water, and at the same time of pasturage, as to render the keeping of cattle almost impracticable.

Now, sheep are so constituted that they can pass through those scanty seasons and distressingly trying ordeals with comparative impunity. Moreover sheep are capable of thriving in localities and under circumstances where it would be practically out of the question for horned stock to subsist. There is but one respect in which cattle have the advantage of sheep, viz., they can wade in deep water in quest of food. Again, we know of no domestic animal which appears more plastic in the hands of man than sheep. They seem to yield, as it were by magic, to the molding care and design of the skilful shepherd. Besides, the sheep is a very prompt and reliable yearly paymaster, which cannot be said with so much truth of any other domestic grazing animal. It most generously yields its annual copen of wool and increase, and thus pays as it goes. In this respect the sheep is capable of teaching a very wholesome lesson to the youth of our land, and ought, for no other reason, to be extensively reared, viz.: to pay as you go, young man. Again, in the experience and observation of the writer, sheep have proven much less liable to disease and accident than cattle. And still another important consideration in favor of sheep husbandry over that of cattle is this, should disease or accident carry off an animal, the loss sustained would be much less than in the case of the loss of an ox or cow. In this respect alone the sheep handler enjoys an advantage over the other about as seven is to one. Furthermore, should the sheep raiser become pressed for a little money, and is compelled to sell, he only needs to sell to the amount required; besides in most cases of forced sales there is more or less sacrifice; this is usually in proportion to the amount sold, but since the sheep man is handling small animals, and hence required to sell only to the extent of his liabilities, less sacrifice will be experienced than would be the case where he disposes of larger and hence more valuable animals, *i. e.*, animals representing more money. Then, again, it is much easier securing sale for small carcasses, especially in hot weather. At such a season a man could dispose of a sheep by the quarter when he could not possibly sell a quarter of beef, unless he cut it. And one great nuisance in connection with our villages is their by-laws prohibiting this. Again, in soft weather and his stock upon tender sward or grain pasturage, the sheep handler can sleep in peace knowing that his pastures will be all right, while the cattle-man will be harrassed with the annoying thought that every step which his stock shall take is but so much direct and lasting damage to his fields. Surely every observing man knows how the horned cattle poach the land and pasturage to destruction. Moreover, of all the quadruped stock kept in Canada, sheep are the only ones that can be satisfactorily fed upon whole raw grain. True, calves will do very well in this regard for a few weeks while nursing their dams, but soon begin to void large quantities whole, of which the sheep is never guilty, unless it has been entirely overdosed. Besides, sheep require no such outlay for housing during the inclement season as do cattle. Sheep will be quiet and thrive in an open shed, while cattle require to be closed in and tied up, to secure comfort and avoid their goring one another. Lastly, by means of a portable fold, a man can safely pen his sheep over night, and at the same time upon a fresh piece of ground each night, and thus go regularly over a large field in a very short time, and effectually top dress it with the very best of manure, both liquid and solid, which can in no way be satisfactorily accomplished by cattle in the folding process. In short, the quick return and large profits to be realized by the handling of sheep has saved many a man from failure, when by means of any other stock he could not possibly have saved himself.

Indeed, the writer knows whereof he speaks, he having frequently realized about $20.00 per head for each sheep carried through the winter, many of which were rams and ewe lambs, and had a flock left in the fall. At this rate the profits accruing from sheep raising will more than double those of our best general cattle.

O. O.

Beet Root Sugar Co. in Quebec.

A company bearing the name L'Union Sucnere du Canada, has been organized in France, with a capital of nearly two millions of dollars, the half of the capital paid up, for the purpose of manufacturing white sugar from beets grown in Canada. The company are desirous to have Canadians take stock in it, and share in its profits. At a meeting held in Montreal by a number of French-Canadian gentlemen, the agent of the company explained the plans of the new industry about to be started. The company offered to Canadian capitalists the privilege of taking one tenth of the stock, and also the right of having two Directors on the Board, which is composed of eight members. After discussing very favorably the new industry, it was decided to accept the offer of the French company, and the stock offered, amounting to $100,000, was at once subscribed.

It is the intention of the company to erect its first factory at Berthier, Quebec, where a sufficient quantity of beets has been secured by contract. Four other factories will be erected during the year, should the supply of beets warrant the company in extending its operations. One thousand arpents of land are required for the cultivation of a sufficient quantity of beets for the work of each factory. Each factory will cost in erection and machinery from $150,000 to $200,000, and will manufacture from 20,000 to 30,000 tons of beets, which will produce about 1,600 tons of white sugar. The profits estimated by the Directors is placed at 25 per cent. on the paid up stock. This new industry will, it is believed, be at the least as profitable to the producers of the beets as to the company. They will receive for the beets a remunerative price, and the pulp will, after the sugar is expressed, be valuable for feeding stock.

Rats, mice and insects will at once desert ground on which a little chloride of lime has been sprinkled. Plants may be protected from insect plagues by brushing their stems with a solution of it. It has often been noticed that a patch of land which has been treated in this way remains religiously respected by grubs, while the unprotected beds round about are literally devastated. Fruit trees may be guarded from the attack of grubs and ants by attaching to their trunks pieces of tow smeared with a mixture of chloride of lime and hog's lard.

Copperas has no odor, but absorbs and disinfects the atmosphere of a room rapidly. If every dairyman would keep a little of it dissolved in water in his milk-room, changing it every two or three days, it would be found of great value. Salt, also, absorbs odors, and it is not subject to ferment itself. It therefore is a deodorizer, and this statement shows the great importance of keeping salt intended for dairy purposes in a pure atmosphere, or it may become spoiled before being used. This is not sufficiently considered by dairymen, who often keep salt in their cellars with decaying vegetables, which renders it unfit for use.

To Drain a Quicksand.—G. M. C.; Quicksand will enter the finest joints in tile drains. Some drains have been laid with the joints bedded in a porous mortar, with an excessive proportion of sand, and made either of common lime or hydraulic cement. The proportion of sand may be 7 to 1 of common lime, or 12 to 1 of hydraulic cement. The joints are covered with this mortar. If the settling of the tiles is feared, they should be laid upon narrow hemlock boards 12 feet long and four inches wide. The tiles have also been laid in, and covered with tan-bark, which has prevented the entrance of the sand. In laying drains the greatest care should be taken to have the slope even and without depressions, and if the presence of silt of any kind is expected, silt basins should be made at convenient distances in such a manner that they may be uncovered and the silt removed every year in the dry season, when the drains are not flowing.

Dairy.

Care in the Milk-House.

The first necessity in setting milk for butter is perfect purity of place and surroundings, then there should be the following adjuncts :—A moderate circulation of fresh and moisty air—with stagnant air the natural odor of fresh milk, which is disagreeable to some persons, cannot be removed; in dry air, the cream becomes of a leathery toughness and often produces specks in the butter, and always makes an inferior quality.

The shelves on which milk is set should be raised at least three feet from the ground. When it is kept on the ground in the cellar or milk-house, it is brought in contact with the coldest air, in which all the bad odors of the place are condensed.

The temperature of the milk-house should not be over 60° in summer, nor below 45° in winter; at a lower temperature than the latter, the cream makes a very light colored butter ; besides this, there is danger of freezing, and frozen cream does not make good butter.

The utensils in use must be perfectly clean, and but little light must be admitted, or the butter will not have that deep, rich color so desirable. Every time cream is poured into the cream jar it should be strained, otherwise there will be danger of having white specks in the butter.—[Abridged from an article by H. STUART.

A noted Philadelphia butter maker says: "Washing effectually removes the butter-milk, and can be done in one-fourth the time required to work it out, which is an important item to any farmer's wife with her manifold duties. I can now count a dozen who are washing their butter to one who did so ten years ago, and we are not to suppose they are doing an injury to their product. While I do not claim any superiority for washed, over worked butter (if properly worked), I do claim it is in no wise inferior, and that the time saved is sufficient if the performance is properly understood, to cause a very general adoption ol the method."

The action of water on unsalted butter is purely mechanical, carrying off only the buttermilk, because it is soluble in water and readily mingles with it. As to the flavors and delicate aroma being carried off by water, we cannot believe it, as this is now almost the universal practice in the largest and most noted creameries in the country. Fresh running water as near to 65° as possible is best for this purpose. If the water is allowed to be so warm as to melt, or render the butter quite soft, it will certainly do harm, but this should of course be avoided if to accomplish it ice should have to be used. If the water is too cold it will stiffen the butter so that all the buttermilk cannot be reached, and thus do injury. If properly used it is perfectly innocent and most convenient. —[Ex.

To have good butter, the cows that produce the milk must be of good quality. It is not necessary that they should be pure bred or registered; still in purity of blood are to be found the qualities to be depended on. To have a good cow, suitable for the dairy, they must be raised on the premises. A good cow may have a poor calf, but a good cow, mated with a bull that has a good cow for a dam, seldom produces a poor heifer. What is meant by a good cow is one that gives a fair average quantity and is persistent, varying little in yield, and whose milk has a large percentage of butter. Twelve quarts, steadily yielded throughout the whole season, is a fair quantity, on ordinary green feed of good quality. There is little difficulty in finding animals that, on high feed and when fresh in milk, will give 18, 20, and even 25 quarts per day, but the yield is of short duration. The cow that will give on ordinary feed a good average amount, and holds out well, is to be valued before the large yielder of short duration. There is a vast difference in quality. This is why cows intended for the permanent dairy sdould be bred and raised on the premises. They can be given a better chance, and it is the early feeding and training that tell afterward. People seldom part with good cows unless it be for their full value.

The largest per cent. of cream, as shown in the guage, does not always give the greatest amount of butter. It is the solidity that is the test for butter.

Fall Cheese.

The quantity of fine fall-made cheese in this country is not large. If America is to keep up and increase the quantity of cheese exported to Europe, the quality must be good. "Skims" will not fill the bill. If any temporary pecuniary advantage is gained by making skim-cheese it is more than balanced in the long run by subsequent losses. The explanation for the inferior quality of so large a percentage of the fall-made cheese is easy. Cupidity is at the bottom of it. As soon as the hot weather is over, many factories resort to skimming. A factory which has made a reputation for producing cheese of fine quality, spoils its reputation and ruins its prospects by skimming, and at the very time, too, when the best opportunity is presented to maintain and enhance it. It is well to remember that the late fall cheeses are those that are required to carry over for spring use. If these goods are "full cream" they are rich, solid and desirable. The factory producing them is more than likely to get an order for goods from abroad the following season, but such will hardly be the case if skimming is resorted to.

Full cream and fall milk, properly made into cheese and well cured, should be the finest of the season—such as would be rich, mellow, fine-flavored in April or May.

The streaky or mottled appearance often noticed in butter is entirely owing to the effects of salt. The trouble is that the butter has not been well worked after the salt has had time to dissolve. This requires about six hours to be thoroughly accomplished, depending somewhat upon the fineness or grain of the salt. To test the correctness of this statement that salt causes mottled butter, cut out a slice from such butter, and with a sharp-pointed stick dig out a little of the butter first from those parts that are most yellow and solid looking in color. Taste it, and it will be found almost fresh and free from the taste of salt. Afterward, taste some from those parts that have a translucent or watery appearance, and they will be found quite salt or brackish, thus proving conclusively that the two parts have not been properly amalgamated. Butter should always be worked a second time to remove this mottled appearance. If it is sufficiently worked at first to accomplish this end, as can be done, the butter takes on a salvy appearance.

It has been said that the dairy shows at Kilmarnock, Scotland, which have been held for twenty-five years, have exercised a wonderfully beneficial effect upon the manufacture of Scotch cheese.

In the country of Herve, formerly Austrian Limbourg, the cows are milked three times a day —at four o'clock in the morning, at eleven o'clock, and again at six in the evening. From time immemorial the cream has been allowed to rise in wide and shallow pans of earthenware, and latterly sometimes in tin plates. It is by the churning of cream so obtained that the butter is procured for which Lieger Veriers are so famous.

At the Massachusetts Butter Show the eight lots judged the best were all made from milk set in open shallow pans, most of them the old style tin pan. The 20 or more lots made by the deep-set, submerged process, received the two premiums specially offered for butter thus made ; otherwise none thus made would have been mentioned. The premiums, according to the statements, averaged six ounces of salt to every ten pounds of butter. The range was from four to nine ounces, indicating the general tendency towards a fresher article.

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

Meat and Milk.

Here is a formula, equally good for fattening or milk-producing :

6 bushels of	linseed at $1	$6 00
10 "	peas at 86c	8 60
150 "	Swedes at 5c	7 50
		$22 10

On this food the fatting animal will make, on an average, two pounds a day, equal to 300 lbs. during the season of 150 days, which at 8c. a pound, will amount to $24 ; the dung, therefore, will be the only profit.

On the other hand, take a cow newly calved. On rich food like the above she will give lots of milk, say 10 quarts a day, or a pound of butter. Well made fresh butter in winter is always worth from 35c. to 40c. a lb. in Montreal—say 25c., equal to $37; balance in favor of milk $13, besides 1,350 quarts of skim-milk, which at half a cent a quart, equals $6.75 ; total, $20.05 in favor of milk. I have over-rated the yield of beef ; 1½ lbs. a day would be more like it, and the price is put too high. I have under-rated the milk, as a decent cow on such food would give 14 quarts a day.

Will some one try it this winter? If the turnips are given immediately after milking, and a small piece of saltpetre put into the milking pail, I guarantee that the milk shall have no taste of the vegetable.

Swedes can be grown for 5c. a bushel—don't doubt it; a fair crop here is 15 tons to the acre. Swedes weigh about 43 to 45 lbs. a bushel, equal to 750 bushels per acre—$37.50. Mr. Cochrane's usual crop is 1,000 bushels per acre.

The linseed must be crushed, boiled, and poured over the pea-meal and plenty of straw-chaff, no hay. If there is no crusher handy, the linseed may be mixed with oats and ground at the mill, in which case a smaller proportion of peas will be necessary. In this case, of course, the mixture of oats and linseed must not be boiled, but mixed with boiling water only. Straw *ad libitum* should be given in the racks, or, cut into chaff, in the mangers.—[Ex.

ARCHDEACON DENISON ON CHEESE.—Archdeacon Denison has sent the following reply to a gentleman who wrote to him on the subject of cheese-making :—"East Brent, Highbridge, Sept. 23—Dear Sir,—I doubt my being able to be of service to you in this matter. Where farmers have come to know that cheese factories are a great mistake, as I have always judged them to be, they are recalling cheese-making into their own families, which was the way in which all good Cheddar cheese used to be made, and must be made if it is to preserve its character and its price. Home making and no artificial drying are the two principal elements in cheese-making. It is almost inconceivable that any farmers in the Cheddar cheese country should have thrown into the ditch all their valuable monopoly by allowing themselves to be deceived by the American example into artificial drying and rapid sale. A real Cheddar should not be eaten under eighteen months from date of making, and is best at two years from it. No American or factory-made cheese smells sweetly after six months, when it is a race between the men and maggots. The public generally have been taken in because ninety-nine out of a hundred who buy cheese never buy a whole cheese, but a hunch of cheese, and then eat it up before they find out how badly made and how nasty it is. There is no county in Europe, or out of it, that can make prime Cheddar cheese except Somerset, and it is the worst folly to go and throw away a monopoly, being a natural gift. We had better go back and, if need be, live on bread and water for two years, that in the third year we and our customers may be able once more to live on bread and real Cheddar cheese. There is no better food in the world—few foods so good—and we have been throwing it all away like idiots.—Yours always, GEORGE ANTHONY DENISON."

It never pays to purchase a second-rate animal, tree, shrub, vine or seed of any kind, at any price however low, when a first-rate article can be had at a fair price.

It is reported that information has been received at Ottawa that the Brazilian Parliament has voted a subsidy of $50,000 to a line of steamships to trade between ports of that country and Canada. It is stated vessels will be placed on the line at once, and will probably run during the winter months between Halifax, St. John, Perinambuco and Rio de Janero.

MILKERS—(Continued from page 252.)

A good cow on good pasture desires to be milked; she will come at milking time and bellow, asking as plainly as she can to be milked, and feel grateful to the milker. Cows on poor pastures—cows that have to hunt all day, and then cannot find sufficient nutritious food, are apt to kick at milking time. In cold winter weather, when cows have not sufficient food or shelter, there is apt to be kicking at milk-pails and milkers. The lesson taught by this illustration is, that even the goat cannot find sufficient nutriment where the rocks are too numerous and the soil too poor; yet in many places a profit and a very great family convenience is to be derived from the goat. In a very large part of our Dominion these useful animals must be found of great advantage. Perhaps it might be well to encourage the goat breeders, by

MONTAGUE GOLD MINES, NOVA SCOTIA—SEE PAGE 251

warding prizes at the exhibitions for the best kinds. Durhams are good in their places, so are Ayrshires and goats; but the farmers find out and know far better what is most suitable for their lands and their pockets than these lawyers do, or speculators, who worm their way into Parliament, and will vote for any expenditure, so long as they can get some grant or favorite enactment to draw money from the farmers to suit themselves.

Many of those Government expenditures, nominally for agricultural advancement, are for the advancement of party policies or personal friends; and sometimes for even more doubtful purposes. For instance, the Quebec Government have been publishing, at the expense of the country, a paper called the Journal of Agriculture; it has been given to the armers free, but they pay dearly for it indirectly. This is one of the compulsory expenditures of the farmer; and what has it done? Advertised friends and measures free; but in the very thing it ought to have given full information about it has been silent. For instance, there are three large Government farms that receive very large sums annually from the Government; they pay no taxes, and the whole proceeds from the farm, the grant and the benefits of new taxation, are all swallowed up for sectional purposes. There are no instructions, no models, no patterns, or anything of any advantage, to be seen on either of the farms we visited; not half so good a lesson was to be learned as on the average farm of the county, and yet the Government grant for agriculture is, and has been for years, swallowed up in this manner. Is it any wonder that the poor French peasants are behind? Why has not the Government Agricultural Journal given the people the plain, clear, unvarnished truth about this expenditure? We respectfully ask them to do so for the benefit of our readers, as we wish to write of those farms that we have visited, and find it difficult to obtain the necessary information.

OUR ILLUSTRATION.

When driving through among the rocks at Montague Gold Mines, the adjoining scenery so impressed itself on our mind that we instructed one of our artists to draw it and another person to engrave it. It carries a lesson that every farmer and every legislator might consider with profit to themselves and to the country.

Here the vegetation is so much obstructed by rocks and the poverty of the soil that very little herbage is to be found, and what little there is is of such poor quality that a large space of country must be travelled over to find even enough to keep a goat alive. A small Jersey or Ayrshire could not get enough to live on here. In this picture two little girls are holding the goat by the horns while the other is attempting to milk the poor beast. The goat, we presume, with the instinct of nature, knew that it required all the sustenance it could procure to support life, very sensibly, we thought, wished to inform its milkers of the fact by attempting to kick the dish over.

Quality and Demand.

The first principle in making good sales is to produce something worthy of a good price. This is doubtless the principle thing, just as the old rule for making a good venison dinner required, as the first thing, the possession of some good venison; but as much good meat has been spoiled in the cooking, so much produce has been wasted in the selling. No matter what a farmer raises, whether wheat, corn, onions, beef, or butter, it should be his first ambition to raise a first-class article. When this is accomplished, and is an established fact, merchants and consumers are not slow to find it out, and selling at good prices is easily accomplished. Most consumers follow Merriam's rule, "Get the best," and the trouble with much of our produce is that it is not the best. Farmers are too anxious to get quantity without sufficient reference to quality, but they will find by experience that it pays better to produce first quality than great quantity. Deception on the part of the seller damages him more than the purchaser. Sell so that the merchant or consumer will wish to purchase again. Advertising is good, but no amount of advertising avails much unless the article advertised has true merit. A man cheated once blames the seller, but is careful not to be cheated twice, for then he is at fault himself.—[Ex.

The Gleaner.

During the past summer, if you have read your ADVOCATE, you may have accompanied us in our journeyings through the Maritime Provinces and Quebec for more than two months. Of these Provinces we have much to talk to you about during the winter months. In our last issue you may have seen our account of the leading exhibitions. These occupied our time for another two months. We have yet to give you something on Township Shows. You have already had accounts of two different trials of implements. We attended two other trials, one of which we now give a short report of: The trial of Mr. John Watson's binder or gleaner took place on a field of oats about 2 miles distant from the village of Ayr, Ontario. When we entered the field (about 3 o'clock in the afternoon) we were rather disappointed, as the sheaves appeared to be standing in "shocks" in a loose and ragged manner, and a good deal of loose oats in the straw were lying on the ground. We presume this struck us more forcibly as the last field we had seen was the clean work done by the Toronto Harvester and Binder. Mr. Watson's machine is for binding only. It is drawn by one horse, the driver of which has perfect control of the machine. By the least touch of his foot, at any desired time, the sheaf is instantly bound and dropped to the ground. The grain is raised from the ground by a revolving bar, in which is fastened a series of large, flat, steel teeth, much resembling monster saw teeth. These gather the grain cleanly from the ground, whether it is left in a continuous sward or in bunches ready to make sheaves. All this work it did neatly, cleanly and well. We noticed that the sheaves fell on their head. This we objected to, and Mr. Watson informed us he could make it drop the sheaves on their butts. He immediately altered the machine, and the sheaves then dropped on the ground in the manner desired. But they dropped too near the standing grain, and had to be immediately picked up out of the way of the reaper which was cutting the grain. It is our impression that this machine will rapidly come into general use, as binding is one of our greatest hindrances to getting our harvesting done quickly and cheaply. Wire was the material used in binding.

The horse does not walk on the grain, but on the ground close by the swarth. This is the first implement of this kind attempted to be worked in Canada. In the States they are as yet but experimenting on them.

Where the grain was cut at the finishing of the day's work, it was cleanly and well gathered. The cause of the litter, as seen on entering the field, was, the farmers had pulled the sheaves about and strewed the straw around in different ways to see how the gleaner would work. At these trials there is considerable tramping and littering about, which is often done to satisfy fastidious persons.

A very large gathering of farmers were on the ground, and expressed themselves well satisfied with the working of the machine. Many would have ordered them then, but Mr. Watson would not supply any until he has every part working to his own satisfaction. He has already expended $6,000 in perfecting this machine. Next season they will be manufactured for sale. We wish Mr. Watson every success that he deserves. Every inventor of these improved implements deserves more than he generally receives.

Canada has a just right to claim some of the new and improved implements. The inhabitants of the world do not give Canada her just due, but generally class these improved implements as Yankee inventions or American machines, whereas Canada in reality is the birth-place of a very large number of the improved appliances and implements.

"THE GLEANER" BINDER, MANUFACTURED BY MR. JOHN WATSON, AYR, ONT.

Winter Work for Farmers.

Not enough attention is paid by farmers to profitable employment in winter. It is very poor management to let nearly half the year pass in semi-idleness. If the winter months can be profitably employed, it is wise to use them in that way.

One of the most egregious errors committed by farmers is neglecting their stock in winter. It is safe to say that nine out of every ten animals kept by farmers come out of winter quarters with much less flesh than they went in. All the food they have eaten has been lost, as it has brought no return, except to save the lives of the animals which have consumed it. The poor animals are turned to grass in spring, mere skeletons, and must again feed many months to get in the order they were in when they left the pasture the fall before. Can farmers use their time more profitably in the winter than by fitting their cattle and sheep for the butchers? Will not the grain they raise bring more profit put into beef, mutton and pork, than if hauled to market and sold by the bushel? The manure is saved to keep the farm rich and productive. Good barns, stables, pens and stalls should be made to put the food and stock in. The most profitable method of fattening stock should be studied. It is a great help to the farmer to turn off a score or two of fat sheep or swine or steers for money he needs to pay his debts or household expenses. It is a good thing for the farmer to have something to sell at different seasons of the year, so as to put money in his pocket oftener than when he is dependent on a single crop. But if the top market price is wanted, stock must be in prime market condition. It takes time, care and good feed to put it in that condition, and the farmer has the time to do this in the winter months. The amount of meat of all kinds going to Europe is constantly on the increase, and the best is wanted. Raise crops of grain in summer, and put into good mutton, beef or pork the coming fall and winter.

Veterinary.

The Horse Disease.

The epidemic disease which has recently appeared among horses in nearly all of our larger cities is manifestly a catarrhal fever or influenza, depending upon some peculiar atmospheric influence, as is shown by its appearance in various parts of the country almost simultaneously. It is not, upon the whole, a dangerous disease, but a very troublesome one, as the animals affected are pretty certain to be unfit for work for several days or weeks.

The symptoms are a cough, a running at the nose, and general fever, with a strong disinclination for food. In some instances the disease is ushered in with a chill, In its early stages the membranes of the nose will be found pale or of a leaden color, and those of the eyes of a reddish or yellowish color. As soon as these symptoms are observed, and the animal, to use a common phrase, is "off his feed," place him in a warm but well-ventilated stable, and wrap him in a blanket, especially if the weather is cold. Sponge out the nostrils frequently with warm water, and if the legs are cold bandage them with woollen cloths. The water given to drink should be slightly warmed, but not hot enough to make it unpalatable. The diet should be light and of a laxative nature—ground feed, warm bran mashes, roots of various kinds, but especially carrots, with a little salt added. Grooming should not be neglected, as this induces circulation of the blood through the limbs and near the skin. Outward applications of remedies are sometimes quite beneficial, especially to the throat and under jaw. The most that is required or expected by outward applications is to produce a kind of counter-irritation. Disinfectants should be used to prevent the spread of the disease, and also as a relief to the animals already suffering from it. Carbolic acid or bromo chloralum is excellent for sprinkling the floor of the stables. The fumes of burning sulphur are also an excellent disinfectant, but they should not be made too strong in a close stable, as injury might result.

Of internal remedies there is a long list. Various preparations of potash have been used successfully. Six drachms of bromide of potassium two or three times a day, dissolved in a bran mash, has been used with excellent results. No other medicine was given, and the above for only three or four days. Some veterinarians use the following:—Chlorate of potash, nitrate of potash, and licorice powder in equal parts, mixed, and a tablespoonful of the composition given daily in the animal's food. If he refuses all kinds of food, as often happens, then a little of the powder may be placed on the base of the tongue several times a day until he is relieved.

When the cough is very severe, mustard applications may be applied to the throat, and linseed tea given to drink. In some cases steaming the nose, by putting vinegar on a hot brick or stone in a bag, and compelling the animal to inhale the steam, will afford relief when the nostrils are much swollen or obstructed.

In all cases careful nursing, keeping the animal out of the cold and wet, and giving him perfect rest until a cure is effected, are as important as medicines, and usually more so.

The Provincial Exhibition of Nova Scotia left a surplus of a thousand dollars in the managers' hands.

An English stock company has secured about 100,000 acres of land in the Province of Quebec, where it is proposed to colonize a large number of English and Scotch farmers.

Stock.

Stock at the Toronto Industrial Exhibition.

(Concluded from October No.)

Among the Pigs, the pens were not above 3-4 filled, yet those exhibited were of superior quality. The Berkshires were not numerous, but those shown were very good, John Snell & Sons showing 8, some of which were imported, and succeeded in carrying off several important prizes. Jas. French also makes a large and fine exhibit. H. Shorby and John Hewer show some fine animals; there were a number of other exhibitors showing some choice specimens. The small white breeds made an imposing exhibit, being out in large numbers, and were uniformly very good. James Main and Joseph Featherstone each making very fine exhibits, and carrying off a large number of the prizes. Several other exhibitors display some very fine animals, including Robert Dorcey, who won several premiums. The large white breeds were not as plentiful, nor as high in quality as the last mentioned class, though there were some very good specimens. J. & J. Leslie and Joseph Featherstone each carried off a large number of premiums. Thomas Boyington also makes a fine display, and wins several prizes. The Essex breed were out in moderate numbers, but those shown were very good. Joseph Featherstone won a large number of prizes in this class also, being closely followed by Mr. Hewer and Sharp Butterfield, each of whom took a number of prizes, as did James Anderson.

Cattle.—In the Durham class the exhibit was not as large as in some former years, but some good animals were shown. J. & W. Watt and J. & R. Hunter each had fine exhibits, and contested keenly for some of the leading honors, Messrs. Watt winning first herd prize, J. & R. Hunter, 2nd. Messrs. Petit and Fottergill also had a fine exhibit, and won several honors in the prize list. John S. Armstrong also showed several. Beside these exhibitors there were a number of breeders who each showed a few very good animals, among whom were George Miller, Jr., who won 1st on yearling bull, also W. C. Heron of Ashburn, who showed a few very nice animals. Specially worthy of note in this class was Mr. Watts' two year old bull, Royal Barmpton, bred by John Dryden, M. P. P. of Brooklin, Ont., which won 1st in his class, and diploma for best bull of this breed of any age. He also headed the winning herd, and we have no doubt that Messrs. Watt will give him all the credit for winning the herd prize, as Messrs. Hunter's cows were considered equal to theirs by several of the judges, and by some preference were given to Messrs. Hunter's cows, which were certainly very good. Herefords.—In this class there were 28 animals exhibited, and though not in high condition, they were a nice lot. F. W. Stone and C. C. Bridges were the only exhibitors in this class. Mr. Stone took a large proportion of the prizes. Devons were represented by 25 beasts; though not in large numbers, the quality of those shown was very good. Mr. Geo. Rudd took a large proportion of the prizes in this class, the remainder of the honors being evenly divided between Mr. Wm. Curtice and G. & A. Wood. Galloways were not in large numbers, only 23 being on the ground. The breeders of this variety of cattle in Ontario are not numerous, and the most of those shown were thin in flesh, but had a hardy, rugged appearance; between them and the smooth, sleek Shorthorn, Devon or Hereford, there is a striking difference. They have shaggy, glossy, black coats, and appear to have excellent constitutions. In size they are large, and their beef is said to be of a superior quality. We consider them well adapted for roughing it in a rugged section of the country, while at the same time they are found profitable among the rich arable lands. Mr. McRae and Mr. Develin were the only exhibitors in this class, Mr. McRae taking the larger share of the premiums, though some important ones were taken by Mr. Develin. Ayrshires were out in large numbers, and were said to have been the best exhibit ever made in the province. The judges in their report speak very highly of them, and stated they found it very difficult in many classes to decide the awards. All the honors in this class excepting four were pretty evenly divided between Messrs. Jardine & Son and Mr. Thomas Guy, Messrs. Jardine & Son taking somewhat the lead. Three of the four remaining premiums were given to J. B. Bessy, and one to G. D. Moraen. Jersey—In this class there were 21 shown, of superior quality, and the judges in this class also had difficulty in deciding. Wm. Rolph won the larger part of all the premiums offered, the remainder of the honors being pretty evenly divided between David Duncan and H. G. Charlesworth. Grades.—The exhibit in this class was large, and those shown were good. The prizes were pretty evenly divided between a number of exhibitors. Fat cattle were well represented, the animals being large and of good quality. By many experienced breeders it was considered the best exhibit ever held in the province. Several of the animals weighed considerable over 2,000 each, and were smooth and neat in form. A noticeable feature in the show was that all were Shorthorns or Shorthorn Grades, with the exception of two Devons, owned by Mr. Rudd. The animal in this class which attracted the most attention was the Grand White Steer, owned and fed by Jas. Russell. His weight is 2,854 lbs. Mr. Russell has recently sold him to Mr. Wordley, for $450.00. This animal has for several months been attracting public attention, and large numbers crowded around him whenever he was taken out of his stall at the exhibition. This is one of the pair of steers of which notice has been given from time to time in the stock notes of the ADVOCATE, first in the January number of this year. Though there were several other very fine cattle exhibited, this one seemed to draw the crowd.

The Horses in all classes were exceedingly good, and in most classes numerous. Thoroughbreds.—In this class there were 27 entries, and although the numbers were small, the quality of the animals shown was high. The roadsters, carriage horses, hunters, saddle horses and general purpose, exclusive of Clydesdales and Suffolk, were all numerous and of superior quality. The premiums awarded for walking horses drew out a large number of fine animals. In the Clydesdale class, the entire horses were very numerous, and of superior quality, several breeders declaring it to be the best exhibit ever made in the province. The mares of this class were not so numerous, but were excellent, a Clydesdale mare winning the special premium for best mare of any age or breed. A thoroughbred stallion won the special prize for the best stallion of any age or breed. We would have dealt with the horses more fully, but found it very difficult, as they were not classified with any regularity in their stalls, but even if they had been the difficulty would not have been overcome, as the greater number of the stalls were locked and the attendants away much of the time, so that we can only give a general outline of each class.

The Poultry exhibit was one of the best ever held in the province; nearly all the various kinds of poultry were well represented, and the pigeons were out in large numbers.

The Ontario Agr'l College, of Guelph, had on view a number of animals, none of which competed for prizes, but were merely brought for public inspection. The collection consisted of three Polled Angus, one Galloway cow, Ayrshire cow and bull, pair of Herefords, Shorthorn cow and bull, one white hog of the Windsor breed, pair of Berkshires, one pair of Leicester sheep, pair of Cotswolds, two Southdowns and two Oxforddowns. Some of the animals in this exhibit were rather nice, while others were quite ordinary.

Any hog, and especially a sow in pig, should have, at least three times a week, a small quantity of charcoal. This helps to correct acidity of, and arrests fermentation in the stomach, which is a source of diarrhea. A little sulphur is excellent and coal ashes with the cinders are good. Pigs will pick out all the charred bits, and they act as correctives. All of the above are important if not necessary to keep a pig in a healthy condition. The best and handiest plan is to throw a bucketful of coal ashes and charcoal in one corner of the pen and let the pig help itself. The sulphur and salt may also be placed in another spot, and if they will not get wasted by mixing with the litter of the pen, several handfuls may be put in at a time, with no fear that any more will be eaten than is required. No harm will ever come on account of a bountiful supply of sulphur, salt, charcoal, or coal ashes.—[Ex.

Value of an Improved Animal.

The American Agriculturist thus refers to the value of an improved animal to the farmer :—

"In a farmer's yard we noticed a good Shorthorn bull, two years old last spring, thorough-bred, registered, that cost $150 we believe. He was kept for the double purpose of improving the stock of the farm and of the neighborhood as well, and for the latter purpose was let at the low rate of $2 per service. His progeny for the present year will number at least 60, yielding say $120, though a considerable number of these will be in the home herd. A little figuring will show the value of such an animal. The calves will be worth to $10 each at one day old from high bred cows, while the ordinary 'native' sell for only $1 each when dropped—an increase of $7 to $9 each. Call the increased value only $5 each, a very low estimate, and the increased value of the 60 calves will be $300, or twice the cost of the bull. But look ahead a little : The expenses of raising 60 animals to three years old will be about the same for natives or good grades; but at that age the improved animals will sell for at last $25 more per head—equivalent for the 60 animals of this one year's get, to at least $1,500. Let it be kept in mind that this result will surely come from keeping this one $150 animal a single season, while his value a year hence will be quite as large as now. And this result may be depended upon annually for half a dozen years. There is no doubt that the above figures will be fully realized. Query: Why are not more such breeding animals introduced into every neighborhood where farm stock is kept? Similar figures apply to horses, swine, sheep, etc. A multitude—indeed the great mass—of farmers do not hesitate to graft their native apple trees with improved cions, yet they are satisfied to keep on raising, caring for, and using 'scrub' animals, when every dollar expended in improved blood is speedily returned many fold !"

Ventilation and Disease.

Close, ill ventilated stables are injurious to the health of animals, for air which has been taken into the lungs and expelled from them, becomes deprived of its oxygen, and is then positively injurious to health.

Stock of all kinds should have abundance of pure air, and it is to the want of it that many of those epidemic diseases which have been fatal to European cattle, may be attributed. Sometimes European farmers of the poorer classes confine their cattle in close dark houses or sheds. These places not being properly ventilated, frequently occasion those contagious disorders which sometimes devastate whole kingdoms, and require all the energies of the authorities to arrest their progress.

Some years ago the Board of Health of the city of Paris made a report on the epidemic and epizootic diseases which affect the cows in the numerous dairies around Paris. On examination it was ascertained that this epizootic was only a chronic disease, a true pulmonary pthisis, and by this the greater number of cows which fill the stalls of Paris and its environs had been attacked.

The Council stated that the principal cause of the disease was the improper treatment to which the animals were subjected.

Diseases which arise from a want of ventilation are sometimes perfectly cured and entirely removed by the addition of a plentiful supply of fresh air. A few years ago there was a great mortality among the horses of the British cavalry in some of the large barracks near London. On investigation it was discovered that the disease which proved so fatal was caused by imperfect ventilation.

Professor Johnston relates the following incident which is worthy of attention : An agriculturist had a number of sheep housed and fed on mangel-wurtzel, but several of them sickened and died, and he declared that it was the food that had killed them. A veterinary surgeon, however, who happened to be aware of the consequences of defective ventilation, pointed out the remedy, a better ventilation for the sheep, which were over-crowded. The defect was then remedied—the sickness and mortality ceased—the sheep ate the mangel-wurtzel and throve well upon it.

What Horses Should we Raise.

Mr. T. C. Patterson, in his evidence before the agricultural commissioners, said:—

As an exporter, his practice had been to select the best kinds suited to the English and Scotch markets, and accompany them to their destination. He considered the Clyde stallion the best for draught purposes, but for purely agricultural purposes the Clyde was too heavy, two-thirds being much better. American trotting stock and Canadian stock would make good roadsters. The Tipoos and Royal Georges were well adapted for this purpose. A great improvement had been made in roadsters of late years, but very little in riders. The proper horse for the British market was one which was got by a thoroughbred sire out of a moderately bred mare, partly trotting and partly of coach blood. The stallion should weigh 1,100 lbs., and be from 15 ¾ to 16 hands in height. He had frequently purchased farm horses here and exported them to England for sporting purposes. A model hunter should be about 15¾ hands high, and seven feet in girth, short back, high quarters, legs well under, good color, and not more than six years old. An animal with these points could be had here for $130, and sold in England for over £135. To succeed the sire should be a thoroughbred, and also capable of transmitting leading qualities. The mane should be large, without cold blood, as in the cart horse or Clyde. The Cleveland bay stallions mated with mares resembling them would improve our carriage horses. He thought Canadian farmers were not careful enough in their selections of stallions, and the common stock of the country was not as good as it might be. The Government should import select animals and lend their services at a moderate price. The plan was tried in France with good results. Some restraint should be placed on mongrel stallions, but he saw no way of doing it. Imported thoroughbred stallions should be used to improve the stock of the country. Foreign buyers should be invited here, as Canadian dealers were at a disadvantage in the English markets, every stratagem being resorted to to injure the sale of their animals. Fairs should be established at Belleville, Whitby, Toronto, Hamilton, St. Catharines, London, Woodstock and Brantford, at which English dealers would come to purchase. Canadian horses were in better demand in Angland than American horses, especially those from the Western States. He did not think that horse-raising generally was profitable, not more than five out of a hundred paying for breeding. He did not think the class of stallions known as "general purpose" stallions should be allowed to travel. Farmers thought that because they were "general purpose" stallions their offspring would be suitable for general purposes, but this was a mistake. He thought a stallion, after becoming impotent and afterwards recovering, was as capable of transmitting progeny as before. He thought the Suffolk Punch might be introduced into Canada with advantage, and were better for draught purposes than the Clyde. No fair specimen of the Suffolk Punch had ever been introduced into Canada.

Effect of Moisture and Dryness of Hoofs.

Lack of moisture is not necessarily a cause of brittleness of the hoof, since the horses of the desert have the strongest hoofs in the world, in spite of the excessive dryness. A continued drouth is especially dangerous when it acts on a foot accustomed to abundance of water. Under the action of water the horn cells absorb, increase in size, and push each other apart. By this action, too, some of the gelatious matter that builds up the horn is dissolved out, aud when the hoof is again allowed to dry, it has lost materially in its power of cohesion. The more frequently the process of soaking and drying is repeated, the more hurtful it proves to the hoof, which becomes increasingly brittle and liable to split up and break off. If, further, this tendency to brittleness has been inbred through generations of horses kept in climates where the feet are alternately soaked by drenching rains, and withered by drying suns, the danger is proportionately increased, and the feet of such a race of horses are especially liable to splitting and injury. It is not habitual dryness that injures, it is the alternations of rain and drouth. While upon this subject it may be well to note that the evil effects of moisture may be largely warded off by smearing the moistened foot with some impervious oily agent before exposing it to the drying process. In this way the moisture that has been absorbed by the horn is retained, the sudden drying and shrinking are obviated, and the horn remains elastic and comparatively tough. As it is often needful to soak the foot in warm or cold water, or in poultices in case of disease, it is all-important that the above-named precaution should be constantly borne in mind, and that the softened foot should be smeared throughout with some hoof ointment before it is allowed to dry and harden. For this purpose nothing is simpler or better than a mixture in equal parts of wood tar and whale oil or lard. This may be smeared on the foot every other day.

In addition to the changes of weather, the frequent standing in rotting dung heaps, or in pools of decomposing liquid manure, may be named as causes of brittle hoofs. In the dung heap there is not only the moisture and steam soaking and softening the hoof, but there is abundance of ammonia gas, which is especially calculated to soften, dissolve, and destroy the horn. Rotten manure and putrid liquids, therefore, are much more injurious than pure water, muddy pools, or wet clay. Again, the emanations of this kind are far from conducive to general health, so that they prove hurtful in two ways—first, by directly destroying the substance of the hoof, and secondly by reducing the animal vigor, the power of digestion and assimilation, and the power of secreting good horn. Standing in such decomposing organic matter is still more injurious, however, when the animal is confined to a stall or box, for here the injurious effect of inactivity is added to the above-named conditions.—*National Live-Stock Journal, Chicago.*

Breeding Sows.

BY COL. F. D. CURTIS.

When sows have pigs they often get ugly, or as some farmers term it, "go crazy." The cause of this unnatural condition, when the mother, contrary to her maternal instincts, destroys her young, is not generally understood. Many suppose it to be pure ugliness, and the frenzied mother is shown no mercy, and is condemned to be slaughtered as soon as may be. Years ago an intelligent breeder of pigs told me the cause of this trouble, and that prevention was the best, if not the only remedy. The trouble arises from constipation or from an inflammatory condition of the system. Constipation will, and always does produce more or less inflammation. When a sow is fed rich and concentrated food for a length of time, her whole system becomes feverished and inflamed, and at the same time the animal may not be in a constipated condition. A total diet of corn inevitably produces an inflammatory and excited state, and when the pains of parturition begin, the poor brute imagines her crying offspring to be the cause, and in her frenzy she snaps at them with the ferocity of a tiger, and destroys them. We have known mothers thus ferocious in winter, when confined and fed on dry and concentrated food, in summer or antumn, when living upon grass or other succulent feed, to be the kindest and best of mothers. We are satisfied that there never was a sow which had young and bit or killed them unless she was diseased.

A sow in pig should have as roomy a pen as possible. This will enable her to stir about, which is important, especially if she is to be confined in her diet to concentrated food. Such a sow should never be kept on corn alone, or any kind of grain. Oats are the safest and best if grain must be fed, as the thick skins make a more healthful distentiou of the bowels, and the grain is less heating than other varieties. Too much flesh is injurious. A lean sow will, as a rule, have more and better pigs than a fat one. A simple diet is the best. House slops, in which bran of some sort may be mixed, are sufficient food, and healthful. The best and safest diet is green food of some sort, grass, apples, or roots. In proof of the virtues of the latter, we have never had a frenzied sow since we began feeding them plenty of roots. When we fed corn alone, such cases were common.—[Ex.

The following method is given on good authority for not only preventing the escape of disagreeable odors from carcasses, but for converting them into a valuable fertilizer:—For a large animal, draw four or five wagon-loads of muck, sod or mold; roll the carcass on to this, sprinkle freely with quick lime, cover immediately with a generous quantity of soil—ten or twelve wagon-loads will not be too much. In less than a year, without giving offence to anyone, the owner will have his loss restored to him in part, in the form of a goodly number of wagon-loads of excellent fertilizing material. Any number of carcasses may be put in a heap together provided lime and soil are added in proportion to the size of each.

Value of Sawdust as Bedding.

Many farmers claim that sawdust is not only worthless as manure, but positively injurious to the soil. A farmer sends the following word in its favor: I use it when I can get it, and value it very highly for bedding the cow stable, as it will keep cattle cleaner than any other bedding I know of, It also makes the manure fine and mellow, so that it spreads evener and mixes with the soil more like composted manure. I also use it in the henhouse for filling the nest boxes, and on the floor, to mix with the manure, as it absorbs all the ammonia and prevents the manure from sticking to the floor. For summer use it is not as good as dry dirt or sand in the henhouse, because it tends to breed vermin, unless cleaned out and replaced with a fresh lot quite often. A small quantity of it thrown into the privy vault will absorb all bad odors arising therefrom in hot weather. It is also one of the best dryers to mix with superphosphate. It makes it fine so as to handle well. I do not think sawdust is very valuable in itself as a fertilizer, yet it must be worth something. It has no other value; it contains all the saline properties found in wood ashes as well as some nitrogen, but these elements are in small quantities and in a form which is unavailable for immediate use. Sawdust contains more nitrogen than straw, but less potash and phosphoric acid, and is probably not as good as cut straw for bedding or manure, but it is a better absorbent of bad odors and is usually cheaper than cut straw. I believe its mechanical effect on the soil is excellent, especially to lighten heavy clays. Professor Johnson has said that "fresh sawdust in light, thirsty soils tends to increase their water holding capacity. In sticky clays it lightens the texture, aud on soil that forms a hard crust after rain it prevents, like other mulch, such puddling and baking of the surface." I think a cord of sawdust, well saturated with liquid manure, is worth as much, if not more, than a cord of solid manure.

Winter and Spring Care of Calves.

The first winter is a trying time for calves. Some, who mean to be judicious feeders, think the calf needs to be toughened the first winter, so that he may not become too delicate, and may have a healthy, strong constitution. So the calf is often required to dig for his grass under the snow, pick at straw stacks, exposed in the most inclement weather with insufficient nutriment. If this is a good way for the young animal, why not apply the same practice, comparatively, to our children? If scanty nourishment and exposure strengthens the constitution, why not carry out the principle where it will have a still more beneficial result?

The result of this most pernicious practice is too often seen in thin, unsteady-gaited calves in spring, whose constitutions have been strengthened to the last degree of tenuity. Such thin animals are supposed to gain faster on the sweet early grass of spring; whereas they will require two months to regain their plump fall weight, and two months more to reach the point they should have attained at the coming of spring grass. It is a most important point that the calf should never lose the thrift it possessed as a sucking calf—or, as it is sometimes expressed, should never lose its "calf-flesh." When the calf is to be grown for beef, this view would seem to be too clear to require argument. The shorter the time required for the animal to reach the market weight of 1300 to 1600 lbs., the greater must be the profit upon its market value. Every period of slow or defective growth is a clear loss in feeding. All the food consumed during these periods is thrown away, as compared with a system of feeding which aims at a constant progress in growth and ripening from the first day of life to market maturity.—[Ex.

The large quantities of dry, woody and indigestible food consumed by stock in winter tax the digestive organs very severely, and constipation, congestion, etc., are ever threatening dangers to the health of the stock. A moderate quantity of roots or green food in the season of dry feed acts beneficially on the stock, as fruit and fresh vegetables do on the human system in the course of the long, cold season, when no perspiration purges the skin. In the season of verdure and plant-growing, fresh vegetable food is so common a portion of our daily diet that we scarcely notice the fact. And so it is with the animals whose care we are charged with.—[Ex.

Garden and Orchard.

Winter Protection.

BY HORTUS.

Too much cannot be said about the advantages of carefully protecting everything against the severities of our long winter. On glancing at the list of plants and trees, we find but very few out of the many that do not need some care and protection.

Most people know that in winter the sunshine does more damage than the frost; or, in other words, if you keep everything frozen up after the hard weather once sets in they will come out all right in the spring. It is the sunny days of March, with their freezing nights, that play the mischief. To commence with the orchard, the ground should receive a good mulching of manure or other litter—particularly orchards exposed directly to the sun. The mulching, shading the ground, keeps the frost in and the roots dormant, thus keeping the tree from starting out in growth till the weather becomes settled and warm. Another thing is that many and most of the working roots of a tree are close to the surface and kills them entirely, consequently many a fine tree in free vigor of growth and fruitfulness becomes prematurely checked and takes a long time to recover if ever. We say, then, be sure and mulch the orchard, but first of all see that it is well drained. Open surface drain, so as to freely carry off the water which might otherwise lodge in the depressions of the ground. This is very important, and how seldom is it attended to! The common practice is to gather all the fruit and then never give another thought to the welfare of the orchard till the next spring. Now is the time to do the work, and you will find plenty to do if you look for it. Pruning we would leave till the spring; that is not necessary now, but set to work and grub up the rubbish that is growing in the fence corners. Clear away the weeds and dead branches that have been collecting in odd places; these harbor vermin that will only sally out in winter and girdle your trees. Have a thorough house-cleaning, so to speak; then open the drains, mulch the ground and fix up the fences. An odd post here and there wants removing, or a few rails want adding; do not put this off till spring, or else it will never be done. The orchard requires good fences more through winter than summer. Cattle browsing among trees do great damage. Having attended to the foregoing, we may leave the orchard till spring, and now for the garden. Here we find the same work wants doing, namely, cleaning up, draining and mulching. Grape vines should be laid down and covered; a few pegs crossed will hold the canes, and the soil can be dug upon them like pitting potatoes. All this, of course, to a great many readers is a very old story, but there are still many who are anxious to know what to do so as to carefully protect their plants, and many who do know require to have their minds jogged about their work; so much for an apology for repeating old stories. Raspberries should be bent over and their tips just covered with soil; this will be found an ample and sure protection, and can be applied to plants having pithy stems, as blackberries, roses, grapes, &c. Why it does protect them we can hardly say; we think, however, the reason is that near the earth's surface the air becomes denser, that the reflection of light causes the temperature to be a few degrees warmer than say three feet from the surface, or that the inequalities of the soil and intervening objects prevent freezing currents of air from destroying the buds. Another advantage is that the snow becoming lodged amongst the branches gives good protection.

Market gardeners find pine brush a capital thing for covering strawberry beds and border plants, also for covering winter spinach. Beds of herbaceous plants, and all kinds of bulbs require plenty of long stable manure spread over them. With a little protection, many choice evergreens may be grown by us, now thought to be too tender. For this purpose rye straw or corn stalks answer admirably. Place the straw erect on the ground, evenly around the tree or plant; this tie securely; then put on another layer overlapping the bottom layer a few inches; this again secure, and so on till the plant is covered; around the base pile the soil up neatly in mound form and pat smoothly with back of spade. Roses want cutting back hard, say within a foot of last year's growth, and cover with litter. Boxwood edgings should also be covered up with dry litter. Fallen leaves, mixed with straw, to hold them, make the most natural protection. Bulbs of all kinds should be covered 3 to 4 inches deep with straw manure. What is the best way to keep apples, is a question often asked. The first essential is to have them carefully assorted, and pack away in clean barrels and head up; place in dry cellar and keep cool and dark. Have a thermometer so as to regulate the temperature, which must be kept even and at about 34° Fahrenheit, almost freezing is the proper point. Avoid all draughts. If these few simple rules are carried out, apples will keep till spring, plump and fresh. Another method is to pack in barrels and pit out in field. Lay the barrels evenly together, place sound boards to keep soil from discoloring the barrels, and cover all with earth about 18 inches deep.

A TONIC FOR FLOWERS.

Ladies who have house plants should save the soot from the stovepipes and chimneys at the semi-annual house cleanings, as it is a most excellent fertilizer. Tie a pound or two of soot in a cloth, put it in a tub of water, let it soak until the water becomes dark colored, then apply the water as a tonic to the plants once or twice a week.

TUBEROSES

when taken up in the fall should be well dried and laid away on shelves in a warm place for winter. The young bulbs or offsets, both of tuberose and gladiolus bulbs, should be removed either in the fall or before planting in the spring. If old bulbs are planted with the young ones attached the result is a mass of leaves and no flowers. Tuberoses will not endure cold or moisture, either in the ground or when stored, the result of exposure being the decay of the embyro flower-stem within the bulb. Bulbs in which this change has taken place will produce abundance of leaves but no flowers.—[Mich. Farmer.

Neglected Fruits.

A correspondent of the Gardeners' Chronicle writes: Among the most neglected of our most useful and hardy fruits may be mentioned the gooseberries and currants in their several varieties. Neglected, because they are allowed to occupy the same spot of ground for years, until the soil is actually worn out and the crops deteriorate in consequence. Now is a good time to give such matters consideration. It is not necessary to destroy the bushes if they are at all worth keeping, but it will infuse new life into them to have them transplanted into fresh soil. Such operations have to be anticipated if there is to be anything like system in a garden, because changes affect the arrangements for crops other than those immediately concerned. The main supplies of bush fruits should be, as far as practicable, in rows of clumps, where a net can be made to render good service against the attacks of birds. Bush fruits will undoubtedly be more in request in the future than they have been of late years, and attention should be given the selection of varieties which will yield a succession of fruit over the largest possible period.

The Vegetable and Fruit Garden.

The first requisite is, have the soil in proper condition. If not naturally dry, orchards and gardens should be drained. Trees and vegetables cannot thrive in a soil where the roots are chilled with stagnant water. Wet ground always holds the frost, and this will kill the fruit buds, just as it does your early vegetables. Drained ground is always in a better condition than undrained. The soil for vegetables and for fruit trees must be fertile. Many farmers fail to raise fruit and vegetables because they do not make the ground rich enough.

Many varieties of fruit trees, vines and plants require a large amount of mulching and manuring to obtain the best results.

The grape-vine requires a very fertile soil. The land for a vineyard requires good deep cultivation and fertilization, and after planting, when in bearing, it should have frequent applications of manure.

Currants and gooseberries require annual cultivation and manure, and in the summer, mulching. Raspberries also require regular applications of manure. The strawberry requires a top-dressing of well-rotted manure. Without manuring, as well as close attention, we need not expect fruit or vegetables.

CELERY IN WINTER.

There are various ways of saving celery through the winter. It may be put in long, shallow, narrow pits as cabbage are often kept. It would be better, if pitting, to cover the tops and the sides of the pits with litter. A good way to save celery is the following:—Dig them out of the row where they grow with a good ball of earth attached to each; place them standing on the cellar floor some rows in breadth, cover the sides with light, dry earth. In short, let them stand as they grew in the garden, but three or four, or half a dozen abreast. Let the green tops be without covering. You can easily take them up as needed, fresh and crisp, as from the garden bed.

Asparagus beds require a mulch of from four to six inches of good stable manure. This, retaining somewhat of the heat, will cause the plants to start earlier in the spring. A top-dressing of salt is of much benefit, as the asparagus is a marine plant.

In 1850 there were 25 florists in New York. To-day there are 500, not to mention the street stalls, and it is estimated that their sales reach $4,000,000 worth a year. About 1840, if a wealthy citizen gave a dinner party, one large bouquet on the center of the table was considered quite enough, and on such a holiday as New Year's the hostess was satisfied with a couple of nosegays on her mantlepiece. For the New Year's celebration of 1840 the great florists of the day sold $200 worth of flowers, and the sales of the whole city did not amount to $1000. It is estimated that $60,000 worth were used last New Year's Day, and Mrs. Paran Stevens alone had blossoms to the amount of $3000 in her reception and dining-rooms.

M. Fautrat, a French naturalist, has obtained some valuable results by a four years' investigation into the relation between forests and rainfall. He finds that it rains more abundantly over forests than over open ground, especially when trees are in leaf; that the moisture of the air over forests is greater than that over open ground; that the leaves intercept from one-third to one half of the rainfall; and that the shelter of the trees so restrain evaporation that the earth is moistened four times as much as on open ground. Pine and resinous woods he finds to be pretty powerful in attracting rainfall, and the water collected in a year above the pines was nearly two inches greater than that measured on surrounding open ground.

Lilies.

Everybody loves lilies, and the art of growing them is a simple matter. The ground should be spaded very deeply and an abundance of well-rotted manure worked in, but on no account use fresh manure on lily beds. If the soil is heavy or clayey, the addition of sharp sand will make it light and porous. Use plenty of sand and mix it thoroughly into the soil. If it is desired to grow lilies in beds, let these be about three feet wide and as long as you please. Put the bulbs in deep —not less than six inches—and a mulch of straw over them should be kept up the first year. Lilies form two sets of roots; the first start from the base of the bulbs shortly after planting, and remain as long as there is life in the bulbs. When the flower stem is formed another set of roots grow on top of the bulbs, whereby the species is increased, for among them the young bulbs are found. It will be seen from this why all lilies should be deeply planted. To bloom next summer, they should be planted in the fall. So much for the cultivation of them.

The collection of lilies to be obtained from any reliable florist in this country is so large and reasonable in cost that no garden would seem complete without a number of them.

L. Auratum, a magnificent variety introduced several years ago from Japan, is truly the king of lilies. Flowers often ten to twelve inches in diameter, composed of six very delicate white ivory parts, eaah being thickly studded with spots of crimson and having a golden band through its centre. As the bulbs advance in age, so the flowers are larger and more abundantly produced, but we find still larger flowers can be had by removing a portion of them from the flower stem. These lilies are grown in this country with perfect success. They are hardy and not very expensive.

Then we have the Lancefolium lilies, also from Japan. They are quite hardy, very fragrant and great bloomers, most bulbs producing as many as a dozen flowers, and larger bulbs in proportion. Of these lilies, we are acquainted with two varieties —one is pure white, and is rare and expensive; the other bears flowers, white ground, richly dotted with red spots, glistening like rubies. The last variety is very cheap.

L. Longiflorum is a very healthy variety, much used by florists for forcing for cut flowers in winter. Its flowers are partly white, trumpet-shaped and four or five inches in length. It is a dwarf-growing plant, and succeeds admirably either in the house or garden.

In our common white lilies, we have one botanically known as L. Candidum. We think all our friends will thank us for advising them to grow this and the trumpet flowered varieties in their homes during the winter.

Among other lilies worthy of a place in every garden, we name Philadelphicum, bright red, with black spots; Superbum, our native lily, and the Tiger lilies.

Humboldti is a yellowish lily, with dark brown spots. Washiningtonianum is a dark lily; flowers erect, pure white, with scarlet spots. The flowers change with age from white to pink, and produce in great numbers and are very fragrant.—[Rural World.

Mr. James Syer, of Barson township, Wentworth, Can., set out 1,000 young peach trees. He has disposed of this season's crop, about 1,500 bushels, at one dollar and forty cents a bushel, for shipment to Montreal.

A Wisconsin farmer, twenty-three years ago, planted a piece of waste land, unfit for cultivation, with black walnut trees. The trees are now from sixteen to twenty inches through, and have been sold for $27,000.

The Citizens' Committee are assured of the financial success of the exhibition in this city, and believe they will have a surplus of over $5,000. All classes of citizens have greatly benefited by the large number of visitors attracted to the city during the great show.—[Montreal Witness.

An English contemporary states the fact of the walks of a kitchen garden at a large establishment being lined with oak and that "it forms a dense, impenetrable shrub in the Winter, and presents a neat, refreshing appearance during the Summer months." Such an edging may be formed with but little labor or expense, as it is only necessary to sow the acorns at the proper time, and to stop the young plants when high enough.

NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post-Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. 3. Do not expect anonymous communications to be noticed. 4. Mark letters "Printers' Manuscript," leave open, and postage will be only 1c. per ½ ounce. We do not hold ourselves responsible for the views of correspondents.

Notice.

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Propagating Plants.

SIR,—Will you kindly answer through the columns of your valuable paper the following questions, namely :—

1st.—Is this a good time to make cuttings of currants and gooseberries, willows, poplars, &c.?

2nd.—If so, of what length should the cutting be made; off one-year or two-year-old wood; how deep should it be planted, and what care is required when planted?

3rd.—What is the most expeditious method of propagating raspberries of the suckering class, such as Franconia, Brinckle's Orange?

4th.—What is the best pear to plant for profit, taking everything into consideration?

J. S., Doncaster.

[1st.—It is the very best time to make and plant cuttings; what fine weather intervenes between this and frost should be utilized in making and planting.

2nd.—Cuttings should be made ten inches to a foot in length, using strong one-year wood; weakly shoots and old wood are of no use whatever. They should be planted the full length of cutting, barely leaving tip exposed, as the settling of soil will uncover this. Plant currant cuttings 4 inches apart; poplar and willow a foot apart. A continuous trench, a spade deep and in width, one side to be sloping; against this neatly place cuttings; fill in fine soil and tramp firmly. After care, and first care, consists in having soil well drained and good mulching placed on top of cutting patch.

3rd.—To progagate raspberries of this class rapidly, take up the bed plants and trim off the roots; these roots cut up in pieces of two or three inches in length; sow thinly in row opened the width of hoe and two inches deep; cover about an inch of soil and mulch; remove mulch in spring when weather is settled, and young shoots of raspberries will be as thick as grass, and fit for removal and sale in fall. When cutting up roots, be sure and save all the thread-like fibres; they are as valuable for planting as the larger roots.

4th.—We take pleasure in answering this question. We have watched the cultivation of the pear and the introduction of new varieties carefully, and after all we have asked, and what experienced cultivators tell us, take it for all in all, cold localities and warm, the Bartlett pear is the most valuable and profitable variety. It comes early into bearing and the fruit commands the very highest price; the fruit can be pulled any time after half grown and will ripen good enough for use. We would rather plant Bartlett alone in an orchard, with fairer prospects of success, than take six varieties of the best sorts.]

A very reliable correspondent, writing to us from Washington, D. C., says :—"The National Fair this year was only national in name. There were no exhibits worth noticing, all coming from small places near Washington, and were few in number and of little merit. It was simply a horse race and pool for gambling. It is bound to die in its infancy, unless new managers are appointed.

SIR,—Our cows in winter have a habit of eating boards, tearing the shingles off low buildings, gnawing at their stalls, and don't eat their hay as they should. Can you tell us any cure for such?

H. G., Cole Harbor.

[It is necessary that all animals be supplied with a variety of food, that their health may be maintained and the various parts of the body built up, and the constant waste remedied. For the bones there is needed a different material from that which forms the blood and flesh. The bone is mainly formed of phosphate of lime, and if the food of animals be deficient in this element, the natural craving of instinct causes them to seek some substitute; hence they gnaw bones, leather, wood, &c. When cattle are in the habit of gnawing such things, a little bone-meal given to them in their food is the best cure. The land on which your cattle graze needs lime to supply in the pasture the elements necessary for the health and thriving of the animals fed on it. For immediate remedy, our V. S. gives the following :—

Give one pound of Epsom salts, one tablespoonful ginger, desolved in quart of water; give as drench; afterwards give tablespoonful carbonate soda in feed, night and morning; or in place of the carbonate soda, you might give drachm doses of carbonate ammonia night and morning in feed.]

SIR,—The more one reads your paper the more he will appreciate it. In your remarks in the last number about very few of the French farmers ever taking a paper of any kind, to my knowledge it is that way in this vicinity; but where there are English speaking people mixed among them they farm well, and in some cases farm better than their English neighbors. For instance, one of my neighbors, on 120 arpents of land, pays $1000 per year rent, and had this year 1200 barrels of onions, at $2, $2,400; 800 barrels of apples, at $2.25, $1,800; 590 melon frames for melons, $800. He had also 30 arpents of potatoes, 10 of cabbage and lots of other vegetables to dispose of, for which he did not keep an exact account of the sales. We have the manure for the drawing and labor is cheap. Most of the French, as a rule, take very little interest in exhibitions. My opinion is that it is want of education among them that keeps them in the back-ground at our shows. They would need a French publication of the ADVOCATE to bring them forward.

A. M. G., St. Henri de Montreal.

SIR,—I have received a great benefit from the engraving and description of the home-made apple drier; but do not yet understand the use of sulphur.

J. M., Braemar P. O.

[We have never seen sulphur used in apple drying, but presume it is by the same method as practiced in hop drying, which is to burn a quantity in an open fire on the floor of the dry-house, allowing the fumes and smoke to pass among the hops.]

SIR,—I have considerable land, which has a swamp, but I have cleared the most of it. It is drained by open ditches, which keep it dry in ordinary seasons, but in wet seasons the soil fills with water. The soil is mucky to a depth varying from one to two feet, with a blue clay bottom. I have cultivated some of it, but I am still at a loss to know how to cultivate it properly. If you can give such information as will lead to a proper as well as profitable cultivation of such soil, you will confer a great favor, for there is a good deal of such land in this township; but if you have neither time nor space to give an article on the proper management of such land, will you kindly answer the following questions :—

1. Is it necessary that such land should be thoroughly drained before cultivated?
2. Would drainage lessen the danger of frost?
3. What crops would be the most profitable on such soil?
4. What crops would be most suitable in case more than one kind is grown?
5. What is the value of the blue clay soil compared with ordinary clay soil?

A. B., Mount Elgin, Ont.

[1. Draining is absolutely necessary. 2. Drainage would lessen the danger of frosts. 3. Grass. 4. Mangolds, oats, rye and millet. 5. Blue clay is worthless for tillage. The soil in your swamp is the only part of value.]

Notes on the Exhibitions.

SIR,—Stock at the London Show, in most classes, were not so numerous as in some former years, but the quality, in nearly all cases, was very good. The show of horses was said by many not to be as large or good as in former years, though there were many good animals shown. But here we found, as in other places, a large number of grade stallions shown in the agricultural classes. These animals are generally called by their owners "agricultural stallions," and in the spring they travel the country for service, and some of them do a considerable business. Many farmers use them because their services can be procured much cheaper than that of the finer bred horse; and what is the result? Our own experience, as well as that recorded by breeders of note in every land, teaches us that to improve stock, pure bred males must be used; if the system of breeding from miscellaneous grades is followed, our horses will degenerate instead of advance. Many farmers do not seem to realize that to breed horses successfully, very careful selection of sires is required—selection as to pedigree, as well as to animal. But in view of these facts, still our agricultural exhibitions offer prizes to grade stallions; why not to grade bulls? The time is now past when prizes should be given to either; especially is this the case in the older sections of the country.

The sheep shown at London were good, several of the breeders who exhibited in Toronto being present. There was evidence in many cases of very early shearing, and in some cases stouble shearing had been practiced. Animals that are so presented should in all cases be ruled out. An experienced breeder will rarely be deceived on this matter, the appearance of the wool being very different; but farmers are often misled by this dishonest practice, and very frequently judges are not experienced men, and are sometimes badly deceived. The first of April is a convenient time to shear sheep which are intended for the show rings, and in many cases not too soon. In many years' experience I have found it to be the best time, and would suggest that it be accepted by our associations and enforced with unrelenting rigor. When breeders enter, a written statement should be required from each, stating when he sheared his sheep, which should be made as searching as possible. For several years there has been a good deal of dishonesty practiced by some breeders of Leicesters and Linclons. These breeds are not, or were not at one time, identical; but have become now so near identical, that some breeders show from the same flock of sheep in both classes, where the best opportunity of winning a prize occurs. It is quite evident that the two different breeds have become very similar when such could be practiced successfully, as I have known it to be. Very few pure bred Leicesters can be found now, or if they are pure, they have changed very much since the days of Mr. Bakewell. Another proof that these breeds have become similar to each other is the case of Mr. Whitlaw, of Guelph, who has imported and shown some very fine modern Leicesters, and who says he has never imported any other sheep. When showing at Toronto, before experienced judges, he was successful in the show ring; but when showing the same animal at the Provincial, it was ruled out, as the judges regarded it as a Lincoln. He again showed the same animal in London, the very heart of the Leicester-raising district of Ontario, and was successful.

I see no reason why the Lincolns and Leicesters of to-day should not show in one class, and thereby lessen the expense and trouble to each exhibition association. But I think that each association should offer a sweepstake prize for the best flock numbering not less than ten, for which all the varieties could compete, the prize being given to the flock which, in the eyes of the judges, would be most profitable to the country as wool and mutton producers; the winner of this prize being required to present to the board a clear written statement of his mode of breeding and feeding said stock.

STOCKMAN.

SIR,—What is the comparative weight of live and dressed hogs?

[The comparative weight depends much on the quality of the food on which the animal was fed, and also somewhat on the breed of the hog. A general rule in America is that 20 per cent. from the live weight is supposed to give the average dead weight. Thus, a live hog weighing 250 lbs. is estimated to be 200 lbs. weight when killed.]

Our Public Schools.

SIR,—May I ask for space in your independent journal for a letter in reference to an excellent idea in your sketch, "On the Wing"—the improvement of the grounds around our public schools. I have seen several of our public schools, and in or around them I have not seen the slightest attempt to improve the appearance of the place, which will have such an influence on the young during the following years. A plain building, generally frame, to which a painter's brush was never applied, in a small piece of neglected ground, bounded on three sides by a snake fence to protect not the school ground but the adjoining fields, and at the front unfenced. Such is the picture the country school generally presents to the traveller. The school and school grounds should present a scene that the eye could rest on with pleasure, and the remembrance of which would be an object of interest to those who had been educated in it. But it is not merely for its appearance and the sense of the beautiful that we would most desire the improvements. Were the grounds, as suggested by you, planted with trees and flowers, how easily might the teacher instil the principles of botany into the minds of the pupils. The names of the several parts of flowers, the difference of the several species, the fertilization of the blossoms and the utility of bees among the flowers would there be learned so as never to be forgotten. The growth of different plants, trees and flowers would be noted, and the lessons by this means practically taught would be the greatest benefit, especially in country life. The pupils might bring from the woods native flowers and shrubs prized for their foliage or blossoms, or for their berries, and be the instruments of introducing to our gardens beautiful and profitable native fruits and flowers that are now neglected or unknown.

Entomology might also be taught in connection with botany. The utility of this science is becoming more known and better appreciated every day. Amid the plants and shrubs they might be easily taught to distinguish the insects that are serviceable to the farmer and gardener from those that are injurious.

A slight knowledge of geology might also be added; the rocks in the vicinity, the different varieties of earth, the soil and subsoil might be utilized as elementary text books.

Such an education so acquired would be more beneficial than many of the subjects and some of the studies at present taught in our High Schools. There is too great an expenditure of our hard-earned money in teaching branches that can never be of the least use to the great majority of the scholars. How few of those who study the different languages will ever receive any benefit from them! Let every young person in the Dominion receive a good plain education, such as will be of the greatest benefit to him through life. To very few can these more advanced studies be of any service. Let those few acquire all the needed additional learning, but let not ratepayers be called on to pay for them.

A RATEPAYER, London Tp.

SIR,—Would you inform me if it is in any way injurious to a milch cow to draw her milk from her with the first finger and thumb in a manner generally termed "stripping," instead of using the whole hand as is usually done. W. H., Guelph.

[Yes, the "stripping" method of milking is injurious. Use the whole hand, and milk as rapidly, yet as gently as possible, leaving no milk in the udder.]

SIR,—I have a young cow which has had two calves. After her first she proved herself to be a very superior milker, giving an abundance up to a few weeks of her second calving. She has always been fed well, is now in good condition and excellent health; but now nearly two weeks have elapsed since she gave birth to her second calf, and her flow of milk is very small, not amounting to over a quart of milk per day, and that of poor quality. Her bag is soft and pliable. What is the cause, and cure? SUBSCRIBER.

[Your cow's system has become exhausted by her former excessive and long-continued flow of milk. The best remedy is generous feeding with nutritious and succulent foods, and as her system improves in vigor, her flow of milk will increase.]

Creamery System.

SIR,—The creamery system of butter making, which consists in collecting either the milk or cream from adjoining farmers by a method similar to that practiced by the cheese factories, is giving good satisfaction. As a rule they produce a better quality of butter than is produced by the majority of the best farmers, which is clearly proven by the fact that creamery butter sells in Liverpool, England, at 15 shillings per hundred higher than choice dairy, and 45 shillings per hundred higher than for the common grades of dairy produce. In the Province of Ontario there are now several creameries in operation. with prospects of others being built. The creamery at Teeswater, of which an illustration was given in the ADVOCATE of 1879, April No., page 81, clearly demonstrates the superiority of creamery butter over dairy produce. For three years the average price realized by this organization has been eight cents per pound in advance of the dairy butter made by the best farmers in the vicinity. Add to this the fact that it deducts greatly from the labor of the farmer's wife and daughters; a class of people who, as a rule, are overworked and are thereby allowed very little or no time for self improvement or recreation. This fact is too well known among the rural classes to need any demonstration. Decreasing the household work alone is worthy the serious consideration of every farmer. The advantages to be derived from it are very great. The time thus gained might be employed in mental training, which is valuable to all, especially to the farmer's wife, who frequently has the training of children. The rural class of Canada are characterized for the great amount of manual work they perform; but to perform this they have neglected a great deal of mental training which should have been taken. This practice may have been necessary when our fathers came first to this country with little or no capital, and had to hew homes out of the forest; but for many years past it has been clearly proved that the reading farmer is the most successful. Another consideration of much importance is that Canadian butter has a very low standard in foreign markets, and we would urge upon the farmers the great necessity of raising the quality to as high a standard as possible. To do this they must give the subject close attention.

PROGRESS.

Bark Lice.

SIR,—I send you a specimen of something that is destroying our apple trees. Can you give any cure, as they are all over the trees and are likely to kill them.

J. R., Laurel P. O., Ont.

[The insect is the bark louse. The full history of bark-lice is not precisely known. It is known that the shell-like coverings are the abiding places of the females which are born and die under them. The males have wings and are free, and impregnate the females through their shelly coverings. The latter produce their eggs, and then die. The eggs are hatched, and the young lice wander over the twigs and leaves, and probably in this manner find their way from tree to tree in the nurseries, where they most abound, and from which they are carried to orchards, or in the orchards to which they are thus introduced. At the approach of winter the lice form the scales, which are their cocoons, of radiated threads massed together, and under this protection pass the winter. There are several broods in a year, and the rate of increase is enormous. In removing them from the trees by means of soap and water, the scales must be rubbed off. Strong potash or concentrated soda lye, made caustic by adding a piece of fresh burned lime to it, destroys the covers and the lice or eggs under them. Kerosene oil has the same effect.]

SIR,—I have noticed in the March No. of THE FARMER'S ADVOCATE a plan for convenient stable, by "Young Farmer," Braemar, Ont. He would greatly oblige me by giving, through the ADVOCATE, his plan of a barn corresponding to his stable. I am about to build a barn next summer, and I would like to build a convenient, substantial and not very expensive building. The size of my barn is to be 45x70 feet, with two floors and stabling below. C.L.W., Peel, Ont.

[Will "Young Farmer" give his plans? We would be pleased to receive plans of useful buildings from any of our subscribers, and if we consider they will be of benefit to any of our readers, we will have them engraved.]

Poultry.

Poultry in Winter Apartments.

BY R. A. BROWN, CHERRY GROVE, ONT.

This is a very critical time of the year in the farmers' poultry yard; not so much on account of approaching winter, which is no small consideration, but of the great hap-hazard slaughter that takes place on many farms at this time of year. The ones handiest by, or the easiest caught, and sometimes the fattest are taken, with no thought of enquiring which would be the most useful to select to mate for breeding-stock, for the ensuing year.

Many young cockerels, when half grown and half fledged, are ill specimens, yet when full grown make the best birds in the yard.

It is necessary now to have some understanding what will be best appropriated for next year's use, whether you want to breed for egg-producers or for table use. If the latter is desired, choose Brahmas or Cochins; if for eggs alone, try Leghorns, Spanish or Hamburgs; if for beauty or fancy, then try the Polands. If you want but one breed for general purposes, good for laying, sitting and table use, then try Plymouth Rocks, Javas, or Dorkings. Whatever you desire to produce next year you had better take a thought now and have your stock selected before winter sets in.

If you have a house for your poultry be sure they go into clean apartments for winter. Do not allow the accumulation of filth that has gathered in the poultry house during summer to remain there all winter also. Remove the roosts and sitting boxes, and clean the whole house, making it neat and trim. Sweep the walls clean of cobwebs and dust, fill the cracks and crevices with slaked lime, in order to destroy any vermin that may be concealed there; scrub the floor clean, and then sprinkle dry sand on it and the perches, and keep a good-sized box of wood ashes in a corner for the hens to wallow in, which will help to keep down vermin.

It is much better to breed from pure birds, as they pay better than grades; but if they cannot be got handy, try if you can get a pure blood male to mate with your hens. If the farmers do not care to raise pure bloods exclusively, it may pay just as well to breed from pure-bred cocks and your own cross-bred hens, always breeding each year from a pure-bred cock of that variety which is best suited to your wants, each year selecting your best pullets to breed from, and killing or selling the rest. Then, in a few years you will be gratified with the great improvement effected at such trifling expense. Anything that is worth doing at all is worth doing well. Get good stock and take care of them; pay attention to the selection of the best for breeders, and it will pay any farmer to breed and market poultry and eggs. People must no expect that to get good stock is all that is required, and that it will take care of itself and prove a horn of plenty. Poultry, like all other live stock, must be well cared for, and then will pay their keeper better, in proportion to the money invested, and the time spent in attendance, than any other farm stock.

Special care must be taken of all large-combed varieties, like the Spanish or Leghorns; a good warm place must be provided for them (it will be found profitable to treat all breeds similarly, but particularly this variety) to keep them from freezing. No water should be given on very cold days, or their wattles may become frozen too.

Fresh bones from the butcher shop pounded fine are superior to the commercial bone meal for fowls.

Fowls during molting require more warm and more generous diet during this time of drain npon the system.

At five or six months old the cockerels should be separated from the pullets, and rear each sex by themselves.

Farm Poultry.

As a rule, farmers pay little or no attention to these fowls, consequently the great majority of them know next to nothing about poultry. In all branches of husbandry the slip-shod system must disappear, and a more thorough and economical system take its place; farmers must bestow more constant thought and watchful study to the various divisions of their business, proving by carefully attained personal knowledge, which branches of husbandry they can carry on with most profit on their respective farms. Neglected fowls are an expensive nuisance, but when a farmer uses judgment and proper care, they can be made very profitable. In selecting your breeding stock, never breed from crooked breasted birds; discard a bird at all hollow chested, short in breast bone, or high on the legs. Should you know exactly how all your chickens are bred, take special note of them when dressed for the poulterer, if it be possible, or let the man you supply tell you how the best birds were marked; thus, by a "rule of thumb," you soon arrive at a conclusion as to the best pen for the object you have in view. Careful selection, and the use of a little note book, will improve a stock, and, after a year or two's breeding, the economic qualities of the strain will be found vastly improved in the direction in which attention has been given. For the production of eggs we must try and know something of the ancestry of our birds (in fact, to attain excellence in any given quality this must be done), and more especially must we know what is the nature of the market. Thus, in some places, small eggs sell as well as large ones; and, of course, the production of the smaller eggs is more profitable, if, as is frequently the case, eggs are sold and bought at so much the dozen, irrespective of size. At the same time, any one wishing to establish a good steady market for his produce will do well to study the production of fine eggs, which are always an inducement to their being preferred and especially asked for by the housekeepers, in contradistinction to those "bantamy things" that "were sent last time." Carefully note those of your pullets that distinguish themselves most in this line, and retain them for a second season for breeding purposes. Let her (or him) take special note of the eggs, and it will soon be possible to pick out the parent of each. A little vigilance, and it will soon be patent which hen or hens produce best. When kept for a second season's laying, the very prolific pullet will often be found a very bad layer; but this is of no importance. (The system I am unfolding in these pages depends solely upon prolific precocity; and, except in the case of the stock and breeding birds, every occupant will be relegated to the fattening pens after its pullet season.) The productive pullet has, in fact, laid herself out, and is now only reprieved to reproduce in her progeny her grand qualities. The cock to mate with her must be of good productive lineage; in fact, a pen should be used for the production of cocks, and as a means of introducing the necessary fresh blood year by year. The plan is to select two or three large sized, deep bodied hens of great productiveness in the matter of eggs, and mate them with a completely unrelated cockerel, of some good breed, according to the requirements of the market. Some sittings from this pen should be hatched early in January and February, and specially marked. The birds being kept breeding for stock, as pointed out before, the finest and best cockerels should be selected. This interchange of blood should be carefully kept up, and two birds by the same pen should never be mated together. Birds related on one side only may occasionally be used; but cockerels are cheap, and a change of blood is worth a great deal, and from one or other of the breeding pens each season a stream of fresh blood should be introduced. For the production of large eggs the best pure breeds are Houdans. For small eggs, Brahams, Cochins and Hamburgs, crosses of Brahma and Dorking, and especially Brahma and Houdan, are especially serviceable.

A very good plan, if one has not carbolic acid on hand, is to mix with the whitewash a cup full of kerosene before using it in the fowl-house.

Poultry breeders should pay more attention to caponizing than what they do. Cockerels for market or family use are made fully one-third more valuable by the process.

The Apiary.

Wintering Bees.

BY CHAS. F. DODD, NILE, ONT.

There is no question that so deeply concerns bee-keepers as how to winter bees successfully. If a man does not get much honey, or does not get a good price for it, but has his bees left, he can try again, with the hope of doing better next time; but if his bees die in wintering, he would naturally feel a little discouraged. We have reason to believe there are more bees lost every year in wintering than from all other causes combined.

Experience proves very clearly that very severe cold, even for two or three weeks, is dangerous to bees. This may work evil in two ways: They feel the chill, essay to move, and drop from the cluster and perish; with more activity, they eat more, and thus may use up the honey where the bees are clustered, and the surrounding honey being chilled and inaccessible, the bees actually starve. Extremes of heat and cold are also detrimental, especially if the bees are prevented from flying. With either heat or cold the bees become uneasy, eat more, and unless they can fly, become diseased and die. Excessive moisture in and about the hive is also a source of danger to the bees, as dampness and warmth always promote the development of fungus growths, which may not only affect the bee through the air which it consumes, but also by contaminating its food.

Now, to secure the best results from our bees, they must be properly wintered; and to do this, they must be kept free from dampness, and at a uniform temperature, and we can best do this by having the hives so constructed that they may be packed on every side with dry sawdust or chaff; the bottom should also be double and packed, and we also want something over the bees to absorb the moisture and for ventilation; we can do this by laying a sheet of duck over the frames, and covering it with a thick chaff cushion, or 6 or 8 inches of chaff or dry sawdust, which should be kept dry by a tight cover, and left on their summer stands, with the entrance to the hive left open, so the bees may go out and in at their leisure; and if the hive contains a good strong stock of bees and plenty of honey, they should stand our very severest winters and come through in good condition. The packing should be left on till the 1st of June next year. After your bees are put into winter quarters do not disturb them; the quieter they are kept the better.

From the 1st of September there were 3,984,135 pounds of oleomargarine shipped from New York to European ports.

In Detroit market barley is selling altogether by sample, and the latest sales range from $1.40 to $1.50 per cental. The maltsters are giving $1.70 to $1.75 for prime Canadian. In New York the prices are 80c. to 85c. per bushel for four-rowed State, and No. 1 Canada is quoted at 92c. to 93c.

GRANTS IN PROMOTION OF IMPROVEMENT OF AGRICULTURE.—No part of the Dominion was favored with a more fertile soil than a large proportion of the Province of Quebec. The Valley of the St. Lawrence was proverbial for its productiveness. But that fertility is a thing of the past. Bad farming, over-cropping, and neglect of restoring to the soil the elements of plant food taken away by crops, have reduced the once fertile plains to a state of sterility. The Provincial authorities are endeavoring to effect some improvement in this respect. They have resolved to distribute a part of the yearly grant in promotion of agriculture in the form of superphosphate of lime to the County Societies, to be expended in the way likely to secure the best results. This fertilizer is much wanted by the worn-out lands. It is hoped that by this means farmers will be taught the secret of restoring to exhausted soils their former fertility, by the most expeditious and effectual method. There are in the Ottawa Valley, and other sections of this Province, vast deposits of phosphate. It is well that this should be made use of, in part at least, in our own country where needed.—[Ex.

A Few Words to Friends Who May Wish the Circulation of the "Farmer's Advocate" Extended.

Perfection has not yet been achieved by man's work. Every number of the FARMER'S ADVOCATE contains some items that might be omitted for better matter. There are some that will only look at the paper to find fault. There are enemies to every noble undertaking. There always have been deceivers; deceitful men are not apt to be truthful. It is always more easy to find fault with the best work done than to do better. The FARMER'S ADVOCATE is pronounced by thousands of the best farmers in Canada to be the best agricultural journal in the Dominion. This journal has in no way, direct or indirect, ever received Government money to aid it. The Journal of Agriculture, the Ontario Farmer, and the Canada Farmer have all been directly or indirectly supported from the public funds, and yet the farmers would not then support them; they may be numbered with the past, and the Government money wasted. If you meet a person that you know ought to take the FARMER'S ADVOCATE, and does not, ascertain the reason, and if you can get any good, sound reason, from any one known as sound, sensible, reasonable and liberal-minded, that is publicly known in any locality, send us his answer, and we will publish it. Some may say they have too much to read. Which is most important to them or to the country, love tales, murders, political squabbles, or agriculture? If they say they get agriculture in political papers, show them that political, religious, sectional or local papers cannot furnish agricultural information as fully or as independently as a journal that employs a staff of editors and artists especially for that purpose. No statesman, no county officer should be allowed to occupy any place of power that totally ignores the farmer or agriculturist. The best is always the cheapest. We have yet a few of last month's copies on hand, and some of the best agriculturists in this Dominion say that number is the best agricultural number that has ever been published in Canada. We will send you one extra number if you wish to show it to your neighbors, to induce them to subscribe for this journal; further, we will give the December number of this year free to all those who send in their names and money before we strike the December issue, which will be on 30th November.

The Ontario Agricultural Commission.

This Board is composed of many prominent and intelligent gentlemen, many of whom are very fluent orators or able writers. There are many farmers on the Board, some of whom we believe to be independent and honorable, and desire to do good to the country. They have now had pleasant summer journeys to points of interest in Ontario; they have had the power to select any individuals they choose and rigidly examine them, and have no doubt been able to collect a vast fund of valuable information. We should consider that gentlemen who have received payment from us should desire to impart any useful information to the public freely, and for the benefit of the whole farming community. Information obtained or imparted for the purpose of building up or strengthening institutions that are not really and truly founded on and for the real interest and advancement of the interests of farmers, will assuredly be money wasted. Our farmers have minds and do consider, and are apt to know much better what is for their interest than those who have never experienced the hardships of labor of body and mind to meet the great expenditures—not including the taxes—that must come from the farm.

We contend that the farmers know that fattening stock has paid in years past and pays at the present time, yet the farmers are informed by test by the Government that fattening stock does not pay. The best farmers have found that the Emporium or Australian oats have been more profitable than many other varieties; yet the Government Farm informs the farmers that they are the least profitable. The practical stockmen of Canada have found that fine-wooled Cotswold sheep are by far the most profitable; yet the Model Farm teaches farmers that the nearest approach to hairs that can be grown on sheep is the best for the country. We are taught by the Model Farm by actual figures and observation that the coarser-boned and inferior horned stock cost the Government much more money to import or to breed than far superior animals can be procured for from our judicious and careful stockmen. We are informed by some of the papers that greater demands are to be made for more money, and that there are 3,000 applicants for admission. We were informed the last time we visited the College that there were applicants enough from England and Scotland to fill the institution. We might easily obtain three million Chinese to fill this College if we let them know that we would pay their board, their expenses, and pay them a premium for attending, as has been done at this institution. The questions should be asked—Why has this institution not been made self-sustaining? Has it done more good to the country than the independent breeders or importers have done? Has it given information to the class that needs it? Is there yet a graduate that can give more useful information than has been given in the ADVOCATE? If so, why have we not seen some results? Surely of all these pupils who have received this charitable education, some one out of the number might be heard. People who receive large sums from the farmers should endeavor to benefit those for whom they labor, and from whom they receive their maintenance and perquisites.

We think it a great pity that the Agricultural Commission, the Managers of the Model Farm and the Directors of the Agricultural and Arts Association are all so strangely united by having the same persons in each corporate body. It prevents the free and independent action of either, and tends to throw the responsibility of improper management on every member, and it makes it very difficult for those who may desire to act for the best interest of the country. We know our remarks about the Board of Agriculture and Arts and the Model Farm have not been pleasing to some members of either of these institutions, but what we have said about them has been what we have deemed for the best interest of the farmers. No journal so strongly supported the Provincial Board of Agriculture, when it deserved it, as did the ADVOCATE. We hope to see that Board yet an honor and benefit to the country. We well know it was from articles in this journal that the Model Farm was established. We well know that both these institutions might have been looked up to with respect by the farmers, and believe it is probable that great good may be done by each; but to make either of them popular and as beneficial as they might be, a thorough reorganization is necessary. That the management must fall into the hands of practical farmers, and that the Model Farm is and always should have been self-sustaining, is a fact that the farm can be made of much more benefit to the country than by any other means. If any individual member has any good system, or any information to impart to the farmers that would be of benefit to them, we have, and always have had, a space to spare, for such information, in the form of blue books and long, tedious articles, is not read by farmers. Generally, a column or a column and a-half of good, useful, and well prepared information is about long enough for an article.

The Express Co. vs. the Railway and the Canadian Producer.

When in the Maritime Provinces we heard great complaints of the tardiness in the delivery of goods from Ontario. In Ontario the complaints are loud and continuous about the enormous charges of the Express Co. It is a well known fact that the Express Co. have been making piles of wealth, and the railway companies of Canada have allowed this company to receive the profit out of their roads that should have fallen into the hands of those who invested their money in the roads. The railways drive the public to the necessity of using the express, because they will not forward goods as quickly as they might. For instance, one person paid this company in the city of London, for one shipment of goods that could hardly be injured, merely paper in bulk, the sum of $29, or $1.40 per cwt., about four times the freight charges; that ought to have gone into the pockets of the railway company. When we were in Nova Scotia, only 7 miles from Halifax, mackerel were sold in any quantity, fresh from the water, at 10c. per dozen; now smoked mackerel sell in this city at 7 cents each. The poor fishermen do not get near as much for their fish as they should; the merchant only has a fair living profit. These must be sent by express, because the railway companies delay goods so long; therefore, the greater profit is taken from Canadians and British stockholders and put into the pockets of the American Express Co., to fill their over-flowing coffers. We well know that this money should be retained in the hands of stockholders, producers and consumers. For instance, the express charge is $3.75 per 100 lbs from this city to Halifax, about six times more than the freight from here to England, when it even has to go by Halifax or St. John.

Our Prize Essays.

A prize of $5 will be given for the best essay on the question, "What have we to learn from the Agricultural Exhibitions of 1880 and previous years.

Competitors must write on one side of the paper only. The essay receiving the prize is to be the property of this journal. Unsuccessful essays will be returned on request by sending stamps for return postage.

E. J. Yorke, of Wardsville, Ont., won our prize for best essay on the question, "Whether is sheep-breeding or cattle-raising most profitable to the general farmer."

To Our Patrons.

To those that would kindly aid us and benefit their neighbors, either by soliciting subscriptions themselves or by speaking to some good, energetic persons, that could make canvasing profitable to themselves and to us, we shall be pleased to send one or more extra copies of the October number, also one or more of our illustrated prospectus, if you will write us to that effect. We want good, active agents for the next three months, and will pay good canvasers a very liberal commission, and after trial, a good salary, if preferred. Our subscribers' sons and daughters can act at once; strangers should give reference on making application.

Nova Scotia.

Perhaps the most successful county agricultura exhibition held in this Dominion this year too place in Yarmouth, Nova Scotia; at any rate, the reports received lead us to believe so. If we hav ormed an erroneous impression, we shall be pleas ed to be corrected. The exhibition was held fo two days and two nights; in the evenings t exhibition building being lighted. The night a tendance was so large that it almost made unpleasant. The receipts were considerably in excess of expenditure; and the exhibit of stock, etc., was larger and better than had ever been exhibited there before. Ontario may learn many a profitable lesson from the Maritime Provinces.

The Family Circle.

"Home, Sweet Home."

A REPORTER'S ROMANCE.

III.

The rest in the cars and on the ferry-boat restored the girl so much that she insisted upon walking up to the Printing-house Square, where she made haste to hand in her report of the inquest at the counting-room Then she turned to go, holding out her hand at the door to Walter in an embarrassed way, and saying, "I cannot thank you properly for your kindness, Mr. Condon; and now I must bid you good-night."

"Not in the least," objected Walter, stoutly. I shall not be so thoughtless as to let you go home alone at this hour of the night. Why, it's twenty minutes past eleven, and St. Patrick's night too, when even I used to feel squeamish at going about alone."

"But you *can not* go with me, and I don't wish you to," she said, trying ineffectually to escape.

"I shall not consent to leave you unattended this black night," he answered, earnestly; "and if you persist in your refusal, you may be sure I shall not lose sight of you until I know you are safely at home. And now we must have a cup of coffee."

The commanding way of the man conquered. She allowed him to put her arm through his, and went with him. But she was silent all the way; and when the cafe was reached, and he had again refused to let her go away into the great city by herself, she dropped her face into her hands and sat the image of misery. Condon, utterly unable to comprehend, regarded her without a word. Suddenly she lifted her face and spoke to him. "Mr. Condon, once more, will you not leave me to go alone?"

The noise of a fierce scuffle in the street penetrated the room at the moment, The pleading look in the sad face, which had caused him almost to waver in what he was sure was a right resolve, changed to one of terror, and Walter had only to point to the door to enforce significantly his final refusal: "To-night?—no."

"Then I must tell you something which I never should have confided to you if I could have helped it. Yet I do want your—some body's aid—oh, so much! You know we used to live in Washington, and that my father was an editor there. He lost his money and place through bad men, and fell sick; and then— Oh, listen! it's striking twelve o'clock. Come we must hurry," and she sprang from the table. "You must not ask me where I am going," she went on, excitedly, "but only go with me. And will not you be afraid? I should hate to have any harm come to you."

He was puzzled, and glanced at her face as he assured her of his composure. The wavy brown hair was blown back from the broad forehead, where some delicate wrinkles were drawn in anxiety over the gray eyes, and the shapely lips were set with intense purpose and courage. It was such a face as seems to lead a forlorn hope.

The snow and sleet had ceased, but heavy clouds still scudded overhead, and a biting wind raced through the streets and spun giddily round the corners, shaking with angry hand the endlessly creaking signs, rattling the locks of the heavy doors, drifting the snow into banks, pounding and battering at every obstacle.

Hilda was poorly clad for such a night, shivering in spite of herself; and when Walter laid his arm around her slender shoulders and almost carried her along, she did not resist. He was going straight down to Fulton Ferry, supposing she was going to Brooklyn; but she made him turn up empty Nassau Street, which rang with their quick tread above the roar and rattle of the gale, and then guided him eastward block after block.

"Do you know where you are going?" he interroga at last in surprise.

"Hush! you will see," she answered, in a low voice. "Please don't speak to me now—and you may never want to again."

After that he asked no more questions, but applied himself wholly to taking care of her, keeping all his senses on the alert, while she hurried him farther and farther from the brilliant thoroughfares, deeper and deeper into a wilderness of tortuous narrow streets, where the sun can scarcely penetrate to the pavements even at high noon, and the most brilliant moonbeams fail to sound the fathoms of darkness that lie damp and cold between the tall warehouses. Above, perchance, the moonlight silvers the edge of the cornices; below, the heavy doorways are dimly outlined at intervals by the flickering street lamps that paint a long line of bright dots upon the darkness. Here and there glows a red eye out of the gloom, and behind it shines the entrance of a drinking resort for the desperate and squalid inhabitants of this nether side of the city. Into two or three places Hilda led the young man for a moment, while she eagerly searched for some one—whom Walter could only surmise. Once or twice he was glowered at by faces which he remembered very well from his old night-reporting days as those of cut-throats. He knew they were approaching the river, and this meant a constant increase of peril. So when Hilda turned swiftly down Oak Street, and, in response to his "Where now?" said, faintly, "To Walter Street. Will you go there also with me?" (go with her!—he would have gone to the end of the world if she had asked him then), he bethought him of a ruse, and answered gayly, as they were passing a police station, "I shall certainly do nothing else; but I would like to run in here and light my cigar, if I may."

He lighted his cigar, to be sure, but his real object was to ask for a detective to follow them closely. Then the two pursued their zigzag way, buffeting the wind.

Few people were in the streets—it was too blustering for that—but from all the many drinking shops came sounds of rude music and revelry. Even Hilda could not help remarking how frequently they met policemen.

"Do you see that half-shut door over there?" and Hilda pointed it out. "I must look there. If I do not find him, then—I don't know what I *shall* do."

They crossed the street, and were just under the large red lantern, when a great commotion was heard within, the door burst open, and an old man was cast headlong to the pavement by a blow from a young ruffian, who, following to complete his work, was met by so stunning a counter-blow from Condon as stopped his interest in that quarter at once. His companion seeing him fall, leaped at Walter, but met instead the detective's club.

It was all over in half a minute, and Walter turned to Hilda. She was holding the head of the insensible old man on her knee, and with her handkerchief stanching a cruel wound in his forehead. With a face as white as his, but calm, with tender industrious hands, and a solicitude regardless of public gaze, she bathed the old man's bleeding face, and tried to restore animation to the wasted hands, while others put drops of brandy between his lips. Walter knelt beside him, and told her the heart still beat. But Hilda only moaned, "Oh, father, father, come back to me! come back to me!"

By this time a stretcher was brought, and laying the old man upon it, two officers carried him to the police station, setting him down in the back room—the self-same station and the self-same spot where old Baldwin had laid five years before.

A surgeon had been telegraphed for by the police, and, with the hospital ambulance, was waiting at the station when the little procession entered the double doors. The surgeon pronounced the wound not necessarily dangerous, and very soon brought back consciousness, the old man opening his eyes first on Hilda, to his evident astonishment.

"Father," she said to him, softly, "you have been hurt; you must lie quiet until we can take you home."

Meanwhile Walter was saying to the police surgeon and the grave-minded officer behind the desk, "That is as much of the story as I know. Doubtless I shall find out all the rest from the young lady very soon. I will have the old gentleman taken to my house; there, surgeon, is the address for your driver. Meanwhile I will be accountable for the appearance of Miss Brand and myself as witnesses against the prisoners if the old gentleman cares to prosecute them." Then turning to Hilda: "This gentleman"—for he would not betray what might be her confidence—"this gentleman must go to the hospital, and we must go with him. He will be taken in the ambulance, and I shall get a carriage for us." Where the "hospital" was he forbore to explain.

Whereupon he went out, and returning presently, helped tenderly—in spite of a slight revulsion of feeling—to lay Mr. Brand into the springy couch of the hospital van, after which he handed Hilda into the carriage he had brought, and, directing the driver to follow the ambulance, seated himself beside her.

"Miss Brand," Walter asked gently, in a moment, seeing that she was composed—"Miss Brand, you began to tell me something about yourself when we were in the restaurant. Will you continue? I am better prepared to hear it now."

Then she related to him rapidly the chief points of her history. How her father an educated man, had been editor of an influential newspaper in Washington, but becoming involved in unsuccessful political schemes, had lost his position; how misfortunes rapidly followed, and how her father had resorted to wine and the gaming table to drown his sorrows, until he had impoverished his family, which then consisted of Hilda and another daughter much younger than she, whose birth Mrs. Brand had not survived. They had to give up their home, and were very unhappy. It was a sad story, and Walter protested against hearing any more, seeing the pain it gave her to tell it. But she would not cease.

"It was only a little while after that my sister and I went out to do some errands one pleasant afternoon in October. She was four years old then, and I took her every where with me. It was nearly dark when we got through, and hurrying home I left sister with a playmate, telling her to come quickly. Our house was only two squares away, and I had no fear of her not knowing the way. They told us she really did start almost immediately, but I never saw her again. Where she went, or whether she is even alive, none of us know."

Hilda spoke the last sentences in so low and sad a voice that Walter could hardly hear her.

"Papa clings to the hope that we shall find her some day; but I think she is dead."

Paralyzed at first by the blow, precious time was lost before active search was begun, and then no trace could be found, the only thing discovered being that an Irish-woman, whom Hilda had once discharged from her employ for stealing, had disappeared from Washington about the same time as the child. But search for her had proved equally fruitless. Walter's breath came fast as there rushed upon his recollection the memory of Elsie, and of the beldam who wanted to take her away from the police station.

"Finally," Hilda went on, in her weary voice, "our money all gave out, so that we could not pay any more detectives; people became tired of sympathizing with us, and we had to bear our sorrow in decorous silence. Then papa— Oh! I can't tell you all about it. You *must* know how terrible it was, and I *can't* explain. I shall cry if I do."

Again Walter bade her not try. Nevertheless she did, telling him, with passionate earnestness, how her father had changed from the proud, handsome man into the decrepid old drunkard; how she had resorted to stenography her amusement in earlier years - for a livelihood; and what a wretched lot of sorrow she had bore in loneliness and degradation.

"One day last September," Hilda continued, gently withdrawing her forgotten hand from Walter's for he had taken it in an assuring clasp when once she had been sobbing with the misery of her recollections—"papa came home more like himself, and startled me by telling me that he believed our lost darling was in New York, and that he was resolved to go himself to seek for her. I pleaded with him, but it was of no use, and I could only persuade him to wait a few days until I could go with him. He had obtained some money by selling his last little piece of property. Well, we came to New York without any plans, but by a fortunate accident found a good boarding place. Papa was hopeful and said he was on the track of my sister, but I always doubted him. He would stay at home all day, but go out in the evening; and one night he did not come home till morning, and then I could see that he had been drinking again and lost all his money. I begged him not to go away the next evening, but he did, so I followed him, and pursuaded him to come home. In that way I learned his haunts, where he went to gamble, and often I have been in those places at midnight when I could not induce him to come home earlier. I am afraid he will never give it up. Oh, father, father, how could you sink so!"

Hilda's brave voice was lost in this despairing cry, and she had no more time to recover her self-possession before the cab stopped.

IV.

It is the next afternoon,

On Walter's bed, in the neat little room off the "library," lies old Mr Brand, quietly sleeping. The rattle of the carts on the avenue, and the heavy grinding rumble of the horse-cars, the screams of the hucksters, the thousand hoarse noises of the city streets, mingle in a subdued roar that is tempered by distance and brick walls into a soothing sound.

When Walter entered this quiet room he found Hilda sitting in a low rocking-chair by the bedside.

"Has he become clearly conscious?" he asked her, for Mr Brand had been somewhat delirious during the night.

"Yes," she answered in a whisper; "he knew me, and asked where we were and what had happened, yet seemed to care very little for these things, only begging Elsie to come to him."

Walter started. Was his Elsie the lost daughter and sister, the darling of the old man's heart, for lack of whom his weak moral nature had broken down? Elsie was not an uncommon name. It might be only a coincidence.

"Hilda," he said, quietly, "what causes your father to think so strongly that your sister—Elsie did you say her name was?—is here in New York? Perhaps he had some clew, which would help me to look for her. I am a famous detective."

"I never could find out. Father once said that the Irish-woman came here, but afterward he denied that he knew any thing about it. So I have always thought it was a hallucination of his, but one I could never dissipate;" and she sighed wearily.

"Tell me what Elsie looked like," he asked again, and was startled by the resemblance she drew of her to the picture of the little girl he had won from barbarism five years before. When she spoke of her sweet silvery voice as a marked characteristic, and dwelt with loving earnestness on the pretty way in which she sang, he was almost sure of the identity, and came near blurting out the whole story.

"If Elsie had only lived" (Hilda persisted in thinking her dead), "papa never would have been led away so, I am sure. It is his despair."

"Oh, keep up your courage! It's not to late to renew the search. I tell you again I am famous as a detective."

The surgeon dropped in before long, and announced Mr. Brand to be feverish and weak, but that his constitution seemed to be good, and all the physician's anxiety was concerning the patient's habit of moaning and muttering in his sleep as though he had some settled grief or perplexity, which might induce congestion of the brain.

Walter thought it all over. He recalled every incident connected with Elsie's history, and recited to himself all that she had told him of her vague recollections. He questioned Hilda once more as to her sister, and the more he studied the resemblance in face, form, and manner, the more firmly he became convinced that his "little sister" was the lost darling of his guests. It was with mingled sensations that he admitted this, and with conflicting hopes that he resolved to put it to the test. If *his* Elsie was *their* Elsie, there could be no question as to his duty. But he had been indulging almost paternal anticipations of her future, and had been allowing his love for the little waif to grow beyond his record, until now the prospect of losing her had a bitterness in it akin to the sorrow a father's heart would feel in like circumstances. So his honest hope that he might be able to reunite the broken family was in conflict with his selfish yet irrepressible wish that she might prove, not to be their Elsie, but only his.

Doing and thinking thus occupied several days, during which (after the first) Condon went about his work as usual. Mr. Brands wound's healed, and he seemed to grow better, yet his mind remained dreadfully morbid, and he chafed because his illness prevented him from searching for his daughter. All knew what his searching would amount to; yet perhaps he did have an idea of her true fate, or he never would have mired body and soul in the slums of the Fourth Ward. At last the surgeon positively declared to Condon that unless the patient ceased fretting he would speedily die

That same evening Walter called Hilda cheerily to come into the library, and when she had presented herself, with a puzzled air, he said, "You are looking well to-night, Miss Brand; I think you are bearing your burden heroically."

"I am surrounded by so much kindness," she answered, with the brightest smile he had seen for many a day, "that I should be very ungrateful to let my troubles annoy any one. I really do feel more courageous than I did. But why do you ask?"

"Because," he said, "I wanted to be sure of your nerves before I told you something."

"Oh, is it bad news?—or—or—have you found out anything about Elsie?"

"Yes," he answered, so composedly that she became calm a'so, "I have found a clue some one who thinks she can tell you about your sister; and if this person is right Elsie is alive and happy."

Hilda did not speak. She sat down before him, her delicate hands clasped upon her lap, listening with rapt attention to his words, her face rippling with a new light, full of a tender beauty and sweetness.

"You have heard what Dr. Gaines fears. Time, then, is precious. Now to morrow I shall want you to go up the Hudson a little way with me and see this person. We will be back in the afternoon, and can leave your father quite safely. You can decide better than I whether this young lady really knows Elsie, or whether it is some one else she has in mind."

"Of course I will go," she said eagerly, "If you think I can be spared. But tell me how did you find this person?"

"You shall know to morrow."

The next morning was warm and balmy one of those earliest spring days that sometimes follow the fiercest storms, suggesting to every heart into which the sap of nature can creep that the light and joy and fullness of summer approach. The city streets were alive to this gentle influence as well as the country lanes. Children crept in the sun; grandfathers marched out to the bit of garden behind the brown-stone

houses and examined the swelling buds of the single grape that struggled for existence in the scant soil; middle-aged men in dark counting-rooms turned the pages of their huge ledgers with an indolent and weary air, while younger clerks examined fondly their fishing-rods before going down to business, and talked all the way of trout brooks and snipe-shooting.

This strength of hope, the vivifying influences of the glowing sun, penetrated even to the sick-room of that quiet house in C—— Street, and the wounded man was quite as generously happy in the prospect of his daughter's having a holiday as she was glad of a little relief from her vigil. She was happy and buoyant, but Walter found it hard to disguise his seriousness.

Their destination reached, they drove at once to the school on the edge of the pretty town. One of the pupils was playing upon a piano and singing in the next room to the reception parlor as they sat down, and the sweet girlish voice at once attracted Hilda's attention in a marked manner. Condon was regarding her closely, for he had arranged with the principal of the school that Elsie should sing at that time as she was doing, but he did not guess to what arts the music teacher had been compelled to resort to carry out the plan. Now Walter was watching to see whether Hilda would recognize the voice. He had not long to wait. Hilda turned to him with an eager gesture and swimming eyes.

"Oh, Mr. Condon, if I thought it possible, I should say that was Elsie's own voice!"

Then a light seemed to break in upon her—a light that irradiated her countenance, and she cried out, "Who is it who is going to tell me about her? Is it—oh, is it she herself?"

There was no time for Walter to reply, for Elsie, little thinking who was awaiting her, and little caring, so delighted was she with the thought that her "brother" had come to visit her—Elsie, bright and winning, sparkling with the zest of study and keen enjoyment of existence—came running into the room.

She was thinking solely of Walter, but she saw some one else—a lady she could not find a place for in her recollection, yet whom she was intuitively certain belonged there, though whose face swiftly opened a vista into her forgotten childhood, where the landscape of memory was yet dim, truly, but now reached farther than a moment ago. All this was instantaneous, an impression rather than a ratiocination, for before she had half checked her impetuous entry she saw this lady leap up, saw her reach out her arms, heard her cry, "Elsie!"

Then she knew her, and only saying, "Hilda!" was folded in her embrace.

V

Time swept on. Mr. Brand was won back to life through the inspiration of Elsie's return, as he had been sent astray by the culmination of his misfortunes in her disappearance. And not this only, but won back to sobriety. He seemed to remembered only vaguely, as a disturbed chaotic dream, the life that he had led in the gutters of Washington and New York, shedding bitter tears over the ingratitude he had shown to his noble daughter, the disgrace he had brought upon the good old family name, the brutishness and evil he had done. He himself sought excuse in the plea of insanity, but the more he learned of Mr. Brand, the more Walter became convinced that the unaccountable degradation of the old man—aged in tribulation rather than in years—proceeded from aberration of a brilliant mind unstayed by strong principles and impotent to endure sorrow.

His strength restored, Mr. Brand was glad to accept a position as proof-reader on one of the daily newspapers, obtained with Walter's help, while Hilda returned to her reportidg. They installed themselves in a cosy little home near Condon s and Elsie continued her studies. So when the spring had fully passed, and Elsie came home for her summer vacation, affairs were moving quickly and happily everywhere.

September came again, and a year to a day from the time when Hilda Brand came to our office to get some work to do, and Walter had first met and frightened her, those two went up with Elsie to her school, and left her beginning another year of study. They returned to New York by a steamboat in the evening, and sat long on the deck, watching the romantic shores sweeping by them. It was Hilda's first voyage on the noble river, and Walter interested her greatly by his graphic accounts of the villages and cultured homesteads that lie on the banks. But the deepening night and the passengers leaving the deck made her suddenly rise and say, "Shall we not go in?"

"Is it not too pleasant?" he replied. "Besides, I have not finished my cigar."

"Very well, then;" and quietly resuming her seat, she watched composedly the dancing path of the moon on the river—more composedly perhaps, than if she had seen the intense, passionate look in the face of the man at her side, his cigar hanging idly from his fingers, his eyes on her countenance.

At last, with a half-trembling dread of the silence that had fallen between them she turns, with downcast eyes, and says, "You have been very, very noble and true to me and mine. How can I ever pay you?"

She does not anticipate the answer that comes with startling quickness:

"I ask a great price—even the gift of yourself; and having trusted me before, will you not trust me now?"

The burning blushes and the sweet eyes raised timidly to his do not say him nay.

THE END.

One of the best rules in conversation is never to say a thing which any of the company can reasonably wish had been left unsaid.

DAMP CLOSETS.—For a damp closet or cupboard, which is liable to cause mildew, place in it a saucer full of quicklime, and it will not only absorb all apparent dampness, but sweeten and disinfect the place. Renew the lime once a fortnight, or as often as it becomes slaked.

Minnie May's Department.

MY DEAR NIECES,—This month I purpose giving you a descriptive letter I have just received from one of my nieces. This lady had gone to visit some friends in the neighborhood of a little village about 20 miles from Ottawa. It is called the Carp, and some of the people are rather notorious as being very drunken and bad. Whilst there a fire, which originated in an unoccupied building, and could hardly have occurred unless an incendiary had been at work, broke out and burnt down in one night no less than thirteen houses and shops—the greater part of the village in fact, leaving many poor beings destitute and homeless. There was one poor old man and his wife, nice, kind and respectable people, who were burnt out in the fire and left penniless and homeless.

The owner of a tavern which was burnt down, dragged a barrel of highwines down into a deep gully near his house for safety. Some wretches, ever ready for such a chance, discovered it, and after some hard but eager work, opened it. Some procured tin cups, others drank it from the barrel or anyway, they did not care how, as long as they got it, and in a short time the place was filled with these brutal men, drinking the fiery stuff. We are told, as we may imagine that it was, a most fearful scene. The red flames of the burning houses all around lighting up the pit, as it were, where these wicked wretches were jumping about in a mad state with the liquor. My correspondent now goes on to say she has returned to her home, which is on an island. "Our house is in a very exposed situation on rather high ground, which slopes down a hundred yards perhaps to the lake, and the windows on the west side of the house, which open to the lake, are sometimes burst open with the winds. We have those horrid French windows and they are not very tight, so that the rain comes pouring in when it storms. My bedroom is on that side, and last night we had to fill our windows with everything] we could lay hold of to soak up the water. If there is one thing I hate more than another, it is to jump out of bed on a cold night and go and pile things on the window sill. I think it would be far better to listen to the drip, drip, drip of the falling water down on the floor; really it is rather a comfort to know that the ceiling of the room below is being ruined; it's a pleasure to feel that you're not alone in being unfortunate. Now, my dear Minnie May, let nothing ever induce you to take up your abode on an island for more than a summer.

"Your niece,
"FANNIE."

We are very pleased to hear from you, Miss Fannie, and hope you will continue your descriptive correspondence. We would be glad to hear from more of our nieces, and to insert their letters in the paper when interesting.

MINNIE MAY.

Answers to Inquirers.

ALICE MAUD.—Yes, it would be quite improper; it is the gentleman's place to ask you to correspond.

COUNTRY GIRL.—Gold necklaces and chains, large gold bracelets and pendent lockets, are not generally worn by ladies who know how to dress in the style demanded by the best society. Very little jewelry is worn by people of taste, except on occasions demanding full dress.

OMEGA.—Pedestrians should always keep to the right. It would be polite to raise your hat to the lady that your friend, with whom you are walking, bows to; when shaking hands with a lady or gentleman older than yourself you should rise. To remain sitting is a decided breach of courtesy.

MARQUITA.—Any handsome black mantle or dolman can be appropriately worn with your dresses, either of silk or nun's veiling. A handsome black wrap of medium weight is always useful. A little dash of Surah ribbon on your black lace and jet beaded bonnet will brighten it sufficiently for fall wear. Furry felts and plush beaver bonnets will not be worn by fashionable women until after the 1st of November. Linen collars will always be fashionable with plain cloth, flannel or serge dresses.

LILY MAY.—Is it proper for a lady to ask a gentleman friend home to dinner with her when she is boarding at a private house? Also, is it proper for the gentleman to offer to pay for his dinner?—the lady having obtained permission to invite him. ANS.—It all depends on circumstances. As a rule young ladies should not give invitations to gentlemen. An elderly or married lady may do so, and when boarding in a private house of course no lady should invite friends without asking permission from the lady of the house. The gentleman should not offer to pay, but the lady would afterwards do so when settling her own bill. Some landladies decline to be paid for the occasional meals given to their boarders' friends, but boarders should always offer to pay until they know their landlady's views on the subject, and if she will not be paid the guest is of course as much hers as that of her boarder.

RECIPES.

BREAD SAUCE.

Two ounces of bread, one-half pint of milk, one onion, six pepper corns, one salt-spoonful of salt, one-half gill of white stock.

SUET CRUST.

One pound of flour, six ounces of beef suet, one teaspoonful of baking powder, one teaspoonful of salt, one-half pint of cold water.

APPLE DUMPLINGS.

Five apples, twelve ounces of flour, four ounces of butter, one ounce of sugar, one teaspoonful of baking powder, one and one-half gills of cold water, one salt-spoonful of salt.

APPLE BUTTER.

"Apple butter that will keep may be made as follows: Reduce a kettle of sweet cider about one half by boiling it down. Pare, core and quarter good sound apples while the cider is boiling. Add as many apples as the boiled cider will take and cook until the fruit is thoroughly mashed and of a uniform color. Let the boiling go on briskly, and the stirring without cessation to prevent the mass becoming attached to the bottom and sides of the kettle and then burning. When nearly done flavor with spices to suit the taste. Apple butter is not done so long as the cider rises to the surface. When thoroughly cooked it should be thick and smooth as hasty pudding."

Our Recipe for Curing Meat.

As the season has arrived when curing meat is in order, we publish as of old, our famous recipe for curing beef, pork, mutton, hams, &c., as follows:—

To one gallon of water,
Take 1½ lbs. of salt,
¼ lb sugar,
½ oz. saltpetre,
½ oz. potash.*

In this ratio the pickle can be increased to any quantity desired. Let these be boiled together until all the dirt from the sugar rises to the top and is skimmed off. Then throw it into a tub to cool, and when cold pour it over your beef or pork. The meat must be well-covered with pickle, and should not be put down for at least two days after killing, during which time it should be slightly sprinkled with powdered saltpetre, which removes all the surface-blood, &c., leaving the meat fresh and clean. Some omit boiling the pickle, and find it to answer well, though the operation of boiling purifies the pickle by throwing off the dirt always to be found in salt and sugar. If this receipt is strictly followed, it will require only a single trial to prove its superiority over the common way, or most ways, of putting down meat, and will not soon be abandoned for any other. The meat is unsurpassed for sweetness, delicacy and freshness of color.—[Germantown Telegraph.

*Omit the potash unless you can get the pure article. Druggists usually keep it.

Fashion Notes.

Plaids of every description and color are the rage.

Shirred belts, pointed front and back, are fashionable.

Quilted satin petticoats will be worn this season.

Poke bonnets of drawn silk or satin are now worn with flower trimmings both inside and out.

A cord, with tassels, is considered more stylish than a belt, with either house or promenade costumes.

Aside from the Grecian style of hairdressing, coiffeurs still continue to be elaborate. Usually the front hair is arranged into a number of bandeaux and rouleaux, while the back hair is looped in thick plaits. Short bunchy curls are worn by young ladies. They are held at the back by a coil of loosely-braided hair twisted around them, or by a jewelled ornament of some description. Many ladies have exchanged the stiff regular puffs for graceful loops of waved hair which they coil in a sort of coronet around the crown of the head.

The prettiest novelty as yet shown for the coming season is a fancy muff of shirred Lyons satin lined with satin sublime. The muff is shirred all over in very close shirrings, the satin forming full double ruffles at the ends. Under these ruffles are placed full ruffles of Breton lace. A knot of artificial flowers is placed at one end of the muff, and a flat, wide gold cord serves to suspend it around the neck. The wadding of these muffs is perfumed, so as to scent the wearer's gloves and handkerchief. Some very handsome muffs exhibited at the School of Art in London are also worthy of note. They are made of silk plush dyed in the most beautiful high art shades, and embroidered with flowers and designs appropriate to the season. On one there was a design of winter roses, worked upon dark purple plush. A dark myrtle-green muff was embroidered with a bunch of mistletoe and ivy, and on a rich black plush ground there was worked a shray of holly, with a robin redbreast busy picking at the berries—bird and berries looking delightfully real.

Every kind of lace worn by fashionable ladies in London is of a pronounced bilious hue; lace, in fact, can scarcely be too yellow to be in style. The color is quite distinct from the peculiar, dingy and much esteemed yellow which time imparts to lace, and to which that delicate fabric used to owe so very much of its extraneous value. Fichus, ruffles, neckties, jabots, fraises, stomachers and collars of this lace are considered quite indispensable to modern toilets. Indeed it is these little nothings, as they are styled, which gives effect to the simplest robe, and without them the richest and most elegant toilet lacks that indescribable something which is termed finish. Collars and cuffs made of black cambric are also worn. They are large as regards the collar, while the cuffs are correspondingly deep, and both are trimmed with saffron-tinted lace. There is, however, no substitute which can ever fully displace white linen. Nothing looks more dainty than a collar and glossy pair of cuffs, and it is a pity that a desire for novelty should ever banish these tidy and ladylike articles of dress.

Drinking too Much.

"Golden Days" gives this advice upon the subject of drinking too much, which applies to grown up persons as much as to the little: "Children are not apt to believe they drink too much water, and yet they do. When you come to the house, panting and thirsty from play, you will take a tumbler of water and drink it down as fast as you can, and then rush to resume play, and perhaps repeat the drink. Now, the next time you feel thirsty, try this experiment. Take a goblet of water and slowly sip it. Before it is half gone your thirst will be fully quenched, and you will feel better for having drank only that you need. And again, we are all apt to acquire the habit of drinking while eating our meals. Animals don't do it, and it is hurtful to us. Nature gives us all the saliva we need; and if any one will chew his food slowly and thoroughly while eating, the desire to do so would soon leave, and he will require only a few sips of water, tea or coffee after the meal is finished. This practice, too, will do wonders in the way of keeping off indigestion, dyspepsia and sickness."

The Bang.

Oh, the bang, the horrible bang!
Worse, even worse than the modern girl's slang.
Covering, hiding her forehead so fair,
Warning young men of that girl to beware.

See it disfigure the head of a child,
Spoiling her features, so fresh and so mild;
Cut with the kitchen clip down to her eyes,
Leaving her brows an affair of surmise.

Plenty of charms has the sweet little girl,
Eyes of clear azure and teeth of pure pearl,
Yet we must ask, of her head and its shape,
"Is it a human or is it an ape?"

Sae her grown sister, her bang all in curls,
Deeming herself the most lovely of girls,
Making that bang, with such exquisite care,
Look like a plaster or poultice of hair.

Young fellows stare at such girls as they stop.
Not to admire, but to quiz their make-up,
Saving, with utterance quiet but deep.
"Mucilage ought to be plenty and cheap!"

Grandmother, too, must come out with a bang,
Nearly as bad as the rest of the gang,
Hiding the forehead that grandpa admires
Under a frizz that she borrows or hires.

Why should our women, the loved of our hearts,
Make themselves frightful by hideous arts?
Why should they cover their foreheads so fair,
Worse than the male fool who plasters his hair?

Surely the serpent bequeathed us a fang,
Left in the garden and known as a bang.
Let it depart, and by no more insidious
Ways may the beautiful make themselves hideous.

EDWARD WILLETT.

Observe the Birthdays.

Let the birthday of each member of the family be always remembered when it comes. Let there be something a little out of the ordinary routine in the arrangement of the table; cookies fashioned as Jennie likes them best; one of Frank's favorite plum puddings or Julia's special liking, a loaf of ginger cake, or a wonderful lemon pie, such as only mamma can make.

Then there must be presents; sometimes people may think they can not be afforded; but reflect. The little one needs shoes, dresses, aprons and many other articles.

Purchase one or more for the bithday. It will seem just as much a present to her as though she was not obliged to have it.

Next come school books and story books, a set of furs and a pair of skates (should the birthday occur in the winter), a pretty little dinner basket, or if the parents can afford it, a little gold band for one of the white fingers, a necklace, a watch with a shining chain, or the pony that has been wished for so long.

Encourage the little ones in giving to each other, and remember father's and mother's birthday too, and, believe me, it will be bread cast on the waters; the days will only be a few ere some returns, and there will be a never-failing supply as long as you and your children live.—[Memphis Baptist.

CORBETT says of his early life:—To buy a pen or a sheet of paper I was obliged to forego some portion of food, though in a state of half-starvation. I had no moment of time to call my own, and I had to read and write amidst the talking, whistling, laughing, singing and bawling of at least half a score of the most thoughtless of men, and that, too, in the hours of their freedom from all control. Think not lightly of the farthing I had to give now and then for ink, pen and paper. That farthing, alas! was a great sum to me. I was as tall as I am now. I had good health and great exercise. The whole of the money not expended for us at market was twopence per week each man. I remember, and well I may, that on one occasion I made shifts to have a halfpenny in reserve, which I had destined for a red herring in the morning, but when I pulled off my clothes at night, so hungry then as hardly to endure life, I found that I had lost my halfpenny. I buried my head under the miserable sheet and rug, and wept like a child.

Peruvian Women.

Lima is called the paradise of women. They are called beautiful; so they are, if you admire black eyes and ebony tresses—not the dreamy black eyes of the harems, nor the sparkling black eyes of the Syrians, nor the liquid black eyes of the Egyptians, but the black eyes that easily reveal the different types of character. Peruvian ladies have characters and are not afraid to show it; yet we hear nothing of equal rights and privileges among them. For them to lay claim to a right is to possess it, for they can easily win over the priesthood and thus have the most powerful class of Peru on their side. They are generally occupied, but do not work; they look upon work as degrading. They rise early, take a cup of tea and go to Mass. Their toilet requires but a few moments. Their walking suits are neat and pretty; in this respect they surpass us. The dress is black and never touches the ground, there is no fussing and fumbling with trains. A white skirt is sometimes seen a little below the dress with a deep hem and two tucks, and always white and clean. Prunella gaiters are generally worn; the hands are bare; the manta is thrown over the head, falling gracefully almost down to the bottom of the skirt. The subject of dress claims most of their time and attention; their ball dresses and opera and soiree suits are magnificent. Their boots, especially, are beautiful. No people have naturally as small feet as the Peruvians. The Peruvian made boots are too small for foreigners. Peruvian ladies are not very intelligent; as soon as they pass beyond the school-girl period they care little for books or literature. Many learn to play the piano when young, but do not care to continue when married. They are excessively courteous in their manners, but we are not to be missled by appearances. Their mode of salutation is more of an embrace than anything else, and they always say: "My house and all that I have is entirely at your disposal, and we are to be as one family." They are always wealthy in imagination—at least they never speak of poverty. They love to smoke. The ladies are good at shopping and making bargains; they never tire or find a thing to trivial to occupy their time; they are never in haste; there is always a manana (to-morrow) and then another. Call a laundress and she promises to return your clothes in eight days, never sooner, except at the steam laundries, where the price is about one-third the value of an ordinary garment. Eight days pass—the laundress does not appear. She must then be looked after. The things are not ready, she says, but come to-morrow—and to-morrow means another week. By the time that she fully understands that you are in a hurry for your clothes, she says you can have them sure estes noche (this evening), but she raises her price about three-fold. Take your clothes and pay the price agreed upon—no more. The same delay may be expected in all business transactions with the Peruvians. In making any purchase everything must either be bargained for or two or three times the value will be demanded.

A Woman's Experience with Ferns.

I would like to tell the readers of this good paper how I came to have a fern bed. In nearly every garden there is a shady spot or corner, in which ferns can be grown. I had just such a spot, and planted everything that was recommended, but without success. One day, while tramping through the woods, it occurred to me to try ferns. I began by making a bottom for the bed, by laying two inches or more of cinders; then all the broken earthenware and bits of brick I could find, and upon that sand and gravel. Next I cleaned out the wood-house, for the dirt and fine chips. Then I started, one fine day, with my man and girl-of-all-work for the woods; and while he filled the wagon with rich, light, soil; we dug out all the rotten wood we could find. It's the best thing in the world for ferns. We were very careful to take up plenty of their natural soil with the ferns. Before dark the ugly, bare spot that had been so long an eyesore to me, was a thing of beauty. The next year it was still more lovely; and now as I look out of the window it is beyond description. I put on fresh earth every year, and cover the bed with moss in the fall. They never fade; seem to grow naturally; and I can see the ferns trying to get their lovely heads through the moss.

Uncle Tom's Department.

My Dear Nephews and Nieces.—The last days of Autumn are fast declining, and already we can hear the footsteps of Winter, as he comes hurrying along, with his usual attendants, frost and snow. We cannot help feeling something like regret at the loss of our lovely Summer and all the pleasures peculiar to this season; still those of Winter, though entirely different, are in my estimation equally as charming; do you not all find them so? Who amongst my numerous family of nephews and nieces does not enjoy a good sleigh-ride? Very few I am sure; if so they are not true Canadians, for I am confident Canada would not care to lay claim to those who did not fully appreciate her amusements. When I was in the country we thought there was no better fun than to wrap up warm some bright moonlight night, pack ourselves into a large sleigh, (seats were considered superfluous articles!) and start off for a two or three hours drive. I am afraid those who live in the country do not sufficiently value its pleasure. It only is the "city folks" who know how delightful it is to spend a few weeks of the winter at a large country house. And now comes the skating! What more pleasant or healthy amusement could you wish for than this one? What matters if you do meet with a few accidents in learning, you feel amply rewarded for all the "bumps" you may have received when you have become an adept at the pastime. How do you spend your winter evenings? Part of the time I suppose is devoted to studying your lessons for the following day. After they are finished it is a very good plan to procure an amusing book, and one of you read aloud, whilst the others are busy with their various occupations. This will enable you to employ your time both pleasantly and usefully.

Uncle Tom.

PUZZLES.

88—DROP-LETTER PUZZLE.

F-i-t-e-r-n-v-r-o-f-i-l-d.

Josie and Eliza.

89.—DECAPITATION.

Whole, I am a purchaser; behead, and I am a wanderer; behead again, and I am on the other side; transpose my remainder, and I indicate a minister of the Gospel.

Josie and Eliza Clarkson.

90—CRYPTOGRAPHS.

Xron vrzpp xo crhoo dooc zbzkn ku crfmnoh pkbrenkub eh kn hzkn.

91—CHARADES.

One cold winter's night, as a traveller was walking
Through my deep first by the light of the moon,
He glanced at the heavens and by their dull look
Knew that my second would commence very soon.
He quickened his pace, and at the next turning
Espied a farm house, a most welcome sight;
He knocked at the door and asked for shelter
From the descent of my whole in its might.

92—My first will name an Irishman,
In my second he likes to be;
A man who loves his native land,
Is my whole, as you will see.

93—ILLUSTRATED REBUS.

An Ode to a Lot of Stovepipe.

Infernal stuff, your nature well I know,
So when I took you down six months ago,
Each piece I numbered so that I might tell
Exactly how you'd go together well.
And now the time for chilly nights draw nigh,
To put you up again I madly try,
But all in vain. The joints that then did fit
Now do not come within an inch of it.
I get you two-thirds put in place and then
Crash you go tumbling to the floor again.
Once more I try. You're rather full of soot,
And I am getting daubed from head to foot.
I jam my thumb, but still I persevere,
One piece goes down again and rakes my ear.
I grab to catch the piece, another goes,
And falling scrapes the hide all off my nose.
And then another piece falls with a slam,
And then the rest goes down and I say "Dam."
And then my blood gets boiling and I say,
By all that's blue, I'll fix you anyway.
Once more I go to work. By patience great
I get all but a single section straight.
And that I am about to place, when o h!
The chair I stand on tips. Down flat I go;
While on and around me with a horrid crash,
The whole comes down again in one grand smash.
And then my wife remarks, "I never saw
A man so clumsy!" I say, "Hold your jaw!"
And for a tinman send, while I retire
To wash myself and swear, to vent my ire.

[Boston Post.

A New Capitalist.

He didn't look as if his pockets held fifty cents, but a rich man has a right to dress as he chooses. He had loafed up Griswold street until he saw the right sort of a face, and then he asked:

"Can you show me a bank?"

"Yes, sir—three doors below, or just across the street, or right back there."

"Thanks. I'd like to put some money in some bank, but I'm a little afraid of banks. I always did prefer a note of hand to a bank."

The citizen pricked up his ears and asked the amount.

"A trifle," was the answer. "Do you know of anybody who'd like to take some, and give me a note for a year at seven per cent? I think of going to Mexico for a while."

"Let's see," mused the citizen. "I don't know but what I'd take some myself."

"Lemme git a drink, and then we'll talk," said the stranger.

"Yes — certainly — come on," said the citizen, and the two went into a basement. Drinks were ordered by the citizen, one after another, until his shinplasters felt lonely. He said he could make good use of a few thousand dollars for a year, and some of his friends might also take a few thousand more. The stranger put down gin, whiskey, lager and brandy until his legs gave out. The citizen laid him on a bench and tried to sober him, but the fellow went dead asleep while they were trying to force vinegar down his throat. The bar-keeper said he was an old loafer, and a policeman was sent for to take him to the station. When they got him down there and searched him they found four cents, a brass-backed comb and a door key in his pockets, and the citizen who wanted to borrow a few thousand dollars went softly around the corner to see if the mail had come in.

Answers to October Puzzles.

81—Cleopatra's Needle.

82—Josephus.

83—BOMB
OLIO
MIEN
BOND

84—S no W
T erro R
O liv E
Republi C
M on K
S hip S
Storms. Wrecks.

85—Chaucer.

86—Now, Gilpin had a pleasant wit,
And loved a timely joke;
And thus unto the Calender,
In merry guise he spoke:

"I came because your horse would come,
And if I well forbode,
My hat and wig will soon be here,
They are upon the road."

87—Be just and fear not.

Names of Those Who Sent Correct Answers to October Puzzles.

James Richards, L M. Arnold, Polly Hammond, Minnie Howell, Lizzie Munroe, Albert Lewis, Bessie Lee, Alice Barker, Fannie Burns, J. C. Cox, Tom Stevens, Geo. Barker, Frank Johnson, Jessie Thomas, Minnie Hill, Carrie Jell and Georgina Findlater.

"Can dogs find their way home from a long distance?" says an exchange. It's according to the dog. If it's one you want to get rid of, he can find his way home from California. If it's a good one, he's apt to get lost if he goes around the corner.

HUMOROUS.

There is romance in figures. A young man met a girl, 1 'er, married her and took her on a wedding 2-er.

A Norristown youth, who was trying to master a bicycle, when asked his age, said he had seen fifteen summers and about one hundred and fifteen falls.

A negro was suspected of surreptitiously meddling with a neighbor's fruit, and being caught in a garden by moonlight, nonplussed his detectors by raising his eyes, clasping his hands and piously exclaiming:—"Good heavens! dis yere darkey can't go nowhere to pray any more without bein' 'sturbed."

"Any good shooting on your farm?" asked the hunter of the farmer. "Splendid," replied the agriculturist, "There's a lightning-rod man down in the clover meadow, a cloth peddler at the house, a book agent out in the barn and two tramps down in the stock yard. Climb right over the fence, young man, load both barrels and sail in."—Hawkeye.

"Ciphering."—School boy (kept in)—"Let's see—one t'm's ought's ought. Twice ought's ought. Three t'm's ought—oh, must be something—stick it down one."—[Punch.

An Irish porter, closing a shop one rainy evening, took off his coat while putting up the shutters. When asked why he went out in his shirt sleeves in the rain, "Shure," said he, "don't I want a dry coat to go home in?"

Commercial.

London Markets.

London, Nov. 1, 1880.

GRAIN.

	Per 100 lbs		Per 100 lbs
Deihl Wheat.	$1 60 to 1 60	Peas	90 to 1 02
Treadwell..	1 60 to 1 60	Oats	90 to
Clawson	1 60 to 1 60	" Old	
Red	1 65 to 1 67	Corn	90 to 1 10
Spring	1 55 to 1 65	Rye	80 to 90
Barley	1 15 to 1 20		

PRODUCE.

Butter, crock.	20 to 22	Potatoes, bag.	60 to 65
do roll..	22 to 25	Apples p bush,	25 to 45
do keg..	15 to 18	Turnips, p bu.	25 to 30
do inferior	8 to 12	Beef, per qr..	3 00 to 5 00
Carrots, p bu	15 to 30	Mutton, lb....	6 to 7
Onions, bush.	75 to 0 00	Lamb	6 to 8
Beef, per qr..	3 00 to 5 00	Wool	27 to 27
Tallow rend..	8	Dressed hogs, per 100 lbs.	5 00 to 5 50
" rough...	4	Live hogs, do	5 00 to 5 00
Honey	20 to	Lard	4 to 08
Cordwood	4 00 to 4 00	Geese, each ..	60 to
Ducks.... ..	50 to 70	Turkeys " ..	75 to 1 10
Chickens, pr..	45 to	Milch cows.	26 00 to 40 00
Cheese, per lb	13 to 13		

FLOUR.

Flour, fall wht.	3 00 to	Oatmeal fine	3 00 to 3 00
" mixed..	2 75to 2 7	" course	3 50
" spring..	2 75 to 2 75	Cornmeal	1 75 to 1 75
Shorts, per ton	18 00	Bran, per ton	10 00

HAY AND STRAW

Hay, per ton	8 00 to 9 00	Straw, per load	2 00 to 3 00

Toronto Market.

Toronto, Oct. 23.

Fall wheat, $1.01 to $1.06, spring, do $1.07 to $1.13, barley, 57 to 75 c., peas, 67 to 67 c., oats, 30 to 31 c., corn, 55 to 57 c., flour, $4.00 to $5.00, bran, $10 to $10.50, hogs, $6.50 to $7.00, butter, 15 to 22 c., oatmeal $3.85 to $3.90, pork $19.00 to $19.50

Montreal Market.

Montreal, Oct. 27.

Flour—prices somewhat easier; superior extra $5.17½; spring extra $5.20; prices for fall wheat flour are about 5cts lower and spring flour is held at inside figures; strong bakers' $5 75 to $6 50; fine at $4 10 to $4 20; Ontario bags $2 55 to $2 65; oatmeal $4 30 to $4 35; cornmeal $2 to $2 70. Wheat—winter white $1 12 to $1 14; No. 2 spring $1 18 to $1 22; barley 60c to 79c; oats 29½c to 30c; corn 53c; butter—western 17c to 20c; Brockville and Morrisburg 19c to 22; eastern townships 20c to 23c; creameries 85c to 27c; cheese 12c to 12½c.

English Markets.

Liverpool, Oct. 23.—Flour, 9s. 6d. to 11s. 9d.; wheat spring, 8s. 3d. to 9s. 3d.; red winter, 8s. 9d. to 9s. 3d.; white, 8s. 3d. to 9s. 3d.; club, 9s. 7d. to 10s. 2d.; corn, 5s. 3d.; oats, 5s. 4d.; barley, 5s. 3d.; peas, 6s. 4d; pork, 73s.; lard, 45s. 0d.; bacon, 44s to 46s. 6d; beef 63s. 6.; tallow, 34s. 6d.; cheese, 65s.

New York Markets.

New York, Oct. 22.—Flour $4 50 to $6 00; wheat, white, $1 15, do. red $1 15½, rye $1 02 to $1 05, corn 55c to 58c, barley, two-rowed, State, 70c to 72½c, six-rowed, State. 80c, No. 1, Canada, 95c to 97c, oats 37c to 39c, pork firm at 16c, butter 15c to 31c, cheese 9c to 13½.

Boston Market.

Boston, Oct. 27.—Corn per 56 lbs—yellow 58½c ts 59c, No. 1 mixed 58c; No. 2 mixed 57c to 58c, steamer 55c to 56c, oats 59c to 48c, wheat $1 09 to $1 21, rye $1 00 to $1 05, barley 90c to $1 00, shorts per ton $20, cotton seed meal per ton $26 50, hay per 2,000 lbs. $17 to $22, straw per 100 lbs. $1 00 to $1 75, apples per barrel 50c to $1 50, potatoes per bushel 45c to 55c, beans $1 40 to $2, butter per lb—creameries 27c to 32c, fair to good 22c to 25c, retail 30c to 50; cheese—prime factory 13c to 14c, fair to good 11c to 12c, fair dairy 10c to 12c, skim 6c to 9c, retail 10c to 12c; wool from 26c to 50c, California 18c to 38c, Texas 20 to 30c, Canada 25c to 45c.

Live Stock Market.

Montreal, Oct. 25.—Prices low to-day in consequence of a glut in the market. Pretty good fat cows sold at $25 to $30 each, about 3c per lb. A few choice young steers and heifers were sold at 3½c per lb. Twenty shipping cattle were sold at $40 each, or at the rate of $3.92 per 100 lbs. The same buyer bought a few head of cattle at a little over 4c per lb. Common hogs sell at 5½c to 5¾c per lb, but good fat hogs would bring 6c. Good lambs in demand, selling at $3.50 to $4 each; common lambs sell at $2.75 to $3.25 each.

Horse Market.—The shipments to the United States last week were 107 horses, costing $8,164. One lot of twenty horses shipped cost only $900; another lot of four horses shipped on the same day cost only $150. One lot of 12 good horses cost $123.12 each

Chicago, Oct. 21.—Hogs—Receipts 31,000, shipments 6,500 head, market slow, mixed packing $4 30 to $4 55, light $4 50 to $4 70, choice heavy $4 70 to $4 90, cattle exports $5 10 to $5 80, good to choice $4 60 to $4 90, common to medium $3 90 to $4 11.

Subscribers who are in arrears will oblige by sending payment and renewal subscription this month. They will, by so doing, save the necessity of sending out accounts.

Stock Notes.

In Montreal a company of capitalists are being formed for engaging extensively in cattle raising in the North-west. It is intended to take up a large track of land near the base of the Rocky Mountains for the purpose. The Hon. H. M. Cochrane is the promoter.

At all our large shows this fall we missed one of our leading Berkshire breeders, Mr. A. A. McArthur, of Lobo, who has spent the fall in winning honor for Ontario and distinction for himself at the leading American shows. We would call the attention of our readers to his advertisement in this issue, where you can learn of his success.

Mr. R. A. Brown, of Cherry Grove, has recently imported from the coops of a celebrated poultry fancier of England some Langshaw fowls, which are the first of this variety imported in this section of the country. This variety of fowls promises to become one of the leading varieties of this country. We gave a cut and particulars of the breed in the FARMER'S ADVOCATE of November, 1879.

F. & A. B. Snider, fine stock breeders of German Mills, Ont., sent a show herd of Shorthorns to some of the American shows. After they were on the U. S. side Messrs. Snider became aware of the fact that the Canadian restrictions would not allow them to return, a state of things which seems somswhat harsh, but which is the only method by which our horned stock can hope to escape the terrible diseases which rules in the U. S. Not being allowed to return, the Messrs. S. decided to sell by public auction at Flint City, Michigan. In all ten animals were sold, 7 females, which realized $1,650, being an average of $235.71 per head. Three bulls realized $375, an average per head of $125. Canadian breeders had better look before they leap hereafter.

The mania for high priced Jerseys is still on the increase. We note the purchase by Mr. Havemeyer, of New Jersey, on the Island, some ten or fifteen head, paying as high as $5,000 for a single animal, while several others in price ran up among the thousands. Does this presage the coming rage for fabulons prices that was the forerunner of the present depressed values of Shorthorns? While the Jersey is undoubtedly the best of all butter cows, these prices have nothing to do with intrinsic values. They are simply fancy and sure to react to the prejudice of any breed that has a momentary enjoyment of them. The wisest feature now in the Jersey business is the recording and crowing over their immense butter yields. Carry out this point and profitable prices are sure to be realized.—[Ex.

An Important Sale of Polled Angus Cattle.

For some time past there has been much interest felt among cattle-breeders of Great Britain, especially those interested in the Polled Angus breed, over the recent public sale and dispersion of the most illustrious herd of this breed of cattle, viz., the Tillyfour herd that belonged to the late Mr. McCombie, of Scotland. This sale was undoubtedly the most important of its kind that has ever occurred in connection with this breed. Mr. McCombie's family, of Aberdeenshire, Scotland, have, for over 200 years, evinced a liking for the native Polled cattle, and raised them extensively at their country seat, but the credit of making this breed really famous rests with the late Mr. McCombie, who, for about 50 years, devoted himself earnestly to their improvement by systematic efforts. He selected the breed because he considered them more suitable for his locality than any other, and after selecting, regardless of expense, the best and purest animals to be found among the best breeders of that day, he devoted himself to the improvement of the breed, with regard to size, symmetry, fineness of bone, strength of constitution and aptitude to fatten. In after years Mr. McCombie frequently reduced his stock, but was always careful to retain a sufficiency of the best blood of his herd and continued to bestow on them his constant efforts for improvement up to the time of his death in February last. Other breeders have done much towards perpetuating this breed in its purity, but to Mr. McCombie belongs the credit of bringing this family of cattle into the most honorable positions among the various breeds of cattle. The show career of this herd commenced in 1832, and since 1840 it has held a leading position in local and national shows. At the French International Exhibitions of 1856, 1857 and 1862 he carried off every prize offered to the Polled Angus Cattle in both breeding and for fat cattle, and in 1878, at the French International Exhibition, he achieved a great success both to himself as a breeder and to the breed of cattle which he admired by taking the £100 prize, given by the French Government for the best group of cattle for breeding purposes in the division foreign to France, and also the £100 prize, given by the society of French agriculturists, for the best group of animals in the entire exhibition for beef producing purposes. For these prizes over fifty different breeds of cattle competed, including English Shorthorns and the best continental breeds. The assembly at the sale was very large and the bidding anxious and spirited. Seventy animals were sold. The highest price realized for a single animal was $1,350. Pride of Aberdeen 9th, a four-year-old cow of exceeding good quality and renown as a show animal, bringing this price amid very keen competition. A very noticeable feature of this sale was that all the animals, with one exception, were retained in Great Britain. The only one leaving was a bull, which went to New Zealand. Although the U. S. and Canadian breeders had representatives there they were not willing to pay a high enough price to secure any of this choice herd.

A Step in the Right Direction

The East Middlesex Agricultural Association collected two barrels of choice winter apples at the Western Fair, which have been forwarded to Mr. Dyke, the Canadian Emigration Agent in Liverpool, England, to be placed on exhibition as samples of Canadian fruit. A collection of fine specimens of roots and grain have been made in Toronto to forward to the same gentleman. These will be exhibited and talked of in Great Britain. We do not think any apples or roots produced in the British Isles will at all compare with the apples for quality, or the roots for size.

The Advantage to Farmers of a Business Education.

Belleville, Oct. 19.—The Ontario Agricultural Commission met in Belleville yesterday and took evidence. The first gentleman examined was Mr. J. W. Johnson, Principal of Ontario Commercial College, and author of several standard works on book-keeping. His evidence was on the subject of farm accounts and commercial education for farmers' sons. He had prepared, and submitted to the Commissioners, an admirable system of farm accounts. He stated that a large number of farmers' sons received a commercial education at the Ontario Commercial College yearly, and pointed out the great value of such training.

Mr. Ketchum Graham, ex-M.P.P., also testified that his son and other farmers' sons of his acquaintance had been trained at the college, and testified to its practical value in enabling them to keep accounts and to do business generally. He considered such training could only be obtained at an institution making the subject a specialty. Mr. Graham went on to testify regarding the growing of barley and other crops in this section, and the making of cheese, giving exceedingly valuable information. Mr. P. R. Daly, of Thurlow, gave valuable information of a similar nature.—[Toronto Mail.

Our commercial colleges in Western Ontario have also contributed in no small degree to the advancement of our farmers.

Russia, who for the past twenty-five years has been the chief competitor of America in supplying Great Britain with breadstuffs, is this year importing. Two steamers, laden with grain from America, have recently entered the port at Revere. Their cargoes are needed to supply the deficiency of breadstuffs of the Northern Provinces of Russia. This is said to be the direct consequence of the slovenly mode of cultivation practiced in these districts, together with the neglect of the Government, which has paid little attention to agriculture until recently.

Subscribers will confer a favor on us by noticing if our illustrated prospectus for 1881 is displayed conspicuously in their post office, and if not, inform us of the fact by postal card. Any one desiring a prospectus to put up will receive one on application, besides a free copy of the October issue.

American Farming.

OPINIONS OF AMERICAN CATTLE BREEDERS.

The Ohio Farmer reports that a few of the breeders in attendance at the Pennsylvania State Fair held an informal meeting at the Continental Hotal for the purpose of hearing what each one had to say on the different breeds of cattle:—The Jerseys for precocity, richness of milk and individual beauty, were strongly advocated by Mr. Taggart, of Northumberland. He had taken cream three or four days old, and from thirty-two ounces had made twenty ounces of butter. He had heard it asserted that Jersey milk was too rich for young calves, but he had never lost a calf on that account yet. Geo. Blight stated that eight quarts of Jersey milk would make a pound of butter, and that the milk was richer in cows of some age than in younger ones. Col. Teggart thought his herd of Jerseys would average 10½ months between each calf. One of his cows had four calves before she was four years old, one of which was dead. He weaned his calves at two days old. Mr. Gregg, of Ohio, referred to Professor Townsend's lectures at the Ohio State University, in which he stated that a calf should not be allowed to suck until it was 12 hours old, and that puerperal fever was caused by allowing the calf to suck too soon; Mr. Gregg advocated the Shorthorn breed. His cows will weigh from 1500 to 1700 pounds. He kept a few Jerseys and thought his record would show that his Shorthorns would produce about as much milk, but it would not make as much butter as the same quantity of Jersey milk, and when he considered beef the object, why of course the Shorthorns were ahead. When he got through with cows as breeders he wanted something he could take to market. He had a Shorthorn cow seven years old last May, whose sixth calf he was now exhibiting; weighs 1650 pounds; has suckled every calf, is one of the fattest breeders he ever had. Mr. John Patterson of Chester Co., Pa., an old and experienced breeder, put the matter this way: For the best beef take Shorthorns, and Herefords are next to them for beef; for the best milk take the Jersey, for the best cheese take the Ayrshire, and for the best oxen take the Devons. Mr. J. S. Holmes, of Westchester Co., N. Y., said that some Shorthorns bred for milk were good milkers, and those bred for beef were very poor milkers.—[Bell's Weekly Messenger (England).

Facts About Shoeing Horses.

A writer in the New York Herald states some facts about how horses should be shod, which are worthy the consideration of blacksmiths, and farmers as well:

Most of the horse-shoers of the country prepare the foot, fit a shoe, and secure it to the hoof in the same manner that a wood butcher fits a shoe to an old wood ox-sled. Beneath and in the rear of every hoof there is a frog, which is a tough and elastic pad for preventing injury to the animal whenever he plants his foot suddenly on any hard substance. Large rolls or cylinders of India-rubber are placed beneath railroad cars to prevent injury to any part of the car or cargo with which it is loaded The frog beneath the foot of a horse is designed to subserve a similar purpose. But the manner in which most horses are shod lifts them up, as it were, on short stilts, so that the frog cannot perform its appropriate functions. If we look carefully at the young horse when he is trotting or running, it will be perceived that every foot is brought to the ground in such a manner that the frog receives the powerful blow. By this means all injury to the animal is prevented. Science teaches us to permit the frog to develop and expand downward. But some blacksmiths seem to think that the all-wise Creator made a great mistake when he formed the hoofs of horses. Hence they fall at the frog with red hot burning irons, with edged tools, and with any other appliance that will enable them to remove the extraneous excresence.

Sir,—This Canada Pacific Railway, what about it? It looks like a very heavy burden for Canada to shoulder all at once, and more especially for us in the Maritime Provinces, who are so far removed from it. G. M. P., Hopewell, N. B.

[Our country needs a statesman to relieve the Dominion from debt, particularly the Canada Pacific Railway, otherwise the Duke of Argyll need not come to Canada to test Goldwin Smith's surmises. The proofs, real, bona fide and substantial, will go to him.]

Miscellaneous.

The next annual convention of the Dairymen's Association of Western Ontario will be held at Stratford, Ont., on the first Wednesday, Thursday and Friday of February next.

Benefits of Draining.

BY ALEXANDER HYDE.

One of the most obvious benefits of draining is that it makes land warmer by quickly carrying off the water at the bottom through tiles, instead of allowing it to evaporate slowly from the surface. When water passes from a liquid state to one of vapor, it expands in bulk nearly two thousand fold, and its capacity for heat is at least a thousand fold greater. It therefore absorbs heat from all surrounding objects, and if it evaporates from land, it must keep that land cold.

Another advantage of draining, which may seem antagonistic to the last mentioned, is that it enables the crops better to resist the effects of drought. This is not simply because the roots extend to a greater depth—though this is true,—but a well-drained, friable soil is always capable of absorbing more moisture from the air, and also of drawing it up from below by capillary attraction, than one that is puddled and baked like a brick. The air always contains a large amount of watery vapor, and if the soil is so porous that the air can readily penetrate it moisture will be deposited just as it is upon an ice-pitcher in a hot and dry day. Tiles will so honeycomb land that air penetrates so deeply as to deposit a large amount of water where the roots find easy access to it, and where it serves a much better purpose than when sprinkled on the surface.

Draining also adds to the power of land to absorb fertility from the atmosphere. This it does in a manner analogous to the increased power for absorbing moisture from the same source. Every one acknowledges that the air is a reservoir of moisture, but comparatively few fully appreciate the amount of fertility which the atmosphere contains, nor how much they lose who do not put their land in a condition to absorb this fertility which comes gently with every breath of air which penetrates the soil or glides over the growing plant, and more abundantly with every descending snowflake and rain-drop. In order to understand how full of fertility the air is we have only to consider that when plants and animals are burned, or decay, at least nine-tenths of the material of which they are composed—all the organic parts—are scattered by the winds.

There are other incidental advantages of draining to which we wish to allude briefly, and the first is the lengthening of the season for growing crops. It is safe to say that on dralned lands the plow can be started and the crops put in from 10 days to a fortnight earlier than on the undrained, and that hey will continue to grow almost as much later in the Autumn, This lengthening of the season in our northern latitudes is an advantage which the enterprising farmer will appreciate.

Prospects of Beet-Root Sugar-Making in 1880.—Late advices from France are to the effect that, in the beet root crop this year, the prospect of both a better quantity and quality of root is decidedly more favorable. The reduction of the French sugar duties from October 1st having now been passed, it is viewed with great satisfaction on account of the benefits likely to result to industry and agriculture. It is considered certain that the consumption of sugar in France will double within five years. The duty on wines being also reduced, the use of sugar in the manufacture of wines will, it is thought, be on a large scale. The imports of beet sugar into Great Britain from the continent, in 1875, amounted to 24,000 tons. In France the growth of the beet sugar industry has been so rapid that in 1872 and '73 the product reached 481,000 tons. It is estimated that there are now in all countries some 1,500 beet sugar factories. A good yield is twenty tons of root per acre, and one ton of sugar from twelve tons of root.

Entries for the coming Dairy Show at London are stated to be largely in excess of last year's numbers.

Walking.

Walking briskly, with an exciting object of pleasurable interest ahead, is the most healthful of all forms of exercise, except that of encouragingly remunerative, steady labor in the open air; and yet multitudes in the city whose health urgently requires exercise, seldom walk when they can ride, if the distance is a mile or more. It is worse in the country, especially with the well-to-do; a horse or carriage must be brought to the door, even if less distance has to be passed. Under the conditions first named, walking is a bliss; it gives animation to the mind, it vivifies the circulation, it paints the cheek and sparkles the eye, and wakes up the whole being, physical, mental and moral. We know a family of children who, from the age of seven, had to walk nearly two miles to school, winter and summer; whether sleet or storm, or rain, or burning sun, they made it an ambition never to stay from school on account of the weather, and never to be "late," and one of them was heard to boast that in seven years it had never been necessary to give an "excuse" for being one minute behind time, even although in winter it was necessary to dress by gas-light. They did not average two days' sickness in a year, and later, they thought nothing of walking twelve miles at a time in the Swiss Mountains. Sometimes they would be caught in drenching rains, and wet to the skin; on such occasions they made it a point to do one thing—let it rain, and trudge on more vigorously, until every thread was dry before they reached home.—[Hall's Journal of Health.

Fertilizers for Hops.

A. T. W., Brantford, Ont., Canada, asks what is the best artificial fertilizer for hops. He is growing them on a black loamy soil, rich and deep, with a gravelly subsoil—a regular rich bottom land. Of late, stable manure has failed to produce the ordinary quantity of hops, and he thinks that some lacking constituent might be supplied by a chemical fertilizer.

Ans.—It is highly probable that the use of lime on this sort of soil, rich by nature and by frequent application of barnyard manure, would have an excellent effect. It is just on such soils that lime produces the best results, and its use in the hop-yard under like conditions has often quite or nearly doubled the yield. In the spring about a pint of air-slaked lime and wood ashes to the hill would serve as a good fertilizer and drive away grubs. The best results we have heard of, however, were obtained by applying a quart of fine unslaked lime to each hill in the fall, covering it with dirt and using no other dressing. In this case ordinary manure had been used liberally for the four previous years, and after the application of lime alone, the yield was more than doubled. A good special fertilizer is made of four barrels of ashes, two of plaster and one of salt to the acre, to be applied in the spring after the hops have been tied up. Another is:—Six or eight parts of charcoal dust, two of pulverized hen manure and one of plaster. This is good the first year and afterwards. Wood ashes, plaster and bone dust are all beneficial together or separately. Either a compost of decomposed sod or barnyard and stable manure, thoroughly rotted, is, however, the chief reliance in the hop-yard.—[Ex.

Apples are so plentiful that they are from 0 to $1.50 per barrel. We have heard of 300 barrels sold for $3. Fallen apples have been sold at five cents per bushel.

Florence.—Unless you are very fat you had better let nature have her own way. Take plenty of outdoor exercise. Abstain from sugar, pastry, vegetables, potatoes and fermented drinks. The bread you eat should be of unbolted flour and always toasted or stale. If you cannot keep your fat under by these means you may take Xoster or Sea-Wrack. It is harmless. A bottle containing half a pint will cost $2. It is of no use to take less than that quantity.

Genevieve.—Almost any pretty sleeve that one fancies may be worn with house dresses this winter, but for the street the simple coat sleeve, with a small cuff, or no cuff at all, will probably be preferred. Old-fashioned side combs are again worn. Much trimming is worn around the neck of high coursages. Hoods are seen on jackets, costumes, and even on dolman visites. The time has come when a lady can make her dresses almost as she chooses and not be out of fashion.

The Provincial Exhibition.

(This Preface should have been placed at the head of article on page 251.)

We extract the following from the editorial columns of the Toronto Globe of October 15th:

"The failure of our Provincial Exhibition is fairly up for discussion. Not only does the late failure to meet expenses at Hamilton bring up the matter, but we are therefore driven, however unwillingly, to the conclusion that the last days of the Provincial in its present form are rapidly approaching, It will be parted with regretfully by all who know the immense amount of good it has conferred upon the agriculture of the Province."

The Black Walnut.

The Timber Trades' Journal remarks:—"Although not generally known, the Black Walnut (*Juglais nigra*) was one of the first trees to be introduced into England from North America. Its first appearance dating back to 1656, it is one of the most valuable of woods, being used very extensively in the varied branches of furniture. It is extremely suitable for ship building, because of its power of resisting heat and moisture. What is a greater consideration than all is, it is free from attacks of worms which in the warm season prey so lustily upon wood. The tree is very hardy, flourishing as far north as Surden, but not bearing fruit there. In England it is of quicker growth than the European walnut, bearing fruit when eight or ten years old and attaining a growth of fifty to sixty feet in the course of forty years. Some very large as well as aged specimens of this tree are to be met with in England. The Gardeners' Chronicle makes mention of a tree in the grounds of Fulham Castle which is 50 feet high with a diameter of five feet and a spread of 50 feet in its branches and whose age is known to be 150 years.

Crystalized Eggs.

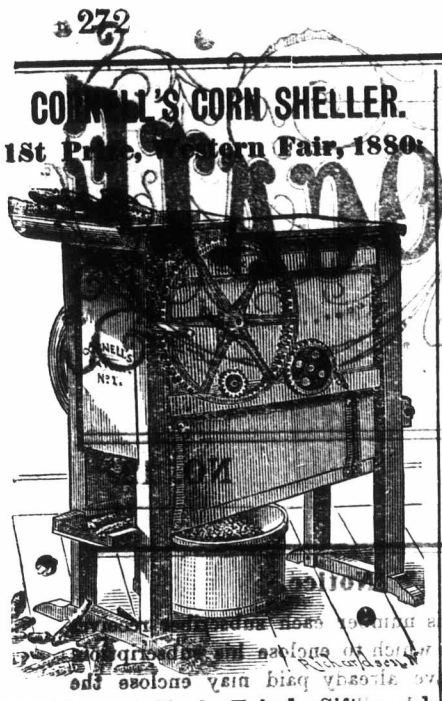
The egg traffic of America has risen to an importance which few comprehend. The aggregate transactions in New York city alone must amount to fully $8,000,000 per annum. In Cincinnati, too, the traffic must be proportionately large. In truth, the great gallinaceous tribe of our country barnyards contribute in no small degree to human subsistence, eggs being rich in nutritive properties equal to one-half their entire weight.

The perishable nature of eggs has naturally detracted from their value as a standard article of diet. The peculiar excellence of eggs depends upon freshness. But lately the process of crystalizing has been resorted to, and by this process the natural egg is converted into a delicate amber tint, in which form it is reduced to seven-eighths in bulk compared with barrelled eggs, and retains its properties for years unimpaired by any climate. This is indeed an achievement of science and mechanical ingenuity, and has a most important bearing on the question of cheaper food, by preventing waste, equalizing prices throughout the year, and regulating consumption. In this form, eggs may be transported without injury, either to the equator or to the poles, and at any time can be restored to their original condition simply by adding the water which has been artificially taken away. The chief egg desiccating companies are in St. Louis and New York. No salts or other extraneous matters are introduced in the process of crystalizing; the product is simply a consolidated mixture of the yolk and albumen. Immense quantities of eggs are preserved in the spring of the year by lining. Thus treated they are good for every purpose except boiling. It is a common trick for some dealers to palm off eggs so treated for fresh, so that imposition is easily practiced. In the desiccation process, however, the difference becomes apparent, as from four to five more limed eggs are required to make a pound of eggs crystalized than when fresh are used, and eggs the least tainted will not crystalize at all.

There is no reason why the crystalizing process should not become quite general, and egg production stimulated as never before, and the food supply receive large accession from this source. The already great and increasing consumption of eggs in England and France shows growing appreciation for this kind of food compared with any other. In Lima, Peru, eggs sell at $1 per dozen—equal to $4 per pound crystalized.

CORNELL'S CORN SHELLER.

1st Prize, Western Fair, 1880.



Double and Single Tubed—Sifter and Cleaner Attached.

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

TREMAN, WATERMAN & Co., Ithaca, N.Y.

For sale by The Canadian Agricultural Emporium, 360 Richmond Street, London, Ont., Canada.

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EVERYWHERE, to sell the best **Family Knitting Machine** ever invented. Will knit a pair of stockings, with HEEL and TOE complete, in 20 minutes. It will also knit a great variety of fancy work for which there is always a ready market. Send for circular and terms to the **Twombly Knitting Machine Co.,** 409 Washington-st, Boston, Mass. 177-d

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Able and experienced instructors in every Department. Elegant buildings, charming grounds, healthful location, admirable system of calisthenic and walking exercises, riding, &c. A superior course of instruction in music by Mr. E. H. Ruppel, late Professor at the Grand Conservatory of New York city. An Art Department, well supplied with studies, models, casts, &c. Special attention given to the habits and manners of pupils by Miss Adams, the Lady Principal. Necessary expenses for one year from $136 to $250. Before making arrangements elsewhere, send for calendar or information to J. J. HARE, M.A., Principal. 170-tf

J. N. ANDERSON, M.D., M.C.P.S., Ont.—Eye and Ear Surgeon, 34 James St., Hamilton, Ont.

Dr. Anderson gives EXCLUSIVE ATTENTION To the Treatment of the various diseases of the EYE AND EAR

Cross Eyes Straightened.

DR. W. W. WAUGH. Office—The late Dr. Anderson's, Ridout Street, London, Ont. 169-tf

"BALMORAL FARM,"

—THE HOME OF THE—

World-Renowned Berkshires.

By my unremitting care and attention to this celebrated Herd of Berkshires, I have succeeded in making a record at the great Shows of this Continent which stands without a parallel, winning the past year at the Industrial Exhibition, Toronto, four Firsts, one Second, and Grand Sweepstakes for best Boar and two Sows of any age. At the Grand Dominion Exhibition, held at Ottawa, four Firsts, two Seconds and a Third, also the Grand Silver Medal for the best Boar of any age, and Grand Silver Medal for best Sow of any age, and two Bronze Medals for best Boar and Sow under six months. Also at the great St. Louis Fair four Firsts and two Grand Sweepstakes for best Boar of any age and best Sow of any age, making the most complete record of any Herd ever exhibited in America, taking four Firsts and two Sweepstakes on four animals bred and owned by the exhibitor.

This year I did not exhibit at the Canadian Shows, but in the West. At the World's Fair, St Louis, Mo., I made the finest display of Berkshires that has ever been made, or, in the language of a representative of the National Live Stock Journal of Chicago, **"The Finest Display ever made in the World by one Individual."** I won at this great Show six Premiums, two Grand Sweepstakes. My stock has won those grand honors three years in succession.

I challenge any Berkshire Breeder in the World to make a better showing than the above.

I did not require to purchase Royal Winners to make the above Record, but every animal that has given me this **WORLD-WIDE FAME** was bred and owned by myself.

My Herd are descendants of the best Berkshire blood England has ever produced. By the careful crossing of these fine animals I have succeeded in producing those that have made the above unprecedented record.

At the head of the Herd stands my celebrated Earl of Balmoral II., Norton's Smithereen and McArthur's Robin Hood. My sows are of the Countess Swinton, Sallie, Black Rose, and other strains of blood, of equal merit. I have now on hand for sale a few spring pigs sired by the above Boars.

I have also an EXTRA FINE LOT OF FALL PIGS, which I offer at exceedingly low rates—Boar Pigs at **$12**, Sow Pigs at **$10**, each. This offer is made so that every farmer can reach the price. No better opportunity has ever been given than this for the Canadian farmer to improve his stock.

I have reduced rates for shipping by Express.

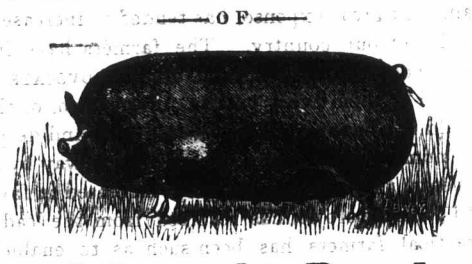
For further particulars, address,

A. A. McARTHUR,

174-tf "Balmoral Farm." **LOBO, ONT., CANADA.**

BARTON COTTAGE HERD

—OF—



Thoroughbred Berkshires.

Upwards of seventy young animals from three to nine months old. Choicest strains of "Bella Donna," "Sallie," "Sweet Seventeen," and "Stumpy" families, all registered or eligible for registry in the American Berkshire Record; a few young sows in farrow to the first-class and prize-winning boar "Barney." Being very much in want of room for my fall and winter litters, I am offering the above stock at a great reduction from the usual prices. Satisfaction guaranteed. Correspondence invited.

JOHN BOULTBEE,

179-B HAMILTON, ONTARIO.

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GUELPH SEWING MACHINE CO.

Invite inspection and a trial of their

"OSBORN A" STAND,

..OR..

"B" Hand Shuttle Sewing Machines,

..OR THEIR..

UNEQUALLED LAWN MOWER.

Superior Sad Irons & the Dover Egg-Beater.

All first-class articles, necessary in every house. Try them!

W. WILKIE, Manufacturer, Guelph, Ont.

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