

FARMER'S ADVOCATE

AND HOME MAGAZINE

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THE FARMER'S ADVOCATE AND HOME MAGAZINE,

WILLIAM WELD, Editor and Proprietor.

THE FARMER'S ADVOCATE is published on or about the 1st of each month, is handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for dairymen, for farmers, gardeners or stockmen, of any publication in Canada.

Voluntary correspondence containing useful and seasonable information solicited, and if need, will be liberally paid for. No notice taken of anonymous correspondence. We do not return rejected communications.

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Our Monthly Prize Essay.

Our prize of \$5.00 for the best essay on the "Cheapest and Best Method of Fencing, and how can the cost of such be lessened," has been awarded to Mr. T. E. Washington, of Solina, Ont. The essay appears in this issue.

A prize of \$5.00 will be given for the best essay on *The Causes of the Recent Failure of the Clover Seed Crop*, in different parts of Canada, and the best suggestions for the remedy. The essays must be as brief as possible as to the causes, but must go thoroughly into the remedies. The essay must be sent in before the 15th April next.

A prize of \$5.00 will be given for the best essay on "How Can Farmers Make the Best and Cheapest Cheese for Their Own Use." The essay to be from the practical experience of the farmers or female members of their households, and must be sent into this office before the 15th May.

Sheaves from our Gleaner.

Tillage increases plant food.
Let cattle drink when they please.
Soil is enriched by exposure to air.
Look out for your hired help early.
Good hen manure is as good as guano.
No food is so rich (nitrogenous) as veal.
Nothing so profitable as a good compost.
Of all tillage operations, the most effective is frost.
Weeds steal nourishment from the crop's mouth.
Matter composed of carbon is no use as a fertilizer.
Kainit or ashes should be put on land deficient in potash.

If you want good farm implements, now is the time to look through the advertisements. Pulverize your surface soil fine; it will hold more plant food, and give you an even seed-bed.

The biggest bonanza within the reach of the farmer is knowing how to feed stock and utilize the stock most profitably.

Sheep breeders in England have ascertained that mutton pays better than wool, and that fat lambs are more profitable than mutton.

Farm yard manure, although a general manure, contains too much potash for clay soils. Hence the benefit derived from mixing special fertilizers with it. If well cured, it contains the same quantity of plant food as five dollars' worth of artificial manure.

Feed your fowls charred grain occasionally
Buttermilk is good for causing poultry to lay eggs.

Ireland is said to be now almost entirely free from foot-and-mouth disease.

Treat your young animals with kindness if you want them to thrive. Food isn't all.

Count the cost of letting your cattle lose in winter what they gained the previous summer.

Don't eat raw hog flesh. It may be infected with trichina spiralis, which may prove fatal to the eater.

The U. S. Congress has passed the long discussed bill for the prevention and cure of pleuro-pneumonia.

Experiments have proved that wheat flourishes best when the seed is sown two inches deep.

Saw-dust and peat are better for littering than straw; they absorb more urine, and fermenting the manure is not necessary.

Don't allow any sudden or extreme change of temperature to affect your milk or cream; it will spoil the keeping qualities of the butter.

During the winter 300,000 bushels of turnips have been shipped from one locality in Canada to be manufactured into jam.

In experiments with pigs conducted at the State Agricultural College, Kansas, Prof. Shelton arrived at the conclusion that milk is the most profitable food.

It is unsafe to use old eggs for nest eggs. China or glass eggs are cheap enough, and there is no danger of them being gathered along with the nest eggs, and they are not liable to break and make a mess of the nests.

CREAM SEPARATOR.—In an advertisement appearing in this issue will be found a cut of the De Laval Cream Separator. In Quebec Province several of these separators are in use, but we are not aware that there are any used in Ontario. The great advantage of the separator is that it can extract the cream from the fresh milk. In the vicinity of towns where there is a great demand for sweet milk, these separators are of very great importance, as the milk will command within a trifle of the price of unskimmed milk. Numerous testimonials are given showing the benefits of these machines in butter factories. We would commend all interested parties to send for a catalogue. See methods of separating cream, page 102.

Editorial.

On the Wing.

Hearing that some great changes were about to be inaugurated at Ottawa in regard to agricultural affairs, we took a trip to the capital, and arrived just as the evidence was being taken in regard to a monstrous undertaking, namely, the formation of a Dominion Bureau of Agriculture and Statistics, and the establishment of experimental grounds near Ottawa, including the distribution of seeds, plants, etc., by the Government, the appointment of numerous Government officers, etc. The principal evidence we heard taken, considered we should have something similar to the Washington Bureau, which costs \$500,000 annually. The witness instanced the great good it had done in encouraging the orange, silk and tea culture, etc., etc. He considered that our farming lands might be doubled in value by the cultivation of the beet root and the manufacture of sugar. He stated that it would cost \$300,000 to establish one factory complete. Cattle would gain in weight five and six pounds per day when fed on the refuse from the factory. He considered that the severity of the cold in Manitoba would not be an obstacle against the production of beet-root sugar in that part of our Dominion. Another witness gave evidence in regard to insects, and the veterinary faculty desired more power. In fact it appeared to us that there was a grand opening to saddle the farmers with an intolerable burden which would tend to increase their expenses, open doors for innumerable hangers-on—all nominally for the benefit of agriculture, but the main aim appeared to us to be to gain position, gain office, or gain patronage and cash, which would be a continual burden on the farmers, and would, instead of building up the independent yeomanry of our country, tend to make the farmers serfs and slaves to the office-holders, which class of the community is far too rapidly increasing. We believe that all these Government appointments and expenditures should be brought about only by a direct vote from the farmers personally, not by proxies.

We were called on to give our evidence, which is, we understand, adverse to others'. We consider that the plan would not be worth its cost, that it would tend to check private enterprise, that farmers, if left alone, will spend their money to the best advantage, that the nurserymen and seedsmen will furnish the best kinds of seeds and plants much cheaper and much better than paid officials will, that editors will furnish the most valuable information and that the farmers will patronise, aid, support and encourage those who work for them.

The main idea to be grasped in the matter is from what source the scheme emanated, whether from the farmers themselves or from designing office-seekers.

We were requested to remain to give evidence with regard to emigration. We suggested that as about \$600,000 was granted for emigration purposes, that the distribution of a few thousand copies of the FARMER'S ADVOCATE, with properly prepared information, would tend to induce a better class of emigrants than by issuing so much fulsome matter that

was looked on as such by the most intelligent of the British farmers, and tended to induce a pauper emigration. It has been suggested by a prominent Reformer that the ADVOCATE deserves a subsidy, but, thank goodness, the paper never had a subsidy and never wanted one; but for the good of the farmers we would distribute the ADVOCATE in the manner mentioned at the actual cost of producing it.

While in Ottawa we waited upon Sir John A. Macdonald and the Hon. E. Blake, and left bound volumes of the FARMER'S ADVOCATE with them, also pointing out to these gentlemen what private enterprise had done for the education and advancement of the farmers, without the aid of Government patronage.

When in Toronto we stepped into GRAND'S HORSE REPOSITORY AND SALE ESTABLISHMENT.

This is a double decker. The large spacious sale room, offices and box stalls are all on the ground floor. An easy ascent is made at one corner of the building to the upper floor, where there is space enough for hundreds of horses. There were scores of people walking about or in groups, discussing the points of this draft horse, that pony, or the other cob. A person would be rather fastidious not to find suitable specimens of the equine race here, for we have not yet seen at any sale such a large and varied lot of horses under the charge of one man. The present manager of this establishment appears to have the confidence of the public to a much greater extent than the former manager ever had. In the stabling on the ground floor were also to be seen the part of Mr. Carroll's Jersey herd that had been sold the previous day; the prices realized had been satisfactory. Mr. Carroll is not closed out of this class; he only sold his surplus, reserving the best as stock animals on his farm, which he did not bring to the sale.

A very large concourse of people were assembled in the auction room, awaiting the sale, which was just about to commence; but we were obliged to leave to keep an appointment. Mr. Grand intends to keep up this new departure, that is, to add thorough-bred cattle to his monthly sales. He finds his central position gives him great facilities for this, and his sale room is spacious, so that he can accommodate animals and visitors.

We were receptly in Hamilton, and called at the seed establishment of

MR. J. A. BRUCE,

a leading seedsman.

"How is business?"

"Very good, although a foreign wholesale firm has been selling seeds below what it is possible to procure really good seeds for; but as we never keep anything but the best, we may have lost a few dealers in the country who regard price and bulk rather than quality. But we are keeping and gaining ground from dealers who supply the best to their customers."

Mr. Bruce has always maintained his high reputation, and deserves the name he has gained. His word and his seeds could always be depended on, and he never descended to trickery or false pretences.

"Is there anything new or of importance being introduced this year?"

"No, we are just going on in the usual way. But there is a little stir in black barley. Some

pork feeders claim that the black barley will make better pork than any other kind of feed. There are to be prizes offered this year on the carcasses of fat hogs, to be judged on the merits of the meat and the cost of production. It is expected that the hogs fed on black barley will surpass those fed in any other way. This is an important point. The black barley is no new cereal; we have had it for years. It is a sure crop, yields well, makes an excellent stock feed, and is much heavier than the white varieties. The advantages claimed for it are that it can be raised cheaper and surer than corn, and can be raised where peas and corn cannot; that it will make an excellent substitute for the pea, and allow us to starve out the pea bug."

We secured a little black barley for any of you who are living in distant localities to try, and to enable you to get a start in localities where it is not procurable, we will send three pounds of it to any one who will send us in one new paid subscriber. Three pounds properly cared for may produce you sufficient seed to sow three acres next year. Try it and report results.

PETUNIAS AND COLEUS.

Last year, when in Hamilton, we saw some of the finest Petunias we ever beheld. We made enquiries and was informed that they were raised by a market gardener, who was an enthusiast in Petunias and Coleus. He directed his principle attention to hybridizing and their cultivation. We took a drive to his garden and greenhouses, about one and a-half miles from Hamilton, and secured a few plants, took them home, and planted them in our garden. Such monstrous, beautiful, variegated, cut leaved, double Petunias, and such Coleus we had never before seen. Mr. Read is the name of this enthusiastic propagator. A plain man, without any pretensions, one who little knew the value of his goods or his work, as he had only followed this hybridizing for his pleasure. During this visit to Hamilton we went to see him and found him in bed, where he had been for months. His head was as sound as a bell, although his poor body was on the wane. He had been taken with some spinal affection, which he attributes to his constant stooping over the Petunias in the hot sun. He would be in this bent position for hours together in the hottest weather. One of his Coleus he has called after his wife, Madame Read, almost as variegated as the one of which we give an illustration of in this issue, and a beauty it is. It is from such close application, such enthusiasm, such unremitting trial and care as Mr. Read has shown, that the greatest improvement is made. Common flowers have been turned to the beauties that now adorn our homes. What a contrast between the Petunias we have described and the plain unvariegated single thing, which cannot be compared with the magnificent specimens raised by this enthusiast! Although unable to get into his propagating houses, his wife and sons have these plants to work with, and may with care be sent to all parts of this continent. Such plants will be sought for by all the lovers of the beautiful. If you want the best collection of Petunias or Coleus send to Mr. Read.

Is Farming a Business?

By way of dignity, farming has often been styled a profession, and justly so, when it is considered that in its highest type it demands a deep and systematic knowledge of its principles, and that men of wealth and rank are not lowered by engaging in its pursuit. But a business pursuit is also a respectable occupation, so the question arises—Is farming a business? Certainly it is; but very few farmers make a business of it—or a profession either. A very small number of farmers know from what source their greatest profits are derived; indeed, they often manage certain branches at a loss without knowing it. The only thing they are sure of is that a quarter or half a century ago they had barely the necessaries of life, while now they have a bank balance, or are able to store in a few luxuries. Their soil should be their banker; and, having consumed the interest, if they infringe upon the capital, bankruptcy, in this or in the succeeding generation, is inevitable. In partnership affairs, a knowledge of business principles becomes a necessity. Why do farmers not take their sons into partnership with them like other business men, giving them a definite percentage of the profits? By these means they would be enabled to devote their attention to those branches of their industry for which their farms are best adapted. We would not advise every farmer to get in a complete set of docketts all at once; this would require the employment of an expert; but he ought to commence book-keeping on a small scale, and common sense will introduce him to the best system for his particular business. In this way he would soon acquire business habits, and find pleasant and profitable employment to relieve the monotony of his dreary evenings.

Live Stock Boom.

No one boom follows another in endless succession. This contagion, from which the farmer used to be entirely free, has affected every department of his industry. No time is allowed for a lull in the market; no time for reflection until the unwary are swept off by the plague. Merit yields to design. The Shorthorn boom, the Poll boom, the Jersey boom are all to be now no more. In our folly we understood it to be an axiom that dairy cattle were required for the dairy, beefing breeds for beef, the guiding principle being the greatest possible division of labor. Away with such nonsense when a new breed is discovered which casts all others into the deleterious shade! Permit us to predict that the day is near when our Canadian cow—that old "scrub"—will be boomed up to the top of the list, and enchain the attention of the world.

So the Devon's day is come. For quantity and quality of milk it is now said to be equal to the Jersey, and for beefing properties, not inferior to the Shorthorn. If this isn't quite so, it can, of course, be easily improved up to this standard. It is a stylish animal, and so admirably suited to this aesthetic age! But it is not our purpose to decry the Devon; we believe it has an important part to play in the history of breeds. It would require nice discernment to be able to rank it as a milker or as a beefier. The South Devon is not to be snubbed on account of its size, nor as a means of

improving the North Devon. Undoubtedly the quality of its beef is superior to that of the Shorthorn, but then it is a much slower maturer, which is a great obstacle in these days of quick returns. Its hardiness is undoubted; and with regard to freedom from disease, it has no peer amongst breeds. Its foraging instinct is a source of astonishment; and as a mother and a thriver it is hard to be surpassed. One other merit has been too much overlooked with regard to its adaptability to many parts of Canada, and that is its utility under the yoke. It far excels any other breed in this respect. In judging it by the system of standard points, which is the only correct and reliable basis, it stands at the head of the list of breeds, when both beefing and milking points are taken into the calculation; but it is its great mediocrity in every point, and not its predominance in any great feature, which gives it this rank. This breed will also be in good demand in Canada wherever pet or family cows are eagerly sought, and possibly also by those farmers who uphold starvation pastures; but for the great beef and dairy industries of the country, its asserted adaptability is to be regarded with suspicion.

Spring Tillage.

There is no influence or condition that affects the natural productiveness of the soil so much as tillage. The spring operations depend greatly upon the management of the land in the previous autumn. Deep versus shallow plowing has been a much debated subject, the difficulties having arisen from adopting false standpoints. If the organic matter of a previous vegetation be allowed to remain on the surface, its process of decay is checked, and the mineral constituents of the subsoil lose the beneficial action of winter exposure. The disintegrating effect of rain and frost upon the particles of soil and coarser fragments of rock is nature's fertilizer, the plant food being liberated from its insoluble combinations and prepared for more immediate use. Hence the chief argument in favor of fall plowing is made plain; and it will also be seen that the mode of plowing which exposes the greatest area to the action of the weather is the best. This is accomplished by laying the furrow-slices at an angle of 45°. The depth is best regulated by the character of the subsoil and the character of the drainage. If the subsoil, by nature or by drainage, is porous, so that no obstruction is offered to the downward course of the roots, comparatively shallow plowing is the preferable mode in cases where the supply of manure is scanty, the object being to supply the young roots with an abundance of food while they are near the surface, so as to give them early size and strength to work their way to the richer stores below. Under favorable circumstances some of the roots of the cereal crops will penetrate the soil four or five times the depth of ordinary plowing, so that the absurdity of attempting to loosen the soil for the free scope of the roots will at once appear. In most other cases deep plowing and even subsoiling is recommended. If the roots cannot find depth, they should have scope for the greatest possible extent of literal growth. From these principles it will also be seen that the poorer and stiffer classes of soil can scarcely receive too much cultivation.

With regard to spring tillage a very injurious system is very apt to prevail. It will now be seen from what we have said that if the winter weathered tilth be plowed into the subsoil, all the pains taken in the autumn work will be in vain; for all the nourishment required for the young plant will be placed beyond its reach, and the soil, though perhaps rich under proper management, would be condemned as unproductive. Hence the advantage of acting from well founded principles. Spring tillage should therefore consist in cultivating and harrowing—not in plowing, the depth depending upon the nature of the seed, the larger seeds requiring, as a rule, a deeper cultivation than the smaller; but the main object is to obtain a smooth seed-bed of uniform depth, so as to promote regular germination and growth. A certain consistency of the soil is also required. It must be compact enough to support the plant and to retain the necessary quantity of moisture. The roller will effect this condition, closing the pores where evaporation is too active. But rolling a stiff soil, especially when wet, is a most injurious practice.

Improving Native Stock.

It is to be hoped that the check given to the importation of pure bred stock, owing to the existence of disease abroad, will not lessen the interest of stockmen in other departments of their business. The true inwardness of the art of breeding has been lost in the mania for speculation, and now they have a leisure moment for reflection. Now is the opportune season for a Bakewell to arise. Our much neglected native cow holds no mean rank amongst her competitors for dairy supremacy. Is there sufficient cause for the pedigree mania? What is there in a name? The greatest beefing breeds of the world have come down to us by systematic improvement; but it is to be feared that the keenly trained eye for selection has grown dim. Those who understand the law of atavism or reversion feel the risk of degeneracy to an objectionable peculiarity in an ancestor more or less remote; and the measure of this risk should determine the value of a pedigree. When it is considered that this predisposition has manifested itself after the lapse of many generations, it will be seen that some of our most valuable breeds are in reality hardly yet thoroughbred. Add to the keen perception of the trained eye a knowledge of the physiological laws which govern breeding, and an intimate acquaintance with the principles of feeding and management, and it will be seen how much is to be learned before improvement can be undertaken with success. Notwithstanding all these obstacles, they are by no means unsurmountable; and the improver has brighter prospects than the importer. We have in our native cow all the most desirable elements of a substantial foundation for our conditions. Why then not let home industry prevail and home talent and enterprise be encouraged and awakened?

In order to bring this about most effectually, our mode of judging live stock must be revolutionized. All the energies of our breeders should first be concentrated on this point. Wherein the strong points of the sire make up for the defects of the dam should be

discussed, observed and compared. A system of standard points should be established. Observations should be taken and reported as to how far the indications of a good milker or feeder are borne out by the results; how the judgment in the show ring is testified at the block; how the testimony of the butcher is corroborated by that of the consumer, and so on around the whole circle. Then feeding standards for the different objects should be established, and figures tabulated as to daily or weekly results, cost of production, &c. In this way it could be ascertained whether the use of cross or grade sires and dams would yield more actual profit in the beefing and dairy industries, or whether the breaking out of the smouldering embers of reversion would swell the cost of pedigree to still greater enormity.

Special Contributors.

Breeding of Pure Stock in Scotland.

[FROM OUR ABERDEEN CORRESPONDENT.]

It might interest breeders of pedigree stock on your side of the Atlantic were I to devote a brief article to this subject during the past year. Breeders of Shorthorns have for some years been contending with great odds. A few years of depression in agricultural matters vastly reduced the value of their herds, estimated at the time at about £10 per head. Our Shorthorn men in Scotland lost their innings too when the extraordinary demand for Aberdeen-A Angus Polled cattle sprang up, as it was the means of attracting some who had formerly patronized the "reds, whites and roans," to the ranks of their opponents. Polled bulls began to be used to a greater extent than formerly, taking the place of Shorthorns for crossing purposes, and the demand for the latter was for some years very sluggish.

The result of last year's sales of Shorthorns, however, are very encouraging, and it is sanguinely expected that owners of this class of stock are now entering upon better times. By aggregating all the public sales that took place last year in the northern half of Scotland—the half, I may mention, in which pure stock breeding is most largely carried on—and comparing the average price of the animals sold with that of those sold in 1882, I find it has increased rather more than eleven per cent., or about £3 per head. There has also been, during the last twelve months, a good demand for Shorthorn bulls, privately. For one-year-old bulls, from £80 to £100 have been paid, in several instances the animals having been bought for use in our own herds. A few good lots have also gone to Canada and the United States, where the term "Aberdeenshire" Shorthorn has come to be regarded as synonymous with substantial merit and real utility. The other week Mr. Green, Innerkip, Canada, attended a sale of Shorthorn bulls belonging to Mr. William Duthie, who owns one of the best herds in the county of Aberdeen, and purchased a beautifully fleshed roan by a noted stock bull of Litleton extraction, named "Ventriloquist," at a fair price. In the north there were fewer dispersions of Shorthorn herds last year than in 1882, and the number of cattle sold was

comparatively small, namely, 481, as compared with 547 in the former year. The gross price of these 481 animals was £14,097 16s. 6d., giving an average of £29 6s. 2d. per head. The average in 1882 was £26 6s. 10d.

The demand for polled cattle in 1883 was as insatiable as in the previous year, but fewer fine herds were brought under the hammer last season. The average per head might indicate, in the absence of the explanation I have given, that the popularity of this remarkably fine race of cattle was on the wane, but such is really not the case. The number sold amounted to 242, as against 341 in 1882, giving a total of £11,718 0s. 6d., or an average per head of £48 8s. 0d. The average in 1881 was as high as £62 18s. 6d., but in that year the Montbleton, Advie and Cortachy herds were dispersed, and brought unprecedentedly high prices. For quality of beef and hardness of constitution—the two cardinal points in any race of cattle that aspires to be called first-class—our Polled-Aberdeens are unequalled, and I imagine it will be a long time before any other breed will be able to beat them out of the market, either at home or abroad.

A Chatty Letter from the States.

[FROM OUR CHICAGO CORRESPONDENT.]

There has been much excitement over the rumors of the existence of cattle diseases in the West. The report that foot-and-mouth disease had made its appearance in Kansas was followed quickly by reports from various sections of the country to the same effect. Every man who had cattle with sore feet from standing in barn-yard filth, jumped to the conclusion that his cattle must have foot-and-mouth disease; and the whole western country was harrowed up over the rumors. The filthy, negligent farmers had rather think it was some kind of disease than to lay it to their own shiftlessness, and the army of quack cow doctors and political hangers-on were ready to fan the spark into a flame in order to secure national legislation that would tap the treasury, and create a large lot of offices.

Your correspondent, in company with Simon Beattie, of Annan, Scotland, and Markham, Ont., visited some herds that were reported to be in a bad way, their toes and feet in some cases coming off entirely. The animals were calves and yearlings, half starved and standing around in wet, nasty ground and foul manure. Their hoofs showed filthy accumulations of months, and in many cases the poor, scrawny beasts were hobbling around with one or both hind feet wholly gone. It was a shameful case of neglect and shiftlessness. The animals were suffering with foot-rot, or foul-in-the-foot. Investigation proved that there were numberless farmers in Southern Illinois and elsewhere so shiftless and neglectful that they ought to be prosecuted for cruelty to animals. Such lazy, good-for-nothing farmers ought not to be allowed to have anything that could suffer from ill treatment.

The theory has been advanced that Spanish or Texas fever can be counteracted by the use of ice water. It has been suggested that if the Government would set aside a lot of land in the Indian Territory, manufacture ice with machinery, and compel all Texas cattle to stop three or four days and drink ice water, that the

germs of the fever would be killed. This is a kind of a crack-brain theory, like many others that have been advanced, but there may possibly be something in it. The Indian Territory, of course, belongs to the Government, or rather to the Indians, and if there is anything in the theory it might be that it could be practiced on cattle being driven north to feed, without much trouble. In regard to cattle coming to market for beef, by rail, it could not be worked so well.

The new fine stock auction sale house just built at Dexter Park, will prove a great convenience to those who have stock to sell at Chicago. The building is high, dry and roomy, and will be a big improvement on the old tent. By the way, Messrs. Geary, Cochrane, and Whitfield, of Canada, were the first to auction fine cattle in the new house.

The National Wool Growers' Association has called a meeting at the Grand Pacific Hotel, Chicago, for May 7th, to fight the tariff reduction measures. There does not seem to be much need of this meeting, except to agitate the matter and show that the wool growers are not asleep. The object of the meeting is to defeat the new bill reducing the tariff, and work for the restoration of the tariff of 1867. The Republican Senate will prevent the passage of the tariff reduction, and the Democratic House of Representatives will prevent any restoration, so what is the use of the national meeting in May?

The breeding of heavy draft horses is receiving quite an impetus. Large importations of Percherons and Normans are being made, and the business is proving very profitable to those who are conducting it carefully. There is a good, strong demand for well-bred, strong draft horses, and the business of breeding that kind of stock cannot be so easily overdone as many other lines of breeding. The standard of the horses of the country is being raised considerably each year by the infusion of better blood, but there is almost unlimited room for improvement yet. There need be no fear of overdoing the thing as long as good stallions are selling for \$1,500 @ \$2,500.

There will be a big crop of beef from the ranges this summer. The winter has been unusually favorable, and losses in consequence light. Cattle in many sections are said to be fat even now, and an early, heavy crop of beef from the plains may be expected.

The Eastern States are feeding vast quantities of stock. Pennsylvania, Maryland and Virginia are feeding nearly as many cattle as any three Western States. The land there is dearer, and it therefore behooves the feeders of the East to be more thorough in their work than is necessary for those of the West.

There has been considerable talk about the free admission into England of store cattle from certain north-western sections. It is proposed by Moreton Trewen, of England, who has cattle in Wyoming, to lay out a route for young cattle from that section by way of the great lakes and Canada, in order to dodge the danger of passing through infested districts in the East.

English breeders of the Devons are attempting to "boom" up that breed for foreign markets

Our Washington Letter.

Washington, D. C., March 20, 1884.

The recent agitation over the exclusion of American pork from France and Germany may have some interest to the Canadian farmer, as the hogs from his farm may be classed as "American pork." A report recently submitted to Congress by a commission of prominent gentlemen appointed by the President, "to examine into the swine industry of the United States, and the allegations as to the healthfulness of the pork products of the country," makes some interesting statements based upon practical experience and close investigation. On the subject of feeding and breeding, it says that it is manifest that the best hogs should be bred on the farms—not only those suited to the wants of the packer, but possessing as much physical stamina and vital power as possible. It suggests that more nitrogenous food would add to the nutrition of the blood and give it greater force in building up the system. The crossing of the breeds, it says, tends to impart greater constitutional vigor than animals have which have been bred for a considerable time in a direct line and on this account it may be advisable for the producers of pork to infuse new blood into their herds. While it may be for the interest of the pork-producer to fit his hogs for market in the shortest space of time, the same law does not hold good in the rearing of breeding stock. It adds that farmers have learned that they should grow slower, and that the food should be of such a combination as to develop the entire structure of the animal during the period of growth, and not the fatty portions to excess.

On the subject of sanitary conditions the report says: "Not all American farmers have yet learned that hogs are really among the most delicate of farm animals, and that exposure and sudden changes of temperature often seriously affect them. It is getting to be well understood that good water is almost as essential as good food to make healthy animals, and as a result of this knowledge, and the gratifying consequences of those who have tried the experiment, where there are no natural streams or springs to furnish pure water, a resort is being extensively made to wells, with wind-mills and pumps attached to procure the needful supply. The better care of the hogs now had, and the precautions exercised by farmers to either burn or bury all animals dying from disease, have had the most salutary effect in increasing the general healthfulness of swine. The sensational and exaggerated theories both in regard to the propagation of hog cholera and trichina on the farms, are not in accordance with the facts as hogs are now managed and fed. The disease termed "thumps," which is one of the most fatal, is confined to young pigs, and is in no sense contagious, attacks pigs farrowed early, while shut up in pens and deprived of exercise. The maturity on this account has been materially reduced by later farrowing, to give the advantage of exercise, thus preventing excessive fatness."

On the subject of trichinosis in America and Europe, the report shows its existence in almost every nation of Europe, and alleges that Dr. Manson, in his examination of 235 specimens of Chinese pork, found nearly one per

cent infected with trichinosis. Continuing on this topic it says: "The number of cases of trichinosis occurring among people in the United States is very small, usually but two or four effected at a time, and all have resulted from eating raw or very imperfectly cooked pork. Curing and perfect cooking will in every instance destroy the germ. Cooking alone will in most cases be sufficient, if length of time and degree of heat are studied."

The substance of the report on the cause and prevention of trichina in swine, is, that the worm known as *Trichina spiralis* has no stage of its existence outside of the animal body, and cannot multiply or even remain alive for any considerable time after it quits its host. That every infected animal must become infected either by eating the muscular tissue of another animal, which had previously obtained the parasite in the same way, or by taking food which had been soiled by the excrement of an infected animal. No effectual rules for the prevention of trichina can be formulated, further than in a general way to recommend that hogs have no access to any animal matter, except what has been thoroughly cooked.

Among its conclusions it adds: That our pork would be firmer and of better quality if part of the corn fed were replaced with peas or similar concentrated food; refers to the soft and oily meats of most fed hogs, and says that barley is reported to make a remarkably fine pork. If the nutritive ratio of the food can be thus changed, the quality of the pork would, according to scientists, not only be improved, but the hogs would gain more rapidly in weight.

The last monthly report from the Department of Agriculture shows that there has been an increase in the value of horses, mules, and all kinds of cattle, with a considerable decline in the price of swine, and a small falling off in the value of sheep.

Agricultural and Arts Association.

The annual meeting of this Association was held in Toronto, on the 14th and 15th of March.

Mr. Joshua Legge, of Gananoque, Vice-President of the Association, was elected President; Mr. George Moore, of Waterloo, Vice-President, and Mr. George Graham, Brantford, was re-elected Treasurer.

A deputation from Guelph addressed the meeting on behalf of the Guelph Fat Stock Club, urging the claims which Guelph had for holding the next fat stock show there. Mr. Drury spoke in favor of holding the show in Guelph, mentioning the lack of interest manifested by the citizens of Toronto and the interest taken by Guelph in the matter. After some discussion the following resolution was carried: "That the next fat stock show be held by the Fat Stock Club at the city of Guelph, and that a grant from this Association be given for that purpose, provided the city of Guelph assist towards the same upon the terms upon which the show was held in Toronto last year."

Mr. Chase said he was delegated by the Guelph City Council to ask that the next Provincial Exhibition be held in Guelph.

Mr. Morgan urged the claims of Ottawa, and said there was a resolution in the minutes to

that effect. A resolution was unanimously passed declaring that the next Provincial Exhibition be held at Ottawa, commencing Sept. 22nd and continuing for a week.

A motion was carried discontinuing the grant to plowing matches this year, excepting \$300 to district No. 3, where last year's grant had not been expended.

The Treasurer's report showed the receipts of the year to be \$35,252; disbursements, \$31,427; balance on hand, \$3,825.

A motion was carried appointing an efficient superintendent for each class of live stock at the Provincial Exhibition, under the general superintendent. Those so appointed were to be on the ground on the Friday preceding the exhibition, for the purpose of properly classifying the stock.

In addition to the membership fee of one dollar, the following charges for entries were decided upon:—Horses, one dollar each; cattle, fifty cents; sheep and pigs, fifteen cents.

Mr. Weld, editor of the FARMER'S ADVOCATE, was asked to address the meeting on a number of questions, especially with regard to the establishment of a Dominion Bureau of Industry, now in the hands of a committee of the House at Ottawa. He objected to the establishment of such a Bureau on the ground of expense, and its interference with private enterprise. The meeting coincided with his views, and accorded him a vote of thanks for the information imparted.

Mr. Shipley asked if it would be advisable to prohibit the importation of live stock from England, owing to the prevalence of disease. A lively discussion ensued, in which instances were cited where farmers had suddenly become poor on account of diseases amongst their stock. It was considered to be of the utmost importance that Canada should be kept free from the foot-and-mouth disease; if this country were once put on the black list like England and the United States, it would be ruin to the exportation business. Through excessive importation, the United States was thought to be as badly infected as England. The following resolution was finally carried:—"That a memorial be sent to the Hon. J. H. Pope, Dominion Minister of Agriculture, asking him to prohibit the importation of cattle, sheep and pigs into Canada, until such time as the foot-and-mouth disease is abated in Great Britain and the United States."

The meeting adjourned till 29th April.

STENCIL PLATES—Every farmer should possess a stencil plate with his name and residence cut in, so that he may plainly mark all bags, blankets, robes and boxes with it; also a brand with which he can burn his name into the handles of hoes, shovels and other tools. Then, if he is blessed with a borrowing neighbor, the sight of the name may remind the borrower to return the tool before he has worn it out. At least, there will be less danger of his thinking he owns it because he has had it so long that he has forgotten how he came by it.

A French farmer, who has just completed a successful experiment in ensilaging red clover in trenches, recommends that the fodder be cut when in full flower, a humid atmosphere being better than a dry.

The Dairy.

Salting Butter.

BY JOHN GOULD, AURORA, OHIO.

It has been accepted without question for years that salt is the preservative agent in keeping butter, but when one considers for a moment that all poor butter is profusely salted, then there is another side to the question, and one perhaps worth considering for a moment. Butter is an animal fat, the same as tallow or lard, and why should we not salt them to give them keeping qualities? Oxygen, the "sharp tooth of time," it is true will after a while destroy lard and tallow, but why butter should deteriorate so quick even when preserved with salt is not so easy to understand.

If anyone has direct evidence that salt does keep butter they would confer a great favor upon the dairy public by publishing the methods of procedure, so that the dairymen of this country could avail themselves of its benefits, and so prepare their offerings that there would be about a half a billion pounds less of badly preserved butter for the consumers to reject, or eat with distorted faces.

It may be said that lard and tallow keep because they have been rendered, or extracted by great heat, and possibly if butter could be cooked, it, too, would keep, but at the same time that we are arguing this we drop the salt theory and admit that salt does not keep the butter.

That salt has no power to keep or hasten the decay of butter is seen from the fact that salt and fats have no affinity for each other; mix them as we may they are yet salt and fats, the union being the same in principle as to mix salt and bird shot. Then what action does salt have upon butter?

Churn and work our butter as best we may, there are yet traceable findings of casein, buttermilk, and milk sugar. If these are left in the butter, the casein soon begins to ferment, the buttermilk changes to lactic acid, and the sugar also starts upon its natural changes. The result is that the ferment of the curd or cheesy matter gives off gases, just as it does in the unsalted cheese, and then we get off flavor, and lastly rancidity, not from the butter fats, but from this uncooked curd. In the process of cheese making, we cook the curd to render latent this very activity in developing gases, and the action of the rennet, with its digestive principle, also aids in holding this ferment—if it may be so called—in check, and the cheese cures, a principle which is not sought in the unsalted cheeses that have the active principle of the seven smells of cologne about them.

Now in butter, we have no control of this caseinous matter, and the nearest we can come to it is to salt it and try to hold this action in suspension. Even if we do exert some control over the casein in the butter, we cannot prevent the traces of buttermilk from turning to lactic acid, and hence, salt or no salt, we have been defeated. Then what shall we do? If it is simply a matter of keeping the butter, all we need to do is to wash out the granulated butter with pure water until no traces of buttermilk can be discovered. Then drain the water off, and seal up this yet ungathered

butter in brine and away from the air. If the moisture is forced out of this butter, it will keep for a long time with or without salt brine, sealed or not, the salt neither adding to nor detracting from its keeping qualities.

The Danish butter exhibit at the Centennial in 1876 is a case in point of long-keeping unsalted butter, an article which had been made in 1873, which was quite as well as lard or tallow could have exhibited. This butter was made from sweet cream, and the buttermilk washed out thoroughly with water, which had been first boiled and then cooled down to the proper temperature for washing butter. Possibly in this we see that a long-keeping butter, if unsalted, needs to be made somewhat differently from sour cream butter, and that the keeping qualities of each are not equal, even though the same skill be exhibited in their manufacture; and I am quite inclined to think that success in the future in butter making will come quite as much from studying the conditions of age, temperature and like matters of the cream before churning, and thus estimating its probable keeping and other qualities, as from better and more complicated mechanism, peculiar packages, and skillfully devised ways of salting.

Then we premise that the real object after all in salting butter is to gratify an acquired taste in this matter, and the yet other object of disguising the real flavor that the butter may have by unskillful management. Between the taste of salt and the true butter flavor there is a very wide gulf, and some day the butter consumer will prefer to do his own salting. Would the Esquimaux think the flavor of his seal oil improved by adding a proportion of salt? Does the wild red man season his buffalo steak with salt? Does the Oriental, who dresses his food with olive oil, season it with salt? And yet all these people eat oils and fats exactly as we do butter, and for the same purpose, that of supplying the body with carbon to produce heat.

So we are back to the original point of habit, and habit alone is the authority that has decreed that butter must be salted. The demands of the consumers indicate that there is no standard of salting. The wants of the consumer vary from no salt at all up to 1½ ounces to the pound of butter.

One of the important things for our butter makers to find out is that salt does not give keeping qualities to butter, but rather that such qualities are the result of careful study and inquiry into the process and working of cream and butter, and discernment of their actual needs.

ITEMS ABOUT MILK.—New milk weighs 8 pounds 8 ounces per gallon, skimmed milk 8 pounds 9 ounces, cream 8 pounds 4 ounces, buttermilk 8 pounds 8½ ounces, and water 8 pounds 5 ounces. Those who believe in testing milk by one lactometer, or any specific gravity test, will observe that 3 gallons of skimmed milk and 1 gallon of water will have the same specific gravity as a gallon of milk. Millions of fraud have been perpetrated by not knowing these facts and figures.

Mouldy and unventilated cellars will spoil butter or milk

Methods of Separating Cream.

There are three recognized methods of separating cream from milk, each having its particular merits, depending upon seasons of the year and other circumstances. The old system, and the one still recognized in most households, is the shallow pan method. Tests have been numerous enough to prove which is the most profitable system in the long run, and facts and figures may be given to enable farmers to make calculations for themselves. In the pan method the average of a number of experiments showed 3.36 as the percentage of cream from the milk by weight: in the ice method, 3.46, and with centrifugal separator, 3.82. These figures include the average of all the months in the year. The pan showed the highest record in December and January, viz., 3.60 per cent, while the ice showed 3.50 during these months, and the centrifuge 4.15, the latter being the highest percentage recorded during the whole of the tests. The lowest record, 3.10, was obtained from the pan in the month of August, and the next lowest, 3.20, was from the ice in the month of November. The lowest record of the centrifuge never registered much less than the highest of the other systems, viz., 3.60. Comparing the ice with the pan in the hot months, the former give the highest and the latter the lowest results; and during the cold months exactly the reverse has been the case. Let us figure a little more accurately. An average cow will give about 4,500 lbs. of milk in a season, and this, according to the pan system, will produce 60 lbs. of butter, which at 20 cents, would bring \$12. The same cow on the ice plan would fetch \$12.45 worth of butter, while on the centrifugal plan her butter would bring \$13.75. Multiply these amounts by the number of your cows, and you will find the relative profits of the three systems in dollars and cents.

Milk Tests.

The following comparison of the milk of various breeds will, I think, be found interesting. The Ayrshire cow certainly stands the test well, and it goes to show that she is not appreciated as much as she ought to be on her merits.

The account of these tests was published in the North British Agriculturist, and it is to that paper that we are indebted for the information. For some inexplicable reason the agricultural press seems to have given the subject very little attention, although one of great importance:

"At the British dairy show in 1876, at Islington, twelve samples of milk were tested from cows representing seven different breeds and three crosses—one Ayrshire, three Jerseys, one Guernsey, one Kerry, one Dexter, one Brittany, and two Dutch cows. Certified samples were analyzed to show the quantities of water, pure butter fat, casein, milk sugar, mineral matters, specific gravity at 60° Fahr., and the percentage of cream by measure after standing twenty-four hours. Highest on the list ranked the Ayrshire, showing the least water and the most fat, followed in turn by the three Jerseys, the others in the order named above. The Ayrshire gave 5½ per cent. butter fat, and the Dutch cows only 2½ to 2¾ per cent. butter fat. At the same show in 1880 there were one Ayrshire, three Shorthorns, Dutch

and cross-bred classes, ten, two Jerseys, three Guernseys, total nineteen. The Ayrshire yielded 25 lbs. 2 oz. of milk, being excelled in quantity by some of the others; but in respect to pure butter fat the Ayrshire, with 6.82, had only one more successful among the South of England's breeds, namely, a Jersey with 7.78, which, however, yielded for the day only 16 lbs. of milk.

The Dutch class were behind the leading breeds in quantity and quality of yield. Indeed, much of the milk from this class was liable to be mistaken for adulterated milk.

Despite the poor turn out of Ayrshires at this fair, it must be allowed that as regards quality this breed has been able to sustain its reputation. For purely dairy purposes it has long received preference in the southwest of Scotland, and not without good reason.—[British Farmer's Dairy Show, Seventh Exhibition, at Islington.

The same paper remarks: "It is much to be regretted that one of the most useful breeds of dairy cattle, the Ayrshires, should be so sparingly exhibited at our shows. If they were to be more extensively tried, especially on small farms, it is probable that they would be found to serve a very useful purpose."

Stock.

Lambing.

On the approach of the lambing season, a few hints will not be amiss. If you carefully culled your flock when they were lambs, you will have little trouble now with your breeding ewes. Note that the period of gestation is about 152 days. It is to be hoped that you did not feed high during the winter; but if you commenced to feed liberally four weeks before the lambing season, you did just what was right. Let your ewes have all the liberty they want—going in and coming out just as they please. Cut away the wool and dirt from their thighs and tails. Let no dampness in their beds exist. Specially observe that there is no odor of ammonia escaping from the manure. If they have a sloping, sunny aspect, much is gained. If you hear a thunder storm, look out for lambs a week before their time. When the critical time arrives the good flockmaster always gains by the loss of a few hours sleep at nights. If you observe restlessness on the part of a ewe, the very best thing to be done is to leave her alone. If, however, she is weak and unable to get up, especially if accompanied by a protrusion of the tongue, run to the rescue. Helping her labors will only be effective when she is helping herself, and in such cases a stimulating cordial may be administered. See that the mother takes to the lamb, and that it is successful in procuring nourishment. Penning the ewes before lambing is not necessary if the premises be large and the flock little disturbed. But afterwards she should be put into a small pen with the lamb. If she is very fat, protrusion of the uterus may occur, for which there is no safe remedy. If now you have a small pasture commencing to look green, turn them out during the sunniest part of the day; and if you see the lambs dancing, regard it as a harmless sport.

Feeding Calves.

Let the calf run with the cow two or three days, or until the milk is good; then take the calf from the cow and feed it new milk, from fourteen to twenty pounds per day, for the first month, or 480 pounds of milk for the month. The milk should be worth two-thirds of a cent per pound, making \$3 20. Second month, feed twenty pounds of skimmed milk per day, warmed to blood heat, making 600 pounds for the month; estimate one-fourth of a cent per pound, \$1 50; add from two to six ounces oil cake per day, say eight pounds for the month (made into a thin porridge by mixing with water and boiling,) at one and a half cents per pound, 12 cents for the month, \$1 62. Third month, milk same as last and double the oil cake; cost, \$1 74. Fourth month, milk the same, oil cake three-fourths of a pound per day; cost, 34 cents; mix with the oil cake one half pound middlings per day, cost, 15 cents; cost for the month, \$1 99. Fifth month, 16 pounds of milk per day, 480 pounds, at \$1 20; oil cake, one pound per day, 45 cents; middlings one pound per day, 30 cents; two pounds of good finely cut hay wet, and the oil cake and middlings mixed with it; cost, 30 cents; for the month, \$2 25. Sixth month, ten pounds of milk per day, 300 pounds for the month, 75 cents; oil cake, one pound per day, 45 cents; middlings, one pound per day, 30 cents; oats and corn, two bushels of oats to one of corn, ground together, one pound per day, at one and a quarter cents per pound, 38 cents; mixed with four pounds of cut hay per day, 60 cents; cost for the month, \$2 48. First month, \$3 20; 2nd, \$1 62; 3rd, \$1 74; 4th, \$1 99; 5th, \$2 25; 6th, \$2 48; pasture and hay, \$2; total for six months, \$15 28.

The best ration, of course, is the one which comes nearest to the composition of the milk of the dam, and if the analyses of the foods be known, rations may be compounded in an endless variety of ways, according to the object sought; but if the prices of the different foods compounded are greater than the price of the milk, the feeding will be conducted at a loss. Even in case of thoroughbred calves, it is not necessary to feed new milk longer than a month or two, skim-milk and linseed or flax-seed gruel being a good substitute, and will produce as good a prize animal as fresh milk.

Early Matured Beef.

All intelligent feeders know, from actual experiment, that the younger an animal is, the less food it takes to produce a pound growth in live weight; and they know that the amount of food increases regularly with the age of the animal. When the animal is full fed, it requires less food to put on a pound live weight the first six months than for the second six months, and less the second than the third, and so on; and the reason is, that the food of support constantly increases with age.

Our fat stock shows in this city have now proved, most conclusively, under cost of production, that the animal eighteen months old costs less than half as much per pound as the one thirty-six months old.

Early matured beef is becoming more and more popular every year. Three and four-year-old

cattle will seldom be seen in market ten years from now, unless from the unfenced range. The lessons of the fat stock show will be heeded, and very soon the old-style feeders will be compelled to change their system of alternate feeding and starving, or they will be obliged to quit the business of feeding. Feeding is now becoming an art, requiring expert knowledge of foods and their combination, and this knowledge cannot be disregarded without certain loss.—[National Live-Stock Journal, Chicago.

Ensilage.

At a late meeting of the Ensilage Congress held in New York, several important points on this subject were discussed. Prof. Manly Miles experimented with regard to the causes of fermentation, which he attributed to the presence of bacteria. These low, minute forms of life could be destroyed by raising the temperature of the silo to about 120°. This could be effected by filling the silo gradually without tramping. The New York Condensed Milk Co. claimed that ensilage milk would not keep, but otherwise the consumers were quite satisfied with it.

With regard to ensilage for horses, Dr. Baxter, of Virginia, said that it had resulted fatally in his State, due to the presence of stomach-worms in the throat, causing suffocation. This was caused by the acidity of the food driving the worms from the stomach. He cited similar cases in other States—one instance in which, out of ten horses fed on ensilage for a week, eight had died. But this statement must be accepted with caution, as any sudden change of food often proves fatal. A number of farmers present at the meeting were enthusiastic in the praise of ensilage as a producer of milk.

England wants to know what arrangement could be made with the United States and Canada for the supply of store steers for their market. The question is worthy of the fullest consideration by Canadian stock-raisers.

In Scotland the demand for polled cattle last year was greater than in the previous year, but so many sales were not effected. The average price realized was \$234, while Short-horns did not average more than \$144.

Polled cattle (Angus and Galloways) are the rage in the Western and Southern States, both for speculation and for improving the native stock. They are said to stand climatic extremes best, and are insensible to the irritating effects of flies. Prices range from \$300 to \$500.

CARROTS FOR HORSES.—At this season a small quantity of green food is very helpful to horses. When shedding their coats the bowels should be kept rather loose, and a feed of carrots and oats in equal quantities is better than the grain alone. Carrots are probably the most nutritious root grown, and in proportion to their value can be produced as cheaply as any.

THE UDDERS OF COWS.—A large udder is commonly regarded as a sign of a good milker, but excessive size indicates a deposit of flesh which is of no advantage, but rather a burden for the overweighted animal to carry. If the milk veins are well developed the cow will be a good milker, and the udder will be as large as is of any advantage.

Waterside Jock.

During the progress of the last American Fat-Stock Show, Hon. M. H. Cochrane's pure-bred imported Aberdeen-Angus steer Waterside Jock, exciting no special sensation in so great a show, attracted the eyes of experienced butchers as a most promising candidate for a leading position on the block. In his class ring he was the only entry, but so marked were his merits that the awarding committee, in giving him the blue, paid him the following compliment, which ultimately proved to be prophetic language:

This steer was 999 days old, weighing 1,815 pounds, and was very ripe, considering the age. The distribution of meat in the best parts of

The Belvoir Herd.

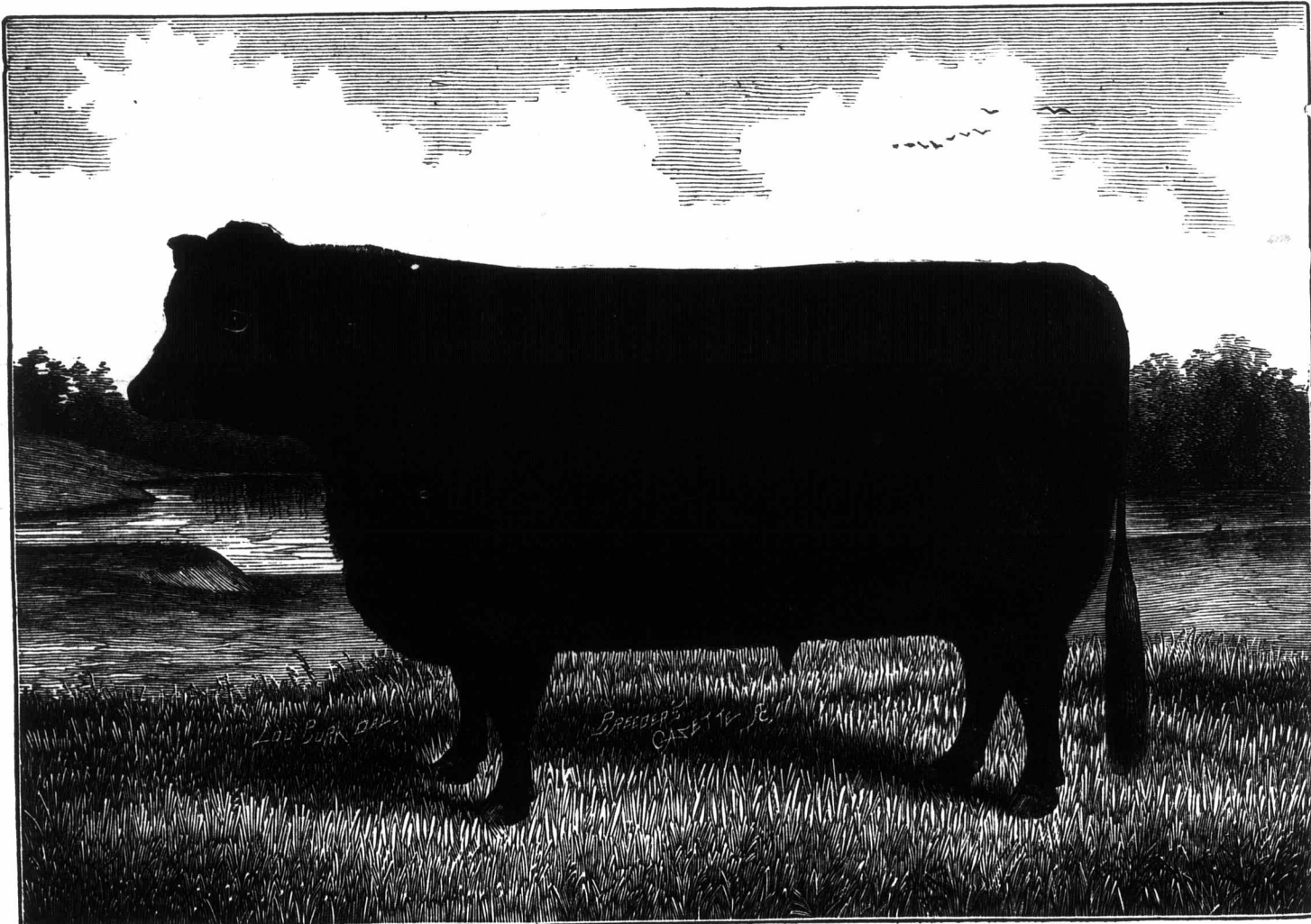
Having an hour to spare while in Delaware lately, we determined to avail ourselves of the opportunity of having a look at the Belvoir Herd of Shorthorns. Naturally one of the best farms in the Township, of 300 acres in extent, mostly a rich alluvial soil.

The buildings have been entirely overhauled. Twelve box stalls and twenty-four single stalls have been added to the previous barn accommodation; 1,000 rods of fence built, and the house thoroughly painted, papered, &c., are the improvements for one year. But to the cattle.

The herd at present numbers about seventy head, of which over fifty are Shorthorns of

and evenest bulls we remember. Lord Feversham sent a Duchess to him before he left England, and already Mr. Attrill, of Goderich, has sent a Grand Duchess to him. We must not forget the Marquis of Kirklevington, 15 months old, with size and substance equal to an ordinary 2 year old. Of the cows we marked on our catalogue—imported Wild Eyes Lassie 3rd, whose dam, when 14 months old, sold for \$4,500, to go back to England; Lady Turncroft Wild Eyes 2nd, Wild Winsome 4th, Lily 3rd, Surmise Duchess 16th—all imported, Countess of Darlington 3rd, Gwynne Duchess 6th, Filligree 18th, &c., &c.

Education—read the agricultural papers.



WATERSIDE JOCK,

HON. M. H. COCHRANE'S ABERDEEN-ANGUS BULLOCK, FIRST PRIZE TWO-YEAR-OLD ON THE BLOCK AT THE LAST FAT STOCK SHOW.

the carcass leaves no room to doubt that he would cut an unusually large proportion of net to gross. This steer was near perfection in all that goes to make up a profitable butcher's beast, thickly covered with the best quality of firm mellow and well-marbled flesh.

On foot, however, in the two-year old sweepstakes rings, like Starlight, he was unplaced; but, like the Short-horn, received a *post-mortem* vindication; outranking all competitors for the two-year-old prize and tying Starlight for grand sweepstakes as best dressed carcass in the show—a most extraordinary honor in the midst of the grand three-year-olds of competing breeds.

A hole in the trough—a bad system of feeding.

the present strains, and when we state that Mr. Gibson sold twenty head for \$20,300 by public auction, at Chicago, last April, and making the highest average price that was realized on the continent that season, it speaks well not only for Canada, but also for Shorthorns, though we don't so much wonder when we saw the class of animal Mr. Gibson is breeding. It is seldom that we have seen a better herd—of large size, with plenty of substance, and most of them truly made. We were particularly struck with the imported bull's, Viscount Oxford 6th and Duke of Oxford 60th, the latter lately imported from the herd of the Duke of Devonshire, where he had been in use in the herd; he is one of the longest

The Farmer's Advocate Abroad.

We do not know of a single magazine on our exchange list that we prize more highly than the FARMER'S ADVOCATE AND HOME MAGAZINE. It was founded by William Weld, the editor and proprietor, in 1866. The publication office is at London, Ontario, Canada. There is much in the FARMER'S ADVOCATE to admire. While it is published in Canada, yet a corps of able correspondents throughout the United States present the leading questions of agriculture in readable shape. A farmer in Iowa, in this magazine, sees the methods of Canada and the United States compared and discussed, something that none of our own publications do. It is an interesting monthly and Iowa farmers becoming subscribers will be sure to like it.—[The Gate City, Keokuk, Iowa, of March 27th

The Farm.

Wind Power on the Farm.

No kind of motor has ever grown so rapidly in the favor of the farmers as that produced by the wind. These mills serve more useful purposes than any other kind of machinery at present manufactured; and when their simplicity, durability and cheapness are taken into consideration, they are a marvel of excellence. The demand for farm motors is rapidly increasing, even among the smallest farmers, and those who are the closest calculators find them the cheapest investment they can make. Farmers who have found stock-feeding or dairying to be a profitable undertaking, have discovered the necessity of cutting their coarse

or she is quietly enjoying a nap. The wind is scarcely ever so still but some machinery may be kept in motion, and the speed is as uniform as that regulated by the most sensitive governor that has ever been put on an engine.

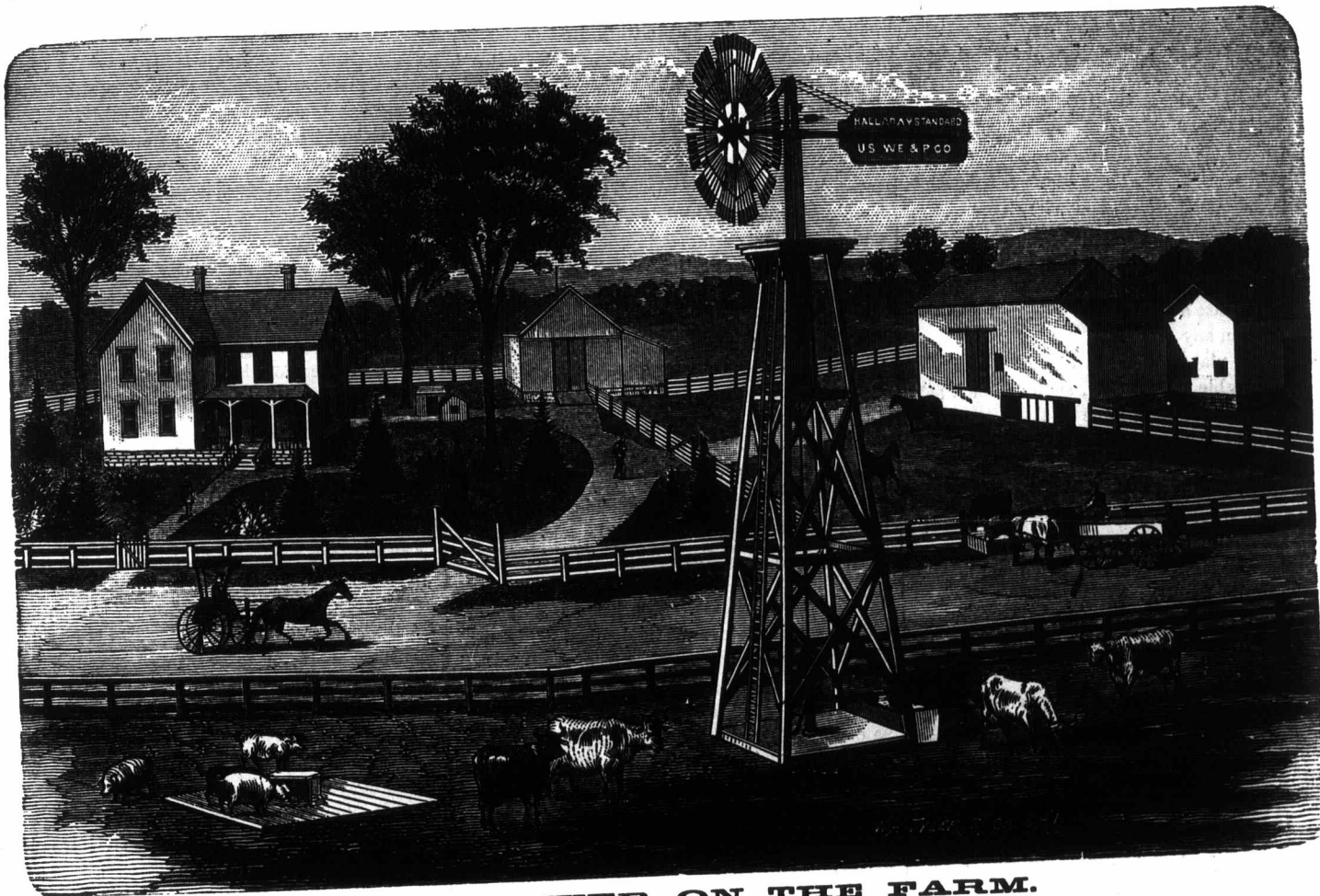
Besides, for this piece of machinery no storage room is required, the utmost cleanliness can be observed, no attention or attendance is necessary, there is little or no outlay for repairs, the liability to danger is reduced to a minimum, and it is an ornament to the farm yard.

Various estimates have been made with regard to its cheapness compared with other machinery, and especially with regard to hired help. Many a cash item is saved, such as grist tolls, expenses of threshing, sawing wood, etc.; and quite a sum of pocket money is sometimes

Business Education for the Boys.

In this month give your boy a colt, a calf, a lamb, or a chick, and tell him you have noted in your diary that this is the commencement of his business career. If he is faithful to his trust, pat him on the head and tell him that his business prospects are bright, that he is just the very boy for the farm. Conscious of the honor conferred upon him, he will do all he can to cultivate independent executive qualities, which will place his life upon a solid foundation. If he turns out to be faithless, that is, should his calf suffer through his ill treatment or bad management, tell him that you will be under the painful necessity of sending him to some trade or profession.

Every kind of farm refuse is a good manure.



WIND POWER ON THE FARM.

fodders, grinding their grain, and slicing or pulping their roots; and their success has largely depended upon the facility and cheapness with which they have conducted these operations. There is scarcely a motive force required in the house, in the yard, or in the barn, but can be supplied from one of these mills. The wife can run her churn, her washing machine, obtain her shower baths, irrigate or sprinkle her garden—in fact procure anything that can be devised from the most complete system of water works, while the farmer can pump water for his stock, saw his wood, grind his own grists, shell or grind his corn, run his grind-stone or fanning-mill, thresh his grain—in short, do anything in which power or speed is a necessary factor. Many of these operations may be conducted at once by himself or herself alone, and sometimes when he

earned, such as grinding for neighbors, etc. It has been estimated that on an average farm it will save its own cost and the cost of all the machinery it will run (including a two-horse thresher) in the space of two years; and thirty years, with some repairing, is a low estimate of its lifetime.

These mills are yet comparatively unknown in Canada, but the satisfaction which the improved kinds have given in the United States is such as to warrant their rapid adoption in this country.

Of the three chief constituents of plant food (nitrogen, potash and phosphoric acid) it is estimated that 4,620,000 tons are annually removed from the soil in the United States. This is ten times the quantity returned as manure. According to present prices this deficiency may be valued at \$432,000,000.

Loam is the only soil which contains all the elements of plant food in good proportions. All other soils require special fertilizers.

A plant is not always hardy because it comes from a country as cold as our own. Many things enter into the hardiness besides ability to endure cold.

Commercial circles in England are excited over the prospects of their wheat supply from India instead of from this continent. In that country population is dense and labor cheap, and if the question of cheap transportation from the interior to the sea board were once solved, the scheme would be complete. The annual production is estimated to be 300,000,000 bushels, only one-tenth of which is exported. Wheat in the interior sells at 20 cents per bushel, and an abundant crop is regarded as a great calamity.

PRIZE ESSAY.

Cheapest and Best Method of Fencing, and How Can the Cost of Such be Lessened.

BY T. E. WASHINGTON, SOLINA, ONT.

In determining the cost or utility of the different kinds of fences, we must ascertain the kinds, quantities and prices of the materials nearest at hand.

In those newer parts of the country where cedar is plentiful and of moderate price, there is no better, nor, in the long run, cheaper fence than the old crooked or snake fence. The rails should be of good size and laid on flat stones, or, if these are not to be had, on large pieces of timber, to keep them from settling into the ground. With those conditions, six rails will be high enough, and should be well staked and wired at the corners. By renewing the stakes and straightening the fence up a little, say every twenty years, it will last at least sixty or eighty years.

The cost of such a fence will be as follows: Rails at \$40 per thousand, or 4 cts. each, 12 rails per rod, 48 cts.; 4 stakes and wire, 9 cts., or 57 cts. per rod. Rails at \$50 per thousand, 12 rails, 68 cts.; 4 stakes and wire, 9 cts., or 69 cts. per rod.

In a few localities cedar rails might, perhaps, be had at a less price than 4 cts. each; where such is the case a timber fence is undoubtedly cheaper than any other.

In some places there are other kinds of timber suitable for fencing, such as black ash, elm, pine, etc.; but as none of these are equal to cedar, the maximum price at which it would be profitable to fence with these will be about 4 cts. each, or \$40 per thousand. If we go beyond those prices, wire fences would be cheaper, as we shall see presently.

There is no timber fence of equal value that can be built for less cost, taking labor and everything into account, than the old snake fence. If we take the straight rail (that is rails with a stake and a post) it will cost as follows: One and a half lengths of rails per rod and 6 rails high (9 rails) at 4 cts. each, 36 cts.; posts, one and a half per rod, at 12 cts. each, 18 cts.; stakes and wire, per rod, 3 cts.; digging holes and setting posts, 10 cts. per rod, or 67 cts. per rod. If the rails cost 5 cts. each it would cost 76 cts. per rod. The straight rail takes less ground, and is, perhaps, nicer looking than the snake fence, but it costs considerably more. Where these two classes of fences would be expensive, the board fence would be more so, as the lumber at \$10 per thousand would cost 50 cts. per rod; the nails, post and holes would bring the fence up to 85 cts. per rod.

In some places the straight rail with bored posts has been extensively built. The cost for the timber of such a fence may be a little less than the others, but the labor required in boring the posts and the extra handling of them preclude it from coming into general use.

Timber fences with iron posts let into stones have been tried in places, but they are not likely to come into general use, as they involve much labor in construction, and the frost is apt to throw the posts out of their upright position.

With reference to live fences or hedges, they can hardly be said to be a success in this country. A number were tried in this locality

(Oshawa) several years ago. The experience of those who tried them has not induced others to make a like venture. The cost of the plants and planting of them is considerable. They have to be fenced for several years, and the labor of trimming them afterwards is very great, and, I suppose on account of our dry autumns, they do not appear to make the vigorous growth necessary to their success.

Having compared the cost and merits of the different fences that have done service in the past, and are still serviceable where timber is abundant, we now turn our attention to what we undoubtedly think will be the fence of the future, namely, wire. There are a number of reasons why it should be so. In the frontier townships sufficient timber is not to be had, and the great labor and expense of hauling it long distances make it quite impracticable. On the other hand, wire may be had in unlimited quantities, and as it comes into general use the price is likely to decrease rather than increase. The hauling is comparatively little, and the putting up is done rapidly. At present prices a first class wire fence can be put up for about seventy cents per rod. The posts (cedar) should be good size and placed one rod apart, and three feet or more in the ground. Five wires with a very slight bank are sufficient. The corner posts should be firmly braced, and the first wire placed about eight inches from the ground. The second wire should be six inches above the first. The third should be eight inches above the second. The fourth wire should be twelve inches from the third, and the top wire fifteen inches above the fourth. It will require a little filling in in places, and a little banking. The spaces will be a little less than the wires are apart, for the barbs are about an inch long. The fence will thus be over four feet high, which is sufficient for ordinary purposes. The fence will be more easily seen in a storm or in the dark if, instead of the fifth wire, we use a strip of the flat steel barbed wire fencing material.

Midway between the posts the wires should be connected with an upright wire, so that in case of stock trying the fence the strain will come on several wires at once.

The ordinary two-ply galvanized barbed wire and staples cost fifty cents per rod (of five wires.) The holes, posts and the setting cost about twenty cents per rod, making seventy cents for the material and post setting. I have not estimated the expense of hauling the material, nor the putting up of the different kinds of fencing. The former is a very serious expense when the timber has to be drawn far. Ten cents per rod is not too much for drawing the materials for a timber fence four or five miles, while the materials for a wire fence can be drawn an equal distance for less than half that amount, and the greater the distance the materials have to be drawn the greater will be the difference in favor of the wire fence. So that in estimating the entire cost of the timber and wire fences, in hauling materials and all, say four or five miles, we must add to the wire fence five cents, or seventy-five cents per rod, and to the rail fence ten or twelve cents per rod, making it cost at five cents per rail about eighty cents per rod. Therefore, if rails cost 4½ cents each, and can be had within

four or five miles, it will cost, including the drawing, just the same as the wire fence.

With reference to lessening the cost of fencing, very much might be done by making the fields a better shape and making them much larger. The more nearly square our fields are made the less fencing will be required to go around them. Small fields are worked at a disadvantage, and also at a considerable loss, as the head ridges are injured with tramping; besides the loss of ground the extra fences occupy. Our fields might be made say fifteen acres, instead of, as at present, only eight or ten. In some cases where the stock have permanent pasture, and the remainder of the farm is devoted to crops, the fields might be much larger. If the soiling system were adopted, very much fencing might be dispensed with; or the cost of fencing would be greatly lessened by not having to fence against sheep and swine—as in Manitoba. In some cases a movable or hurdle fence might answer an excellent purpose, as a field could then be made any place or any size desirable.

The cost of fencing might be much lessened by planting trees where we wish to build fences, and when they have become sufficiently large, say six inches in diameter, wires might be fastened to them instead of posts. The staples would not materially affect the trees. They would need to be drawn a little as the trees grew larger. No doubt many of the trees planted on the margins of farms will, in a few years, be used for that purpose.

Much more might be said on this very important subject, but my paper is already too long. No fence is likely to become universal, because no one kind of fence is best for every situation. An additional very strong argument in favor of the wire fence as an outside fence, or in exposed places, is that it does not induce the lodgment of snow. In fencing house or barn yards, a timber fence is preferable, as it breaks the sweep of the wind, and is less liable to injure stock, or to be injured by stock when closely confined.

KEEP THE FARM TIDY.—The owner of a farm should have his season for clearing up and burning rubbish in the spring as regularly as does the housewife. Something of this work can be done before the hurrying time of plowing and seeding begins.

CABBAGE WORM.—A member of the Elmira Farmer's Club related his experience of trying to destroy these pests: he tried both black and red pepper; the insects seemed to relish the seasoning. Salt and saltpetre were no better: wheat, bran, and middlings did no good. Another member of the club said that his experience was that soap suds put on hot soon destroyed the insect. The cabbage could stand the application being quite hot, without taking any damage.

COAL AND WOOD ASHES.—A practical farmer who burns both coal and wood in different stoves, makes a practice of mixing the ashes and applying all in his young orchard in the spring. He believes that the potash of the wood ashes is effective in small quantities, and that its addition to the coal ashes makes the latter much more absorptive of ammonia or nitric acid from the atmosphere. At any rate, he finds good results from the mixture, and his young orchard is unusually thrifty and productive.

Garden and Orchard.

Gardening Hints for the Month.

Clean away all litter, etc., from rhubarb plants, and fork over the ground about the roots.

Sow early varieties of peas as soon as possible, and keep sowing a succession of this delicious dish during the summer, say every other week.

The earliest greens can be obtained by sowing beets thickly and using the thinnings for cooking.

No garden is complete without a bed of asparagus, so don't neglect planting one. Clean up old beds, and after forking over give a liberal dressing of salt.

Sow half a bed with cress for early salad; after it is well up sow the remainder of the bed with mustard, which being more rapid of growth, will soon catch up to the cress.

If there is a nicely sheltered corner in the garden, sow a little lettuce seed, such as the Boston market, and have early lettuce.

Those who have not a hot-bed in which to raise early cabbage plants, celery, tomatoes, cucumbers, should sow some seed thinly in small boxes which can be placed beside the stove till the seeds germinate, and then be put in the windows until they get their rough leaf, when the boxes should be carried outside on warm days to harden off.

The earlier varieties of onions may be sown as soon as the frost is completely out of the ground and the land is dry enough to work. If the seed is sown pretty thickly the plants can be drawn as scallions.

Brussels Sprouts, although not in general use in this country, is a most delicious vegetable. They can be as easily grown as cabbage, and the culture just the same. Try them.

PARSLEY.—Mind and sow a good border of parsley; an ounce will sow a drill one hundred and fifty feet in length. It makes a very pretty border alongside a walk or around beds. As the seeds germinate very slowly, they should be soaked for a few hours in tepid water; even then it will be from two to three weeks before the plants make their appearance. If you grow too much for use green, it can be dried and put away in bags to be used as seasoning during winter, and will be found most valuable.

It is difficult to raise good cabbages on the same ground more than two years in succession. It is better to select a different place for them at least every other year.

STRAIGHTENING NEWLY-SET TREES.—As soon as the frost is out of the ground all trees planted within a year should be straightened where loosened by frost. Inattention to this point has made all our old orchards lean away from the prevailing winds. The evil is worse as the country grows older, and winds have a free sweep.

The Coleus,

Of which we give an illustration, has, we are glad to say, become one of the most popular plants of the day, either as a bedding plant or for window gardening. Rapid strides have been made of late years in the improvement of the Coleus (see "On the Wing" in this issue). Their beautiful dark and variegated foliage affords such a contrast to the surrounding mass of green on other plants, therefore bringing them into great request for bedding purposes. They are easy of cultivation, and can be grown either from seed or propagated by cuttings; the latter system is the best, and in the preparation of which the cuttings should be made above the joint and not below, as in the case of Geraniums, etc.; leave on all the leaves and stick them into sand. In a few days they will



COLEUS.

be rooted and ready to pot off any time during the present, or next month will be suitable for propagating. The Coleus, being very partial to shade, makes them additionally valuable for planting in places where many other bedding plants would not thrive.

Perhaps no fruit tree is more susceptible to injury from being permitted to overbear, than the peach. Not only will larger and better fruit be secured by careful thinning, but the vitality of the trees will also be much improved.

For cheerful effect use for beds the dwarf, and for fences the climbing Nasturtiums. They never go out of fashion, but increase in popularity every year.

Water Cress.

The water cress is one of the best of salads, but it is difficult to make our people think so. In England it is estimated, we may be safe in saying, above all others. It is sold there in the markets by tons, and there is no reason why it should not here, as we have the same facilities of procuring it with the English. Some say that the heavy, moist British atmosphere makes it more tender than ours. But why should it not be the case with the lettuce, celery, etc.? With respect to these and some others, we are not surpassed by the same products of any other country. It is said to be a foreign plant, hence not indigenous to this country, and we suppose it is; but if so, why do we find it growing along streams and in places wild and unimproved, as if it had always been there? Whether it is or not, however, there is nothing easier to raise. Stick some pieces of the plant along the low places of a running stream, like the ordinary open springs upon our farms, and it will grow rapidly, and where, unless it is extirpated by wholesale gathering, it will go on producing for generations and will always supply early crops for the market, and will sell fast enough. We should like to see more attention given to the cultivation of this salad, especially as there are so many places adapted to it which are unimproved and neglected.—*German-town Telegraph.*

SETTING OUT TENDER PLANTS.—

We shall soon arrive at the time when setting out tomatoes, egg-plants and other vegetables will be in order; and a word of caution against setting them out too early will save many from disappointment. There is nothing gained by being first in the field in cases of this kind. The plants become stunted, and do not grow as fast as others put out later, and not until the ground is warm. These go right on without stopping, and generally come into us before those which it was thought would beat them. It is worse than useless to set out plants or sow seeds until the ground is warm enough to cause them to germinate or grow.

THE PYRUS JAPONICA.—Among the beautiful early flowering things there is nothing more striking than the *Pyrus Japonica*, or, as it is sometimes called, the Japan quince. The bright crimson flowers, like apple-blossoms, are among the earliest to open, and a well-established bush makes a place look gay. Though called a quince and belonging really to the family of quinces, few people ever see quinces on them, though we have them frequently. It has a delicious perfume when ripe, but that is all.

Too exact an arrangement should not be practiced in the laying out of flower beds. An exact, geometrical style is too stiff; it does not match with flowers. Nature has no stiff arrangements.

Hybrid Perpetual Roses

Are for this country among the most valuable of roses. They are particularly desirable for cold climates, because they are entirely hardy. The flowers of this class are very double, many indeed being of immense size, delightfully fragrant, and of the most gorgeous and dazzling colors, but no shades of yellow. They are strong and vigorous growers, requiring but little attention, and surviving all ordinary hardships, though slight protection in winter in very exposed places is always desirable. These are the hardiest roses, and may be expected to bear safely any reasonable degree of cold. When you plant Hybrid Perpetuals you may be tolerably certain of having roses every year.

Though called Perpetual, it must be understood that they are not such early and constant bloomers as the Ever-Blooming Roses. Few varieties bloom the first year, but grow strong and get ready for the next. When once established they bloom freely at usual time early in the season, and will continue to bloom at short intervals during the summer and autumn months. They are much improved in size and beauty by good cultivation and rich ground. There are, of the Hybrid Perpetual class alone, more than two hundred varieties, many of which resemble each other very closely. For ordinary purposes, better effects are produced with fifteen or twenty sorts than with more.

The General Jacqueminot, of which we give an illustration, is perhaps one of the finest and prettiest; color rich velvety scarlet, changing to brilliant crimson. The buds of this variety are magnificent, rendering them of especial value for bouquets, and for wearing in the button hole.

The Hybrid Perpetuals should not be ordered for house culture, as they are not suitable for the purpose. They will grow and thrive as well as the others, but are not so certain to bloom, the Ever-Bearing or Perpetual roses being better for that purpose.

We wish to impress upon those of our readers who are amateurs in flower culture not to attempt too much. When spring opens ambition is high, and resolutions for thorough work during the coming season are many. The debilitating weather of midsummer, coupled with parching drought and hurry in harvest, haying, and cultivating, usually lessen the attention given the garden. When the best results are desired, the garden dwindles and loses its beauty. An unkempt garden is worse than no garden at all. One tidy, thrifty bed is worth an acre of slack, weedy ones.

Ground cannot well be made too rich for currants and gooseberries. Plant in rows four feet apart and three feet apart in the rows; give thorough culture or deep mulch over the entire surface, cut out all wood of three years growth (or after first crop is often considered better) and a good crop is almost certain.

A floriculturist states that the rose bug or rose chafer can be destroyed when in the larval state by sprinkling wood soot from the chimneys over the ground to the depth of one-fourth inch, and then watering it in thoroughly with a hose.

Renewing Fruit Plantations.

The *Germantown Telegraph* says: After a reputation has been made on the strength of superior berries, we cannot keep up this acquisition unless proper and timely precautions are taken towards that end. Early and frequent renewing, with good culture while a patch is new, so as to force it to do all that is possible, is the surest key to success that I know of, and an infallible remedy for lax custom. A broken down fruit garden yields but poor fruit, and the demand for such is equally as poor; old and feeble plantations always give way to the young and vigorous ones, which come on with their loads of large and perfect fruit, tempting the buyer beyond resistance. Of course the cost and labor of growing fruit in this way is very much increased over the usual method, but the profits are increased amazingly, and in full proportion, and will always be found a sure and pleasing result, able and willing to tip the balance the right



GENERAL JACQUEMINOT.

way—into the grower's pocket. The first indication of weakening is the time for action; don't depend on that patch any more, but as soon as possible prepare to plant a new one to take its place. You can well remember how good and plentiful your crop of berries were when the fields were new, when the roots were in full working power, pushing a heavy growth of plant with corresponding fruit. The cause was in the new and vigorous plants, and not in the soil, as many suppose, because I have planted new plants on the same ground, manure being used, and they gave the usual crops of new plants. The roots of the strawberry and Blackcap raspberry never go very deep, not having as much penetrating power as the roots of blackberries or red raspberries, consequently are shorter lived, and need renewing sooner.

Sprinkle the foliage of all house plants often with tepid water.

We would call attention to the adv. of Alma college in this issue.

Flower-Beds.

Mr. N. Roberston, Government Grounds Ottawa, in the *Gardener's Monthly*, says:—The beauty of a design is to have it brought out so that any one can tell what is meant, without being told, as is the case in many instances. To show a distinct pattern with flowering plants, requires a considerable amount of attention and care to be properly done, for which I practice two plans that may be of some advantage to your readers.

To keep my colors from intermixing I use two plans, one is putting a line of some stiff growing plant between the colors, to harmonize and be trimmed to line and height. Say it is red, I use *Achyranthes*, and for a white, *Cineraria maritima*, or some such plant. My patterns are drawn on the bed, and they are planted on the lines. Another method is planting short stakes around my lines, not to show above the plants, and running stove-pipe wire on them, and turning the colors to their respective sides. All this may seem a good deal of trouble, but will well repay by a distinct pattern, for this is the main point in all such work, and I would specially advise all who try such beds with flowering plants, to evade intricate patterns, or acute points, and not less than bands of two feet wide, for considerable mass of color is required to give effect.

With plants such as *Alternantheras*, *Thymes*, *Pyrethrums*, &c., and low growing plants, as *Echeverias*, *Sempervivums*, *Sedums*, &c., any design almost can be carried out; the first can be clipped into any form, and the last will not out-grow their position.

My designs are all planned, drawn to a scale, and colored nearly to that of the plant to be used; during the winter months, calculating the quantity I may require—and being sure to have plenty to plant close, as our summer seasons are so short that early effect is required. This study of my patterns I consider a very important part; for let any one go out in the spring of the year without this preparation—and he will surely make many mistakes which this will obviate.

When my beds are dug and made firm, I have them raked smoothly; I then put a plank across, raised on blocks at each end; if the bed should be wider than could be reached in this way, I put two feet into the end of a plank, resting the feet in the bed, and the other end on the grass, or walk; from this I draw my plans, and plant, never treading on my bed after it is raked. For this purpose I use a large wooden compass and line. The compass is extremely useful where you want to follow a curved or irregular edge, setting it to the distance you want, keeping one point to the edge, and marking it with the other. The planks I use in the same way when doing all my summer trimming of the beds, thus leaving no unsightly marks.

Shelter your implements. Rust and rot are greedier than wear and tear.

Prof. Riley asserts that an emulsion of common soap and kerosene oil sprayed on cabbages will destroy the cabbage worm. Peter Henderson endorses the statement.

The Orchard.

BY HORTUS.

GRAFTING.—When grafting trees, great care should be taken that the cions are well ripened and not pithy. There is no doubt but grafts made from good cions grow more freely and come sooner into bearing. We are sure that many of the weakly and black-hearted trees sent out sometimes from nurseries, owe their defective constitution from pithy and unripe cions being used when grafting. The question is frequently asked, when is the proper time for grafting? In a general way we answer this question by stating that the grafting season commences about the first of April and lasts to the first of June. Trees may be grafted when in foliage successfully so long as the cion is dormant when used. We advise grafting the various fruits in the following order: First, the cherry, next plum, then apples, leaving pears for the last—the sap rising earlier in cherry and plum than others. There is no set reason for success in grafting, but as the art is very simple and so generally successful, it is a matter of wonder how few of our farmers take the trouble to practice it. Those who do so find a charm and fascination about it that must be felt to be understood. There are a great many systems recommended and all worthy of practice, but in all of them the first thing to be observed is that the bark edges of cion and stock should be even together on one side or the other. The second is that the juncture of cion and stock should be covered with any substance that will hold the graft firmly in position and exclude the air and wet. It is, as mentioned before, immaterial what style of grafting is practiced, but it will be found that for the largest branches rind grafting will be the easiest. This method consists in slipping the cions, made with a sloping cut inside of the bark, evenly against the hard wood, and tying firmly.

For smaller branches, cleft or wedge grafting may be practiced. This means to split the branch and insert the cion end shaped as a wedge.

For the smallest branches of all, the grafter can practice tongue grafting easiest. This means making corresponding cuts or tongues in cions and stocks, and fitting both evenly. Mind to have your tools sharp, make clean cuts, and not leave bruised or jagged ends. Do not make cions too long; four inches will be plenty, the shorter the better. Some horticulturists amuse themselves by grafting plums on cherries, pears on apples, and *vice versa*. This is all very well as a pardonable curiosity in the garden, but that is all the value there is in it; such grafts never amount to anything, and soon lose their interest. Experience proves that each thrives better after each kind.

PRUNING.—The practice of cutting off, "holus-bolus," great branches of large orchard trees, should be discontinued. We have seen fine orchards almost destroyed by reckless pruners, in whose case "a little learning was a dangerous thing." It is better, when necessary to remove very large branches, to do so gradually, cutting part one season and the balance the succeeding year, or say part in spring and part in summer. When trees receive what is known as heavy pruning, they should also receive a heavy manuring to stimulate and

feed the new growth necessary for the recovery of the tree.

Old forest trees, such as oaks, maples, &c., with scraggy heads, may be transformed into beautiful round-headed trees by cutting the topmost branches close back and shortening the side ones in proportion. We advise the reader to experiment on one tree and he will be surprised at its appearance after two seasons' growth from cutting.

Planting.—How far apart should I place my trees when planting? often troubles the planter. This question is first answered by asking what object is in view when planting. Is the object to have a fine orchard to last for generations—with great noble trees towering up high in the air, or to have a crowded, miserable collection of clothes props? We advise planting far apart rather than close planting. We know that one tree, if allowed the time, will take up as much ground, enjoy as much sunshine, rain and dew, absorb nourishment from the soil, gases from the air, and return as much fruit to the grower thereof, as two trees occupying the same space, besides looking much finer.

Or, in other words, one developed tree is worth four half developed trees. Trees planted close use up their space and impoverish the soil quicker than if planted wider apart. So that the planter can decide himself, as any distance will do to suit his own convenience, from one foot apart to sixty. A reasonable distance to plant apples with spreading heads, such as greenings, fall pippins, &c., would be thirty-five feet. Upright growing kinds, as Northern Spy, Gloria Mundi, &c., may be planted several feet closer. Pear trees in kinds have also their various habits of growth, though twenty-five feet would be ample room for each. Morello and Duke cherries may be planted closer than the Heart and white cherries. A safe rule is to alternate the planting in an orchard so that by the time the longer lived trees would be coming into usefulness the early bearing and shorter lived kind could be removed, leaving the remaining trees a proper distance apart; bear this in mind. Speaking of the Northern Spy, it has been suggested to the writer that this tree would make a capital shade tree to be planted along our country roads and side lines. We commend the idea, as this variety grows rapidly and tall, would answer as a wind-break and give shade fully as well as any deciduous tree we have, and as it takes years before it bears, the tree would be grown strong enough to be self-defensive when fruit-bearing, so that the question of being destroyed by tramps and boys need not hold in this case.

Seed Potatoes.

As the time is near at hand to again plant our crops, I would say a few words in regard to seed potatoes. It is very important that we plant the right kind of seed, and this can be determined only by actual experience. Guess work will never do for a farmer; because a farmer plants small potatoes or cut ones and obtains an excellent crop, it by no means proves that this seed is the best. Who can tell how much better the crop would have been had large, whole potatoes been planted. It is by experimenting and common sense that farmers

are to know what kind of seed to use, and wise is he who decides rightly for himself. Place two bushels of potatoes before a farmer, one small and the other large, and say to him, "I make you a present of a bushel of potatoes to plant; take your choice." Not one farmer in a thousand but what would take the largest, although the small ones would seed the most ground. In many cases, where a farmer plants small potatoes, he says in mind, "Perhaps these will do just as well as large ones; I will plant them." But at harvest he knows not how much is lost by the operation. A gardener sold good onion seed of his own growing for ten dollars per pound, and bought that which he thought would be just as good for two dollars per pound. His crop of onions that year was a failure, but it taught him a lesson which he will never forget. I have experimented with small and large, cut and whole potatoes, side by side, for a number of years, and the large, whole ones have been the most productive every year but one; that year large potatoes halved, two halves in a hill, gave the best results. I have noticed the experiments of others as stated in various agricultural papers, and in nearly every case the large, whole potatoes planted produced the best crop. Perhaps in a very rich soil there might be but very little difference in the seeding as to the productiveness of the different modes of using seed; but for the farmers of New Hampshire, planting as they do on poorish soil, preparing the ground for other crops, large, whole potatoes are the best, especially since the advent of the Colorado beetle. I would ask: Are potatoes an exception to the general law of Nature "that like produces like," so that we can plant our refuse potatoes and realize the highest gain? If this be true, why plant any large ones? Plant all small—what a saving this would make? Cut them if you like, it will add to your savings; and we might then claim relationship with the farmer who has a hole in his hog-trough. — [Correspondent Germantown Telegraph.]

Debts—taking more plant food out of the soil than you put in.

Hog manure should not be used on land intended for cabbages for at least a year before the crop is grown. Its premature use is a mistake commonly made by farmers who draw manure for the garden from their hog pen. Hog manure breeds worms that work at the roots of cabbage plants and renders them worthless.

The flavor and keeping qualities of fruit will sometimes vary a great deal, owing to the influence of the stock in which it is grafted. This is most noticeable in the Baldwin apple, perhaps because it is most widely disseminated. When grafted upon the stock of an early apple it will be found to ripen earlier, and decay earlier; when upon a mild apple it becomes more mild in flavor, while upon a seeding stock on which the natural fruit is sharp and sour, the Baldwin will have an extremely acid flavor and keeps sound a longer time. How far this variation may extend, whether all fruits can be changed in this way, or whether all stocks have the same power of influencing the grafts cut in them, is a question deserving the attention of our horticulturists.

Poultry.

Mottled Javas.

We give an illustration of this fine variety of fowls, which, as their name implies, are natives of the Island of Java, recently destroyed by an earthquake. They are good layers, and their eggs large and well flavored. These birds are graceful in motion—their gait being slow and majestic. Some years ago the Javas were extensively bred in New York State, but now are rarely to be met with, and are now chiefly of interest from their supposed connection with the origin of the Plymouth Rocks. They are not recognized by the American standard of excellence.

Don't set hens among the laying birds. They should have a separate apartment; if set after dark and covered for a few days till they are accustomed to their nest, they are not likely to desert the eggs, but they should be watched the first time they leave the nest.

Young chickens should be taught to feed from the hand, so that when they grow up they can be easily handled.

After a brood of chicks has been hatched, don't fail to burn the straw, or other material which formed the nest, and lime wash the box.

As the spring advances so also will the vermin. White-wash and fill every crevice with white-wash mixed with a little carbolic acid. Wash the perches with coal oil.

Fork or spade over part of the chicken run to induce hens to scratch; the best thing they can do for exercise.

Don't feed the larger varieties more than twice a day, or they will get too fat to lay. If your hens are too fat, feed on oats only for a time.

The guinea fowl is not a popular bird, principally on account of its harsh and incessant noise, which can be heard a long way. Notwithstanding this they are excellent layers, and their flesh is of a pure gamy flavor. They are persistent insect catchers, and to those poultry keepers who can endure their noise will be found of value in giving warning of hawks being about, and when they can be induced to roost near the fowl-house they are so easily disturbed at night that they serve as excellent hen-thief alarms.

The Apiary.

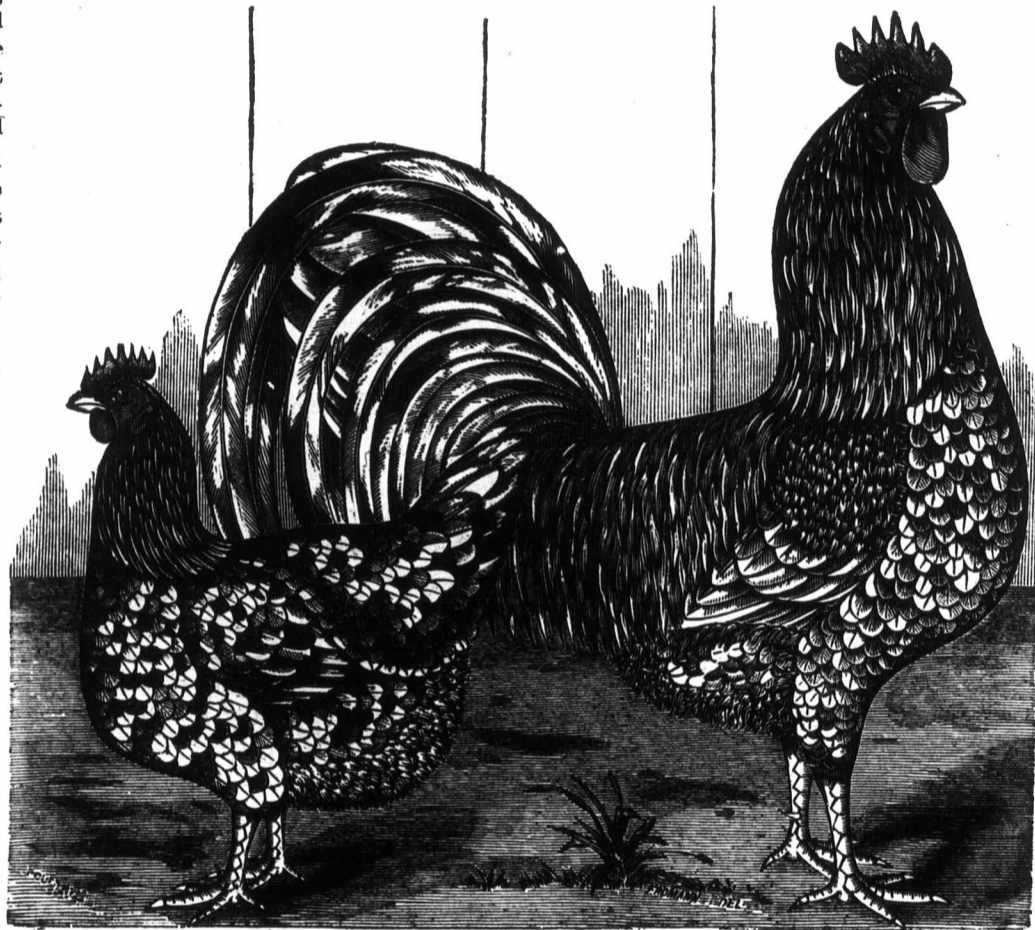
Spring Care of Bees.

Mr. Harrison, writing to the *Prairie Farmer*, says: When the day is warm and pleasant, and bees that have been wintering upon their summer stands will be upon the wing, it would be well on such days as this to see that all entrances to hives are open, so that no hindrances may be in the way of house-cleaning. This is all we think necessary for this month, provided they have plenty of stores to last until flowers bloom. Handling bees tends to excite them to brood rearing, and veterans in bee-culture claim that this uses up the vitality of bees in spring very fast. Although more young may be reared, it is at the risk of the

cluster. Care should be taken that no apertures are left, thus forming a way for cold drafts through the hive. These cakes are thought to excite bees less than when liquid food is given; they have another advantage, also, viz., bees can cluster upon them while feeding, and do not get chilled.

Bees that have been wintering in cellars, or special repositories, are often injured by being removed too early to their summer stands. It would be better to let them remain, and lower the temperature during warm days with ice, until warm weather has come to stay. An aged veteran in Vermont that we visited the season following the disastrous winter of 1880-81, told us that his neighbors removed their bees from the cellar during a warm spell early in spring, and they were then in splendid condition. He let his bees remain until pollen was plentiful, and brought them out, all being in fine order; by this time his neighbors' colonies were all dead.

Good judgment and care must be exercised in removing bees from the cellar, or disastrous results will follow. We know of an apiary of over one hundred colonies that was badly injured, indeed nearly ruined, by all being taken at once from the cellar on a fine, warm day. The bees all poured out of the hive for a play spell, like children from school, and having been confined so long together in one apartment had acquired, in some measure, the same scent, and soon things were badly mixed. Some colonies swarmed, others caught the



MOTTLED JAVAS.

old ones, as they leave the hive in search of water; many thus perish, which often results in the death of the colony, as the young perish for want of nurses. Sometimes, also, in handling bees early in the season, the queens are lost, as they may fall upon the ground, get chilled, and perish.

Bees consume food very fast while rearing brood; naturalists tell us that insects during the larval state consume more food than they do during the remainder of their existence. Where a bee-keeper has been so improvident as to neglect to provide abundance of stores for his bees, he should examine them carefully, and if found wanting, remove an empty frame, substituting a full one in its place. Where frames of honey are not to be had, liquid honey and sugar can be kneaded together, forming cakes, which can be placed over the

fever, and piled up together in a huge mass. This merry making may have been fun for the bees, but it was the reverse of this for the owner, as many queens were destroyed, and hives that were populous before carried from the cellar were left without a bee to care for the unhatched brood.

When it is time to remove bees from the cellar the stands they are to occupy should be prepared beforehand. They should be higher at the back, inclining to the front; if the height of two bricks are at the back, one will answer for the front. This inclination to the front is an important matter; it facilitates the carrying out of dead bees and debris from the hive, the escape of moisture, and last, and most important item, bees will build their comb straight in the frame instead of crosswise of the hive, and their surplus comb in boxes correspondingly.

Correspondence.

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 one end open and postage will be only 1c. per ½ ounce. We do not hold ourselves responsible for the views of correspondents.

Sir,—I like your ADVOCATE very much. I have a peat swamp about 2½ feet deep, which I plowed last fall. There is a deep drain running through it. Please tell me if it would be any use to spread quick-lime over it, slaked or unslaked, and how much per acre.

HEBROX, N. S. C. H. C.
[Lime is just what your swamp wants, and it may be applied slaked or unslaked, so long as it is in a finely powdered condition. Limestone would also do if you can get it pulverized, but is not so active as quick-lime. Lime is useful on heavy clays, peats, and humus in many ways. It supplies an essential element of plant food, improves the mechanical texture of the soil, liberates other plant food from insoluble combinations, and neutralizes certain organic acids which make the soil sour. Not knowing the nature of the subsoil or of the vegetation, we can lay down no rule as to the quantity required—say 60 to 80 bushels per acre. First harrow the land smooth, and harrow it well after applying the lime. The rule is to mix the lime with soil as thoroughly as possible. You had better apply different quantities to different parts of the field, leaving one patch unlimed, and note the results. The deeper you plow the more lime you require.]

Sir,—Am feeding seven grade steers (½ to ¾ Shorthorn) for the English market. They are sold for 6½ cents, May delivery. My daily rations is 1 bush. turnips, 1 gal. boiled peas, 9 qts. meal (equal parts peas and barley), and all the clover hay they will eat. Will it pay to feed them oil cake at \$30.00 a ton? If so, how much should be fed and in what way? My turnips will soon be done. Would the cake do as a substitute?

PARIS. H. S. M.
[If your hay is of good quality, your ration is too rich without the addition of oil cake, peas having nearly the same feeding value as cake. Oil cake can only be fed profitably with coarse fodders, and when so fed straw can be turned into more profitable account than hay. Numerous experiments have proved that if a rich diet be added to a ration which is already rich enough for fattening, the result is not only a pecuniary loss, but the assimilating process of the animal suffers thereby; and the only gain is in the increased value of the manure. When your turnips are done, the cake would not be a profitable substitute.]

Sir,—In Feb'y ADVOCATE an item in the form of a query implies that we should tell you our mistakes, rather than achievements, and by consequence, our failures, rather than successes. I propose to tell you how I raised, or rather how I failed to raise, beef for export, in April, 1883, a couple of my grade Shorthorn cows dropped each a fine bull calf, one sired by an imported Polled Angus, the other by a high grade Shorthorn bull. Now, quoth I, a pair of steers for the British market; accordingly, I fed them moderately on new milk twice a day until three weeks old; then liberally on skim milk, with a small ration of cattle food, warmed, twice a day (they were castrated at five weeks) until three months old; then warmed their milk, with hot porridge of wheat middlings, also giving all the good hay they would eat until seven months old. When I discontinued milk and porridge, and in lieu of hay, substituted unthreshed oats, harvested ten or twelve days before fully ripe, and gave the two, one quart of cotton seed meal well scalded and stirred in their daily drink, they grew famously, until on Jan. 7, I soliloquized: "If those steers continue to do well until two years old, I'll take the blow out of somebody." Just here Burns' sentiment, "The best laid schemes o' mice and men gang aft aglee," has a forcible significance. On a cold morning, in the middle of Jan'y, the Polled Angus was in the dumps, refusing food and drink; next morning, the mercury in the glass ranging among the twenties below zero, he was worse, and before noon, after gasping for the last hour, laid down and yielded his breath. On opening him I found stomach, intestines, bladder, kidneys and liver in a perfectly healthy condition; in the cavity of the chest were eight or ten quarts of serum; heart normal, but the lungs congested and putrescent; that calf smothered. The other continued to do well about a week, when another arctic wave, and down goes the mercury to the very lower regions of the glass, the coldest on record in this locality, and on a par with Terra-del-Fuego, which a writer in Feb. No. of the Cottage Hearth, with a profanely poetic licence, graphically dubs "a frozen hell." If I had a winter stable comfortably arranged, well ventilated, and down about—as Jules Verne would say—five thousand fathoms below the earth's surface, I think these hot-house

animals might survive even the rigors of such a winter as the present. Well, sir, that cold wave left the other also in the dumps, and after lingering a few days, he, too, shuffled off with symptoms similar to his mate, and on opening him the only difference discernible was less serum on the chest, the lungs but partially congested, and the absence of putrescence. Thus perished ignominiously my prospective beeves, whose dressed carcasses, tipping the beam at upwards of 600 lbs. were boiled out to procure the tallow, and although it's rather expensive soap grease, 'twill all come out in the wash. There, sir, I've made a clean breast of that failure, and should it prove a means of grace to any of your subscribers, I trust they will remember me in their petitions for better success next time, as I anticipate a number of grade calves shortly, sired by the imported Polled Angus previously referred to, when, in view of the axiom, "if at first you don't succeed, try again," here goes, and if my next effort to grow two-year old beef for John Bull should prove a success, I may crave your indulgence to blow on some future occasion; in the meantime *ne quid nimis*, even from your quondam correspondent. D.

SUSSEX, N. B.
N. B.—The imported bone crusher referred to in my letter of vol. 18, page 53, Feb., 1883, has proven a success, and occasioned a remarkable coming together of the dried bones in this locality. Doubtless the genial proprietor will pardon me for adding, he has evidently not yet encountered your fair "bill of fare" essayist.

[Thoroughbred or high graded cattle are subject to lung disease (hydrothorax), especially when sheltered in cold stables. They require considerable nursing. You should not have such animals before you get the necessary accommodation.]

Sir,—To substantiate the theory of "Ten acres enough," I will give you a list of what I have sold off of three acres and a half of land, besides keeping a family of four persons, a horse, cow, two hogs and twenty hens. The following is the list of things sold:—

85 bushels onions, at 80c. per bush.	\$68 00
Apples.....	40 00
Summer savory.....	1 14
Small fruits.....	3 00
Butter.....	20 00
Eggs.....	20 00
Beans.....	4 00
Total.....	\$156 14

And refused fifteen dollars for calf. Besides, I raised two hundred bushels of field carrots, one hundred bushels mangels, and a ton and a half of hay, twenty bushels potatoes and twenty bushels turnips. Our cow is sixteen years of age, and has had a calf every year since she was two years old, and has only been dry a month this year. E. C. B. ENBRO, ONT.

Sir,—I would not like to do without the ADVOCATE now. I think there is an improvement in it every month. Its merit should entitle it to be found in the families of all our leading farmers in the country. I have one fault to find in it, that is, its criticisms on the Experimental Farm of Ontario at Guelph are too severe and sometimes very partial. J. D. TARA, ONT.

Sir,—A valuable cow gave birth to twin heifer calves. A party who professes to be well up in cow lore says it is useless to save them for breeding, as twins are always barren. Is that so? W. J. M. TORONTO.

[When twin calves are both heifers, they are likely to be more prolific than when only one is dropped. But should one be a bull calf, he will be fecund; but the female—called by breeders "free-martin,"—is almost sure to be barren, owing to a want of development of the internal organs of generation. The cow is the only animal which presents this abnormal characteristic.]

Sir,—We had a six acre field in grass, and the quack got that strong that it choked out most of the timothy. The way we destroyed the quack grass was in this manner: we plowed the land as early in the spring as possible, turning over good flat furrows and making the ridges as broad as possible, so as not to have too many furrows, the land being all underdrained. Then we gave the land a good harrowing length ways, not cross ways, for that would be apt to turn up the sod. We left the land in this state, while we went on with the rest of the spring's work, always giving the land a harrowing when we saw any signs of the quack growing. We used the grubber, also, if it did not turn up the sod. Coming on towards the middle of June, we crossed plowed the field, and found the sod well rotted; then we gave the land a thorough harrowing and grubbing, till the roots of the quack were all on the surface. After this we gathered it with the horse rake, then carted it into a pile and burned it. In one half of this field we put sweet corn for market, manuring in the hill, and planting so as to cultivate both ways. If we had not a convenient market for the sugar corn, early yellow Indian corn, or fodder corn for cattle, would pay. Having no manure for the other half of the field, we sowed buckwheat. Both crops killed the quack very well, but hoeing and cultivating the corn killed out very thoroughly, leaving the land fine and loose. That fall, instead of plowing the land in ridges, we plowed it in drills, so that the frost could get at any quack that remained. We had an enormous crop of potatoes off that land the year following. I find to cultivate and work the land will kill any weed, especially quack grass; if you don't let it appear above ground it won't grow at the root. Keep the ditch banks and head ridge free from quack grass, and you will not be bothered with it in the field. R. B. MONTREAL, P. Q.

Sir,—Please let me know the best treatment for a mare with foal 9 years old, said to be tender in the fore feet. [Remove the shoes and allow her to run in a loose box stall. If the hair is long, clip it off for about two inches above the hoofs, and apply a blister by rubbing well in about once every three weeks, cantharides one part, lard eight parts; grease the part blistered the third day after each application. This will make the hoof grow and expand, and give her ease.]

Sir,—Please give me the best remedy for cracked heels in horses, and a cure for hide-bound cattle. W. P. A. OTTAWA.
[Poultice feet every night with boiled turnips. In the morning wash them with warm water and carbolic soap, and when dry apply a lotion made of alum two drams, sulphate of zinc two drams, acetate plumbi one dram, water one pint. If the part is much cracked, it would be well to dress the cracks with compound tincture begom; this you would apply with a feather twice a day. For hide-bound cattle give a purgative ball about once every ten days. Give laxative food.]

Sir,—Mixed farming is the practice here, but dairying is beginning to be the chief industry of the farmers. There are numerous cheese factories, but no public creameries as yet; but private dairying is carried on to quite a large extent, and a great deal of the butter is of good quality, and number one ranks with Eastern Townships on Montreal market. Blooded cattle are scarce, as only a few of the more enterprising farmers are willing to lay out a few dollars to improve their stock, and it makes it hard for the few who do—as a man must be able to buy the stock and wait till his young stock grows up before he can see anything for his money, as not one farmer in fifty would give five dollars for a good calf to raise, or who is willing to pay more than fifty cents for the use of a thorough-bred bull; and in fact plenty of them would rather breed from the veriest scrubs that run the road than pay that much. There has been one pure-bred Shorthorn introduced into this township, and his stock is showing in a very marked degree their improvement over ordinary stock, and I think more will soon follow. There has also been a Holstein bull and heifer calf purchased; the latter will soon be a year old. I think that the farmers will soon see they are behind the times, and all will begin to improve. I might add that no cattle are fed here for the English market for two reasons, one being the want of well-bred cattle and another that turnips do not thrive here on account of the fly destroying the young plant. There has been a Percheron horse brought here by Wood Brothers, near Cornwall town. He was purchased in New York and lately imported from France. I think this is a step in the right direction, as the trotting stock, a good deal in vogue here, is not the thing for the general farmer. We want something heavier, and I think that a cross between the Percheron and our light mares will get us just about what we need. The Clydesdale does not answer here, as the snow in winter is generally very deep, and he is too heavy and clumsy for ordinary use. There are some very good flocks of sheep, but the dogs make such onslaughts on them that it is very discouraging to lay out much to improve them. We have very good hogs in the shape of Berkshires and Chester Whites. Fruit does pretty well in the shape of apples, plums, cherries, currants, strawberries, raspberries, and there is also a nice vineyard on the bank of the St. Lawrence. Vegetables of all kinds do well here taking one season with another. The snow has been very deep and the roads have been almost impassable this winter, and to-day old February is showing up on this its last day as rough and cold a storm as we have seen this winter. And now, Mr. Editor, one word more and I have done. If more of the farmers were to take the FARMER'S ADVOCATE and be guided by its teachings as far as circumstances would permit, I think the much needed improvement in stock, as well as farming generally, would be hastened and farmers and farms would both be benefited. FARMER. CORNWALL TOWNSHIP.

Sir,—Have a heifer with a lump growing on the lower side of the neck, just in front of the shoulder. It is about the size of a saucer, and seems loose between the skin and flesh, but the skin over the lump is sound. What is the best remedy?

[Have the lump removed with the knife by some skillful veterinary surgeon, and then treat as a common wound; or if you do not wish to remove it with the knife, apply tincture of iodine to the lump twice a day with small brush. Clip the hair off so that the medicine may have better effect. Tuberculosis sometimes presents this symptom; but unless your heifer is thorough-bred, this is not likely to be the affection. If it is tuberculosis, puss will escape from the wound when incised, but no cure can be effected.]

Sir,—Kindly let me know, through the ADVOCATE, what is troubling my cattle. They have something like ring-worm commencing round the eyes, which is very troublesome. J. M. CUMBERLAND, ONT.

[The complaint is not likely to be ring-worm, but merely a scrofulous eruption which often attacks cattle. Take some finely pulverized gunpowder, mix it with six times its weight of lard, and rub the mixture well into the parts three or four times a week.]

Sir,—1. When and how should I set out young cedar bushes to form a hedge? 2. I want to do some grafting in my apple trees. When is the proper time to do it, and when should the scions be cut, and how preserved until used? What variety would you recommend as the very best for the winter market and productiveness? 3. I have about ten acres of orchard, which has been in crop for a number of years, which I intend to seed down this spring. What kind of grass seeds would you recommend as the best to sow? Will it do to pasture my orchard, or should the grass be allowed to rot down every year? 4. How can I most successfully prevent mice from girdling my apple trees? I find that some of the trees have been badly used this winter. 5. Will it do to pasture my orchard, or should the grass be allowed to rot down every year?
H. G. W.
PORT JONES.

[1. As early in the spring as you can conveniently remove the plants before they have commenced to grow, or else in the fall of the year. 2. As soon as the buds begin to swell. February is a good month for cutting the scions—see page 49, Feb., 1883, vol. 18. The Northern Spy, Baldwin, Spitzenberg, Greenings, Russetts, and Nonpareil; there are over 200 varieties, but you will find the above about the best. 3. You don't say whether you intend seeding down for hay or pasture. If the former a mixture of timothy or rich clover will answer the purpose, and if you wish to pasture for a few years then it would do better to seed down with orchard grass. But if you want to use it for permanent pasture, then sow the following: red clover, 3lbs., alkali clover, 2lbs., white clover, 2lbs., timothy, 6lbs., orchard grass, 1lb., Kentucky blue, 2lbs., meadow fescue, 1lb., rib grass, 3lbs., —2lbs. Better clean up the orchard by grazing, then the tub does not afford harbor places for mice. 4. There are many plans to prevent mice girdling trees. Some advocate tramping the snow hard around the trees after each snow fall. Others smear the trees with blood, but as good a plan as any is to wrap the stems of the trees loosely with thick brown paper well tarred.]

Sir,—I hope the few practical hints which follow may be of use to some of your readers. I think if followed up they will be found of considerable advantage. We will suppose that the farmer has selected a plot of good land requiring draining (it is always well to begin with the best land first). He is supposed to know every foot of it by heart, and can locate the spots where the crops have soured and yellowed since ever the land was broken up, and where the teams in hauling cut deep into the soft soil. We will also suppose that it has been decided what size of drain pipes are required, and that the careful farmer hesitating which he shall use, a two inch or three inch pipe, has given his preference to the larger size, in which in nine cases out of every ten he will be right. We will also suppose that the tiles have been hauled on snow, (when other work was slack) and piled in convenient places, with a good covering of straw over them to save them from frost. In your article you very correctly say "lay down deep and good main drains with a good outlet." If the ground be so flat that the eye won't serve for a level, then by all means have it correctly leveled, so that the main drain may run through the very lowest ground, avoiding as far as possible all sharp angles. Don't be put out if to get a three feet six inch main drain at the lowest point, part of the main may be five feet or even more for a considerable distance. Have the bottom of the drain as smooth and equal as possible and with all the run you can get; in a well laid tile drain water will run nearly level, at the same time it is much more likely to make good old bones, if given a fair amount of fall. The main drain being now cut, but not tiled, we will suppose the side drains laid off, running straight to and through the dampest spots, not by any means running between the hard and the soft, as the old fashion of the old country used to be called—I mean by that, running across to stop the water coming from some wet place higher up. In such a case an open ditch which can be made a fence is the only plan. Where a knoll of dry land comes in, make one of your side drains which passes it the main; by running at a right angle you can generally get the necessary fall. There can be no hard and fast rules as to depth of drains or distance between them; the nature of the subsoil must settle this question. If the wetness proceeds from springs, it is quite possible that by tapping them the object may be achieved, but if the soil be close and retentive, thorough close draining is the only cure. I presume the drains will be cut and filled by piece work. One thing, however, I would strongly insist on—that the tiles be laid by the day, and this should be done as soon as possible after they are cut, before the bottom is washed by water running; and to save the expense of shovelling out, let the man who lays them have a very light hammer with a sharp hatchet face of the best steel; with this he can fit a tile with a ragged end, or one that has been twisted in the kiln. The tiles should be strung along the drain, on the opposite side from the soil, so that the layer can reach them easily. Joints will sometimes be a little imperfect; this can be remedied by building a small bridge of broken tiles or small stones over it. But a stone should never in any case be allowed to rest on the tile; if the land be stony, and a joint wants to be protected by a flattish stone, place one on each side of the tile and rest the other on them, not on the tile. I have always found it a good plan to have a lad follow the tiler, putting the first six inches of soil on the top of the tile with a four pronged fork; let him put in a few forkfuls at the head of the drain, and then get into the drains on the top of this, keeping within six or eight til-s of the layer, taking care that his forkful falls on the slope at his feet and then

trickles gently on the tile; if there are any stones in this soil, they will thus fall gently, and the ear of the tiler will at once detect the sound of a cracked tile, and it can then be replaced. The main drain should in all cases be four to six inches deeper than the side ones, and care should be taken that the tiles from the side drains run as much as possible with the tile in the main. Some careful men have gone so far as to continue the tile of the side drain alongside the tile of the main for two or three feet, and put in some small stones as well, so as to obviate all danger of stoppage, and let the water enter the main tile more gradually. I would tile up the main drain just as the sides were joined to it, but not before. By all means put a grating over the mouth of the last tile. It is a good plan to put a trough, large or small, as the case may be, under it, as particles of earth will be carried down, which in many cases have blocked the mouths of drains. They will thus be seen and cleared away from time to time. The trough may be used as a watering place for cattle; certainly the laborers in hay and harvest time will heed it well. Care should be taken that cattle don't tread down the soil covering the last tile, or endless trouble will be the result. One last caution and I will close this letter, now much too long, although the subject is scarcely touched. Do not allow trees to grow near drains. I have seen the rootlets of willows travel from four to five rods, and in three years fill up a three-inch tile, that not a drop of water could get through. If you have ornamental trees that must not be cut, get pipes with shoulders and cement them thoroughly for several rods from the trees. It is said that a thick coating of small coal ashes, well trapped round the pipe, will protect it from the roots, but for a few rods of a main drain which is curing a good many acres of land, I would use the cement and mah siccar.

LAKE MEGANTIC, QUE.

J. G.

J. A. G., SHERBROOKE.—If you want to make paint from sweet skimmed milk and water lime, you must, of course, mix such quantities of each as will give the mass the consistency of paint.

T. F., SOUTH DUMFRIES, P. O.—The symptoms you give may indicate brain disease or tape worm. Send us more symptoms, stating the condition of their bowels, the kind of food, water, and accommodation they get. Open the next sheep that dies and look for worms in the intestines.

Sir,—A horse of mine has a swelling in the sheath when standing in the stable, but when worked the swelling subsides.
TURTLE CREEK.

F. L.

[This may arise from an unthrifty condition of the animal, or from dirt collected in the sheath from external sources. Give about two drachms of nitrate of potash every night in feed for about a week or ten days. Give exercise, wash out sheath regularly with sponge dipped in luke-warm water and soap, and then smear with lard or oil.]

Sir,—Please inform me of the best method of getting rid of the foul seeds in manure without burning the manure to death? I wish to use the manure this spring. I have a quantity of first-class stable manure, containing all the urine of the animals as it was made, and I have quite a quantity of hen manure, fine and clean, save and except the occasional sprinkling of dry, pulverized clay occasionally scattered over it to save the ammonia, and to keep the fowls from being injured by the bad odors, which I think would otherwise be the case. As fowls' manure is very strong, and death to plants and seeds when it comes in immediate contact with them, I am thinking that by mixing it with the stable manure that it will kill any foul seeds that may be in it in a few days, and that the combination will be about as valuable a fertilizer as I can get. But in handling it there would be a great loss of ammonia, and to prevent that I think a good sprinkling of salt as it is mixed, and likewise when it is afterwards disturbed, will save it, and likewise add to its value. And it appears to me that even without applying the hen manure that a good mixture of salt through it would destroy the seeds, save the ammonia, and add much to its value. Any information on the subject will be thankfully received.
B. T. J.

[The temperature of the manure heap should never exceed 85° Fahr., and seeds of a starchy composition will germinate after exposure to a temperature of 140° or 150°, or even after boiling for several hours, seeds of a higher nitrogenous composition will stand a greater heat. The only hope of destroying seeds in a manure heap is to have it well fermented. Once having sprouted the seeds are destroyed. This fermentation will also treble the value of the manure, if kept from exposure. Hen manure or salt will not destroy seeds in the heap, although salt applied in large quantities is destructive to vegetation. It is a good plan to mix the manure from all your stables before fermentation, except where you want manure for special purposes. Horse dung may be thrown with advantage into the pig pen. Gypsum and muck are good absorbents. They both enrich the heap and prevent the escape of ammonia.]

Sir,—Could I set shade trees along the line fence between me and my neighbor, without his permission? 2. Is there any cure for inflammation of the lungs in sheep?
T. H. B.

WEST LORNE, ONT.

[1. The act passed last session, entitled "The Ontario Tree Planting Act, 1883," section 4, reads as follows:—"Any owner of a farm or lot of land may, with the consent of the owner or owners of adjoining lands, plant trees on the boundary line or lot." The next clause goes on to say that trees so planted shall be common property. 2. If the animal is shorn use counter irritants to the sides over lungs, such as mustard plaster or some strong liniment. Internally give nitrous ether and tincture of belladonna alternately in drachm doses five or six times a day. Give soft food, keep the animal under good airy shelter, and, if the weather is cold after shearing, put on a blanket.]

Sir,—Which would be the most profitable business for a young man with a few thousand dollars capital to take up. 1. Stock feeding, stock breeding or grain growing. 2. What is the proper time to dig cedar for transplanting?
CORWHIN.

[1. Under ordinary circumstances mixed farming is the most profitable in Ontario; but if you possess special skill, in addition to your capital, the most money is to be made in stock. At the present time the best prospects are, in our opinion, in the raising of milch cows and store steers for the British market. But this would necessitate a good practical knowledge of permanent pastures and soiling, as well as of the principles of feeding and breeding. If you thoroughly understand the art of breeding, and have good judgment in selecting stock for this purpose, your prospects are exceedingly bright. 2. Spring is the best time for transplanting cedars—say in May; but they may also be transplanted with success early in the fall. If the trees are large, cut a deep trench around the roots late in the fall, leaving the tree weakly supported; fill the trenches with manure, and remove early in the spring on a stone boat, while the frost is still in the ground.]

Sir,—I notice by the report of the Toronto papers that the Agricultural and Arts Association at their last meeting passed a resolution to charge a fee of so much per head for all live stock entered in future for exhibition at their fairs, in addition to the usual charge for membership. I fear this change will be looked upon as an imposition, and prove a drawback to the popularity and general usefulness of the institution, as never before since the society was first organized, now some thirty-eight years, has there been anything charged for entrances. It should be remembered that this Association has a Provincial Charter, and receives aid from the public funds, and therefore its management should be liberal and patriotic as possible.

At the present time the live stock interest of the country seems to be assuming a wider range and taking a firmer hold on the agricultural community than ever it did before. Every encouragement, therefore, should be given to stock raisers and exhibitors, and no obstacle thrown in their way. The aim of this institution should be to make their exhibit as varied and extensive as possible, but every tax or extra charge imposed on exhibitors will only have a contrary effect.

It is the more surprising that the Association should think of making such a charge now, when they have of along so many years without it, especially as their financial affairs appear to be in a satisfactory condition.

The managers of the Agricultural Association in our sister Province, Quebec, have been accustomed to charge an entrance fee for live stock similar to the one now proposed here, but whether from this cause or some other, it is well known that their exhibition has never been a success.

The Toronto Industrial have promised to abolish their entrance charge as soon as their funds will permit, but we must acknowledge that their accommodations are superior to anything we see at other exhibitions.

I am friendly to the Provincial Association, and would like to see it prosper, but I fear this new departure from their hitherto liberal policy, if persisted in, will have a tendency to retard its progress, and curtail its usefulness.

Yours &c.,

ORISON.

March 24th, 1884.

Sir,—The ADVOCATE gives me good satisfaction; it seems to be getting better every year. I would feel it a great loss to be without it.
A. McL.
Morrison, Jan. 12, 1884.

The Household.

Talks with My Patients.

BY A FAMILY DOCTOR.

My Reckless Patient.

It may be said that, though intended to convey many useful lessons, and strike not a few warning notes against the folly of abjuring all allegiance to the ordinary laws of health, the case I have chosen with these ends in view is rather an extreme one. I do not deny it. It has the merit, however, of having been painted from the life, and, I am sorry to add, from the death, and it is one that has made a deep and lasting impression on my own mind, accustomed though I am to view sickness and misery in every form, and death in every phase. Moreover, the patient, long before he really was a patient, was a personal friend of my own, one at whose house I was always a welcome guest when I paid a visit to the Highlands of Scotland, on a shooting or fishing, or merely a reading excursion.

It is almost needless to say that I shall give neither the correct name of my patient nor the name of his residence. Let me call the former McBride, and his home the House o' Dunroon.

You should have seen him as I saw him first, when his feet were brushing the dew from his native heather, and you would have admitted that a better specimen of the genus Scot was seldom to be met with. Tall, brawny, bold and handsome, his face open and manly, his figure firm and elastic, light in tread and soldierly in carriage, he looked like a man who might—bar accident—live to ninety and over. His age was about forty, although his immense beard was already tinged with grey, doubtless from exposure in the hills to all kinds of weather.

It was an early summer morning, the tops of all the mountains were still buried in cloud-land, though by-and-by the mist would lift and we might then have more sun than we wanted, for we were bent upon a fishing expedition to Loch E—

McBride came of a long line of good men and true, men who had made their mark in the proud history of their country, men who had been always soldiers and never anything else when they had the chance, and who had distinguished themselves on every well-fought battle-field in their day and generation. As for McBride himself, soldiering had not been his profession, for the simple reason that the estate had devolved on him, and he had stayed at home to attend to it. But he was first in the county at all field and athletic sports; there was not a child within a radius of fifty miles that had not heard of McBride of Dunroon; and both old men and young in the district had many wonderful tales to tell you had you chosen to listen, of the exploits and doings of this scion of chieftains.

We had a seven-mile walk before us on this particular morning, but as interesting conversation lightens the road when people are walking, I had only to draw McBride out a little to make the time pass quickly enough. I got him—though he was no man to boast—to talk about his ancestors, and of their relations with

neighboring clans and other great Highland families, and so the loch hove in sight ere I could have averred we had walked a couple of miles.

Donald his piper, bore on his back a goodly basket of provisions, while he hugged the pipes beneath his left arm. Donald listened to his chief's stories with as keen an interest as I did, though very likely he had heard them all before; but in his eyes his master was indeed a hero, proving that though a man may never be a hero to his valet, he may stand in that relation to his piper.

We had a glorious day's sport, and succeeded in getting a couple of baskets of excellent trout. All went well, in fact, till nearly evening, when, while hanging on a cliff-edge, fishing-rod in hand, an immense piece of rock gave away, and McBride was precipitated into the lake beneath. The rock sank, McBride did not, or if he did he soon rose to the surface again, and after putting on his Highland bonnet, which had been floated off, he swam away round the rock, the rod between his teeth, and landed in a little bay. He had one look into his basket to see if the fish were all right, then gave himself a shake as a dog might. I got him, however, to undress and wring his clothes, which I am sure he only did out of compliment to my wishes. Then, "Donald, the quagh!" he cried.

The "quagh" was a little two-legged silver drinking utensil, which, he told me, he revered because it had belonged to a great-grandfather. Perhaps that was the reason he emptied it so often now before returning it to the piper.

"Now, doctor, you'll shake your foot a bit. You'll dance. Play up, Donald."

But I positively refused. The idea of a staid, respectable English physician "shaking his foot" by the side of a Highland loch, to the sound of the bagpipes! What would his patients think? But McBride had no compunctions. He danced and "flung" until the perspiration positively tumbled off his brow in big drops. Then we started for home.

Mrs. McBride was a fragile and fair a little body as her husband was manly and strong. There were two in the family, a boy and girl, these were all; the boy took after the father in every way, the girl after the mother, and that is saying enough.

During his absence for half an hour that evening, his wife and I naturally enough got talking about McBride.

She evidently was not happy, wholly and solely because she could not get her husband to take any kind of care of himself.

"I'm sure," she said sadly, "that he will kill himself. He is very hardy and strong, but not quite so much so as he used to be. How could he be? Often and often he gets wet through and through, and he never will change his clothes. And many a time when he happens to get belated on some fishing excursion, he sleeps on the heather all night long."

"And he never suffers in any way from these indiscretions?" I inquired.

"Ah! he does, I know," she replied "though he is far too proud to complain or admit there is anything wrong. He has the greatest respect for you, however; perhaps a

word or two of advice might be taken in good part."

I promised I would give him this word or two; and I knew well enough they would be listened to—but be entirely unheeded.

I began my attack next day, by asking my friend and host if he felt any ill effects from his immersion in the loch.

He laughed at the idea.

But, I said, it was not always at the time that the evil effects of an accident were felt.

"I am sound, wind and limb," he replied; "if I hadn't the constitution of a horse I would have been dead long ago."

"Still," I insisted, "a married man with a family ought to be careful of himself, for the sake of those who love him and depend upon him."

"What!" he laughed, "would you have me begin to coddle myself? Let me remind you, doctor, what you yourself have said before now about hot-house plants *versus* heather stems."

I was amused at this turn in the conversation, but endeavored to explain that there was a deal of difference betwixt ordinary care of health and coddling; that every one in this world was endowed with a certain amount of *vis naturæ*, that this force gets less elastic after the prime of life, that at any time it was just as easily squandered as money was, and that being so squandered it was impossible to effect its renewal.

"You are talking in parables, doctor," he replied; "I don't understand them, and I don't want to. I'm more brawn than brain, perhaps; but look at that leg, feel that arm. No, I'm not old, nor likely to get old in a hurry."

"You are sound, wind and limb," I said quietly, "muscle and heart; but there never was a man that yet lived but had some one of the more delicate organs of life weaker than the others; it is this particular organ that is liable to suffer from this indiscretion; and if it once begins to give way, be it liver, spleen, or kidney, it goes very fast indeed. It is so easy, too," I added, "to acquire healthful long-life-giving habits. People ought to diet themselves regularly; food ought to be nutritious but not over-abundant."

"I often go all day without a bite," put in McBride.

"Worse for you," I said. "Exercise, not excessive, should be taken; the bath should not be neglected—"

"A dip in the river suits me nicely," said my host.

"Or in the lake," I laughed. "Pure water is as essential as pure air."

"I sometimes add a little whiskey," McBride said, "to kill the creepies—*bacteria*, I think you call them."

"Yes, I have observed so. Your great-grandfather's 'quagh' would make a pretty addition to your mantel-piece cupboard. Pity you don't keep it there."

"Ah!" said McBride, "regularity and temperance are fine things, I know, doctor; but you musn't try to make an old-wife of me. When McBride takes to sticking to the house whenever he has a bad cold, to sleeping on a feather bed, changing his stockings when damp, and having his pocket-handkerchiefs aired, then it will be high time for him to be buried. Going fishing to day, doctor? I know where there is the sauciest old bull-trout in all the stream. He has defied me fifty times. Will you come and try a cast?"

Five years after this I was called to see McBride in town. What a change a few years had wrought upon him! The man who used

to defy the wildest winter storm that ever blew across the hills of Badenoch, had come to spend the winter in London because the weather there, he had heard, was mild, and still by no means enervating.

He was only the ghost of his former self. Wind and limb were good enough yet, but the liver was wrong, and that still more delicate organ, the kidney, was not wholly intact. To add to this, the nerves of organic life were greatly shattered.

In these nerves, reader, or in their ganglionic centres, reside a life and power which are in a manner beyond our control. These ganglia and their different nerves preside over vital internal motions, as the beating of the heart, for instance, that goes on whether we will it or not, whether we are asleep or awake. Youth and strength may be said to reside in them, and when they begin to fail, vital capacity itself is reduced, and in many cases a complete break-up is inevitable.

McBride was a man who would have everything explained to him. He was afraid, he said, of nothing but that which he did not understand.

Had medicine no power, he asked, over those nerves of organic life? Ah! yes, I answered; but he must be quiet and steady. Medicine and diet both had power over them, by improving the quality of the blood supplied, but he must live now by rule if ever he would be anything like his old self.

That he now saw the folly of his former reckless habits I do not doubt. But this same recklessness now took a new form. I could not get him to follow out my plan of treatment for two days running. He had lost steadiness; he delighted in reading about and sending for every new remedy he heard of. Of course, these were tried, against my wishes, but only for a day or two, and then thrown aside or forgotten.

Had he followed my advice simply and steadily he might yet have got well. He put me in mind of a nervous man in a boat among breakers, who wants to stand up and gaze wildly about him, although his only chance of safety lies in keeping still.

In summer McBride was seized with an irresistible longing to return to Dunroon; and by easy stages so he did. I went with him, and was with him to the end. The most painful part of the concluding scene was the eager desire he evinced to live, and this never deserted him to the last breath. Truly his was a good life thrown away for the want of ordinary precaution; and comment on this short but true history is needless.

Family Circle.

SKATING FOR LIFE.

The winter of 1830 was severe. The snow fell at intervals during the whole time, and the wind blew so fiercely that in many places the drifts were six or seven feet deep, and the snow in the open woods was four and a half feet on a level. Along the river the drifts were deeper, sometimes filling in over the bank more than fifteen feet. There was no thaw to speak of until about the tenth of March, and that could hardly be called one, as the weather became cold and froze everything up again so quickly. The river, however, had overflowed and there was lots of fun for us youngsters on the glistening ice. So we didn't mind the cold weather so much.

Not so with poor Granther, though, for he slipped and fell on the glare ice, spraining his ankle badly.

That in itself was not so great a misfortune as the pain, for we children loved the old man dearly, and were ever ready to wait upon him; but his traps set along the creeks up the river must be attended to and the skins brought home. He usually made his rounds every ten days.

"Never mind, Granther," said Sam, "Frank and I can go up as well as not. The skating is just splendid."

"Yes, yes, Granther, do send us," said I.

The old man smoked awhile in silence, smiling at our impatience, then answered slowly.

"Wal, I don't keer if I do. I guess I kin give ye a kinder chart so ye can find 'em."

I hurried to the loft after the skates, and Tom found and sharpened the knives, for if there were any animals in the traps they must be skinned, while Granther prepared his chart, marking carefully each creek and cross, and the exact place where we could find the traps. Father was away down on the river and was not expected home for a week, a fact for which we were truly thankful, for had he been there he would have visited the traps living on the bank of the river about a mile apart.

The one nearest us was Han Vanburgh, a Dutchman, whom everybody loved for his good humor. The others only lived on their claims in the summer. In the winter they lived miles away in the lumber camps where the women cooked food and the men "bossed" a lumber crew.

"Get home early, boys. Taint safe to be out after dark, specially any distance from the clearing. The wolves are thick this spring, and hungry too, it has been such a hard winter," said mother as we closed the door.

We heard her, but as we had not seen any wolves near the settlement, we thought her over anxious and did not give heed to the words as we ought to have done.

The morning was splendid, warm and spring-like.

John and George went with us as far as Brown's Creek (where Granther had a few traps set), to carry home the "catch" in those traps if any were there. We found two mink and some three or four muskrats in them, which we did not stop to skin, the boys taking them home to Granther.

After setting and baiting the traps anew, we started along up the river. The rest of the traps were nearly ten miles from our clearing, around the edge of a little pond, which was about a quarter of a mile from the river. We reached there before noon, but concluded to eat our lunch of bread and bacon before setting to work; then we skated to the farther end of the pond. After that I started on one side and Sam on the other, agreeing to meet at the starting point. Each one of us had a couple of knives and a pair of revolvers, besides our sharp, keen hatchets. We did not bring any rifles, it was so much easier skating without them, and then there were the skins to carry home. It was nearly sunset when I arrived at the place agreed upon, and Sam came in about ten minutes later. We each had our furs done up in a neat bundle and strapped upon our shoulders, knapsack fashion, and found them no light load, either.

It was dusk before we reached the river, and, skates securely strapped to our feet, started for home. But we didn't care for that; the ice was as smooth as glass and the moon would soon be up. No thought of wolves entered our heads until we had gone over five miles of the distance. Sam was fixing his skate, when we heard, away up the river in the dark woods we had just passed, a sound that made the flesh creep over our bones—the long-drawn, dismal howl of the grey wolf, the call telling that he had scented the prey and bidding his friends and neighbors to the feast. So long as there was but one, we had nothing to fear, for a wolf is too cowardly to venture an attack alone. We both knelt on the ice and examined carefully every strap and buckle, then settling our furs more easily on our shoulders, dashed away down the river, not, however, before we had heard those long dismal howls answered and re-answered from the depths of the forest, and realized that to our wits and good skates we must look for our lives.

We fairly flew over the ice, and the noise made by our skates rang out sharp and clear on the night air. But fast as we went, other feet were faster yet, and before we had gone a mile we could plainly hear them pattering behind us. Oh, if we had heeded mother's fond warning and not so dallied about our work!

Glancing back over our shoulders as we passed a bend in the river, we saw as many as fifty of the blood-thirsty brutes in eager pursuit, while the woods echoed with the howls of hundreds more ready to join in the chase.

"Fire!" shouted Sam, wheeling and snatching his revolver from his belt, while he skated rapidly backwards. "Fire at the nearest ones," and at the word the leader, an animal a trifle fleet than the rest, fell upon the ice. Its comrades paused only long enough to rend his tough body, and then came rushing on as before.

We fired by turns, hoping thus to delay them more and save ammunition.

This we did repeatedly, but the time gained only enabled us to hold our own; the next moment they were after us again, more savage from the taste of blood they had stopped to snatch.

We reached and passed lone cabins, but knew it was no use to try to enter, for before we could batter down the door or windows (which their owners had securely fastened), the wolves would be upon us. We reached Han's log cabin, that stood close by the bank of the river. The wolves were close upon us. Despite our repeated firing, they had advanced so near that we could actually hear their hot, panty breath, and one great gaunt fellow was nearly abreast us—so near, indeed, that I could see his blood-shot eyes and glistening sharp teeth in the moonlight.

We had intended to dash up the bank to Han's cabin, but as if he read our purpose, the old fellow shouted from the chamber window where he stood:

"Mein Got! Lads, dey vill hafe you, you do dat. Double on dem, mine boys, double on dem. Den you vill"—but we did not stop to see what we would do. We saw at once that the wise old man's suggestion was our only chance—fools that we had been not to think of it before! So we glided away down the river, while the rifles of the Dutchman and his sturdy boys caused more than one score of our enemies to fall, thus giving us quite a rest.

Only a mile more! Could we distance them enough to gain time to rush up the steep bank to our house fettered as we would be in the snow by our skates. The chase was already telling upon us, our breath came in labored gasps and our throats were dry and parched, while the wolves, so far from showing any signs of fear as they neared the settlements, seemed to grow more eager to seize us before we could escape. Their hot tongues were lolling and we could hear their quick panting, but their steady speed was not in the least diminished. We did not speak, for we could not stop for that. Every nerve was strained to the utmost. By shooting them and doubling rapidly we gained a little, for a wolf (or any dog-footed animal) can only go straight ahead on smooth ice. The moment they try to turn quickly they fall then and slide along on faster the speed the longer way be their slide. That was what saved us, as the old Dutchman had foreseen, and we actually laughed in spite of our great danger at the yelps of baffled rage, and howls of astonishment from those

wolves, as they went sliding along in a confused mass, while we darted first to one side, then the other, and we grew so reckless that we would wait until they almost snapped their white teeth at our heels before turning. When we rounded the bend and came in sight of home, what was our astonishment to hear Brave's frantic barks and see a solitary figure on the ice by the landing gesticulating wildly, while the dog ran first to a hole in the huge bank of snow, then leaped around, as if warning him of his danger.

As we came nearer we recognized George—the boy who was almost afraid of his own shadow—who would shudder and turn pale at the mention of wolves, standing there firm and undaunted in the face of scores of yelping, howling blood-thirsty brutes. It was something we couldn't just see through, though we did later.

"Come in here," he shouted, his shrill voice barely heard above the snarling and yelling of the wolves. Waving an answer, we turned and sped away to the right until nearly opposite the cabin, then dashed across straight for the hole in the snowbank. George and Brave followed, George stopping just long enough to swing a heavy door against the entrance at the same moment the yelping pack reached it. Then he led the way up through a tunnel of snow, and before we realized that our peril was over we stood safe and sound in our woodshed, though a little out of breath to be sure.

John and George, with the two younger boys, had dug a deep hole in the great depth by the river, as large as a small sized room, and named it "Crusoe's Cave," in honor of the romance of Robinson Crusoe, which John had just finished reading aloud to them. They had even gone so far as to build a huge mound of snow on the bank, stamping it down tightly, which they called "Mt. Lookout." Not content with this, they had tunneled up through the snow and gravel to the top of the bank, and from there to the shed, which they entered by an unused window.

They laid cedar splits on the top of the tunnel, covering them with more snow, thus strengthening it and making it more lasting. With a stout door and frame, made fast by pouring cold water on the snow around it until it was set in solid ice, their cave was complete.

It was a novel idea, and one for which Sam and I had reason to be truly thankful. They had completed it that very day, and, having worked on it while Sam and I were in the woods getting fuel, we had known nothing about it. The wolves followed us to the opening and stood there yelling with rage and tumbling and fighting among themselves. Granther hitched his chair along to the window. It was more than he could stand, and he sung out as we entered the house:

"Hand me that are rifle, boys, and you stand by and keep the guns and pistols loaded for me. I'll make some of 'em wish they'd stayed ter hum. Don't s'pose we'll git any of the pelts though. The varmuns won't know enuff ter leave them."

And the plucky old man sat there and fired through the window as fast as we could load. The reports rang out on the night air, and with each spiteful puff a grey form would bound high above the rest, only to fall heavily on the ice, and be devoured by its hungry comrades.

"Guess I kin kill as fast as you kin eat, anyhow," said Granther grimly. Brave stood between mother and Eliza by the other window, with two paws on the sill, watching the scene on the ice with excited growls of satisfaction.

For awhile it seemed as if Granther could not furnish food as fast as wanted, for they kept collecting from up river until the ice was almost covered with their skulking grey forms. At last, however, they trotted away up river again, having their numbers visibly lessened, and what were left provided with one good supper. Once and awhile one would pause as if not quite satisfied, and look back with glistening eyes and reeking jaws, towards the scene of the slaughter, but he would soon be brought to a sense of his situation by Granther's rifle, and at last they were all out of sight around the bend. Then nothing would do but Sam and I must go and see if any of the skins were worth taking as soon as Granther thought it was safe to venture out. We found about five among the pile of bloody fur and bones, evidently the last ones shot.

"These we dragged to the house to skin in the morning."

"Too bad," moaned Granther, "every one of 'em is worth mor'n five dollars 'sides the bounty."

But Sam and I were content, as we remembered that it might have been our lot to furnish the wolves with a supper.

"And how did you come to be down there, George?" asked Sam.

"Oh, I heard the wolves, and I thought like enough they was after you," answered George, from his corner beside mother, where he had been since the excitement subsided. "So I went down there and waited to see. It was all I could do for you. The rest all expected you would stay at the old camp."

"And it was enough to do," I said warmly. If you hadn't done it, George—and I stopped, I could not finish the sentence.

"Crusoe's cave is quite a one, ain't it," asked George, laughing.

"Yes, and brother George is quite a one, too," said Eliza, as she bent and kissed him. George's pale face flushed with pleasure, for although we children loved each other well, we were not wont to be very demonstrative.

There is not much more to tell. When we visited the traps again we knew enough to do our work and get home or to the camp, before dark.

We had to make the journey often, before Granther's ankle was well enough for him to attend to them himself. And often as we all sat by our huge open fire of an evening, mother would say, laying her hand caressingly on George's head, as it rested on her knee:

"Don't forget, boys, that true courage is thinking and acting when real danger comes, with the grand motive of putting the welfare of others before self, not in planning what you will do while it is far distant, and the probability is that you will never have to face it."

And I think my mother was right.—Portland Transcript.

Minnie May's Department.

MY DEAR NIECES.—One generally expects spring will bring a great deal of novelty in fashions, but this is rarely the case. More generally winter fashions very gradually merge into spring ones, and the changes are neither numerous nor striking.

Fancy woollen materials are offered in great varieties, the styles most in favor for spring costumes being stripes of equal width, either plain or with some fancy pattern upon each alternate stripe, also fancy patterns over plain grounds, either printed or brocaded.

The newest silks have small figures, such as palm leaves, clover leaves, clover-heads, diamonds and square blocks. Sometimes these figures are of velvet, even on the lightest summer silks. The brocaded figures look like hand embroidery.

Checks are less in vogue, but large plaids in subdued tints are still seen. Wide braid or galloon, in wool or silk, plain or brocaded, is a very favorite style of trimming. Deep tucks on bias bands are also very much employed for trimming skirts. Camel's hair, Cady's cloth or cashmere with velvet, make handsome walking costumes; if contrast is desired, navy blue with garnet velvet is the latest novelty in combination suits, while seal-brown seems to be the most popular, with everything to match.

Irish poplins are re-appearing in England, and there will soon be a great demand for them on this side of the ocean, as they are very durable goods. For combination with velvet or velveteen there can be no prettier material. Velvets will be worn all summer as well as spring; not so much plain as fancy brocaded velvets, in all kinds of patterns, both large and small.

Basques, waists or polonaises are worn according to the wearer's taste; the latter are very popular because more becoming to stout figures than drapery on the skirts, with short basques. Some polonaises are straight in the back, with a basque front that may be pointed or belted with a velvet belt and a clasp, or else in square coat shape, *a la Louis Quatorze*, with square pockets piped with velvet on each side, and a full lace cravat that reaches from the throat to the waist line.

Basques are little changed in shape from those worn during the winter, with pointed front, short sides and square postilion pleated back. The soft vest, the surplice pleated on the shoulders and gathered at the waist line, and the plain velvet with revers along the sides, all remain in fashion. The sleeves are still made to fit the arm and to puff up on the shoulder. As usual,

cuffs are narrow and of the simplest design. Buttons are inconspicuous and small.

Velvet ribbons with satin on the wrong side are quite a feature of trimming for spring silks; sometimes they form almost a vest by being laid loop upon loop from the throat to the point of the basque in front. This is very prettily shown in a garnet velvet ribbon, half an inch

of loops and forked ends on each side of the overskirt, made of velvet ribbon two inches wide.

Spring mantles are very long and very much trimmed, and are often made of two different materials. Several combinations tend to bring back the mantle of the same material as the dress. Ottoman or ribbed silk is still as fashionable as ever, both plain and brocaded all over in patterns of satin or velvet. It is by no means difficult to follow modern fashions, for they leave a most ample scope to individual taste and fancy. Thus for spring wear, tight fitting jackets, redingotes and pelisses of all styles, and pelerines or capes of all shapes are in favor, and we have but to choose between all these various models. A pretty jacket is made of colored cashmere, perfectly tight-fitting, with a round basque at the back, and wide open in front, over a vest of light colored surah silk, plain or pleated all the way down in very fine pleats. The outline is trimmed with three rows of mohair braid of the same color as the jacket; a clasp of steel fastens the fronts of the jacket at the neck. The sleeves are trimmed with three rows of the braid.

The pelerine is an inexpensive mantle, very suitable for young girls, and quite sufficient for them as an out-of-door garment when the weather is not cold; it is generally made of the same fancy woollen goods as the dress. This can be entirely pleated in straight pleats all the way down; the pleats are laid flat and sewn on at the top to a plain shoulder-piece, concealed by the turned-down collar, which can be made of velvet. The pelerine opens in front so as to leave almost all the front of the bodice disclosed. For summer this cape may be made of cambric or muslin, similar to the dress, or of white embroidered tulle, to wear with all very light colored dresses.

Capes of velvet or chenille, with a small turned-up satin or ribbed silk ribbon, are worn with spring costumes.

Hats are rather smaller than those of the winter, and are mostly made with moderately high, round crowns and flat brims, sometimes slightly turned up on one side. Colored straw matched to the dress is fashionable, and is to be found in all shades of gray, and in dark green, blue and brown; clusters of feathers are put on very much in front, and a simple band of velvet goes round the crown;

others are trimmed with large cockade bows of dark and light colored velvet ribbon, with a border of the same round the crown.

Bonnets are all in the capote shape, some large, some of medium size, and others quite small and tight fitting, like a baby's cap.



LADIES' IN-DOOR OR STREET COSTUME.

They are very generally trimmed with a thick ruche round the border; this border is of velvet, silk or buck, as the case may be. Colored straw is fashionable for bonnets as well as hats. It is lined with silk, either to match or of another shade, and trimmed with velvet or ottoman ribbon and flowers; these are generally



chosen of a brighter or lighter color. Thus a bonnet of very dark green straw and silk is trimmed with bright red poppies; upon dark blue straw and velvet is laid a cluster of creamy-white and pale pink roses; and over



dark brown, a bouquet of pale yellow primroses. Small birds nestling in brilliant foliage are fashionably employed instead of flowers upon some colored and white straw bonnets. Strings are made very short, and arranged in a cravat-bow.

The capote remains the dress bonnet for all ceremonious occasions. Pretty ones are made of gray crape, embroidered with silk and beads over the crown, lined with pale blue crape, and

trimmed with an enormous bow of crape fastened with large gold-headed pins; also black lace, with a double row of large jet beads forming a border round the edge, and trimmed with either feather or flowers. Strings to capotes are very narrow and fastened with a small artistic broach.

Plastrons, stomachers and waistcoats are again in fashion. The plastrons and fischus made long and trimmed only on one side, or differently on each side.

Gloves of glazed kid are slowly creeping back into favor. Long black kid gloves are worn with black evening dresses, and white kid is again popular for ball-dress wear. For the street, gloves match the costume, or are of some contrasting color.

The hair is being dressed quite high and toward the front of the head; it is combed up perfectly smooth at the back, and arranged in a double coil placed flat on the top of the head. Some few convert this coil into a series of full loose loops. The latest innovation is to part the 'bang' or fizzle right in the centre, so as to show the middle of the forehead. This style, if the bang must be worn, is pretty and novel, and is becoming to a face with a low brow and delicate features.

MINNIE MAY.

We intend to give a prize each month for the best essay on different subjects of interest to readers of this department. We hope by this means to induce a lively competition amongst our lady readers. This month we offer the prize of a fine Meteor Alarm Clock for the best essay—subject, "The Sunshine and Shadows of Life." All communications to be in this office by the 25th of April. We would be very glad if our correspondents would suggest subjects for future essays.

MINNIE MAY.

Answers to Inquiries.

BUTTERCUP.—1. What do you think of a man of thirty who tried to gain the affections of a girl of sixteen? 2. What do you think of a man who said that he would never get married until he could find a girl that suited him, and he had found one now but she would not have him, so he was going away?—and he has gone. He did not say this to me, but before my father; but how does he know, for he never asked me to have him? Ans.—1 We think he must be very fond of children. 2. We think he showed a great want of sense to discuss the affairs of his heart so freely, but how do you know that he meant you? Never be sure of offers until you get them.

O. S. M.—1. Is a ring a suitable present for a gentleman to give a lady? 2. If she accept it has he any claim on her? 3. Do you think it right for a young lady to marry her first or second cousin? Ans.—1 Quite proper if they are on very friendly terms. 2 No. Many object to such marriages, but they often prove very happy, that of our own Queen being a very bright example.

KATE, NELL NAN.—1. This year being leap-year, would it be proper if we were at a party to ask the gentlemen to escort us home? 2. How would we put the question? 3. Would it be proper for a young lady to propose to the young gentlemen for marriage this year?

Ans.—No, leap-year confers no privileges except that of joking about its supposed privileges; well-bred girls will make no advances in leap year or any other. 2. Don't put it at all, unless it is absolutely necessary to ask protection for your walk home, and no sensible girl will place herself in such a position. 3. We cannot imagine how any girl can seriously ask such a question. If it were proper for a lady to make proposals in leap-year, it would be equally so at any other time. A woman's delicacy or modesty cannot be put on and off to suit silly notions.

JULIETTE.—1. There is no way of baking the porcelain painting at home. A proper oven is essential, and an experienced hand to regulate the heat and the time required. 2. You should certainly obtain help from some educated French person, not a regular tutor, or you will never pronounce the language correctly.

ENQUIRER.—As secretary of an association you sign your name simply, Mary J. Brown. When writing to a stranger who does not know whether you are married or single, you may sign yourself, Mrs. Mary J. or Mrs. John Brown.

LOTTIE.—A very pretty cochet tidy is made out of 25 stars as follows:—Make 6 chain stitches and join; into this ring make 6 treble stitches with three chain between each. 2nd row, 6 treble into each space of last row. 3rd row, 6* treble in the centre of 6 treble of last row, then 1 chain and 1 double stitch between the 6 treble of last row, one chain repeat from *all the way round. 4th row—same as 3rd only 2 chain instead of 1. 5th row, same as 3rd only 4 chain instead of one. 6th row, same as 3rd only 6 chain instead of 1. 7th row, same as 3rd, only 8 chain instead of 1. 8th row, same as 3rd only 10 chain instead of 1. Join the points of the stars together as you make, forming a diamond-shaped tidy with 5 stars for the centre row, and graduating each way by rows of 4, 3, 2, and 1. When finished crochet little loops all round, into which tie a ring of the cotton. Use pretty fine crochet cotton, about number 14. Pretty tidies are made of macramé twine crocheted in stripes, joined by chains, through which run bright-colored ribbon, the width of the space, finish the sides with a crochet edge and the ends with fringe. 2. It would be difficult for us to advise a style for dressing the hair, as we do not know what would become you most. Quite young ladies still wear the hair twisted low in the neck, but the old style of dressing the hair high on the head for house and evening wear, is being revived. Young girls wear the hair flowing, or in one or two braids.

For Sprains—Bathe with arnica, diluted with water, and bandage with soft flannel moistened with the same. A sprained wrist thus treated will grow well and strong in a few days.

"PAPA, can't I go to the store and get a new dress?" "Why, child, you have got plenty of new dresses." Yes, papa, but they are out of style." Nonsense, girl! the trees always come out in the same style every spring, don't they?" "Yes, papa, and they always look green, too." "All right, go to the store and get a dress."

Recipes.

HARD SUGAR GINGERBREAD.—One cup of butter, two cups of sugar, three eggs, four cups of flour, two tablespoonfuls of ginger, one and a half cups of sour milk, one teaspoonful of soda; roll in sugar.

YEAST.—Grate raw potatoes, after being washed and peeled; pour boiling water over the pulp, which cooks into starch. Add salt and sugar in usual quantity, and when cool enough add a little good yeast.

SAGO PUDDING.—Boil three tablespoonfuls of sago in a quart of milk, add a pinch of salt. When cooked set it to cool, stirring it occasionally. Beat four eggs very light with three tablespoonfuls of sugar, and stir into the sago and milk; add a small piece of butter and flavor with nutmeg. Bake forty minutes.

AMBROSIA.—Take six large sweet oranges, peeled and sliced (the seeds and as much of the core as possible taken out), one pineapple peeled and sliced, and one large cocoanut grated, alternate the layers of pineapple with grated cocoanut and orange, and sprinkle pulverized sugar over each layer. Oranges and cocoanut alone make a very nice ambrosia.

Try this for tea some night: Pick up one tea-cupful of codfish, let it soak in lukewarm water while you mix two cups of cold mashed potatoes with one pint of sweet milk, two eggs, a good sized lump of butter, and pepper and salt if necessary; then add the codfish, mix all well, and bake in a buttered pudding dish for twenty-five minutes to half an hour; serve hot.

PRESSED VEAL OR CHICKEN.—Put four pound of veal, or two chickens, in a pot; cover with water; stew slowly until the meat drops from the bone, then take out and chop it; let the liquor boil down until there is a cupful; put in a small cup of butter, a tablespoonful of pepper, a little allspice and a beaten egg; stir this through the meat; slice a hard boiled egg, lay in your mould and press in the meat; when put upon the table garnish with celery tops or parsley.

PAPER HOUSE ROLLS.—Two quarts flour, one large tablespoonful of butter, one pint of milk, one large tablespoonful of sugar, one cup of yeast, salt; scald milk, then cool till lukewarm, make a hole in centre of flour, put in the milk and yeast and sugar. Previous to making the sponge, rub the butter into the flour, draw the flour over the sponge, let it rise till morning; then mix in the flour and let it rise till light; within two and a half hours of baking, knead about twenty minutes, roll out about an inch thick, cut out with cutter and lap a part over. If you wish the rolls hot for tea, put them to rise about noon instead of over night.

CARPET WORMS—A sure way for destroying carpet bugs is to give them a good, thorough wetting down with benzine. We think it is sure. Give it a trial this summer.

"Thevallis noticed," observes Aunt Tabitha, "that the boy who lets his mother bring in all the kindlin' wood and build the kitchen fire is the mourner that bellers loudest at her funeral." And then she added thoughtfully: "Mebbe as not it is because he misses her the most."

To Clean Mirrors.

Take a newspaper or part of one, according to the size of the glass. Fold it small and dip it into a basin of clean cold water; when thoroughly wet squeeze it out in your hand as you would a sponge, and then rub it hard all over the face of the glass, taking care that it is not so wet as to run down in streams. In fact, the paper must only be completely moistened or dampened all through. After the glass has been well rubbed with wet paper, let it rest for a few minutes, and then go over it with a fresh, dry newspaper, folded small in your hand, till it looks clear and bright, which it will almost immediately and with no further trouble. This method, simple as it is, is the best and most expeditious for cleaning mirrors, and it will be found so on trial—giving a cleanliness and polish that can be produced by no other process.

Little Ah Sid.

Little Ah Sid
Was a Christian kid—
A cute little cuss, you'd declare—
With eyes full of fun
And a nose that begun
Right up at the roots of his hair.

Jolly and fat
Was this frolicsome brat,
As he played through the long summer day.
And braided his cue
As his father used to
In Chinaland, far, far away.

Once o'er a lawn
That Ah Sid played upon
A bumble-bee flew in the spring.
"Melican butterfly!"
Said he, with winking eye,
"Me catchee and pull off um wing."

Then with his cap
He struck it a rap—
This innocent bumble-bee—
And put its remains
In the seat of his jeans;
For a pocket there had the Chinese.

Down on the grass
Sat the little sardine
In a style that was strangely demure,
And said with a grin
That was brimful of sin,
"Me mashee um butterfly, sure,"

Little Ah Sid
Was only a kid,
Nor could you expect him to guess
What kind of a bug
He was holding so snug
In the folds of his loose-fitting dress

"Ki-ya! Ki-yip-ye!"
Ah Sid cried, as he
Rose hurriedly up from that spot,
"Ka-yi! Yuk-a-kan!
Dam um Melican man—
Um butterfly belly much hot."
—[San Francisco Wasp.

A CAT LEGEND.—"Do you know why cats always wash themselves after a meal?" A cat caught a sparrow and was about to devour it when the sparrow said: "No gentleman eats till he has first washed his face." The cat was struck with this sage remark, sat the sparrow down and began to wash his face with his paw. The sparrow flew away. This enraged pussy, and he swore: "as long as I live I will eat first and wash my face afterward." And cats have done so ever since.

The Little Ones' Column.

Tale of Twelve.

We are twelve sisters gay!
Our number isn't small,
But in our ample home
There's room enough for all!

In temper, and in taste,
We do not all agree,
So we have been arranged
In companies of three.

D. J. and F. lead off,
In wild and merry sport,
They skate, and slide and coast,
And build the snowy fort!

Two Ms. and A. come next.
They scold and sulk and smile!
And when they've done their work
They play a little while!

Then come two Js. and A.—
A sunny, happy crew!
Warm-tempered to be sure,
But loving, kind and true!

Then S. and O. and N.—
Most favored ones of all!
They play when nuts are ripe,
And when the apples fall!

Now, children, who are we?
Can anybody say?
We've danced and played with you
Full many a happy day!

My Boy.

"Mamma," shouts my little Harrie,
From the winding stair-case top,
"Mamma," and in same breath, "hurry,
Tum and dweess me now, I'm up."

"Mamma's coming," back I answer,
As I hurry through the hall,
"And she'll catch those little 'footsies'
Peeping out so pink and small."

With a bursting ring of laughter
Swift my darling patters back,
Climbs into his cot so tumbled,
Eager shouts midst bump and whack.

Dives he in 'twixt sheet and blanket,
O'er him pillows make a heap.—
"Wh— where's my boy?" I feigning wonder,
Lisps he slowly, "gone—to—seep."

Quick I seize the shapeless bundle,
Then draw out my pride and joy;
Kissing him I pray in silence,
"May he ever be my boy!"

Children's Etiquette.

Always say, yes sir, no sir, yes papa, no papa, thank you, good night, good morning.

Use no slang words.
Clean faces, clean clothes, clean shoes and clean finger-nails, indicate good breeding.

Never leave your clothes about the room. Have a place for every thing and everything in its place.

Rap before entering the room, and never leave it with your back toward the company. Remember this.

Always offer your seat to a lady or old gentleman.

Never put your feet on cushions, chairs, or table.

Never overlook any one when reading or writing, nor talk or read aloud while others are reading.

Never talk or whisper at meetings or public places, and especially in a private room where any one is singing or playing the piano.

Be careful to injure no one's feelings by unkind remarks.

Never tell tales, make faces, call names, ridicule the lame, mimic the unfortunate, or be cruel to insects, birds or anything else.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES.—It seems but yesterday that I was writing to you, yet a whole month has managed to slip by, each day bringing dozens of letters from my young friends. I notice many new faces, or rather new names, who have come to join Uncle Tom's happy family. I am very glad to hear from you; there is plenty of room and work for all. The majority of you found the illustrated rebus very hard last month, and really it was; but we must have a regular puzzler sometimes. Henry R. asks whether those who send in puzzles for publication, and which do not appear in the paper, will receive credit for them? Yes, the best ones will be kept and credited, and many of them may yet be published before the end of the year; but certainly none of those which are not original will be noticed. Aggie W., an inquisitive little niece, asks which was the highest number of correct answers to March puzzles received from one person? Miss Aggie must just wait with patience until the end of the year, when the names of those who sent the greatest number of correct answers will be made known to you all. I received several letters again with no name attached. So I expect to have complaints of their non-appearance in April No.; be sure and always sign your name. I don't see how you can make such simple mistakes; but I must quit scolding, for I want to give you a story of a noble deed:

During the intensely cold weather of last January a party of boys were skating and coasting on the Schuylkill, at the point where it divides the city of Philadelphia in two.

One, a poor lad of sixteen years, named John Hagan, had a large sled which was the envy of all the other boys. He lent it to one party after another, and sat on the bank watching them with good-humored satisfaction, while they coasted down the bank and almost across the river. At last, as evening was gathering, he rose to go home, but the boys pleaded for one coast more.

Ten of them crowded upon the huge sled. It dashed down the bank and out upon the frozen river. There was a sharp crack, a shriek that rent the air, and a huge black gap appeared in the white sheet of ice, on which a struggling mass was dimly seen for a moment. Then it disappeared in the dark, rushing current.

The crowd of skaters and spectators on the bank stood paralyzed with terror. Only John Hagan kept his senses. He plunged into the swift flood, groped under the ice for the drowning boys, and dragged them one by one to the edge of the hole, where men stood now ready to receive them. At last, when nine had thus been rescued, Hagan himself was taken out insensible and carried to his home.

"Did I get them all?" were his first words when he was restored to consciousness. No one told him until the next day, when he was quite out of danger, that one little fellow was lost.

Now it happened that on that very night a Leap-Year ball was given in the neighborhood of the accident. The young ladies who went to it wore men's dress,—coats, collars, etc., and the young men (some of the most wealthy and fashionable in the city) imitated feminine costume and manners. Some of them wore women's full dress, with sweeping brocade trains and bracelets on their bare arms.

It was but a passing freak, and should not be harshly judged; but what a contrast between one of these lipping, be-jewelled and be-ribboned young men and Hagan, struggling in the icy flood and night!

Yet Hagan was an illiterate laborer, whom these lads would have regarded, had they met him on the street, as one of the lowest types of manhood.

The meaning of the contrast is that fortune, rank, manners, and even education, are but the outer garments with which circumstances envelope the soul. We shall never find the true man if we do not learn to look through and beneath them all. Our boy-readers will be glad to know that a subscription of over a thousand dollars was raised for brave young Hagan, and that he asked that it might be spent in giving him three years' education. He had the good sense to see that even a noble soul is stronger when it is nobly clothed.

UNCLE TOM.



1—ILLUSTRATED REBUS.

Puzzles.

—DIAMOND PUZZLE.

A consonant; a boy's name; a part in singing; to overcome; to shape; a color; a consonant.

MAGGIE F. ELLIOTT.

3—HIDDEN WEARING APPAREL.

- (1) Just fancy! I found the girls hoeing corn.
- (2) That dress is not fit to wear.
- (3) John, give the knife to Marco at once.
- (4) He who is kind and loving loves the sunshine and flowers.
- (5) Mary and Jack etch nicely.
- (6) Invest your money carefully.
- (7) Ho! Seymour where are you going.

CHRISTENA HADCOCK.

4—CHARADE.

I sail on the ocean,
I enclose each tree,
I share the doctor's potion,
Now what can I be?

MARY MARSHALL.

5—DROP VOWEL AND FIGURE PUZZLE.

2 1-v-rs s-t b-n —th th—sh-d—
—and 1—n 2 th—th-r s—d h-w 14 8
th-t y—b 9 h-v—sm-l-d—p-n
th-s—t—f m-n—f 5—h—rt—t
p-lps 4 u thy v—c—s m—s—c m—l—dy
t—s 4 2 b—thy l—v—d 1 2 s—y nymph
w—lt m—rry m—th—n 1—sp—d sh—s—ft
why 13 ly.

CHRISTINA STICKLER.

6—SQUARE WORD.

Strong; a small ornament; placed; a whirlpool.

ELLIS AUGUSTINE.

7—TRANSPOSITION.

Idm hte dstu nda pedes dna mlcroa
Fo het dlmschoos nda eth liml
Itsdm het kloná fo mtesa dan mhraem
Etrag usstre rea roinwgg lital.

ETTIE M. JOLLEY.

8—BEHEAD AND CURTAIL.

- 1—A poet and leave a bed.
- 2—A number and leave a girl's name.
- 3—A beggar and leave an animal.
- 4—A sweet substance and leave a unit.
- 5—A country and leave an elevation of land.
- 6—A fire-place and leave an animal.
- 7—A month and leave a part of a circle.

GEORGE VAN BLARICORN.

9—HOUR GLASS PUZZLE.

1, Island in Atlantic Ocean; 2, town in France; 3, girl's name; 4, consonant; 5, a meadow; 6, a vegetable; 8, country in Europe.

F. F. THOMPSON.

10—DROP VOWEL PUZZLE.

D—w—th—n—th—r—s—y—'d—h—v—
—n—t—h—r—d—w—th—y— —wh—t—y—r—
—ar—w—ll—ng—t—r—c—v—b—s—r—
y— —n—v—r—d—

ADA ARMAND.

11—TRANSPOSITION.

Uyo lakt atubo sramerf praspe,
Tub chrase morf eth stea ot het tew,
Dan fo lal teh asperp oyu nac dinf,
Eht ovatedac si eht, bte.

ADA ARMAND.

12—PLEONETIC CHARADE.

My first amongst the vulgar
Is used in place of "bite;"

My second is among
The names defined as
"knight;"

My total was a writer,
His Christian name was
Dan,

If this makes it no lighter,
Then fruitless is my plan.

PHILLIP BOULTON

Answers to March Puzzles.

- 1—Ere you mark another's sin,
Bid thy conscience look within.
- 2—Opal, pearl, ruby, agate, topaz, diamond, garnet, emerald, amethyst.
- 3—Truth is mighty and it will prevail.
- 4—Sweet-heart.
- 5—NORTHWEST
TORONTO
CRUDE
ARE
G
ELK
CRATE
PARSLEY
TRANSVAAL
- 6—Wheel, heel, eel.
- 7—The FARMER'S ADVOCATE.
- 8—I will not willingly offend,
Nor be soon offended;
What's amiss I'll strive to mend,
And bear what can't be mended.
- 9—Sterne, Byron, Scott, Gray, Heman, Campbell.
- 10—He who bestows his goods upon the poor,
Shall have as much again and ten times more.
- 11—Pearl, cheat.
- 12—A
AMY
SPEAR
AMERICA
WHITE
ACT
A

Names of Those Who Have Sent Correct Answers to March Puzzles.

Jean Fisher, Mark Dearing, Sarah M. Brett, Carrie Christner, William B. Bell, William Bowman, R. Scott, S. W. Day, Maggie F. Elliott, Ettie M. Jolley, Jennie Williams, Annie Iles, W. D. Ross, Phillip Harding, Maggie E. Stenhouse, J. B. Stanton, Spurgeon Dawson, W. S. Howell, Fred D. Ross, Katie Miller, Maud Denner, Tina, E. Robertson, Rosa Dickens, Aggie Forbes, Agnes M. Frood, Tina B. Clarke, Peter Lamb, Alice Dowler, Tena B. Wells, Asa Andrew, George Hick, Carrie Hendrie, George G. R. Farwell, James Watson, Georgina Smith, Libbie Routledge, Nettie Widden, Annie B. Scott, James Cowan, Aggie Wilson, Joseph Arthur, Mary McArthur, Belle Richardson, Frances E. Rowland, Tiny Docker, Sarah E. Miller, James M. Jackson, John E. Ryan, Robert Wilson, Henry Reeve, Esther Louisa Ryan, Lottie Farr, Emily Vansickle, William Carney, Phillip Boulton, Harry A. Woodworth, Romley C. Hull, Ellis Augustine, Jessie Fox, A. J. Phenix, M. C. S., Ida Bella Armes, Annie E. Stirling, M. A. Parlee, Amelia Walker, Isabella McLeod, Robert Kerr, Amelia A. Haldane, Charles H. Foster, W. S. Sissons, C. Girtie Heck, Addie E. Davidson, Ella McEwan, J. W. Forbes, Jessie E. Houston, Aggie Livingstone, Amelia L. Sumner, Sarah Wessel, H. E. Wrinch, Charles A. Adams, Becca Lowry, T. F. Thompson, Thomas Armstrong, Mary Marshall, A. S. Hunter, William F. Bays, Mary Morrison, Linda Clemens, James Paterson, Ada Armand, Robert J. Risk, Byron G. Bowerman, Ada M. Manning, C. Euphemia Boan, Stillman Root, Louisa Berg, Minnie E. Weldon, Robert Kennedy, Nellie Cooke, Lena B. Scott, Neil McEwen, Ellen D. Tupper, George Pardo, Eva C. Kelly, Elmon M. Moyer, Sarah McLean, Will Shirwell, J. J. Smyth, Polly Cation, Eva S. E. Henderson, Mary B. Currie, Christina Haddock, J. Carol Sharpe, H. E. Van Dyck, Charles A. Crooker, Minnie D. Johnson, May Congdon, Lottie A. Crawford, Frank J. Robinson, and A. J. Taylor.

A JUDGE OF HUMAN NATURE.—"Can I see the lady of the house?" inquired the peddler. "Well, yes, you can if you ain't blind," snapped the woman who answered the bell. "Oh, beg pardon, madam; you are the lady of the house, then?" "Yes, I am! What d'yer take me for? Did ye think I was the gentleman of the house, or the next door neighbor, or some of the farm hands, or the cat, or the ice-chist?" "I didn't know, madam, but you might be the youngest daughter." "Oh, did yer? Well, that was nat'ral, too," replied the lady of the house. "What d'ye want, sir?" Then the peddler displayed his wares, and when he left that door-step half an hour later his face was full of pleasure and his pockets were full of money. He understood human nature, and had made a good sale.

SAY GOOD MORNING.—"Don't forget to say 'good morning!'" Say it to your parents, your brothers and sisters, your teachers—and say it cheerfully, and with a smile; it will do you good, it will do your friends good. There's a kind of inspiration in every "good morning" heartily spoken, that helps to make hope fresher and work lighter. It seems really to make the morning good; and to be a prophecy of a good day to come after it. And if this be true of the "good morning," it is so of all kind, heartsome greetings; they clear the discouraged, rest the tired one, and somehow make the wheels of life run smoother.

Our Spring PREMIUM LIST FOR 1884.

See the list of valuable premiums that we are offering, which can be procured by inducing some of your friends to subscribe to the FARMER'S ADVOCATE. It will be the best dollar they can invest this year.

For One New Name with \$1.00—

Hobarto Spring Wheat.—This is a new variety, introduced by a sea captain from the Isles in the South Seas. It has done remarkably well in this country. Has a very fine kernel, large and plump bald head, with white chaff. One packet per mail.

Mar's Spring Wheat.—The introducer of this wheat speaks very highly of it, and the grain we have on hand is a magnificent sample. This is a very promising wheat. It was imported from Germany and has succeeded remarkably well. It will be generally announced next year, as only a very small stock of it is in the country. A large number of varieties were imported and tried with this wheat, and this is the most promising we have yet heard of. Only a very small package of this can be sent, as we have secured all the importer will part with this year, that being only 20 lbs.

French Imperial Spring Wheat.—A new spring wheat, introduced by a leading American seed firm, who state that "it is specially noted for its plump, hard kernels, which weigh 62 to 64 lbs. to the bushel. The grain is graded 'Extra heavy No. 1, hard.' This wheat is very popular in the North-west where tried, and is said to be best adapted to soils of a medium fertility, as very rich soils tend to make too much straw. Fields are reported of 40 bushels per acre." One packet per mail.

Three pounds of **Black Barley**, see page 98 in this issue.

Seed Corn—Pearce's Early Prolific—This is claimed to be a very prolific and valuable variety. See page 74 of last issue. 1 lb.

Russian Mulberry, three plants,

Vegetable Seeds:

One package containing the following:—
 Egyptian Beet,
 Prince of Wales' Celery,
 Early Jersey Wakefield Cabbage,
 P. W. & Co.'s Improved Early Drumhead Cabbage,
 Danver's New Table Carrot,
 Long Green Cucumber,
 Hanson Lettuce,
 Hollow Crown Parsnip,
 Cuban Queen Water Melon,
 Danver's Yellow Onion,
 French Breakfast Radish,
 Acme Tomato

Flower Seeds:

One package containing the following:—
 Aster, Balsam, Candytuft, Cockscomb, Mignonette, Pansy, Petunia, Phlox Drummondii, Portulacca, Verbena, Zinnia, 10 Week Stocks.

Stalice Seed—For a description of this beautiful flower, see page 41, Feb. number.

Coleus.

Petunia—One plant of a choice variety of either of these splendid plants will be sent per mail. See pages 98 and 107 of this issue.

Jersey Queen.—This strawberry plant stands exceedingly high in public favor for its fine flavor, but has not done as well as the James Vick as far as yield and hardiness is concerned. Needs more care and better cultivation, but still is a very choice variety especially for amateurs. Three plants.

Daniel Boone—This is considered to be the most promising of any of the new varieties. It grows well on both sand and clay loam. If you can try but one new variety let that be the Daniel Boone. Three plants.

NEW ADVERTISEMENTS.

THE FARMER'S ADVOCATE refuses hundreds of dollars offered for advertisements suspected of being of a swindling character. Nevertheless we cannot undertake to relieve our readers from the need of exercising common prudence on their own behalf. They must judge for themselves whether the goods advertised can in the nature of things be furnished for the price asked. They will find it a good rule to be careful about extraordinary bargains, and they can always find safety in doubtful cases by paying for goods only upon their delivery.

ADVERTISING RATES:

Will be furnished on application, and manufacturers, seedsmen, stock breeders and others will find this journal an unrivalled advertising medium.

The FARMER'S ADVOCATE has the largest circulation among the best people in Canada. Its advertisements are reliable and are read.

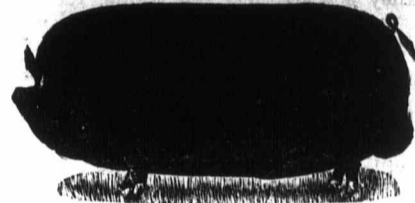
THREE SHORTHORN BULLS

1 to 3 years old, and

4 TWO-YEAR OLD HEIFERS FOR SALE.

JOHN D. PETTIT, Paris, Ontario. 218-c

BERKSHIRES



The "Evergreen Grove" Herd

winner of the Sweepstakes Prize for best herd at the Toronto Industrial and Provincial Exhibitions, 1882-3, and two-thirds of the first prizes in the regular rings.

Pigs from two to six months old, of either sex, for sale.

We have a splendid lot of sows to farrow within a month, in pig to the first-class prize winning imported boars "Lord Randolph," "Lord York," and "Surprise II."

Stock shipped to order. Satisfaction guaranteed in all cases.

For prices or other information address

J. G. SNELL & BRO.,
 "Evergreen Grove," Edmonton, Ont.

15 SHORTHORN BULLS

FOR SALE.

9 to 24 months old. Also BARRINGTON J. 2nd, 31746, and 8th SERAPH, 33850, two of my stock bulls.

Catalogues, &c., on application. Several choice young Shorthorn COWS and HEIFERS.

F. W. STONE.

220-a GUELPH, ONTARIO.

KNABE PIANOFORTES.

UNEQUALLED IN Tone, Touch, Workmanship and Durability.

WILLIAM KNABE & CO.
 Nos. 204 and 206 West Baltimore Street,
 Baltimore. No. 112 Fifth Avenue, N. Y.

Stock Notes.

Mr. Rock Bailey, of Union P. O., Ont., has purchased six pure-bred Merino ewes.

Far more cattle were exported from Canada in 1883 than any previous year.

CLYDE SALE.—Messrs. Heron & Son, Ashburn, sold their two-year-old Clyde stallion, "Admiral," to Mr. Wright, Logan, New York.

Messrs. Messer and Smith, of Scotland have sold the thorough bred Hereford bull calf, Brant 1st, to Bailey Carruthers, & Hornsby, of Finchville, Kentucky, for \$300.

Mr. G. F. Frankland, Toronto, Ont., the cattle king of Canada, has just completed the sale of a quarter of a million dollars' worth of catt'e for the English and Scotch markets.

Mr. F. W. Stone, Guelph, Ont., reports the following sales of Herefords in March: To J. S. Baskett, Eminence, Ky., one bull calf, "Cherub 3rd" (7 mos.), and four heifer calves, "Bonny Lass 23rd" (10 mos.), "Morella Cherry 5th" (10 mos.), "Rosette 4th" (10 mos.), and "Hardy Duchess 2nd" (9 mos.) To Bailey & Carrithers, Finchville, Ky., one 2-year-old heifer, "Moreton Blossom 2nd," and heifer calves, "Duchess of Moreton 3rd" (10 mos.) and "Graceful 35th" (9 mos.) To Mr. Hornsby, Eminence, Ky., heifer calf "Lady Winnifred 4th," and to Mr. J. A. Pickett, Finchville, Ky., "Graceful 21st" (4 yrs.) and calf "Graceful 39th." Mr. A. Stone, Guelph, sold Mr. Hornsby: Hereford bull, "Athlete" (12 mos.), and heifer calf "Hebe 10th." The above are a choice lot of young things.

(Continued on page 124.)

We are pleased to introduce to you in our advertising columns the name of another Weld, of Jamestown, N. Y., who is in no way connected with us that we are aware of. We rarely meet one of the same name.

FARM FOR SALE.

That fine farm of 200 acres, more or less, in the township of Delaware, known as Green Park, held by the undersigned in trust for the co-heirs of the late Rothwell Garnett, Esq., being lot No. 10 in the 1st concession. Enquire of **J. SHANLY**, Co-trustee, at County Buildings, London.

Dated 31st March, 1884. 220-tf

ALMA LADIES' COLLEGE
St. Thomas, Ont.

Chartered by Act of Parliament.

Buildings and Furnishings the finest in Canada
FIFTEEN REGULAR TEACHERS.
Preparatory, Academic, Collegiate, Commercial and Fine Arts Departments fully organized

TERMS:—Board, Room, Light, Laundry and Tuition in Preparatory Department, \$38 per term; \$42 in Academic, and \$45 in Collegiate.

The same with Music and Drawing for one year only \$190 in advance.
Students may enter April 17th, May 22nd, or Sept. 5th, '84
For announcement or information address
220-a
PRINCIPAL AUSTIN, B.D.

HENRY SLIGHT,
NURSERYMAN, TORONTO.
BEST FRUIT TREES, GRAPE VINES,
ROSES, RUSSIAN MULBERRY, &c.

219-b

COOLEY CREAMER,

FOR SALE—The patent of the celebrated "Cooley Creamer," (introduced by Mr. Moses Moyer, Walkerton, Ont.) for the counties of Perth, Middlesex and Elgin. By far the best for farmers and dairies. Over 3,000 in use in Waterloo County. Will sell Township or County rights. Apply to SIMON P. BOWMAN, Berlin, Ont.

W. DOHERTY & CO.,

ORGAN

MANUFACTURERS.

Clinton, - - Ontario. 220-y

25 YEARS IN THE POULTRY YARD

108 Pages. It teaches you how to rear them to take care for them, to feed, to have them lay eggs in cold weather, to prevent and treat all diseases of old or young, to be a "successful" poultryman. Only 25c. in stamps. A Fifty-page book FREE FOR ALL with it.

A. M. LANG, Cove Dale Farm, Concord, Ky.

SWISS SOAP!

Guaranteed Best in the World!
Ask Your Grocer For It!

Manufactured only by the
HURON SOAP COMPANY, Goderich, Ont.

220-y

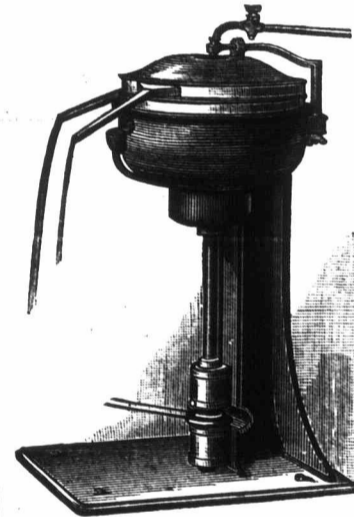
HAVE YOU A FRIEND WHO WANTS TO GET INTO a good paying business, or would you prefer to go in and win yourself. Agents and farmers will find this an easy way to make money. Write for particulars, enclosing 3c. stamp; don't delay. Address, JAMES LAUT, 281 Yonge Street, Toronto, Ont.

219-y

DeLAVAL CREAM SEPARATOR

The Greatest Dairy Invention of the Age!

Awarded Thirty-two Gold Medals!



By this system the cream can be separated from the milk immediately after it comes from the cow, consequently the use of cream and milk twenty-four to thirty-six hours earlier than by any other process.

No ice or expensive buildings necessary.

The construction is simple and the apparatus easily cleansed.

No heavy foundations required.

With less than one-horse power it will skim the cream from 750 to 800 pounds of milk per hour.

The DeLaval Cream Separator is now in use in the best dairies and creameries in Europe and the United States.

For further particulars please address

FRANK WILSON

P. O. Box 1824, MONTREAL, CANADA.

General Manager DeLaval Cream Separator Co.'y of Canada. 220-a

Feed the Land and it will Feed You.
LAMB'S SUPERPHOSPHATE OF LIME
" FINE BONE DUST.

SEND FOR CIRCULAR AND PRICE LIST.

DEPARTMENT OF AGRICULTURE AND ARTS, ONTARIO,

Toronto, Jan. 21st, 1882.

PETER R LAMB & CO., Toronto.

GENTLEMEN.—Having requested Prof. Pantou, of the Ontario School of Agriculture, to estimate the commercial value of a specimen of your Superphosphate of Lime, based on an analysis made by Prof. Heys, I have the satisfaction of informing you that Prof. Pantou reports that he substantially agrees with Prof. Heys' estimation of the commercial value of your superphosphate.

S. C. WOOD, Treas. of Ont.

PETER R. LAMB & CO.
Manufacturers,

Established 1834.

219-c

TORONTO, ONT.

SEED CORN!

For ENSILAGE or GREEN Fodder. 13 ft. high. 40 to 60 tons per acre not unusual. Stock eat stalks and all, clean, Sample and price by mail. Dairy goods. Instantaneous Cream Separator. BURRELL & WHITMAN, Little Falls, N. Y.



PRAGTICAL POULTRY KEEPING

Fourth edition. An illustrated book on Poultry by mail, 50 cents. Postal note preferred; stamps taken. 2ct. stamp for illustrated circulars of choice poultry. J. M. T. JOHNSON, Binghamton, N. Y.

951 FIRE-PROOF CHAMPION ENGINES

BUILT SINCE 1877.



BOUGHT BY FARMERS, THRESHERS, STOCK RAISERS, RANCH CO'S.

The Favorite Everywhere.

Most efficient, economical and durable, most simple and easily managed. Greatest care and best material used in its construction.

WATEROUS ENGINE WORKS CO., BRANTFORD, CANADA.

Call at our works, examine material, mode of construction and testing. We test an Engine every day. Forty finished Engines in stock. 16 and 20 h. p. to choose from. Portable Saw Mills, Grist Mills, Shingle Machinery and Choppers. Send for Illustrated Catalogue. Mention this paper.

WATEROUS ENGINE WORKS Co., BRANTFORD, CANADA

ONTARIO PUMP CO., Limited,

TORONTO, ONT.,

MANUFACTURERS AND DEALERS IN

Wind Mills, I. X. L. Feed Mills, Hay Carriers, Horse Hay Forks, Tanks, Double and Single Acting Pumps, Wood or Iron. Also Steam Pumps and Water Supplies, Iron Pipe and Pipe Fitting, all kinds.

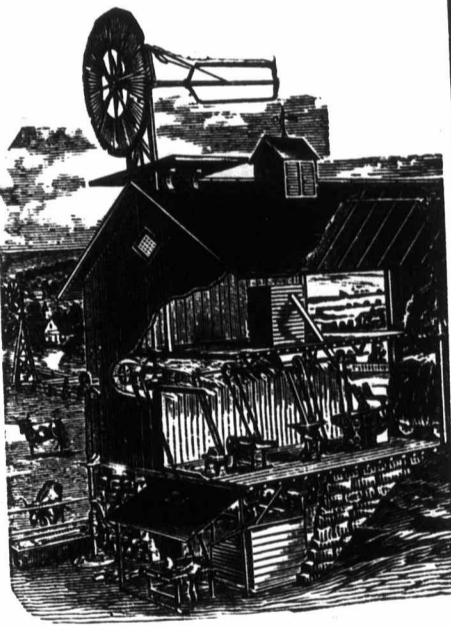
STATE WHAT YOU WANT AND SEND FOR ILLUSTRATED CATALOGUES.



Halladay's Standard Wind Mills. 17 Sizes.



Pumps—Iron & Wood. Force or lift. Deep well pumps a speciality



Geared Wind Mills, for driving Machinery, Pumping Water, &c. From 1 to 40 horse power.

March 14, 1884.



I X L FEED MILLS. The cheapest, most durable, and perfect iron feed mill ever invented.

ONTARIO PUMP Co.,

Gentlemen,—In regard to the 16-foot geared Wind Mill I bought of you, I can say it more than fills my expectations in every respect. In a fair to good wind I can saw wood at the rate of four cords of hard wood per hour, cut once in two. In a stiff wind I open the fans just half way and get all the power I require. In regard to your feed mill it is just grand. I have ground peas and oats at the rate of a bushel in three and a half minutes, and ground it as fine as one would wish for. I can grind fine corn-meal, also Graham flour. Have ground, since the 15th of February, 325 bushels of grain for customers, besides doing my own work with it. One man brought a grist of screenings, such as small wheat, mustard, and pussv grass seed, thinking that I could not grind it; but I ground it to powder, looking just like ground pepper. Your 13-foot geared mill, I think, is quite large enough for any farmer to do his own work.

Yours truly, EDWIN KEELER, Maikland P. O.

Extra Large Apple Trees

7 TO 8 YEARS OLD, TRANSPLANTED.

All the leading varieties. Price, 40c. each; \$4 per doz.; \$25 per 100. GEO. LESLIE & SON, Toronto Nurseries.

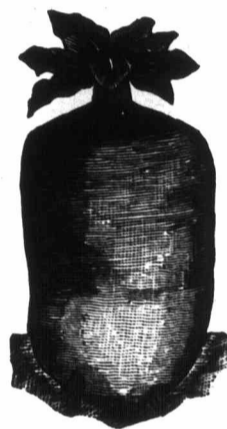
150 Strawberries Only \$1.

25 PLANTS each of Wilson, Crescent, Cumberland, Downing, Bidwell and Sharpless, each kind labeled and tied separate; seventy-page book on culture of Fruits and Flowers, and how to destroy all insects that trouble them, to all who send order.

E. W. WELD, Nurseryman, Jamestown, N. Y. (Name this paper.) 230-a

Reliable Seeds

The Most Nutritious and Milk Producing variety Grown.



P. W. & Co.'s Improved Yellow Tankard Mangel.

CORN.

Pearce's Prolific, 50 cents per quart, post-paid. New Silver Flint, 50 cents per quart, post-paid. Longfellow, \$1.00 per peck. Our Seed Corn has been selected with the greatest care, and thoroughly tested before sending out, and cannot (weather being favorable) fail to give every satisfaction.

SEED POTATOES.

Clark's No. 1, 50 cents per peck; pure Early Ohio, 50 cents per peck; Early Gem, 75 cents per peck; Pride of America, 50 cents per peck; Susy (the best late potato grown), 50 cents per peck; Wall's Orange, \$1.00 per peck; Morning Star \$1.00 per lb., post-paid; Pride of Canada \$1.00 per pound, post-paid.

ROOT SEEDS.

Every root grower should give the following varieties a trial:

- P. W. & Co's Improved Prize Swede, 50c. per lb., post-paid
- P. W. & Co's Mammoth Long Red Mangel, 50c. per lb., post-paid.
- P. W. & Co's Yellow Flesh Tankard Mangel, the handsomest Mangel grown, 50c. per lb., post-paid. See cut at top.
- Beck's Champion Yellow Globe, 50c per lb., post-paid.
- P. W. & Co's Giant Wiltshire Carrot, white, 75c. per lb., post-paid.
- P. W. & Co's City Queen Pea, the best second early pea in cultivation, 50c. per qt., post-paid.
- The new Tree Bean, the handsomest and most prolific white bean grown, 50c. per qt., post-paid.
- Twenty packets of annual flower seeds, and half pound Morning Star Potato sent post-paid for \$1.00.
- Twenty packets of assorted garden seeds, and half pound of Pride of Canada potatoes, sent post-paid for \$1.00.

The choicest samples of Wheat, Barley, Oats, Peas, &c. procurable. Prices on application. GRASSES for permanent pastures or meadows, separate or mixed. Prices on application.

OUR PREMIUM.

To any person sending us an order for \$3.00 worth of the above articles, we will give as a premium one pound of either Morning Star or Pride of Canada potatoes. Our Illustrated and Descriptive Catalogue free to all on application. Address,

PEARCE, WELD & CO., SEED MERCHANTS, 119 Dundas St. and Market Square, LONDON, ONT.

Notices.

The Permanent Exhibition Ass'n of Montreal have decided to hold the Local and Provincial Exhibitions in Montreal the latter part of August and beginning of September next.

We are pleased to hear that Mr. John C. Snell, of Edmonton, Ont., has been elected Vice-President of the American Cotswold Association.

The Guelph City Council called a special meeting for the purpose of asking the Agricultural and Arts Association to hold the Provincial Exhibition in that city again this year. A resolution to this effect was carried.

The Monarch Horse Hoe and Cultivator combined is one of the latest improvements in agricultural implements, designed for hoeing (with horse), Potatoes, Corn, Beets, Cabbage, Turnips, etc. See advertisement of Monarch Mfg. Co. in another column.

SEWING MACHINES. — Despite all that has been done by our Canadian manufacturers of sewing machines, it has been well known to a few that the Americans were a little ahead on some points. But now it is claimed that the Williams' Manufacturing Co., of Montreal, are making a machine surpassing any previously made in Canada, and now bids defiance to all competitors. Orders for this machine have poured in at such a rapid rate that they are unable to manufacture them fast enough, but new premises have been erected and everything is on the boom with this company.

Commercial.

THE FARMER'S ADVOCATE OFFICE,
London, Ont., March 31, 1884.

English quotations are unchanged, and markets are dull. Montreal inactive. Chicago and other States markets much as before. Toronto market was decidedly inactive.

FLOUR

was purely nominal, being neither offered nor wanted, and apparently very little to offer. Bran scarce and wanted at \$16.00 to \$16.25.

WHEAT

quiet, but values seemed to remain much as before, at \$1.07 for No. 2 fall and \$1.04 for No. 3, with No. 1 spring worth \$1.10, and No. 2 about \$1.08.

OATS

quiet but steady at 36½ to 37c. Barley scarce and higher grades firm; No. 1 probably worth 73c.; No. 2 from 69 to 70c., and extra No. 3 from 64 to 65c. Peas unchanged at 74c. for No. 2, but no movement reported.

CLOVER

has continued tending upward, closing with dealers selling at \$6.90 to \$7.00 per bushel, and a further rise expected. Alsike and timothy unchanged. Potatoes quiet and easy at 68c. for car-lots on track.

PROVISIONS.

Hogs almost nominal at about 88. Meat firm; no round lots moving on the spot, but two cars of country-cured long clear changed hands outside this week at 10½c., being about equal to 10½c at Toronto, which price is steadily demanded for cars on spot; cases have usually sold at 11c., but some are wanting 11½ to 11¾c., and we see that the former price has been paid. Hams steady and unchanged at 13½ to 14c. Lard in steady demand: one round lot of tinnets sold at 12c.; small lots of these 12½c., and of pails 13c. Butter unchanged; choice scarce, firm, and wanted at 19 to 20c.; but medium and inferior

(Continued on page 124.)

LANGSHAN EGGS
for hatching. (Croad's strain.) \$1 per sitting.
Address **MRS. WM. MASSON,**
220-c **CHERRY GROVE, Ont.**

A BIG BARGAIN

1000-Acre Virginia FARM FOR SALE

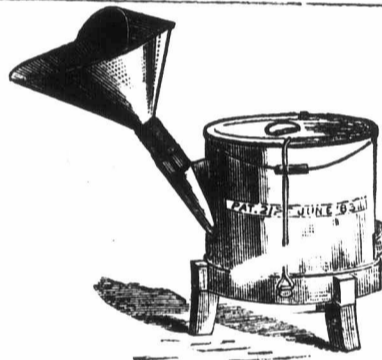
40 Sheep, 28 Cattle, 5 Horses, Steam Engine, Thresher and Corn Mill, Plows, Wagons, Harness, Harrows, Buggy, Corn Sheller, Fanning Mill, etc., etc. Feed for one year. Some wheat and oats seeded. All as it stands for \$7,500, half cash, balance in one year.
Also small farms for sale. Address
220-a **Box 47, Nottoway C. H., Va., U. S.**

TREES! TREES!

CLOSING-OUT SALE.

The large stock of these Nurseries, comprising Fruit, Ornamental, Evergreen Trees, Shrubs, Vines, Etc. is offered in lots to suit purchasers. Prices consequently far lower than ever before offered in Canada or United States. Example per thousand: Apples, \$40; Currants, \$9; Norway Spruce, \$20. Shrubs \$6 per hundred. Splendid opportunity for those commencing nursery business. Send for price list. Address

ST. JAMES' PARK NURSERIES
220-b **Box 343, LONDON, ONT.**



COMBINED Milk Bucket & Stool

(Dominion Patent)

This Milk Bucket and Stool is invaluable to Farmers and all persons connected with the selling, buying, or handling of Milk.

By its use the Milk is kept pure and clean; It saves every drop of Milk; It is convenient for milking, and does away with the old fashioned stool.

Every Canadian farmer should have them and use them. Manufactured by the

"Ontario Milk Bucket Mfg. Co."
159 QUEEN STREET EAST, TORONTO.

Sold in every County of Ontario by Special Agents. 219-c

CHEAP TELESCOPES

A portable Achromatic Telescope that will tell the time of the church clock in Toronto at three miles off, with extra astronomical eye piece and sun glass for astronomical use. It will show Jupiter's moons, spots on the sun, mountains in the moon, &c. Sent to any address on receipt of \$5.50.

CHAS. POTTER, Optician,
31 King St. East, Toronto.
ESTABLISHED 30 YEARS.

"English Holly" and "Magnolia" Trees

sent by mail, 50 cents each, three for \$1. **W. F. DEKKERS,**
Federalsburg, Caroline Co., Maryland, U. S. 220-a

C. THAIN.

MANUFACTURER OF
DOUBLE MOULD PLOWS with POTATO DIGGER ATTACHMENT
Two-Row Turnip, Carrot and Mangold Drill, Horse Hoer,
Iron Harrows, Wagons and Sleighs of different patterns
on hand and made to order in their season.
220-c **C. THAIN, Guelph, Ont., Canada.**

GRAPE VINES.

Nursery established 27 years. Over 100 varieties. All Strawberries, Raspberries, Gooseberries, Currants, &c. Prices low. Quality best. Catalogues free. **Geo. W. Campbell,** Delaware, Ohio.

POULTRY HATCHER

NO LAMP. NO SMELL. NO RISK.

THE SIMPLEST, BEST AND CHEAPEST.

Can be managed by a girl 12 years old. Machine for 72 Eggs \$15.00

Hatcher and Rearer..... 25.00

Apply to **FRED ALLEN, Maker,**
Woodbine Ave., NORWAY

AGENTS—**FLETCHER & HENDERSON,**
219-b **424 Yonge St., Toronto.**

BRICK & TILE MACHINE

We are now manufacturing a first-class
Augur Brick and Tile Machine

which is capable of making from
10,000 to 15,000 Tile per Day.
Machine warranted in every respect both in strength and quality. Send for particulars.

D. DARVILL & CO.,
220-a **London, Ont.**

MONARCH HORSE HOE

AND CULTIVATOR COMBINED

For Hoeing & Hilling Potatoes,
Corn, Onions, Beets,
Cabbages, Turnips, &c.

SENT ON 30 Days' TEST TRIAL.

An immense saving of labor and money. We guarantee a boy can cultivate and hoe and hill potatoes, corn, etc., 15 times as easy and fast as one man can the old way. Illustrated Catalogue FREE. AGENTS WANTED. Mention this paper. Address
Monarch Mfg. Co., 206 State St., Chicago, Ill.
220-c

Glasgow & London

INSURANCE COMPANY,
OF GREAT BRITAIN.

AUTHORIZED CAPITAL.....\$2,500,000
GOVERNMENT DEPOSIT..... 100,000
INCOME (Year 1883-4)..... 1,500,000

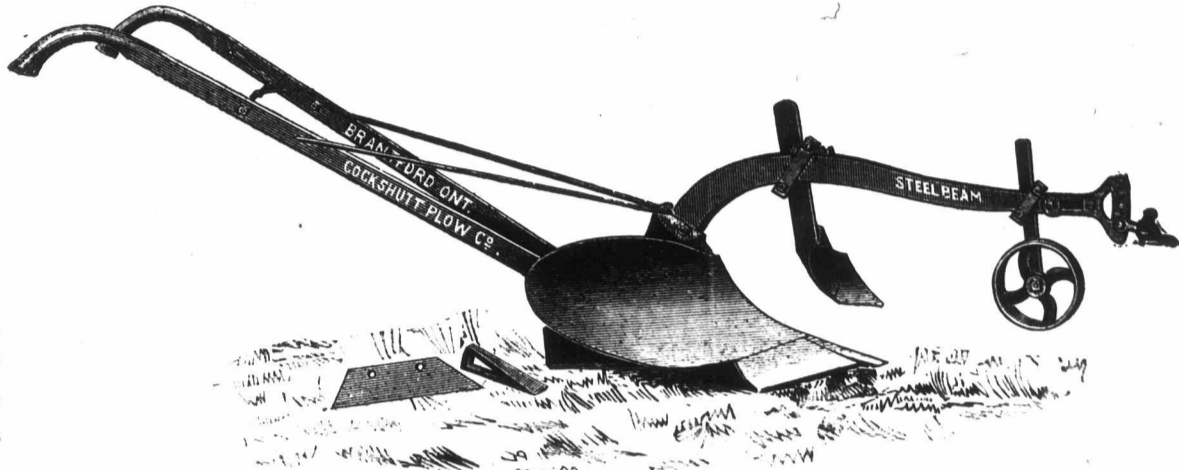
Head Office for Canada, Montreal.

JOINT MANAGERS:
ED. L. BOND, STEWART BROWNE,
J. T. VINCENT, Inspector.

N. B.—This Company has re-insured all the Sovereign Policies.
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 MANUFACTURERS OF
CHILLED and STEEL PLOWS, SULKY PLOWS, and PRAIRIE BREAKERS

We are the **PIONEER** manufacturers of the best Double and Single Furrow **RIDING PLOWS** adapted for all parts of Canada, and our **FACTORY** is the **NEWEST** and **BEST** EQUIPPED plow shop in the **DOMINION**.

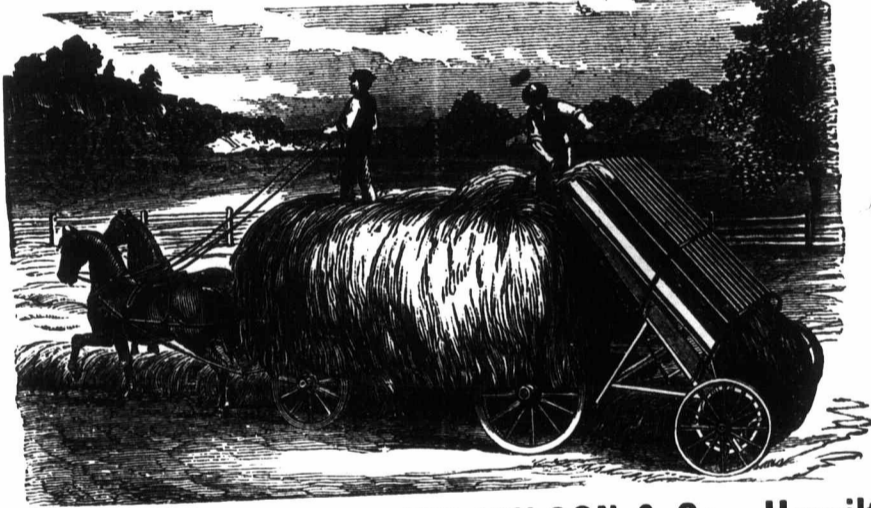


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COCKSHUTT PLOW COMPANY (Limited), BRANTFORD, ONTARIO.

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FOUST'S PATENT HAY LOADER

Received the Highest and Only Award at the Centennial Exhibition.



Manufactured by **MATTHEW WILSON & Co., Hamilton.**

This machine has been in successful use in the East for several years, and has lately been introduced with great success in the West. Each succeeding year has added new evidence of the practicability of the Loader, and shows conclusively the necessity for pitching hay on the wagon in the field by Machinery.
 All other work in hay-making has been done by machinery for a long time, leaving the pitching on the wagon the only part accomplished in the same manner and with no greater speed than during the earlier period of hay-making. With the use of the Loader as much time is saved in pitching as is saved by the Mower, Horse-Rake, Horse-Fork, or Hay Carrier, thereby making it safe for the farmer to cut at least double the amount of grass daily, knowing that he has the facilities for securing it.

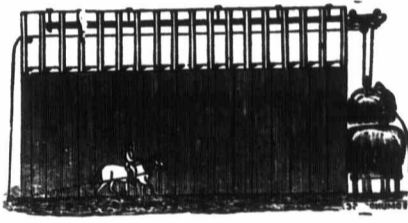
For descriptive catalogues, etc., send to
RUSSELL & DUNN, SOLE AGENTS FOR THE DOMINION,
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We are also General Agents for the Chatham Two-Horse Cord Binder. 220-c

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FAY Currant CRAPES ALL BEST, NEW AND OLD. HEAD-QUARTERS. SMALL FRUITS AND TREES. LOW TO DEALERS AND PLANTERS. Stock First-Class. Free Catalogues. **GEO. S. JOSSELYN,** Fredonia, N. Y.

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IMPROVED DOUBLE-ACTING
PITCHING MACHINE

For Unloading Hay and all kinds of Loose Grain.

This Machine can be used in sheds, on stacks or in barns. It can be used to unload on either side of barn floor without being turned around on the track, thus saving the trouble and annoyance in climbing up to the top of the barn to make the change. This is a feature that no other Carrier possesses, and any person who has had the trouble of climbing to the top of the barn to make the change will appreciate this feature. Cur Ball Pulley does away with the objection of bundles getting twisted and preventing the Carrier from starting when the load is drawn up, which trouble is sure to arise with all bale pulleys. I hold a patent for the Dominion on the Ball Pulley, and anyone infringing on the same will be prosecuted. Farmers are cautioned against buying any machines with a Ball Pulley attached, or they will be held liable for damages. **AGENTS WANTED.** Send for Circular. **M. T. BUCHANAN, Manufacturer,** INGERSOLL, 219-d

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The only adjustable Wire Cloth Sieve made. It will take out good seed from the refuse of windmills that cannot be cleaned by any other process. Can be adjusted to many different sized and shaped meshes. No. 1 Sieve will separate Plantain, Daisy, Buckthorn, Wild Carrot, &c., from Clover Seed, Red Top and Plantain from Timothy, and Timothy from Clover Seed. No. 2 will separate Rye, Cheat and Cockle from Wheat. No. 3 grades Peas, Beans and Corn. Prices, Nos. 1 and 2, \$2.25; No. 3, \$2.50 each. For sale at all hardware and seed stores. If not stocked by your local dealer send post office order to the manufacturers and we will express the sieve, pre-paying charges. Send for circular. Manufactured in Canada only by **B. GREENING & Co., Hamilton, Ont.** 220-1

SPRING PLANTING!

Gold Medal Nursery Stock

100,000 Apple Trees,
Grape Vines, Pear,
Plum and Cherry Trees,
Small Fruits,
Ornamental Trees, for Lawn,
Street Planting and Shelter;
Flowering Shrubs, Roses,
Dahlias, &c. &c.
BEST NEW AND OLD VARIETIES.

Descriptive Priced Catalogue (illustrated) free to all applicants.
We advise EARLY placing of orders, as the supply of Nursery Stock throughout the continent will not meet the demand the ensuing season.

GEO. LESLIE & SON,
Toronto, Nurseries, LESLIE P. O., Ont.
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DAYS' BUSINESS COLLEGE

All who require business training are requested to make special inquiries as to the high reputation the Principal of this College has established, and still maintains by the thoroughness of his work, and to take notice that Mr. J. E. D-A-Y is not associated with any college wherein the name of any principal or teacher has the slightest resemblance, either in spelling or sound, to that of Day. Mr. J. E. Day spells his name D-A-Y—good standard Saxon—and not O-D-A-E, or O-D-E-A, or O-D-A-Y, or O-D-E-E. For terms address

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M. BEATTY & SONS, WELLS, ONT.
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Are hereby informed that any TREES, PLANTS, &c., delivered by **SIMMONDS & MATHESON**, or their Agents, since the spring of 1882, were not grown in our establishment, and formed no part of our "Gold Medal" nursery stock.

GEO. LESLIE & SON,
220-a Toronto Nurseries, Leslie P. O., Ontario.

SEED POTATOES—NEW INVINCIBLE

The best potatoes ever grown; now first offered in Canada; I paid \$20 per bushel for seed last spring; it yielded with me three times as much as any other, and over 500 bushels per acre with originator; quality unequalled; \$4 per bushel; peck, \$1.50. White Star, Belle Conqueror, Early Telephone, Rose's New Seedling, \$1.25 per bush; peck, 50 cts. Mayflower, \$5 per bush. Seed grain sent for circular.

219-a **ROBT. BELL, Jr., HENSALL, Ont.**

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—AND THE—
NORTH-WEST.

PURCHASE YOUR TICKETS VIA THE ONTARIO & QUEBEC RAILWAY

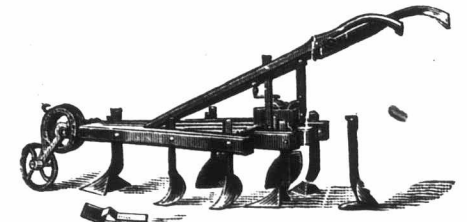
Operating the Toronto, Grey & Bruce and Credit Valley Railways. They offer a choice of routes by Rail or Lake.

RATES THE LOWEST. TIME THE QUICKEST.

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The easiest regulated and most effectual general purpose scuffler in the market. Does not clog. Agents wanted. Rights for sale. Territory offered. Send for circular to **G. BETTSCHEN**, Patentee and Proprietor, New Dundee, Ont. 219-c

TESTIMONIALS.

A few simple Testimonials that Speak for Themselves.

Ottawa, September 3rd, 1883.
A. NORMAN, Esq.—Dear Sir,—I have experienced considerable benefit from your appliances. I feel stronger and better every day.
Yours truly, **R. E. HALIBURTON.**

Peterborough, October 15, 1883.
A. NORMAN, Esq.—Dear Sir,—Soon after I commenced to use your Electric Appliances, they opened my bowels, cured my cough and cold, relieved my head, and considerably relieved my catarrh in consequence. The discharges from my head and chest are now easy, and I feel altogether better. My digestion has improved, my stomach is less sour and windy, and I am less troubled with lascivious and vivid dreams. I had previously tried almost all the advertised patent medicines without deriving any good.
Yours truly, **J. GREEN.**

4 Queen Street East, Toronto
213-y **A. NORMAN, Proprietor.**

CHOICE, FRESH AND RELIABLE

SEEDS

Forwarded to all parts of the Dominion by Mail. Safe arrival guaranteed, Postage prepaid. We will send the finest illustrated and application **FREE** Catalogue in Canada. It contains a complete list of everything in **FIELD, FLOWER AND GARDEN** Seeds, Mixed Grasses, Clover, Timothy, Etc. Don't fail to send your name and post office address for copy before ordering your supply.

STEELE BROS. & Co.
Seed Merchants, TORONTO, ONT

nominal; rolls scarce and steady at 15 to 17c. Eggs are coming in more freely and tending downwards, being about 18½c. for round lots.

THE FARMER'S MARKET.

Toronto, March 29.

Receipts of wheat to-day were about 300 bushels; poor fall sold at \$1.00 to \$1.02, but choice was worth \$1.08; spring sold at \$1.11 to \$1.12½, and goose at 80 to 82c. Some 200 bushels of oats brought 40 to 41c. About 200 bushels of barley sold at 57 to 66c. Peas sold at 75c., and a load of blue brought 80c. Hay was in fair supply but poor in quality; clover sold at \$6.50 to \$9.00, and timothy at \$10.00 to \$13.50. Straw scarce at \$8.50 for sheaf. Hogs sold usually at \$8.00, but a few choice went to \$8.25. Butter brought 25c. for choice pound rolls, but inferior went off down to 20c. Eggs easier at 20c.

Wheat, fall, per bushel	.....	\$1 00 to \$1 07
Wheat, spring, do.	.....	1 08 1 13
Wheat, goose, do.	.....	0 80 0 84
Barley, do.	.....	0 58 0 70
Oats, do.	.....	0 40 0 41
Peas, do.	.....	0 75 0 77
Rye, do.	.....	0 00 0 00
Dressed hogs, per 100 lbs.	.....	8 00 0 00
Beef, hind quarters	.....	8 00 9 50
Beef fore quarters	.....	6 00 7 00
Chickens, per pair	.....	0 80 0 90
Ducks, do.	.....	0 90 1 00
Geese, each	.....	0 80 1 00
Turkeys, each	.....	1 25 2 00
Butter, pound rolls	.....	0 20 0 25
Do. tubdairy	.....	0 18 0 20
Eggs, fresh, per dozen	.....	0 20 0 00
Potatoes, per bag	.....	0 80 0 85
Apples, per bbl	.....	3 00 3 75
Onions, green, per peck	.....	0 25 0 00
Cabbage, per dozen	.....	1 00 1 50
Turnips, per bag	.....	0 40 0 45
Carrots, do.	.....	0 40 0 50
Beets, per peck	.....	0 25 0 00
Par-nips, per bag	.....	1 00 0 00
Rhubarb, per dozen	.....	1 50 0 00
Radishes, per bushel	.....	1 00 0 00
Hay, per ton	.....	7 00 14 50
Straw, do.	.....	5 50 8 00

STOCK NOTES.

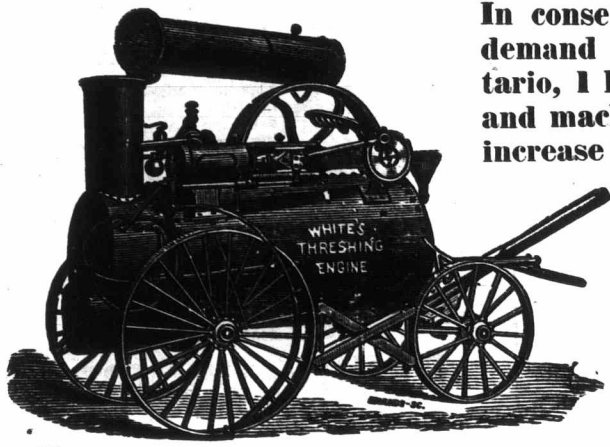
(Continued from page 120.)

Mr. Hugh Thomson, St. Marys, Ont., purchased the imported two-year-old bull "Cremorne," of nearly pure Booth blood, from Jas. S. Thomson, Whitby, for the sum of \$450. The bull was bred by Mr. Davidson, Mains, of Carinbrogie, Scotland.

George Gould, Rutherford, Ont., bought of Frank R. Shore, the two-year-old heifer, "Scottish Rose." This is a very fine animal, and has a good pedigree. He also purchased the "Marquis of Lorne," a fine three-year-old Clydesdale colt.

The following sales were made by Messrs. Lang & Thomson, St. Marys, Ont., on the 20th March:—Shorthorns—The Doctor, \$164, to A. Elcoat, Brucefield, Ont.; Minnie C., \$155, to Arthur Johnson, Greenwood, Ont.; Golden Drop 8th, \$300, to Jas. S. Thomson, Whitby, Ont.; Statira Duke 12th, \$310 to F. J. Ramsey, Dannville, Ont.; Crimson Duke, \$250, to Appleton Elcoat, Brucefield, Ont.; Magnet, \$560, to Jno. Gillson, Masonville Ont.; Genevra's Favorite, \$175, to James Gourley, Russeldale, Ont.; Genevra, \$170, to Colin Campbell, Cross Hill, Ont.; Spottie, \$300, to Jos. S. Thomson, Whitby; Butterfly Duke, \$225, to John Washington, Auburn, Ont.; Fair Queen, 3rd and c. c., \$755, to John Glenn, Lumley; Bracelet 2nd and c. c., \$405, to Alex. Brockie, Fergus, Ont.; Rose 2nd, \$285, to Jno. Gillson, Masonville, Ont.; Helen Marr, \$140, to William Reith, Devizes, Ont.; Lady Ann 6th, \$305, to William Reith; Minnie E., to William Reith; Baron Brawith, \$400, to John Gillson; Roderick, \$90, to Robert Patterson, St. Marys, Clydesdale Stallion—Pride of Life, \$1,200, to David Dorrance, Jr., Seaforth, Ont.

(Continued on page 126.)



In consequence of the increased demand for my ENGINES in Ontario, I have added to my shops and machinery, and shall largely increase the production of engines for 1884.

Farmers and Threshers please give this Engine a trial. It is licensed by all Insurance Co.'s, and has proved itself to be the most durable.

The Engine for the Northwest is made to burn either coal, wood or straw.

George White, Forest City Machine Works, LONDON, ONTARIO, CANADA.

219-y

"THE GOLDEN BELT"

ALONG THE KANSAS DIVISION U. P. R'WAY. **WOOL GROWING** Unsurpassed for Climate, Grasses, Water. **FRUIT** The best in the Eastern Market. **CORN and WHEAT** 200,000,000 Bus. Corn. 30,000,000 Wheat. Pamphlets and Maps free. **B. McALLASTER, Land Commis'r, Kansas City, Mo.**



FOR A SUCCESSION THE ENTIRE SEASON **PLANT** BLISS'S AMERICAN WONDER AND BLISS'S EVER-BEARING PEAS. Peas, Bliss' Abundance.—90 pods counted on a single plant. Very productive, 15 to 18 inches high. Second Early. Excellent quality. 25 cents per packet; 5 packets, \$1.00. Peas, Bliss' Ever-bearing.—A perpetual bearer, yielding a full crop until frost; an excellent late variety, 18 to 24 in. high. Peas, 1 1/2 inches in circumference. Very productive, 25c per pkt.; 5 pkts., \$1.00. Peas, Bliss' American Wonder.—The best and earliest variety grown. Very dwarf, excellent flavor. 50 cents per packet; 40 cents per plant; 75 cents per quart, post-paid. N. B.—These three varieties will give Peas the entire season until frost. Require no brushing. American Champion Water-melon.—The best eating and best shipping melon grown. More productive than any other sort. 25 cts. per pkt.; 5 pkts. \$1.00. Cauliflower, Sea Foam.—The best early variety; sure to produce. Never runs to seed. Roots only for sale, 75 cts. each, post-paid. Pansy, Bliss' Perfection.—The choicest strain yet produced. Our Gardeners' Hand-Book, for 1884, contains a beautifully colored plate of this magnificent variety. 50 cents per packet of 50 seeds. Carnation, Shakesperean.—The finest ever introduced. Continue in flower the whole season. 50 cents per packet. Plants, 50 cents each. \$1.00 for the set of 9 varieties. Wild Garden Seeds.—A mixture of 200 varieties of Flower Seeds. A packet will plant a square rod of ground. 25 cts. per packet; 5 packets, \$1.00. For other Novelties, see Bliss' Illustrated Novelty List, which describes the newest and choicest Flowers, Vegetables, Fruits, Cereals, Plants, etc. Mailed free. Bliss' Hand-Book for Farm and Garden. 150 Pages, 300 Illustrations. Beautiful colored plate. It tells WHAT, WHEN, and HOW to plant, and is invaluable to all interested in gardening or farming. Mailed for 6 Cents. **B. K. BLISS & SONS, 34 Barclay Street, New-York.**

The **NEW TOOLS** we offer this season, together with recent improvements, place the "PLANET Jr." Farm and Garden Implements beyond all competition. **NEW CATALOGUE** containing 32 pages and over 40 illustrations, describing fully the "PLANET Jr." Horse Hoes, Cultivators, Seed Drills, Wheel-Hoes & Potato-Diggers. **SEND NOW,** if you are interested in Farming, Gardening or Trucking, for our New Catalogue containing 32 pages and over 40 illustrations, describing fully the "PLANET Jr." Horse Hoes, Cultivators, Seed Drills, Wheel-Hoes & Potato-Diggers. **S. L. ALLEN & CO.** 127 & 129 Catharine Street Phila. 210-f

Peter Henderson & Co's SEEDS & PLANTS COLLECTION OF embraces every desirable Novelty of the season, as well as all standard kinds. A special feature for 1884 is, that you can for **\$5.00** select Seeds or Plants to that value from their Catalogue, and have included, without charge, a copy of Peter Henderson's New Book, "Garden and Farm Topics," a work of 250 pages, handsomely bound in cloth and containing a steel portrait of the author. The price of the book alone is \$1.00. Catalogue of "Everything for the Garden," giving details, free on application. **PETER HENDERSON & CO. SEEDSMEN & FLORISTS,** 35 & 37 Cortlandt St., New York.

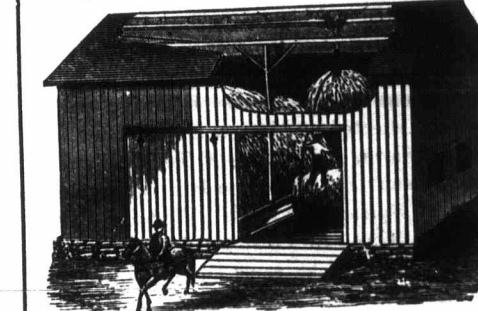
NOTICE TO DAIRY AND CHEESE FACTORY MEN.

I am manufacturing Cheese Vats and Dairy Utensils, also the **STEVELY IRON-GLAD MILK CAN,** which for strength and durability surpasses all others. Orders solicited. Prices on application. **WM. STEVELY,** 362 Richmond St., London, Ont. 218-b

HE THAT SOWETH WILLIAM EVANS' SEEDS SHALL REAP IN ABUNDANCE. If my Seeds are not sold in your town, send for my Illustrated and Descriptive Catalogue. Mailed free to all applicants. **WILLIAM EVANS, SEEDSMAN, MONTREAL.** Established 1855. 218-c

THE NEWELL PATENT UNIVERSAL GRINDER. Award of Gold and Silver Medals. **Newell & Chapin, Proprietors,** 95 Bonaventure St. Montreal. These Mills save time, grind any kind of grain very fast and without heating. Larger size Mills working on same principle with different style of cutter, grinding phosphates, gold and silver ores, quartz, plaster, clay, bones, fish-scrap, bark, &c., &c. 210-L

E. L. CHURCH'S Hay Elevator & Carrier.



THE VERY BEST IN THE MARKET There are thousands of these Elevators and Forks now in use in Canada, everywhere giving the very best satisfaction. Sent on trial to responsible farmers.

The REVOLVING BARREL CHURN



This is the most popular Churn manufactured in the United States, and is fast growing in favor in Canada. Be sure and try one before purchasing elsewhere. **MANUFACTURED BY WORTMAN & WARD** LONDON, - ONTARIO. Cor. York and William Streets. 219-e

STOCK NOTES.

(Continued from page 124.)

BRITISH AMERICAN SHORTHORN HERD-BOOK.—We have just received a copy of Vol. II. (1884) of this book from Mr. R. L. Denison, Secretary of the Association.

Messrs. T. & A. B. Snider's celebrated cow, "Rose of Strathallan 2nd," dropped a very fine red bull calf. There is great demand for their young cattle.

At the different public sales of thoroughbred stock in the United States during the last season, 540 head of Jerseys are reported, which brought an average price of \$342.00 per head.

SHROPSHIRE SALES.—By Messrs. Heron & Son:—To Mr. Robert Hannah, Bethany, Ont., one pair ewes (imp.). To Mr. Thos. A. Preston, Mount Albion, one ram lamb and one ewe lamb.

At a large sale of thoroughbred Shorthorns which took place in Kansas a few weeks ago, the average price per head realized was \$135, bulls having averaged \$119, and females \$140. The highest bid was \$405, for a bull bred in Canada. Herdford bulls in the same State bring \$700 to \$800.

SALE OF PERCHERON STALLION.—Messrs. T. & A. B. Snider, German, Mills, Ont., sold their fine five-year-old stallion, "Producteur," to Mr. S. S. Dickson, Cedar Hill, Ont., for \$2,800. This is the stallion which took first prize and sweepstakes in his class at the Western Fair last fall.

CANADA ABROAD.—Mr. F. Green (Green Bros.), of Innerkip, Ont., attended Mr. Duthie's sale of Shorthorn bulls in Aberdeen, Scotland, on the 30th Jan. last, and out of 20 bulls, selected and bought the dark roan, "Enterprise," sired by "Ventriloquist"; dam, "Evangeline 2nd," by "Diphthong."

SHORTHORN SALES.—The following sales have been effected by Messrs. Heron & Son, of Dalmore Farm, Ashburn:—(1) To Mr. James Leask, Greenbank, Ont., one bull calf by 2nd Prince of Springwood; dam, Wedding Gift. (2) To Mr. Thos. A. Preston, Mount Albion, Ont., one bull calf by same sire; dam, Annabella.

DEATH OF MERCEDES.—This celebrated Holstein cow, owned by Thos. B. Wales, of Iowa City, died on the 17th March. She won the challenge cup given by the *Breeders' Gazette*, Chicago, for the greatest yield of butter in a month's test, her competitor being a Jersey cow. During this test she produced a daily average of 3 lbs. 5 oz. Her last calf, when 9 months old, brought \$4,200, she and her calf, at the time of this sale, being valued at \$10,000. She died of milk fever.

J. G. SNELL & BRO., Edmonton, Ont., made the following sales: To W. J. Winter, Massie, Ont., one boar and one sow; Wm. Templen, Jerseyville, Ont., one boar; Charles H. Hunter, Wichita, Kansas, one boar and four sows; Jas. Connell, Fesherton, Ont., one boar and one sow, and two Cotswold sheep; A. W. Smith, Maple Lodge, Ont., one sow; E. P. Gilloghy, Lindsay, Ont., one boar; James Houk, Industry, Mo., two sows; T. W. Samuels, Pleatsville, Ky., three sows; Samuel Dalson, Alloa, Ont., one sow; John Sharman, Souris, Man., one boar and two sows; Donald M. Finlayson, Kinistino, Saskatchewan District, two boars and four sows.

GRAND TRUNK RAILWAY OF CANADA

TRANS-CONTINENTAL ROUTE TO

MINNESOTA, DAKOTA, MONTANA
MANITOBA AND BRITISH
COLUMBIA.

PASSENGERS to the rich wheat-producing lands of the Northwest, and the Agricultural and Mining Districts of British Columbia, will find the cheapest and best route via the Grand Trunk Railway of Canada.

THIS IS THE LEGITIMATE ROUTE TO THE NORTH-WEST, affording a continuous trip and making direct connection with the Steamer lines from Sarnia and Collingwood, and by rail through to all points in the Northwest, West, and South-west.

THE GRAND TRUNK RAILWAY,

with its powerful and direct connections, and extensive and continuous through line, is THE FAVORITE ROUTE, and can be relied upon. The very best rates will be quoted for freight, passage, live stock, effects, and extra baggage, for emigrants; also for individual emigrants.

It has deservedly gained the reputation of being an exceptionally desirable route for bodies of emigrant settlers. Special attention has been paid to this business, both as regards cars, train service, accommodation en route, and instructions to employees to treat parties and holders of our tickets with courtesy and attention.

Apply for full information to Agents at the Offices of the Grand Trunk Railway.

JAS. STEPHENSON, JOSEPH HICKSON,
217-1 General Pass. Agent. General Manager.



FOR HORSES & CATTLE.

Croft's Blood Cleanser improves and strengthens the digestion of the animals, enabling them to thoroughly extract all the nutriment from their food, thus causing a rapid gain in flesh.

Croft's Blood Cleanser thoroughly purifies the blood, cleanses the system from all disease, makes the coat sleek and smooth, and puts the animal in perfect health and spirits.

Croft's Blood Cleanser is a sure cure for worms, and will save a horse from all the ill effects of bots.

Price, 50c. per package of six powders. For sale by Druggists and Dealers, or will be mailed, post free, on receipt of price.

CROFT & CO., Montreal, Sole Proprietors.

Belmont, N. S., December 13th, 1883.

Messrs. Croft & Co.—Dear Sirs—I had a horse out of condition; I fed him well but he would not thrive. His hair stood on end. I gave him a package of your Blood Cleanser, as directed. He is now looking better. I think it is a good medicine and will speak a good word for it.

Yours truly, L. DEARMOND.

Ameliasburg, Ont., December 26th, 1883.

Messrs. Croft & Co.—Gentlemen—Your package of Blood Cleanser received. I had a cow that was giving bloody milk from one teat. I gave the package to this cow; she is now much better; I believe a permanent cure has been effected. Yours truly,

EDWARD ROBLIN.

Soc'y Ameliasburg Agricultural Society.

Lakeside, Ont., December 29th, 1883.

Messrs. Croft & Co.—Dear Sirs—The package of your Blood Cleanser was badly broken in the mails and most of the contents lost. I gave what remained to a valuable mare which was very drowsy and dry in the hair, and I must say it has made a marked improvement in her appearance. Yours very truly,

A. McLAREN.

Theftford, Ont., December 11th, 1883.

Messrs. Croft & Co.—Gentlemen—I think your Blood Cleanser very good. Send me one dollar's worth by return mail. Respectfully yours, GEO. SUTHERLAND.

Norton Station, N. B., Dec. 19th, 1883.

Messrs. Croft & Co.—Gentlemen—I have much pleasure in testifying to the good effects upon a horse to which I fed a package of your Blood Cleanser. The horse got cast (in the stable) in July, and bruised himself badly, and we were unable to use him for several months, and we could not get his coat to lie smooth. I was very sceptical of the good the package might do him; but the most sceptical would not but be convinced of its good qualities after seeing its effects on my horse, and I can confidently recommend it to all. Meanwhile I remain, yours, etc.,

W. H. HEINE, Maplewood.

Montreal, December 26th, 1883.

Messrs. Croft & Co.—Dear Sirs—I have at present twenty-seven horses under my charge. I used your Blood Cleanser in the stables and find it the best preparation I have ever used. It has a wonderful effect on the health and condition of the horses, and as a cure for worms I have never seen its equal. Yours truly,

ANDREW PORTEOUS.

Head stableman for Messrs. Henderson Bros., Lumber

Merchants, Montreal.

The above are a few of the hundreds of testimonials received by us. CROFT & CO., Montreal, P. Q.

THE CHEAPEST
FORCE PUMP
IN THE WORLD!

Especially adapted for spraying fruit trees, watering gardens and lawns, and washing carriages. Will throw a steady stream 60 feet. Can be applied to any service that a cistern or force pump can be used for. Send for Catalogue and Price List. For sale in Canada by Waterous Engine Co., Brantford, Ont.

FIELD FORCE PUMP CO.
Lockport, N. Y., U. S. A.

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BAKING POWDER

S.H. & A. SEWING

PROPRIETORS

AND

MANUFACTURERS

57 & 61 ST. JAMES ST.

MONTREAL.

For Sale by all Grocers.

215-y



FARMS FOR SALE

In Western Ontario a number of choice Farms. Full description list sent on application. Correspondence invited, full information given, and on personal application at my office, plans of the townships shown, enabling strangers to see the position of properties and their proximity to towns, railway stations, &c. Farms with acreage to suit every one. Send to

CHARLES E. BRYDGES,

Real Estate Agent.

Land office, 98 Dundas street west, London, opposite to the City Hotel, for list of farms for sale. 176-1f

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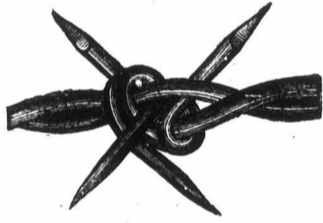
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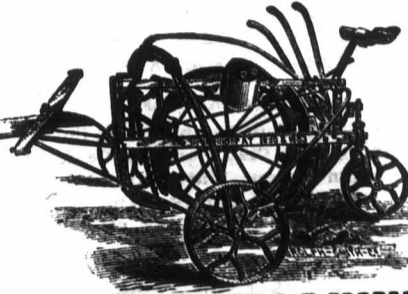
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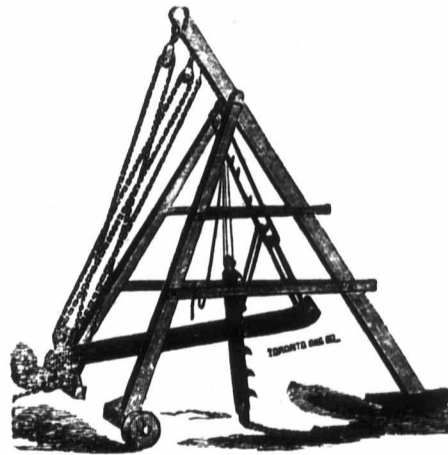
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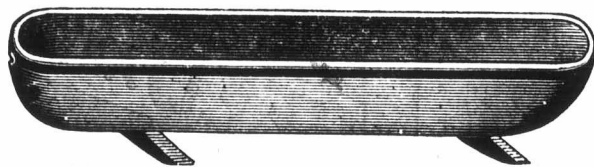
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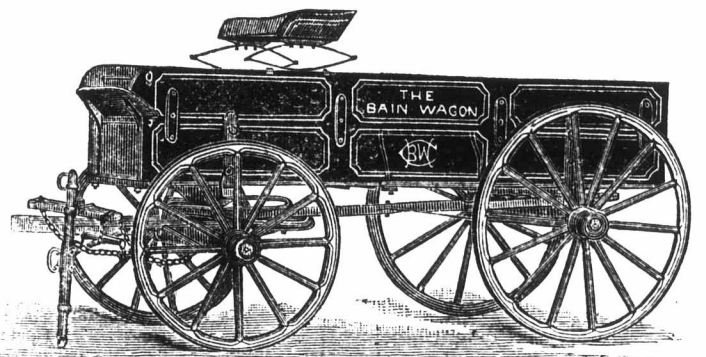
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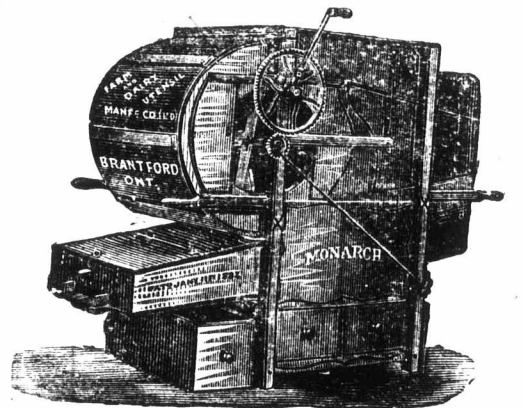
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