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THE CANADA FARMER

VOL. I. No. 19.] TORONTO, UPPER CANADA, OCTOBER 15, 1864. [POSTAGE FREE.

The Field.

A Few Maxims for Farmers.

I. The farmer who does not return to his fields a dressing more than equivalent to the crops gathered therefrom, is as unwise and thoughtless as he who would neglect to feed the horse that was to carry him on a journey. In both cases it is diminishing the ability of a faithful servant to minister to his wants.

II. The husbandman who obtains from a field not properly manured, a small yield of grain, when by sufficient manuring he might have obtained a large one, is selling his labour at half its value.

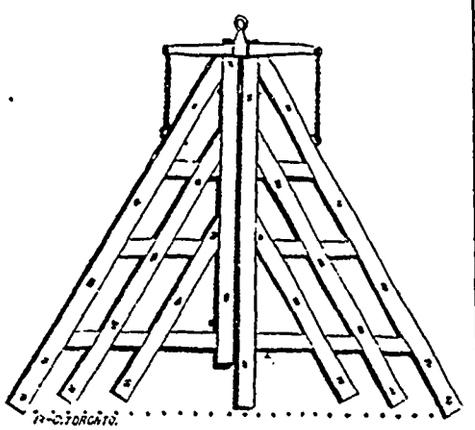
III. In all cases keep the best products of your farm, whether of grain or stock, for your own use, that improvement in each may result therefrom. If three poor sheep will bring as much as one good one, keep the one and sell the three.

IV. Do not permit the remains of animal or vegetable substances to decay about your dwelling, but incorporate them with the soil or the compost heap, thereby securing the comfort and health of your family and adding to the attractiveness of your home.

V Having things "near enough," often causes much trouble. The head-board to farmer A.'s cart was a little too short, but it was "near enough," consequently it came out in passing over a jolt, and with it half the potatoes. The keys to Mr. B.'s waggon thills were rather small, but they were "near enough"—so they worked loose, the thills came out and the waggon and horse got wrecked together in going down hill. The bar to Capt. C.'s cow pasture was too short, and yet he thought it "near enough"—but it dropped out one day and the cattle got through and destroyed his grain. It is better and cheaper in the end, even if it does take a little more time, to have things just right.—*Maine Farmer.*

A Good Harrow.

MR. W. D. MORTON, of Lapeer County, Michigan, sends the accompanying drawing of a harrow to the *American Agriculturist*, and writes as follows in reference to it:—"I send you a plan of a harrow which I made some seven years ago, and have used on land both smooth and rough with perfect satisfaction ever since, and can now recommend it to your readers as being better than any other I have yet seen. It will work wherever the old-fashioned letter A drag will, among stumps or stones; either side, or the middle, may be lifted over stones or stumps with equal ease; and when the obstacle is past, it will resume its usual position. On smooth lands it is not so readily swung out of its place as the common double square harrows, nor drawn at an angle by any slight obstruction or irregularity in the ploughing, but will run straight ahead. It will run hollowing in a water furrow, between lands, and it will run crowning on the top of the ridge, thus nicely rounding off the ridges. It will make its mark every three inches, with the exception of two spaces at each side, and one in the centre, which are 4½ inches each. The proper working of this, *or any other double harrow*, depends on putting the drawing staples in the line of draught of each side, which so nearly intersect the centres of gravity of each side, that the proper point may be found by hanging up each *half separately*, after the teeth and hinges are put in, so that the centre timber will be perpendicular. Every one who has used this harrow pronounces it an improvement, and several have been made already from my model. Convinced of its utility, I desire to see it in general use, and offer it freely, through you, to all who wish to know how to make a good and easy working harrow. One centre piece is six inches longer than the other, for facility in getting hold to lift the middle when necessary. Two teeth in each centre piece run in the same track; they are better to be both in, to balance the harrow. The draught bar must be equal in length to the distance between the drawing staples."



MORTON'S IMPROVED HARROW.

The editor of the *American Agriculturist* adds:—"This harrow differs from the excellent Geddes harrow, which is the best form of a harrow in market, chiefly in the 'draught bar,' as our correspondent calls it, which, it will be noticed, is not attached to the point of the harrow at all, but is free to sway about in any way the chains will let it; and we see no reason why this 'draught bar' might not be attached with perfect ease to the Geddes harrows now in use. This construction will enable us to hitch the team nearer the harrow, and yet not lift the point teeth out of the ground, and if by any means the harrow be swung out of its proper course, the power acts as a mechanical advantage, quickly drawing it back into line again."

Horse Carts.

A WRITER in the *Country Gentleman* having expatiated somewhat upon the handiness of horse carts, is replied to in a communication, from which we take the following extracts:—

"When the waggon was discarded from use upon the farms of England, a vehicle of monstrous ungainly proportions, bidding defiance to symmetrical construction, drawn by four horses, whose slow, elephantine movements were in proper unison with the rolling of its four huge wheels, received its death-blow. Its place was taken by a vehicle with only two wheels, to be drawn by one horse. Thus came the cart, *alias* horse-killer, into existence.

"The farm-cart must necessarily be of that weight, which renders it decidedly injurious to any farm horse, whether English or American, and most assuredly to the latter. When upon a level the cart bears upon the horse; when upon a descent it does so in a greater degree; when toiling up an ascent, the weight pulls upwards upon the belly. If one wheel falls into a deep rut, as is often the case, the cart swings towards the unfortunate wheel, having a tendency to throw the horse off his feet. If this is successfully resisted, ten to one he is strained. The good roads of England obviate these evils somewhat, but they exist in full in most localities on this continent. An English cart harness weighs from 40 to 60 pounds. This is no small item added to the draught. No pace but a walk can be forced upon a horse. If a cart must be used, get oxen. Stumbling is very prevalent among horses in neighborhoods where carts are used. No doubt the main and general cause of this fault is sore feet. Some say this defect is more common in England, Scotland and France, because the roads are hard. More likely it is the almost exclusive use of two-wheeled machines, such as farm carts, gigs, dog carts, &c., heavy, clumsy vehicles, throwing all the weight and strain upon the horse. No wonder sore feet, stumbling, and scarred and broken knees are so common."

High Farming and Clean Culture.

THE farmers who make money in this part of the country by the cultivation of the soil, are those who understand and appreciate the force and meaning of the two words at the head of this article. They are those whose native common sense enables them to comprehend the difficulty of making "an empty bag stand upright," and who thus save themselves at the outset from all the disappointment and mortification incident to such attempts.

There are good farms all over Massachusetts and

elsewhere, whose proprietors are steady, industrious, pains-taking men, upon which, from year to year, it is difficult to produce any more than a bare subsistence. Could such farmers be persuaded to adopt new and improved modes of culture, such as has been proved the best by the experience of hundreds and thousands, both in this country and in Europe, they would be able to add to the value of their farms, and increase the comforts of their homes with every succeeding harvest, and lay up a little money every year to provide against any pressing emergency in the future.

Forty bushels of corn to the acre and a ton of hay, satisfies the ambition of far too many, whose lands are capable of a production of twice the quantity, because they will follow in the old routine of their fathers. In the first place they plough twice the land they can fertilize with the manures made upon the farm; they will not buy a dollar's worth of bone dust, superphosphate, or guano, for fear they shall never see the money it cost come back to them in an increase of productions, and they thus subject themselves to the trouble, cost and inconvenience of double the labour, in ploughing, tending and harvesting, which their more enterprising neighbours perform in accomplishing the same results.

What is required to accomplish the needed reform in the modes of management upon New England farms, is *more faith in the land*. The cultivator must come to a realizing sense that *profit*, which is the sum and substance of *success*, comes not so much from the careless cultivation of a large number of acres, as from the *thorough* cultivation of a few. And in that word "thorough" is included everything which relates to the managing, pulverizing, and cleaning the land. The' are what are called "small farmers," cultivating from eight to ten acres of land whose annual returns in cash would excite the envy of many who cultivate our largest farms; and yet they accomplish such results under greater disadvantage than the large farmers who achieve little in comparison. They do not hesitate sometimes to bestow upon the land in a single year, manure to the full value of the land itself, and they seldom fail of their reward in the shape of immense crops; while the old fashioned cultivators are toiling over a vast surface to gather the scanty products of the old system.

In a season like the present, when farm labour is so dear and difficult to be obtained, the advantages of a thorough cultivation of less land over the usual method, by a careless husbandry of a large number of acres, will be most apparent; and there are few who will make the trial of doubling their crops in the manner we suggest who will ever desire to return to the "good old ways" of their fathers.

But high manuring of less land, and thorough pulverization of the soil are not alone the means of adding to the farmer's gains. He must not neglect that other prime essential to good farming, *a thorough eradication of the weeds*. The richer the land the more rapid will be their growth, and they should never be permitted to obtain the mastery. Better abandon every acre, even after the crop is planted, which the farmer finds he cannot keep thoroughly clean, and confine his efforts to the few that he can, than suffer useful crops to struggle with the tares through an enfeebled existence, only to result in a meagre harvest and the re-seeding of the land with weeds for future years. The profits of farming are often discussed in public and in private, in the newspapers and in social circles, and opinions are very diverse as to the comparative advantages or disadvantages of the calling, as compared with the other pursuits in life. But the discussion of the question always turns upon the merits of the two systems of agriculture, viz. that while the largest farms in good localities, half cultivated, in the shiftless, slovenly manner which too often prevails, barely afford a competence to their owners; it is difficult to find one having faith in the land enough to manure it liberally, till thoroughly, and keep all the weeds from his rows and head lands, whose means do not increase from year to year, with a regularity and certainty which the same amount of capital and labour invested in other pursuits rarely surpass.—*Mass. Ploughman.*

Canadian Tobacco.—Dr. F. L. Genard, of St. Jacques de l'Achigan, writing to a Quebec paper, states that notwithstanding the extreme dryness of the season, he has cultivated, at thirty-six miles to the north of Montreal, two hundred plants of tobacco, of which the leaves have on an average attained a length of thirty-six or thirty-seven inches, by seventeen or eighteen inches in breadth. One of these plants also weighed, after having been cut (on the 1st September) thirteen pounds without the seeds. The leaves to the number of 21, put end to end, give a length of seven hundred and twenty-four inches, or sixty feet and four inches.

The Crops in Lower Canada.

We published in our last a condensed account of the crops of Upper Canada, compiled from the reports of station masters along the line of the Grand Trunk Railway. Below we give a similar account of the crops of Lower Canada. It will be observed that Lower Canada has produced better crops than Upper Canada during the past season. This is something unusual, and we congratulate our neighbours on their good fortune:—

St. Anne's.—Wheat an average crop.

Pt. Claire.—Wheat pretty good; barley, oats and peas very good; potatoes also good, but very small.

Lachine.—Fall wheat has given a yield of about 40 bushels per acre; spring wheat is rather light, but the quality is good; oats, peas, and barley good crops; root crops are good, with the exception of potatoes; hops very poor crop; hay an average crop.

Caughnawaga.—Spring wheat, oats, barley, and peas an average crop.

St. Remi.—Oats, peas and barley an average crop.

Johnson's.—Spring wheat straw, short; grain, good; barley good, but straw light; oats under average; peas average crop; potatoes not large, but good; turnips a failure; carrots good; hay on high lands light; on low lands, good; on the whole, an average.

Hemmingford.—Oats, average crop; rye and barley an average crop; potatoes more than average.

Rouse's Point.—Oats are our principal crop of grain; considerable barley sown; very little wheat.

Lacolle.—Spring wheat very much better than for many years, and will be a good crop; oats are the staple of this parish, and will be an average crop; peas and barley are looking well; buckwheat looks uncommonly well; flax is beginning to occupy more attention. One party has forty acres, which look splendid; potatoes good; English beans little sown, but good quality.

Scotts.—Barley will average 10 bushels per acre; peas 25; oats 20; root crops are very light.

St. John's.—Oats, barley, and peas are good average crops; wheat, very little raised; hay an average crop; potatoes will be a good crop; Indian corn is unusually fine; fruit and vegetables, with good land and a good market, in this neighbourhood are singularly deficient—a good opening for a market gardener.

St. Lambert.—The grain crops are below an average, but of good quality; hay is plentiful; oats, barley, and peas will average from 12 to 15 bushels per acre.

St. Hubert.—Oats and barley very good, but short straw; spring wheat middling; Indian corn not very good; potatoes very good; peas very good; beans very good.

Boucherville Mountain.—Spring wheat is a fair crop; barley, middling; peas good; oats poor; potatoes, middling.

Belœil.—The crops are fully as good as last year; hay is considerably above the average yield.

St. Hyacinthe.—Hay, oats, peas, barley, and potatoes are fair average crops.

Britannia Mills.—The crops in general are very good.

St. Liboire.—Spring wheat, 5,000 bushels; barley 6,000 bushels; oats, 15,000 bushels; beets and potatoes, 16,000; hay, 1,400 tons.

Upton.—It is likely the crops will be very heavy this year, especially wheat, oats, and peas.

Acton.—Oats, peas, and corn very good and plentiful; barley below an average, but good in quality; hay below an average crop; root crops fair, but in small quantities.

New Durham.—Hay below an average; spring wheat and buckwheat good; oats very light; potatoes and turnips good.

Richmond.—The harvest is scarcely an average; there is a large quantity of coarse grains raised.

Danville.—The crops in general are better than they have been for five years.

Warwick.—All crops have a good appearance; spring wheat will average about 10 bushels per acre; coarse grains and root crops are good; hay is below an average.

Arthabaska.—The crops in general are good, except hay, which is below an average.

Becancour.—Spring wheat 15 to 20 bushels per acre; oats 30 to 35 bushels; barley 33 to 35 bushels; rye 27 to 30 bushels; buckwheat 45 to 50 bushels; turnips 300 to 400 bushels per acre.

Methot's Mills.—The grain and root crops are very favourable in the surrounding parishes.

Craig's Roads.—The harvest is satisfactory, except potatoes.

St. Henri.—Oats good; the root crops have a good appearance.

St. Thomas.—Spring wheat good and nearly double the average; oats above the average, a good quality. The grain crops are better this year than they have been for ten years.

St. Anne.—Spring wheat an average yield; flaxseed will be of very good quality, and of some importance; hay below an average yield, and poor quality; oats, barley, and peas are very good, the appearance of potatoes is very good.

Riviere Ouelle.—Spring wheat will average about 15 bushels per acre; oats 40 bushels; barley 18 bushels; carrots 400 bushels; potatoes 150 bushels; hay about 1½ ton per acre.

St. Pascal.—Oats 48,000 bushels; wheat 12,500 bushels; coarse grain and root crops 75,450 bushels.

Windsor.—Spring wheat is very good, both in quality and yield; coarse grains good crops and good quality; root crops very good.

Brompton Falls.—Wheat is an average crop; coarse grain and root crops are good; hay rather light, scarcely an average crop.

Lennoxville.—The crops in this vicinity are good; hay a full average crop; spring wheat is better than for several years; other grains good; root crops are plentiful.

Waterville.—The crops in general are good.

Coaticooke.—Spring wheat will average about 25 bushels per acre; oats 45 to 50 bushels; the breadth of land sown is over 2,000 acres; buckwheat good; potatoes good; hay an average crop.

Tobacco Curing.

In order to procure a good fine-flavoured, superior quality of tobacco, a suitable tobacco house is the first, and most imperative necessity. It would be just as absurd for one to attempt the manufacture of fine, marketable butter in a pig-trough, or delicious ice cream in a coal scuttle, as to think of curing tobacco properly in an open shed, cellar, chamber loft, or ordinary stable. And yet half the people who raise tobacco in a small way actually attempt to do it, and wonder at their inevitable failure. There is a great deal more in the curing than in the culture of tobacco, so far as determining its character is concerned, and that the crop may be properly cured, a suitable house in which to effect that cure is indispensable. It is all simple enough too. No mystery about it—not expensive either. In size, the tobacco house should be determined upon by the quantity of material you intend to produce. A light frame structure covered with rough boards, a tight, shingled roof, with openings along the ridge, and the same half way up the sides, all so arranged as to be closed at will or opened at pleasure, is the kind of building you require; then never permit it to be used as a hog pen, hen roost, hay loft or horse stable.

For convenience sake, your tobacco sticks ought never to be more than five feet long and no larger than is necessary to sustain the weight of a dozen tobacco plants. The sticks tied in pairs at the heel, should be placed on the sticks just clear of each other, and the sticks then placed on the bearing poles regularly as candles are suspended for the old-fashioned "dip," and thus continue the process until your whole stock is disposed of.

During the curing season, care should be taken to close all the openings of the buildings during rain storms and all unusually damp weather, and opening them again for free ventilation, as soon as the atmosphere becomes suitable. The tobacco may safely hang thus undisturbed from two to three months, at the end of which time it will be a good plan to take it from the sticks and pile neatly in heaps of say a hundred plants each on rows of poles or boards, a few inches from the ground. In this position it may remain with advantage any length of time, so that it does not get damp, and mold or mildew.

When you are ready for stripping the tobacco will also be found ready and in prime order, provided the weather be suitable; it being bad management to strip or handle cured tobacco on the stock during very dry weather.

In stripping the tobacco the best plan is perhaps to assort the leaves into three distinct grades, taking always the four lower leaves for the first, the next four for No. 2, and the remainder at the top of the stock for No. 3. By this means, while you have diminished the value of No. 3 nothing, you will have enhanced that of the other two grades, and consequently that of your entire crop by making all your "hands" and packages of uniform size in each particular grade. Let ten to fifteen leaves form a "hand;" wrap them firmly at the base with an imperfect leaf of the like quality with the "hand," and make up packages of twenty-five to thirty pounds, neatly and uniformly, by placing the first layer with the points of the leaf all one way, rever-

ing the second layer, and so on alternately, until the package is completed, which sew or bind up neatly and compactly, in light straw or corn husk wrappers, which you may very easily learn to manufacture yourself.

These simple directions, strictly followed, will certainly result in the production of a superior article of leaf tobacco, and will insure the maximum market prices.—Cosmo.

Saving Liquid Manure.

We hear a great deal about dressing land with nitrate of soda, and various other chemical compounds, but does it ever occur to our agricultural friends that they possess in the liquid manure of their barn-yards and pig-pens these as well as that other fashionable ingredient, ammonia, in abundance? All of which, however, we see passing off down the ditches and high roads with every rain that falls, without any attempt to put a stop to the ruinous waste, while the owner is perhaps toiling for several miles to the city to bring back an expensive article of nitrate or sulphate of soda, or some other fashionable stimulant. The thing is preposterous, and if a tradesman were guilty of anything so perfectly thoughtless and wasteful, his friends would prognosticate his ruin at hand; but agriculture *may* bear it and even thrive under it, when other trades would be destroyed by it.

The last time I visited my old acquaintance, John Smith, I had enough to do to steer clear of a black stream of liquid manure, caused by a two days rain, which I met issuing from his barn-yard which must have robbed the manure of one-tenth of its value. I could not prevail upon him to sink a cistern and convey the liquid to his pastures; this was labour which he did not covet. Now, as I know he reads the *Telegraph*, I take this plan of giving him another gentle hint upon the subject.

In order to bring out the subject still more plainly, I will give a short account of experiments which have been made, and which prove the superior value of liquid manure.

The first experiment was on pasture, the soil sandy, subsoil sandy gravel and perfectly dry; four acres of the fields were well manured with first quality barn-yard manure at the rate of twelve two-horse loads per acre. This manure was applied in February. The remainder of the field (about an acre) was manured with liquid from the barn-yard.

In the spring the appearance of the grass, both in colour, height, and tackness of sward, was in favour of the liquid manure; during the summer the field was pastured with cows, and that portion manured from the liquid of the barn-yard was close cropped.

In a second experiment one portion of the field (a small one) was manured with a compost of night soil and wood mould, and the remainder with liquid manure; when the lot was mowed the line between could be easily traced, and the difference was strongly in favour of the liquid manure.

I do not wish to be understood to object to the use of sulphate of soda or any other chemical compound, but I do think that when we make use of all the means which are at our command at or near home, we may then think of buying these compounds, but not till then. My argument is, that it is not economical to buy stimulants (not manures) when in nine cases out of ten we can manufacture at home a manure which in effect will equal those purchased at a greater cost.—*Germantown Telegraph.*

Formation of Dew.

The formation of dew depends upon a property which all solid substances have, in a greater or less degree, according to their nature and outer surface.

When I hold my hand towards the fire, I feel the heat darting out from the fire to my hand. I feel it darting out in the same manner from a hot stove or from a hot flat-iron on whatever side of the stove or iron I hold my hand. The heat which darts out thus in every direction from any hot thing is said to radiate from it, because it comes out straight from it, just as the spokes (*radii*, in Latin) come out on every side from the hub of a wheel. If I observe carefully, I find that the heat comes out more abundantly from a stove the surface of which is very rough, than from one which is very smooth and I discover that the reason is, that every little projecting point radiates a stream of heat.

Now, what I find to be true of the surface of a hot stove is true of every surface. Every solid body is continually sending out heat in straight lines—radiating heat—from its surface. If several bodies are heated to the same degree, the one which is roughest will radiate and consequently cool most rapidly.

When the sun sets, all things which have been exposed to his heat send it forth by radiation, and grow cool. Those things which have the roughest surface, like the stems and leaves of grass, cool most rapidly. The heat thus radiated is sent out into the thin air, and if there are no clouds, is lost in vast space. The air which is near to these blades of grass imparts its heat to them and then grows cold. The air thus becomes incapable of holding in solution all the water it had dissolved, and deposits it, in minute particles, upon the surface of the grass. The radiation goes on, and the moisture continues to be deposited, till the blades of grass are covered with drops; and these drops are drops of dew.

Now, just as, by placing a screen before a fire, we prevent the heat from being radiated into the room, and send it back to the fire, so a screen of clouds stretched over the earth prevents the heat received from the sun from being rapidly radiated into the empty air, and thus prevents the formation of dew. We find, accordingly, that dew is formed only on clear evenings.—*Manual of Agriculture.*

Indian Corn.

To the Editor of The Canada Farmer:

Sir,—I have read with much interest the remarks by J. E., on this cereal in the Farmer of the 15th September. Corn is a crop to which more attention should be given in the peninsula of Canada West. The yellow eight-rowed corn is preferable for this locality, as it contains more oil and gluten than the white corn of the Southern States.

A few hints may not be unacceptable to those of your readers engaged in the cultivation of this plant.

A bushel of corn will shrink from the time of harvesting till thoroughly dry, about 22 per cent. Two bushels of ears will generally make one bushel of grain.

The average yield of corn in this latitude is about 25 bushels an acre, a good yield is 40 to 50 bushels, while 80 to 100 bushels have at times been raised.

For the proper cultivation of this cereal, the soil should be dry; standing water or moist soils do not produce good crops. The soil must be made rich and deep, as the plant feeds strongly, and carries the root deep.

Prepare your seed by selecting the most perfect grains, and previous to planting soak them for a few hours, to promote rapid vegetation, but do not allow them to swell and dry, as it destroys vitality.

Spread broadcast on your fields a top dressing of ashes, lime, and plaster, or add it to your hills or drills. Do not hill your corn. If planted in hills (or more correctly at the angles of the squares made by the marker,) let them be at least 3 feet 6 inches apart. If in drills let them be 4 feet apart, and each plan eight inches asunder.

Do not top your corn, but cut it at the butts, and shock it. It ripens better, and keeps better, gives a greater weight of grain, and better fodder. Plant not over one inch and a half deep. Plant from 1st to 15th May, thus avoiding frosts. Keep your corn free from grass and weeds; use the hoe and cultivator freely, do not wound the corn, and keep the soil loose.

Do not cut off the suckers unless your corn stands too thick. Air and sunshine are necessary, but it is very doubtful whether the taking away the suckers produces any benefit.

As a steep for corn use soft water sufficient to cover the quantity to be planted in a day, and add to it 2oz. sal ammoniac. Leave it in the steep till the corn begins to swell slightly. Nitre instead of sal ammoniac is excellent. Muriate of ammonia 1oz. for every quart is good.

As a compost for corn use the following:—One bushel gypsum, two bushels ashes, unslacked; mix, and add a gill to each hill when you plant, and before it is covered. When the corn is up add another gill to a hill.

To estimate the quantity of shelled corn contained on the cobs in any given space, level them, and measure the length, breadth, and depth, then multiply these dimensions together and the product by four. Cut off the last figure and you will have the number of bushels of shelled corn, and the decimal of a bushel. If you desire to know the number of bushels of ears, multiply by eight instead of four as above.

A. KIRKWOOD.

Preparation of Seed Wheat for Sowing.

To the Editor of The Canada Farmer:

Sir,—In your number of September 1st, under the above head, Mr. Kirkwood has given several methods of preparing seed wheat previous to sowing, with the view to the prevention of smut.

There is another method not mentioned by him, which, I think, deserves to be noticed, as being more simple, cheaper, and less troublesome than those he has alluded to, and which I have adopted myself for fourteen or fifteen years with complete success.

For every four bushels of seed take one pound of blue vitriol (sulphate of copper); dissolve in four quarts of boiling water, and when thoroughly dissolved, add two quarts of cold water, making six quarts of the water to one pound of the vitriol. Spread the seed wheat in a heap on the barn floor. Let one person pour the solution over the heap gradually, from a watering pot, with fine holes in the top, whilst another turns the wheat over with a shovel. Give the wheat four or five turns over after the solution is exhausted, in order that each grain may come in contact with, and absorb a portion of it. In ten or fifteen minutes afterwards the grain will be ready to put into bags, carried to the field and sown. The proportions given must in all cases be observed, whether the seed to be sown be more or less—that is, for double the seed take two pounds of the bluestone and twelve quarts of water, or for half the seed take ½ lb. of bluestone and three quarts of water, and so on. If less water be put the solution will be too strong, and some of the seed will not vegetate, and if more water be used it will be too weak and will not have the desired effect. This method was extensively used in that part of England from whence I came, and smut was unknown.

I had tried all the other plans in use here for several years, but always had more or less smut in both spring and fall wheat. From the time I resorted to the above method I never had a gram of smut in either. Many of my neighbours tried the plan with equal success, and if by chance a failure occurred, I found on investigation that the due proportions and proper exactness in the process had not been observed.

J. W. DUNSFORD.

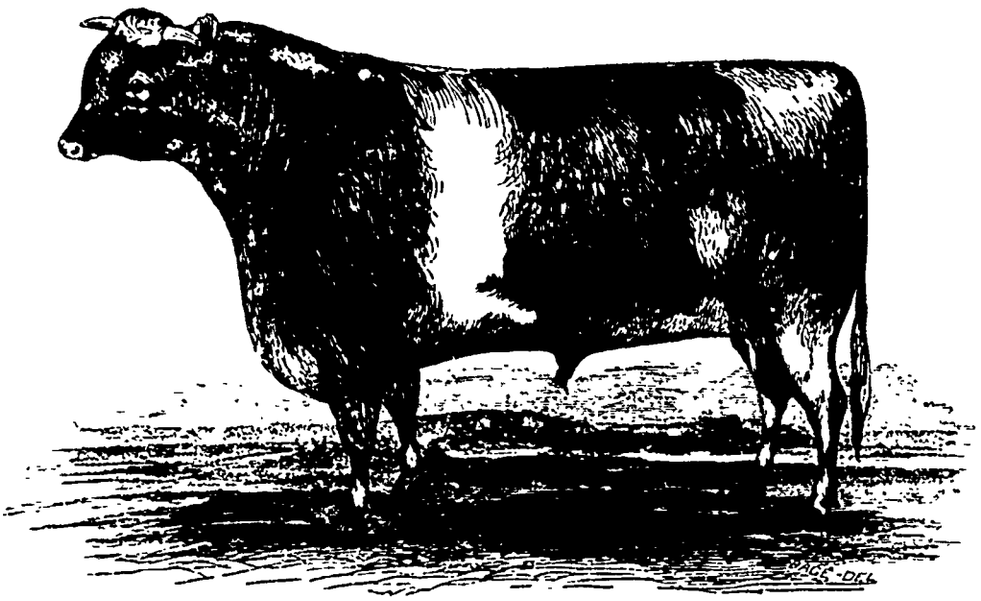
Lindsay, 30th Sept., 1864.

Canada Thistles.—I see an enquiry for a good mode of killing Canada thistles in the *Country Gentleman* of July 21. I have seen several such enquiries before, and have been surprised that no one has given the true answer to them. Let your thistles grow as long as you can and not have the seed mature enough to grow. Then mow them close to the ground. The next year they will be few and weak, and a second cutting will finish them. I do not think that a "patch" of Canada thistles was ever subdued by ploughing or hoeing. Have tried both methods thoroughly several times, but always failed. Fields in which the Canada thistle has become troublesome should be stocked down and mowed, and they will soon disappear.—D. H. O., *in Country Gentleman.*

Bentley's Hay Loader.—This machine was patented in 1863, by the inventor, Mr. W. H. Bentley, of Westford, Otsego Co., N. Y. It supplies a most important link in the chain of haymaking by machinery. The "Hay-Loader" takes the hay from the winrow, puts it on the waggon, and rakes after. It is attached to the hay rack in a simple manner, which enables it to be drawn by the same team as the waggon, and it is set in operation by the act of drawing it along. By the united labours of the mowing machine, the hay-tedder, the horse-rake, the horse-unloading hay fork, and this new and admirable contrivance for loading hay in the field, everything connected with hay-making from cutting the standing grass to the stowing away the hay in the barn, may now be done by horse-power.—*Working Farmer.*

Irrigation on a Large Scale.—The *Edinburgh Review* in giving an account of the great improvements which the British are making in India, notices the system of works for irrigation. These works, it is said, are vast in extent and benefit. The Ganges canal, one the principal, has no less than 898½ miles of main channel, with 1852 miles of distributing water courses, besides many hundred miles of minor channels. It irrigates an area of 1,471,500 acres, and its beneficent waters will protect from the risk of famine a track of country containing a population of 6,500,000 souls. It is estimated that in the famine of 1860-1, 339,243,840 pounds of grain were grown by the irrigations which it afforded. Other canals are from 100 to 500 miles in length, and render fertile vast tracts of land that would otherwise remain almost barren wastes. In the Presidency of Madras nearly all the great rivers have been intersected by weirs, which retain for irrigation the flood of fructifying waters that would else flow out to sea. The increased production is reckoned by millions of pounds in value. These works were constructed at a great outlay, and are justly regarded as triumphs of engineering skill and wise statesmanship.

FIRST PRIZE BULL, AT THE PROVINCIAL EXHIBITION, HAMILTON, 1864.



BUTTERFLY THE SECOND.

The annexed engraving represents the bull which was pronounced by the judges, and fully endorsed by public opinion, as the best bull on the ground, of any breed, at the recent Provincial Exhibition. At the time of the Show he was 1 year and 11 months old; bred by Mr. Sneldon, of Geneva, N. Y., and recently purchased by J. White, Esq., M.P.P., Halton. He was got, as the pedigree shows, by "Oxford Lad," (now owned by Messrs. Christie and Cowan), from a cow bred by Col. Townley, of Lancashire, England; and he evidently bears traces of an unmistakable character of the world-renowned "Butterfly" blood of that celebrated breeder. The symmetry of this young, promising animal, is all but perfect, and with the expression of the highest style of breeding. His wide chest and springing ribs denote great strength and a hardy constitution. If no evil betide him, and he go on as he has begun, he will undoubtedly rank among the most perfect and valuable animals of his class that the people of this continent have ever seen; and it is to be hoped, for the sake of his enterprising owner and the good of the Province, that this result may be realized. The following is "Butterfly's" pedigree:—

Roan, calved Oct. 20th, 1862, bred by J. O. Sheldon, Geneva, N. Y.

Got by Oxford Lad (A. H. B., 4220)

Dam, Miss Butterfly, by Martin Butterfield 2nd (14918.)

Dam, Ratafia, by King Arthur (13110); (E. H. B., vol. 13, p. 668.)

Dam, Rarity, by Preston (8108.)
" Railway, by South Star (7830.)
" Verbena, by Van Amburgh (5513.)
" Pine Apple, by Plenipo (1721)
" " " Young Matchem (4125.)
" " " Sir Thomas (2636.)
" " " Marske (418.)
" " " Comet (155.)
" " " Tom (652.)
" " " Son of Favorite (252.)
" " " Hutton's Bull (322.)
" " " Birmingham (56)

The Short Horn class, at the late exhibition, comprised no less than 112 entries, the average quality of which indicates a rising standard of excellence. It is quality rather than quantity that constitutes the standard by which the progress of these gatherings is correctly measured, and tried by this test, as well as by the amount of animals exhibited, our Provincial Shows do certainly indicate a steady and certain rate of progress. Among the novelties of the Short-Horns, Mr. Christie's recent importation deservedly attracted a large share of attention and, we may add, admiration. The animals exhibited by Messrs. Stone, Snell, Black, White, Miller, Cooley, and others, fully sustained the high character of this department of the Show, which has for several years past distinguished its predecessors. It is now an exception that a decidedly inferior animal in any of the pure-blooded classes is brought to the Show, and the generality are much above what may be considered mediocrity. At the late Provincial Show, the judges, in the Short Horn department especially, must have experienced no little difficulty in making some of their awards, amidst so much that was excellent. It was a sad pity that the Thursday of the Show week proved so wet and stormy, thereby greatly diminishing the receipts of the treasury, and preventing thousands from observing the fine cattle and other departments in a comfortable and improving manner.

The Breeder and Grazier.

The Lama and Alpaca in Scotland.

In the beginning of this century the Empress Josephine obtained from the King of Spain a considerable herd of lamas, which, however, were detained at Buenos Ayres for six years in consequence of war, and when, at last, only nine of them arrived at Cadiz, in 1808, Spain was in a ferment, and the lamas were not only neglected but almost thrown into the sea, out of hatred to the Prince of Peace, who had favoured the undertaking. Recent attempts have also been signally unfortunate. M. St. Hilaire's mission to Holland in 1849, for the purpose of purchasing thirty lamas and alpacas belonging to King William II., has had a most mortifying result. The greater portion of them was sent to Versailles, to the care of the Agricultural Society, where they speedily perished, because, as was proved by a commission of inquiry, they were placed in a bad situation, ill cared for, and ill fed. Those, on the other hand, committed to the care of the Museum of Natural History at Paris have thriven so well that complaints are now made that the menagerie is full of lamas. Of a hundred and twenty alpacas and lamas embarked for France by the Acclimatization Society, only forty-five were landed at Bordeaux. Immediately on landing these were attacked by scab, for the removal of which it was unfortunately resolved that they should all be clipped. The danger of such a proceeding in November was instantly demonstrated by the destruction of the whole of them, with the exception of seven, which survived only through careful nursing.

Fortunately, French naturalists are as persevering as they are intelligent and zealous, so that these disasters have only made them more resolutely bent on the accomplishment of their purpose. They rightly argue that as the lama and the alpaca have thriven in places so little above the level of the sea as Paris and the Hague, there is reason to expect a much greater success when these mountain animals are introduced to congenial localities among the Alps and the Pyrenees. As this consideration must have great weight in determining their introduction into the Highlands of Scotland and Wales, we bring it prominently forward. These are creatures specially adapted for the Scottish hills, where, doubtless, they will know how to live; for it is a remarkable fact that they manage to thrive in regions too bare to sustain the hardy mountain sheep.

Scotland appears already to possess lamas and alpacas; for, according to M. St. Hilaire, thirty-nine of these animals were landed at Glasgow in 1858 by M. Whitehead Gee, and a part of them remained in Scotland, the remainder being destined for Australia: but of this gentleman's doings we unfortunately are unable to give any account. There being such ground for supposing that these animals could be acclimatized in this country, we have only to make up our minds as to the expediency of introducing them.

Goats are so few that the sheep may be said to be the only domesticated ruminant which browses on the herbage of our Scottish mountains. Without desiring to displace them, we are called on to decide whether they shall continue to be our only wool-producing animal, which, at the same time, furnishes valuable butcher meat. If we have the means of enriching our mountains with a species of animals which may be used as beasts of burden, besides supplying us with food and clothing of a kind as yet unknown to us, we shall belie our national character for shrewdness and enterprise if we do not speedily address ourselves to the by no means difficult task of augmenting our limited stock of domesticated animals.

The inducements to engage in it are these: Lamas, in a mountainous country, are useful as beasts of burden, being remarkably sure-footed, gentle, and easily managed. They have, it is true, the sense to lie down when overloaded; and from the camel like structure of their stomachs, they possess the power of secreting a large quantity of saliva, which they discharge with great precision of aim on those who use them ill. These peculiarities, rendering them somewhat independent of the benevolent society for punishing cruelty to animals, are advantageous in the judgment of a humane flockmaster, who will not be displeased to know that the gentle lama is not helplessly at the mercy of a cruel and thoughtless servant. At Paris and Versailles the lama is seen trotting and galloping with a man on its back, and readily obeying the rein; and in the hilly region of Vosges it is employed in carrying tiles and manure. It eats about three times as much as a sheep. Its milk, in composition, is almost identical with that of the cow, but, of course, much less in quantity, as is the case with all animals not reared with this object in view. In butyraceous matter it is very rich, being 3·15, while that of the cow is 3·30.

It is as wool-producing animals that the lama and the alpaca merit special attention. Ten years ago the importation of lama wool amounted to 2,200,000 pounds, the price varying from 1s. 3d. to 2s. 9d. per pound. And as by this time we are paying a very much larger sum for this kind of wool, it is time to consider why we should continue importing a production which may be abundantly furnished at home to the mutual benefit of the British manufacturer and the British agriculturist. The stuffs manufactured from this wool have been chiefly of a light texture, and are a medium betwixt the wool of the sheep and silk. They are mostly made into ladies' dresses, which are durable, remarkably pliant, and not subject to fret. But of late the application of it has been much more extensive, and it is now largely used in the manufacture of male attire, as well as for ladies' dresses.

The inevitable conclusion from all these considerations appears to be, that it is of national importance that we shall no longer be destitute of a species of animals for which this country is specially fitted, and from which we may derive at once good milk, excellent meat, magnificent wool, and very sure-footed beasts of burden. The introduction of them into Australia holds out the sure prospect of a large accession to the wealth of the colony. As we fear that Parliament will not imitate the colonial government in facilitating this by pecuniary assistance, we turn to the Highland and Agricultural Society of Scotland, and invoke its powerful aid in the promotion of an object in such harmony with the design of the institution, and so fitted to be specially a benefit to the Highlands. *From the Journal of Agriculture of the Highland and Agricultural Society.*

Summer Hog Feeding in Canada.

To the Editor of THE CANADA FARMER:

SIR,—Five cents per lb., alive, is now being paid at Hamilton, for prime fat hogs weighing 180 lbs. and 250 lbs each, and now scarcely to be had at that price. I feel sure that farmers are neglecting their own interests in not paying more attention to summer feeding. When going through a considerable portion of Upper Canada, last month, I noticed a large number of good sized lean pigs racing wildly along the roads and through the country looking for something to eat, and many of them, I am sorry to say, of an exceedingly ugly bad breed. They would have been worth to-day $10 to $12 per head, if only three or four bushels of pease had been given them, even if thrown upon the ground in the proportion of a quart per day to each hog, in addition to other things going to waste on the farm. Pork produced in this way, though not of the finest quality, would no doubt sell readily enough, and when firmer and better is not obtainable. Many of our farmers may not be aware that pork invariably sells 25 per cent. higher in the months of July, August, September and October, than it does in the four following winter months, and the principal reason for this difference of price is the increased English demand for American ice-cured bacon. This matter must certainly be worthy of some attention by our farmers, and after keeping over as many peas as they require for summer feeding, the next best thing they can do is to improve the breed of their hogs as soon as possible, with the small or medium sized Berkshire, Yorkshire, Suffolk.

SAMUEL NASH.

Hamilton, October 3, 1864.

The Horse.

THE HORSE is a living machine, capable of more or less reasoning, and set in motion not only at our will, but also on his own account. The trainer must therefore, before he begins to handle it, make himself familiar with the capabilities and peculiarities of both body and mind. We hardly ever find this machine in perfect symmetry—it is not even wanted to have it so; for the English race-horse is not symmetrical, but has intentionally, by careful breeding, undergone a change of figure deviating entirely from its ancestors, the Arabs. But any such deviation, although it may favour a certain quality, for instance, speed, is the reason that the horse cannot perform other works with equal ease. The body of the thorough bred appears more symmetrical than it is, because by breeding for the turf the withers have become so high, that it looks as if the shoulders were as high as the hips; but the disproportion of the legs strikes any beholder the fetlock and radius being too long, and the shankbone too short. If these horses perform great deeds apart from speed, we find the reason in their great muscular power, and their small bones, as well as in the lightness of the head and neck. But very seldom will the thorough-bred naturally be a good steeple-chaser, or an agreeable saddle-horse; if he is such he will resemble more or less the Arab, as does also the English hunter, except in size.—*Correspondence of Wilkes' Spirit of the Times.*

To Make a Balky Horse Draw.—To make a balky horse draw, when every other method fails, take a good strong cord (clothes-line, for instance), long enough to reach from the horse's head to the waggon, tie one end around the horse's neck, close up to his head, in a slip-noose style. When the horse balks, draw on the cord until you choke the horse down, and keep down until he shows an inclination to get up; then slacken the cord, and he will in nine cases out of ten draw right off. Continue the practice, and he will soon get tired of the balking for the sake of not being choked. I have succeeded that way when every other means failed.—*Rural New Yorker.*

The Dairy.

Elements of the Dairy Business.

UNTIL within a few years, the manufacture of cheese has been almost entirely an empirical process,—the mere following of forms which have been handed down from other generations, without an understanding of, or any reference to those guiding principles which should direct the process. Science has at length stepped in, and in several particulars has rendered valuable aid. By it have been accomplished reduction of labour; increase in quantity of product; improvement in its quality, and a shortening of the time required for ripening. Reduction of labour and increase of product have been effected by the substitution of improved apparatus in place of the old fashioned cheese tub and other utensils. Both of these objects are assisted, and at the same time an improvement in quality is gained, by the adoption of an improved method of separating whey from curd; viz: by the chemical action of warmth applied to the curd in the whey, causing a contraction and precipitation of the curd. This method of separating whey from curd effects a change in the latter which enables it (after pressure) to ripen with greater rapidity than when the separation is mainly accomplished by mechanical means; indeed, there is reason to believe that a proper cooking of the curd in the whey, is of itself, the equivalent of a portion of the former curing process.

The important points in cheese-making are few, and may be easily and clearly stated, so as to be readily understood; but to be able to secure their being fully carried out in practical operations, so as to secure uniformly good results, and to be prepared for any contingencies which may arise, as an unexpected degree of acidity or any unusual temperature, electrical condition, or other state of the atmosphere, requires practical skill, which can be obtained only by careful study and close observation, aided by a competent teacher.

The first point I will mention is *cleanliness*, and this is quite as important in the butter as in the cheese dairy.

The second; that the milk be in the proper state as to temperature, and not too far advanced toward acidity when the rennet is added.

The third; that the rennet be properly prepared and sweet, and that a sufficient quantity and no more be added.

The fourth; that the whey be properly separated from the curd.

The fifth; curing or ripening.

First. Cleanliness; absolute cleanliness, and by this is meant a great deal more than exemption from visible dirtiness. The inferior character of a considerable portion of the dairy products manufactured not only in Maine, but anywhere and everywhere, and especially the bad flavour, which, although no perceptible when new, but which developes in an unmistakable manner with age, in butter and cheese, is chiefly owing to lack of proper care and cleanliness in the full sense of the term. To understand this better, let me say that caseine, or the curdy portion of milk, is a nitrogenous body; and like all nitrogenous animal substances is apt to run into putrefaction. This liability to putrefy is developed with greatest rapidity when under the influence of other substances in which decay has already begun. For instance:—A piece of fresh meat placed in a perfectly clean vessel, and the air pure also, may keep good many days, in some cases weeks, perhaps; while if it be put in one apparently clean, and which has had tainted meat in it previously, it will begin to putrefy in a short time. The exciting cause, although, in this case, invisible, is as really operative as a visible amount of filth would be. Its action is that of a ferment,—similar to that of yeast, a little leavening the whole lump. Any decaying emanation, whether from spilled milk or any other source, communicates a tendency to the same decay; and the change once begun, it is very difficult to arrest it. Its effects may not be apparent at once, but the leaven is working. Butter possessing the tendency may not while fresh offend the most delicate taste, but it will most surely develop so as to be plainly perceptible after being kept.

Ferments are destroyed at the heat of boiling water, 212 degrees. Boiling water will readily cleanse vessels in which milk has been kept if they be of tin or other metal. Possibly a slightly lower temperature may suffice for metalic vessels, but certainly not for wood; and it is safer in all cases not only to have the kettle "sing" but the water to dance. Wood is porous and absorbs more or less milk, and be it ever so little which finds a lodgment in it, there is no security against the propagation of the peculiar ferment. In a note from Dr. E. Holmes, he relates from his experience on this point, thus: "The following fact shows not only the importance of having vessels for holding milk purely clean, but made of materials easily kept so. We purchased a new wooden pail, unpainted inside, for a milk pail. The usual care was taken to scald, wash and dry it, every time it was used. It was found after being used sometime, that if the milk was allowed to remain in it say from a quarter to half an hour before being strained, particles of loppered milk would be found gathered in the crease or angle formed at the junction of the bottom and sides; and no amount of scalding and scrubbing would prevent it. It became advisable to throw it aside and use a tin one in its place, when the trouble ceased. Was it not that particles of the milk, at some time, had become absorbed and lodged so deeply in the pores of the wood as to be out of the reach of scalding water, (wood being a poor conductor of heat,) where it had "turned" and thus formed a *nidus* for loppered particles which acted upon new milk and changed it in so short a time?"

The danger that the ferment may find a permanent lodgment in wooden vessels, together with the great amount of labour which their use involves, should cause their banishment from the cheese dairy in all cases where metallic ones can be substituted to advantage. If wooden utensils must be used, great caution should be had not to employ any which have been recently painted. On this point Mr. Willard remarks: "Sometimes when the dairyman has been using newly painted pails and tubs he will find black specks and spots on the rind of many of his cheeses, and should he cut them, the same peculiarity is presented throughout the cheese. This is poison cheese, more or less dangerous to the consumer, and justly feared and avoided in market; for although much of it may possibly be eaten in small quantities without producing any serious sickness, yet the chances are that some of the cheese is very poisonous. Now the dairyman often, and perhaps generally, is ignorant of the cause and innocent of any intent to posion, and he learns with amazement that his cheese has been thrown out of market, or sent back to him, or that some family has been poisoned by eating it; but such is the fact, and the result has been brought about by carelessly using newly painted utensils. The milk and whey have extracted poison from the lead and deposited it in the cheese. The fact has been well substantiated from numerous cases where the matter has been fully traced out. When utensils are to be newly painted it should be done at a time when they will not be needed for three months; and before painting they should have been thoroughly scrubbed with strong lye, in order that all the old flaky paint be removed and a good clean surface presented for the new paint. After the new paint has become thoroughly dried and hard, the tubs and pails should be frequently soaked with water and whey until there is no smell or taste from the new paint."

The cleanliness referred to should include not only the utensils but every part of the premises. Milk absorbs odours of any kind with such facility that much caution needs to be exercised lest it suffer injury by exposure to offensive effluvia. Let milk be ever so rich, it may be spoiled before as well as after rennet is added.—*L. S. Goodale.*

Milk Cows in Fall and Winter.

MILKING, except for a short period after the birth of a calf, is altogether an artificial process, nature intending animals to yield milk only while it should be necessary for sustenance of the young; but, by long training, artificial habits have been induced, and the flow of milk is prolonged for months, and even for years after the natural period has passed. Partly for this reason, the secretion of the cow is more easily affected by treatment of the animal. Any derangements of health, insufficient food, or bodily discomfort at once shows its effects in the decreased quantity and quality of the milk. It should also be borne in mind that the continued flow of milk beyond the natural period is no small drain upon the vital functions of an animal, and this should be counterbalanced by extra stimulus in the form of good nourishing food and whatever care is necessary to keep up the health of the cow to the highest standard.

At this season of the year a change of food is neces-

sary. Long before the pastures are entirely despoiled of verdure, the grasses nipped by repeated frosts lose much of their nutriment. Though cows may gather their fill, it is of the poorest quality, and the yield of milk suffers. A daily allowance of bran, shorts, or ground feed of rye and oats, or two-thirds oats with one-third corn, will supply the lack of nutriment, and show itself, with interest added, in the milk pail. This feed should be wet before using. We prefer it to feeding with hay, for the reason that nourishment, more than bulk, is needed; they can pick up enough partly withered grass to fill their stomachs. This extra allowance should not be delayed until the animal is suffering from insufficient food. It is far easier to keep a cow in good condition, than to bring her up after falling off.

Any person who has long been confined to a single article or two of food, say to salt beef and potatoes, knows how the appetite craves a change. The greediness with which cows lay hold of turnips, mangold wurtzels, or other roots in winter proves that they too relish variety and, in the case of healthy animals, appetite is a safe guide in the selection of food.—Even if roots were lacking in nutriment, an occasional allowance of them to cattle would be beneficial.

Observe strict regularity in the time of feeding. If meals are regularly served, animals will patiently wait for the appointed time; otherwise they will be restless and uneasy while looking for supplies, and ravenous when fed.

The importance of comfortable, well ventilated shelter for milch cows is yet greatly under-rated, despite all that has been written and said. A large part of the food eaten is consumed in furnishing warmth to the animal. Thus, good shelter is equivalent to a large percentage of food. Besides the actual loss of food from the increased amount required under exposure to cold, there is further loss in milk from the feeling of discomfort. The secretions are always disturbed by influences that cause pain, or uneasiness, and every shiver of a half-frozen cow will make itself visible in the milk pail.—*Selected.*

Sheep Husbandry.

The Vaccination and Inoculation of Sheep.

The report made to the Privy Council by Mr. Mason, resident surgeon of the Smallpox Hospital, and Professor Simmonds, of the Royal Veterinary College, on the vaccination of sheep, and the influence of such vaccination in preventing sheep-pox, has just been printed. It appears that the disease was introduced by Saxony merino sheep from Germany and Denmark in 1847, but disappeared in 1857, reappearing after an interval of twelve years in Wiltshire. Its introduction could not be traced with certainty, but it was known to prevail at the same time in the above-mentioned countries. This second visitation lasted only four months, chiefly in consequence of the energetic measures adopted for its extermination. As it was positively stated by several persons that the vaccination of sheep could be beneficially employed to arrest the progress and lessen the fatality of the malady, Mr. Mason and Professor Simmonds undertook, at the request of the Privy Council, the task of testing the correctness of the representations. They vaccinated 200 sheep in October and November, 1862, and afterwards made experiments with the virus of human smallpox and that of sheep-pox. The results of vaccination, in the opinion of these gentlemen, demonstrated its utter inutility, but the experiments with the virus of sheep-pox were more successful. Taking the whole subject into consideration, they have arrived at the following conclusion:—

1. Sheep-pox is always the result of infection, and its extension is governed by the same laws as its prototype in man. 2. The malady may be defined as an infectious eruptive fever, which occurs, as a rule, but once in the same animal, whether it arises naturally or is produced by inoculation. 3. Deaths from the natural disease often amount to 75 per cent., and are seldom less than 25 per cent.; while many of the survivors are left in a worthless condition. 4. The vaccination of sheep cannot be relied upon as a preventive or mitigant of sheep-pox, as the vaccine disease is very imperfectly developed in sheep, even in the most successful cases. 5. Even if vaccination were protective a serious drawback to its adoption would be that not more than 35 per cent. would probably be influenced by it on a first vaccination, and this under the most advantageous circumstances as to the selection and command of lymph. 6. The vaccination of sheep on the principle of retro-vaccination has no value beyond an ordinary vaccination, nor does the plan materially increase the supply of lymph. 7. The inoculation of sheep with the virus of human smallpox is equally as inefficacious as vaccination. 8. The orination of cows is useless as a means of obtaining lymph, these animals being insusceptible to the action of the virus of sheep-pox. 9. The segregation of infected animals, although often of much value in arresting the progress of sheep-pox if immediately had recourse to, and perseveringly carried out day by day, is almost impracticable when large flocks have to be dealt with. 10. The slaughtering and burying of the infected animals is justifiable only in the very earliest invasion of the flock, and in those cases in which the disease assumes a confluent character. 11. The only remaining conservative measure is inoculation, which if rightly carried, offers considerable advantages. It gives security against a natural attack of sheep-pox, limits the duration of the disease in the flock, mitigates its severity, saves the lives of many sheep which would otherwise be sacrificed, produces comparatively little loss of condition, and controls the extension of the disease. One confluent natural case does more to diffuse the virus than probably fifty ordinary inoculated cases would do; and the mortality of the inoculated disease, when compared with that from the natural, is, on the average, as three per cent. in the one case to fifty per cent. in the other.

Taking it for granted that in the event of the reappearance of sheep-pox in this country, inoculation will be used as a preventive, the authors of the report give the following rules for its performance:—1. All natural cases to be separated from the flock, and removed to a distance, before commencing the inoculation. 2. The virus to be selected from the mildest cases, and taken when perfectly limpid and transparent. 3. One puncture only to be made when the virus is fresh and fluid, and no more than two or three punctures when it is dry on points, and a week or two old. 4. The punctures to be made in the fleshy part of the inner side of the thigh, either with a needle or the point of a very small lancet. 5. The sheep to be divided into two lots of about fifty, and the pens in which they are placed to have a space left between them of as large a size as circumstances will permit. 6. The shepherd to be instructed to carefully inspect the sheep daily up to the sixth day, and to take away at once any found to be diseased. 7. The operator to examine each sheep individually on the sixth day, to ascertain whether the inoculation has taken, and to remove every natural case of disease. The sheep should, after this time, be kept as quiet as possible, be well supplied with fresh water, in which a small quantity of nitrate of potash has been dissolved, and, if the time of year permit, green food should be given in preference to any other. In the further progress of the inoculated disease every confluent case should be removed, and kept apart from the other sheep. Care should also be taken that all uninfected flocks should be kept at as great a distance as possible, and all intercourse by persons or dogs employed about infected sheep prohibited.—*Scottish Farmer.*

Profits of Sheep.—The following account of the profits of a small flock of sheep, was communicated to the *Bangor Whig* by Mr. John Given, of Newport, Maine:—"I wintered eight ewes and a buck. The buck was a small lamb, and one of the ewes was a twin lamb. They sheared 31 lbs. of wool, worth $1 per pound, and had 15 lambs, but raised only 13, worth $49, which with the wool makes $83—an average of $9 22. One of the sheep raised three lambs, worth more than $10. I put to her credit $14; three raised two apiece; I put to their credit an average of $11 50, which will make from the four $40 50. The sheep that raised three lambs is four years old, and has raised seven lambs. The increase from that lamb is fourteen—seven children and one great-grandchild. There are in the flock ten ewes of the tribe now."

Veterinary Department.

Spasmodic Colic in Horses.

Colic, or gripes, is one of the most common diseases of horses, and consists in violent spasmodic contraction of the muscular fibres, usually of the small intestines. The common cause of colic is food to which an animal has been unaccustomed, or food eaten rapidly, especially after a long fast, or being allowed to take a great quantity of water when in a heated state; also a constipated state of the bowels. A change of weather is also productive of colic. One day last week we were called upon to treat four different cases of colic, the cause of which we attributed to the sudden change of temperature.

The symptoms of colic are the same that denote painful bowel affections in general. The attack of colic is very sudden, and not marked as in inflammation of the bowels by previous indisposition. The horse begins to shift his position, and paws violently, strikes his belly with the hind feet. The pain may cease for a few minutes, when it will return with renewed severity. The animal falls down, turns on his back, and attempts to balance himself in that position, with his feet resting on his belly. In the space of an hour or two, either the spasm begins to relax, and the intermissions are of longer duration, or the torture is augmented at every paroxysm; the intervals of ease are fewer and less marked, and inflammation and death supervene. During the remissions of the pain the pulse is almost natural; but if the disease is likely to proceed to a fatal termination, the pulse, from being a little quickened, grows hard and wiry, and at length can scarcely be felt. In general the legs and ears of an animal affected with colic are of the natural temperature, while in inflammation of the bowels the extremities feel deathly cold. Another prominent symptom of colic is the neck of the bladder appearing spasmed, and the horse making frequent attempts to pass urine. In colic, relief is obtained from pressure to the abdomen, while in inflammation of the bowels, it increases pain.

The treatment of colic is simple, and if treated at the commencement of an attack, no disease is more quickly dispelled. In many cases a smart trot, friction over the belly, or a drink of warm gruel, with a glass or two of gin, whiskey, or other stimulant, will often speedily remove the attack. When the pain lasts any length of time, soap and water clysters must be administered, also give sulphuric or nitrous ether and opium, combined with linseed oil, or a solution of aloes. After an attack of colic, and recovery taking place, the patient should be carefully used for several days, and allowed a laxative diet.

Accidents from Lightning.

Accidents from lightning are fortunately not very numerous in this country. It has been estimated that twenty persons are annually killed by it, whilst about double that number are injured. The domesticated animals suffer however in greatly larger proportion, for during the summer months, when lightning storms are most frequent and serious, they are usually in the fields, and hence are particularly exposed to danger. Their risk of accident is increased by their so frequently seeking shelter underneath trees which attract the lightning; whilst the large number of sheep that annually perish may be mainly accounted for by their abundant woolly fleeces being saturated with the thunder showers, and thus becoming good conductors of electricity. Light coloured animals are generally believed especially to attract the lightning. We can form little notion of the number of animals thus annually killed; but when we recollect that two or three bullocks and many more sheep perish every year in many districts, we may suppose that the annual loss from lightning must considerably exceed a hundred.

Animals struck are generally killed instantaneously, and apparently from shock to the brain and nervous system. If not killed on the spot they generally recover. Those injured sometimes appear for a while to be dull and stupid, and for some minutes even may continue quite insensible. Occasionally they are partially paralysed. Men similarly injured more often have paralysis of the legs than of the arms, and cases have occurred where perfect recovery of the use of the limbs has only occurred four months after the accident. Occasionally the skin is deeply burned, more often the hair is only scorched. We have now a six year old cow which, when a year old, had the whole of her back denuded of hair from lightning. The hair has since partially reappeared round the margins of the bare place, which still occupies the greater part of the back and loins, and is now invested with a tough horny scarff-skin. Sir B. Brodie somewhere speaks of two red and white bullocks struck in different storms in which the white hairs were consumed, whilst the red escaped. Lightning storms frequently hasten parturition both in cows and mares, and sometimes induce abortion. Such mishaps probably result in most cases from excitement and fright, but in some instances may depend upon a nervous shock caused by the electric fluid.

The *post-mortem* appearances are not very uniform. There is seldom any apparent external injury. Occa-

sionally there may be blackening along one side, with a singed appearance of the hair. The sulphurous smell popularly believed to be present in all such cases is by no means uniformly observed. As in other cases of sudden death the blood generally remains fluid, although well authenticated instances are recorded of its coagulation in the usual way and with moderate firmness. The heart is flaccid and empty, and the muscles after a few hours become hard and rigid, so much so as sometimes to give the animals the appearance of being frozen. Putrefaction is generally delayed rather than accelerated.

General rules can scarcely be laid down for the treatment of the various injuries sustained from lightning. Special cases will obviously demand special remedies. The insensibility and suspended animation immediately succeeding the shock, and which have been known in the human subject to continue for an hour, must be overcome by keeping the body moderately warm, applying smart friction, keeping up artificial respiration, and giving stimulating injections. Any pains and exhaustion which afterwards remain should be combated by stimulants. Paralysis will require to be treated much in the same way as when it arises from other causes—namely, by the patient use of tonics, by local counter-irritation, by the cautious use of strychnine, or by galvanism. Burns will be protected by lint or cotton wadding from the irritation of the atmosphere, and soothed by occasionally moistening the dressing with lime-water Carron oil, or sugar of lead lotion. Destruction of the hair is rarely remediable, as the hair-roots are generally permanently destroyed. The only measures likely to lessen the blemish are daily friction sponging with cold water, and the occasional application of diluted preparations of cantharides of soap liniment or of any other stimulants.—*North British Agriculturist.*

Stricture on Cows' Teats.

I was lately consulted in reference to the case of a very valuable imported cow that had obstruction in the off posterior teat. She had given birth about a week previous to twin calves. The obstruction appeared to be located about half way up the teat. I fomented the parts with an infusion of lobelia, after which the tube was easily introduced.

Obstruction at the Ends of the Teats.—It occasionally happens that a fungous or warty excrescence makes its appearance at the end and centre of the teat which obstructs the flow of milk, and is very annoying and painful to the animal. This should be removed by the scalpel, taking care to dissect away every portion of the morbid growth. The part is then to be sprinkled with powdered bloodroot, in order to prevent union of the edges of the outlet of the teat; the milk tube, well oiled, must now and then be introduced.

Obstruction in the Teats.—A simple obstruction in the teats is frequently occasioned by imperfect union of the lining membrane. This is easily remedied by introducing a tube constructed for the purpose, which should be well lubricated with olive oil, and allowed to remain in the lactiferous channel for several hours daily, or until all danger of re-adhesion has passed away. The lactiferous outlet is sometimes obstructed by false membranes running across its channels; these must be annihilated by the introduction of the tube.

Sore Teats—First, wash with warm water and castile soap—then lubricate the parts with equal parts of lime water and linseed oil—*Diseases of Cattle.*

Enormous Tumours in a Cow.—A post-mortem examination of a case that had been for sometime under his care, revealed the following extraordinary phenomena:—The subject in question was a well-bred cow, and she had, up to a few days previous to his attention being directed to her, been apparently in good health. His prognoscis was unfavourable, but, at the owner's request, the animal remained under treatment till she died. A section through the abdominal parietes was not followed by protrusion of any of the normal viscera of the abdomen, and nothing was to be seen upon reflecting back the muscles but a huge mass of a grayish-brown colour, which proved, upon closer inspection, to be three immense tumours, two of which were attached to the uterus, and one to the rumen. They were alike in composition, resembling glandular structure upon incision; but they could be easily torn with the finger, and disseminated through their substances were several cysts, containing each from a pint to a gallon of a sanguineous serum. Curiosity compelled me to determine their weight, and incredible as it may seem, they collectively weighed the enormous weight of more than twenty stones.—*Communicated to the Veterinarian by* R. S. Reynolds, *Veterinary Surgeon, Mansfield.*

The Apiary.

Successfully Ligurianising an Apiary.—Having a Ligurian queen sent me last September, I removed the English queen from a common stock of bees (in one of my improved observatory hives, the four sides and the top of which are of glass) and placed her at their head. She immediately commenced laying workers' eggs. I examined the combs on October 9, and found many young Ligurians hatched, and the queen still laying eggs. In none of my common stocks could I find any eggs on that day. This I thought was a very convincing proof of the great superiority of the Ligurians over the English queens in their prolific powers. The stock passed through the winter in the best possible health. The hive was exposed in an open latticed arbour, without any cover over the glass, and the thermometer inside of the hive, observations of which were taken three times each day, indicated a mean temperature of 3·88° in December, 3·30° in January, and 4·5° in February, higher than the mean temperature inside my other hives. On April 20 I commenced by removing the queen out of one of my English stocks, and gave to it two Ligurian combs filled with eggs and brood. I also removed all the drone brood and cells out of thirteen common stocks. April 22. Examined the two Ligurian combs, and found no signs of any royal cells commenced (second day).—April 25. Examined the two combs, and found the bees had about half made a royal cell on each comb (fifth day), but only one of which contained larvæ, the the other cell was empty. They had also about half made three royal cells on the next comb, which was entirely an empty one.—April 27. Examined the two Ligurian combs, and found the cell containing the larvæ enlarged. They had about half made another royal cell on the other comb, and the one previously made was in the same state as it was on the 25th, neither of them contained eggs or larvæ. The bees had also constructed four more royal cells on the empty comb (seventh day). April 29. Examined the comb, and found the larvæ in the royal cell nearly straight, and the bees about finishing the closing of the royal cell (ninth day).—The two cells on the other comb and the seven royal cells on the empty comb were in the same state as on the 27th. I put another comb containing drone and worker brood and eggs into the hive out of the Ligurian stock, and I also put workers' egg out of it into the nine empty royal cells; but I afterwards found that the bees removed all of them again. This is only the account of the operations with one stock, but the end of it all was that on the 31st of May I had Ligurian queens at the head of fourteen stocks, and had also hatched many more queens than I required. On that day I made my first Ligurian swarm artificially, a very large one. My great difficulty has been to prevent a single common drone being hatched in my apiary. About every ten days I examined every comb in each hive, and removed all the drone eggs or cells that I found the bees had made. I shall now be able to keep the Ligurian pure, as I have only Ligurian drones in my apiary, and there is not a single common stock within about three miles. My old Ligurian queen has done wonders in laying eggs this spring. By the middle of May I had removed from her no less than twenty-two combs, with worker, drone brood, and eggs, and the hive is crowded with bees.—*Cor. of The Field.*

Removing Honey from Hives.—Two years ago we tried the following experiment on a hive of bees, from which it was desired to take the honey. Having bored a few holes near the top of the hive it was then inverted, and an empty box of the same size placed over it; both were then lifted into an empty tub, into which water was slowly poured, allowing time for the liquid to penetrate through the holes, but not too fast, in order to avoid drowning the bees. As the water rose among the combs, the bees found their way into the empty box, which was then lifted off and placed on the bee-stand. The box, full of water and combs, was then lifted gradually out of the tub, the water escaping by the holes through which it entered. The whole operation occupied but a few minutes, and scarcely any bees were lost. The short time necessary prevented the honey from becoming dissolved, and as the greater number of cells are sealed up, there is really little danger of such loss being sustained. After the water was drawn off it was found to be only slightly sweet, the combs soon became dry, and the honey was in no way injured.—*California Farmer.*

A Rule to Ascertain the Loss of Queens.—Soon after they swarm, the queens when on a bridal trip, and are enjoying the society of the drones, as they course through the air, become so intoxicated with their amorous enjoyments as to be confounded on their return. Not recognizing their distinctive homes, they mistakingly land in a foreign colony, only to meet a sudden death by the subjects of a queen, whose jealousy prompts them to the attack. Should we inspect a hive about this time, and find no eggs or brood, it is proof positive that it has no queen. The usual time for this is about twenty days after the issue of the first swarm. Again, if the bees allow the drones to remain in the hive long after the general massacre—say to the first of September or October—it is a never-failing sign that the queen is wanting, or or that she is in an unhealthy condition. In such a state the stock should be supplied with a queen immediately, or united to another.

Workers Short-Lived.—The age to which worker bees *may* attain is not easily ascertained, and opinions differ widely respecting it. But since the introduction of the Italian bee, we may readily determine how old they usually get to be. If the native queen of a common stock be removed about the middle of May, and a fertile Italian queen substituted, we shall scarcely find one common worker among a thousand, on examining the colony about the first of August ensuing. If the substitution be made about the end of July, the proportion of common workers remaining at the end of October will be about one-fourth or one-fifth of the whole number. It is, hence, evident, that the duration of life in the case of workers is greatly dependant on the season. When forage abounds and bees are industriously gathering stores, their span of existence appears to be comparatively short; and we may estimate that during the height of the honey season they do not, on the average, live longer than five or six weeks; though they perish more from accident and exhaustion than from actual old age.—*Ib.*

Rules for Purchasing Bees.—Select two-year-old stocks of large size, that swarmed the previous year. It has been demonstrated that such stocks have young and vigorous queens, and are generally well-conditioned, promising a heal hy generation. A very old stock should be rejected, even if it swarmed the year before and contained a yearling queen, for the obvious reason that the bees, having been bred in the old contracted cells, will be found of small size and insignificant in numbers. If you take your hive away to get a swarm placed into it, always purchase the first or prime swarm, and see that it is given you. Do not be put off with a second or late swarm. Choose a stock to commence with as you would choose a wife—get the best you can find. If you obtain one in the old box-hive invert it, and secure the bees by a cloth tacked securely over the bottom. Take it home when the air is cool, attend to it regularly, obey the directions as given, and then congratulate yourself as having started right. In the purchase of bees there are many things it is well to observe. Remember if stock hives are to be procured, ascertain the age of the queen. To select a young, healthful mother seems to be a forward step towards a vigorous progeny.—*Flanders' New Bee-book.*

Change of Sex in the Bee Hive.—Carpenter informs us that in every hive of bees the majority of individuals are neuters, which have the organs of the female sex undeveloped, and are incapable of reproduction, that function being restricted to the queen, who is the only perfect female in the community. If by any accident the queen is destroyed, or, if she be purposely removed for the sake of experiment, the bees choose two or three from among the neuter eggs that have been deposited in their appropriate cells, which they have the power of converting into queens. The first operation is to change the cells into which they lie into royal cells, which differ from the others in form, and are of much larger dimensions; and when the eggs are hatched the maggot is supplied with food of a very different nature from the farina or bee bread which has been stored up for the nourishment of the workers, being of a jelly-like consistence and pungent stimulating character. After the usual transformation the grub becomes a perfect queen differing from the neuter bee, into which it would otherwise have changed, not only in the delopment of the reproductive system, but in the general form of the body, the proportionate length of wings, the shape of the tongue, jaw and sting, the absence of the hollow in the thighs where the pollen is carried, and the loss of power of secreting wax.

Correspondence.

More About the White Willow as a Hedge Plant.

We have received from a correspondent in Ohio, who has had considerable experience and many opportunities for observation in regard to the white willow, a communication, the greater part of which we insert as a contribution toward the discussion of a subject of no little practical importance to the farming community :—

"This willow has been quite extensively cultivated in some portions of Delaware and New Jersey for the past fifty years, for the purpose of powder wood, being considered by far the best for the charcoal used in gunpowder manufacture. Cuttings were planted around the borders of fields, roadways, and also in groves, and the trees have been cut off about seven feet from the ground every three or four years, yielding a fine quantity of round wood, which is saleable at high prices to powder manufacturers. The stumps of the oldest plantings are still invariably sound and vigorous. Their diameters will range from 12 to 20 inches, while with trees never pruned, double or triple this size is attained in the same time. These facts prove that cutting off the tops dwarf the growth without impairing the vitality or healthfulness of the trees. These plantings are on a variety of soils—sandy, loam, clay, marl and muck—on high and low lands. Its growth is stronger generally on the low lands, from their superior richness. There can be no doubt of its successful growth upon all grades of soils, either wet or dry, unless too wet or barren for farming purposes.

"The severest climate in which this willow has been planted in this country, I think, is at St. Paul, Minnesota, by L. M. Ford & Co., nurserymen. They state it to be perfectly hardy in that latitude, enduring the severest winters for the past ten years without the slightest injury. No danger need be apprehended on this score. From the shortness of time since the first planting of this willow for live fence—some 12 years only—no evidence of its permanency can be got except by inference. The fence of Wm L. Smith, spoken of in your paper of September 15th, having never been cut back, is 40 feet high, with trunks to the trees, near the ground, from 8 to 12 inches in diameter, and still prosperous. James Thompson, a farmer in the same county, has a fence 11 years old, planted on ground similar to that of Smith's, that was cut off the fifth spring after planting, about six feet from the ground, and has been trimmed back for cuttings every year since. The effect has been that the average diameter of his trees will not exceed 5 inches, and the increase since the fence was cut off has not been over 1½ inches. Every plant is in a thrifty state. This shows that the willow prospers in the fence-row under severe pruning, and is thereby materially checked in growth. Now, if Smith's fence, with its tremendous growth, flourishes and gives every evidence of durability, may we not reasonably expect that a fence would be durable headed back to within four or five feet of the ground, thereby dwarfing it and removing the drain on the soil, which is the only cause for fear that in time it might die out, since we know that trimming the willow down to a stump for fifty years does not destroy its life or vigor. Messrs. Stubbs and Brink, farmers, also in Lee county, each have about one-half mile of willow fence, now five years old. The fourth spring from planting they cut off their fences four feet from the ground. Their appearance now is perfectly beautiful. The new shoots are from three to five feet in length, all starting out within three inches of the top of the stumps, the bodies being clean from suckers. The labor of pruning will be much less than upon other live fences, as the pruning is all done on the top of the fence, while with other hedges the sides also require pruning. Cutting off the trees at the height desirable to form the fence should not be done until sufficient growth is made to turn stock, which will occur the third or fourth year, if properly cared for. The experiments already made establish in favour of the white willow: cheapness; hardiness; susceptibility of being dwarfed by pruning without injury; adaptation to any good farming soil; quickness in forming a fence; never sprouting from the root; and but slightly interfering with the cultivation of the soil adjacent from the vertical direction of the roots, it is also highly ornamental in appearance. These qualities entitle it to a fair trial, with a reasonable expectation that it will prove much more valuable than other live fencing heretofore in use, especially in northern latitudes.

"Parties experimenting with it should secure fresh, vigorous cuttings, plant early in the spring, prepare the fence-bed by deep ploughing and harrowing, plant cuttings of the same size together, at a distance of six or seven inches apart, in a line and keep the weeds down and stock away from them, especially the first year. Thus treated, scarcely a cutting will fail, and good growth will follow."

Changing Seed.

On this subject "R. W. S." of East Zorra, writes as follows:—"The plan adopted by the Board of Agriculture, of distributing imported seed grain in small packages, to test its qualities, is not a good one. A better plan would be to rent or purchase a farm for experimental purposes, or, failing this, give it in larger bulk to reliable farmers. It is well known that all insects attack the outsides of fields, sometimes taking nearly all, while the centre is untouched. A package of the 'Red Essex' variety was placed in my hands for experiment last fall, weighing 1¼ lbs., which I carefully tilled, but it being necessarily sown separately, it was all outside and no centre, consequently half of it was taken by the midge before being cut, and a good part of the remainder by the weevil since. It has a good square head, and under favourable circumstances, I have no doubt, would be very prolific. We greatly need change in spring wheat. The Fife wheat has run its course and must be abandoned. It is on account of the general failure of this variety that our farmers are crowding in every bit of pea land, and, in some instances, spring wheat and oat land, no matter what its quality, into fall wheat this autumn. The midge need not fear starvation next year."

Answers to Enigmas.—Several correspondents have favoured us with correct replies to the enigmas which appeared in our last. "No. 1, Fife Wheat; No. 2, Potatoes." Requests have also reached us for more and *harder* enigmas.

Large Potatoes.—"A. J." writes: "I have raised some potatoes this year, and if any of the farmers can beat them I would like them to let it be known. I had one that weighed 2 lb. 12 oz., and several that went 2 lbs., and can show over ten bushels that would weigh 1 lb. and a-half."

Receipt for the Cure of Murrain.—"R. O. Griffith," of Cayuga, contributes the following recipe for the cure of Murrain in cattle.—"1 wine-glassfull of spirits of turpentine, 3 wine-glassfulls of *castor oil* (if this is not at hand, the same portion of *sweet oil*), carefully mixed in one quart of oatmeal gruel, while milk warm, and given to the animal *when cold*. The dose may be safely repeated three or four times at an interval of *two days between each dose*.

The Canada Farmer.

TORONTO, UPPER CANADA, OCT. 15, 1864.

Change of Location.

The Canada Farmer office is now removed to the new and spacious Globe Buildings, Nos. 26 and 28 King Street East. Circumstances connected with this change of quarters have somewhat delayed the issue of the present number; but with the new and complete arrangements about to be made, we will henceforth be able to supply all our subscribers with greater punctuality than was practicable in the inconvenient premises which have just been vacated.

New York State Fair.

The Twenty-fourth Annual Exhibition of the New York State Agricultural Society was held near the city of Rochester, Sept. 20-24. The Show Ground is a couple of miles from the city, and on the way thither you pass the celebrated nursery of Elwanger & Barry, comprising 600 acres of land; Mount Hope Cemetery, a lovely and well-kept burial-place; several other nurseries; and many beautiful private residences. The suburbs of Rochester, at least in the direction of the Exhibition, are charming, indeed.

Arrived on the ground, we were not a little surprised at the immense concourse of people in attendance. Our first impressions on this point were materially heightened when we attempted to worm our way through the halls devoted to fruit, flowers, dairy produce, articles of domestic manufacture, &c. Progress was well nigh impossible, and as to getting a view of the articles displayed, it was almost out of the question. The exhibition of people in holiday garb, and in the best of spirits, was worth going far to see.

Officers of the Society, and others whom we met, assured us that the Show was not equal to many of its predecessors. It was a busy time, labour was scarce, and not only were many absent at the war, but the draft was going on in the city, while the Fair was in progress in the suburbs. Considering these unfavourable circumstances, the Exhibition was highly creditable, and may be deemed a success. The receipts were large, amounting in the aggregate to $15,500.

In the cattle department the display was not extensive, though it embraced some choice specimens. Mr. Thorne, of Thorndale, Duchess County, did not show any. Mr. Sheldon, of Geneva, had ten or twelve specimens of Short Horns from his renowned herd, and some Alderneys, but did not enter the lists as a competitor. Hon. Ezra Cornell showed some fine animals, and carried off most of the prizes. J. McCall, of Lyons, Messrs. Wadsworth, of Geneva, E. Griffin, of Duchess Co., and Mr. Jackson, of Seneca Co., had some good Short Horns. The Devons put in a very meagre appearance, both as to number and quality. At this we were surprised, having somehow got the idea that the Devons were looking up among our republican neighbours. E. Corning, jr., of Albany, was "alone in his glory" as an exhibitor of Herefords. Very few Ayrshires were shown, but the little Alderneys were well represented, by specimens from the herds of Messrs. Sheldon, Moore, Dinsmore, and Corning. These choice milkers deserve more attention in Canada than they are at present receiving. They are diminutive in size, and give no great lacteal yield, but their milk does not need to be set for cream, it attains that state before it flows from the teat. Gentlemen who have villa residences near towns and cities should keep these living cream-pots, if they would have their tea and coffee well rounded off, and their strawberries furnished with a delicious accompaniment.

The sheep show was meagre as to long-woolled varieties, but full to repletion in one class of short-woolled kinds, viz., the Merinoes. Almost the only Leicesters on the ground were shown by a Canadian Mr. Jeffery. Mr. E. Gazeley, of Duchess Co., had some good Cotswolds, and it gratified one's national vanity to find that the best of them were bred in this country: we need hardly say by whom, for the name of Mr Stone will at once suggest itself to our readers. One of Mr. Gazeley's rams weighs 414 lbs, and sheared 18 lbs. of wool. Our American neighbours are too indifferent to long-woolled sheep, but such specimens of them as the above will open their eyes to their capabilities and merits. There was a fair exhibition of South Downs, the most conspicuous among them being those of Mr. Geo. W. Brown, of Duchess Co., who recently purchased Mr Thorne's entire flock, as it regards the Merinoes exhibited, their name is legion, and their value incalculable, in the view of their owners at least. Unheard of prices were asked and given; while Mr. Hammond, the Merino patriarch of Vermont, actually refused $10,000 for his ram "Gold Drop!"

Presuming our readers would like to see a portrait of this high-priced animal, we have made arrangements to have an engraving of him taken from life specially for The Canada Farmer. The Vermont sheep men have certainly made wonderful improvements in the Merinoes, and can show you a beautiful creature clothed to the very hoofs with wool almost as fine as that of Thibet, but when it comes to offering and refusing such a price as the above for the contents of a single live sheepskin, we must regard the symptoms of "wool on the brain" as positively

alarming. While we think our friends across the lines would do well to pay more attention to Long Wools, we are also of opinion that our sheep-men might profitably do more in the Merinoes, that is to say, if the prices come down.

The show of pigs was not extensive, a few Suffolks and Cheshires of good quality were, however, to be seen.

In the poultry department fine collections of all the leading breeds were exhibited. Mr. Heffron, of Utica, Dr. E. A. Wendell, of Albany, and Mr. Simpson, jr., of New Hudson, were the chief competitors.

Of implements and machines, there was a most varied and excellent display. Reapers and mowers, both single and combined, were largely represented. Seed-drills, corn and bean-planters, corn-shellers, cider mills, cheese-vats, horse-rakes, horse pitch-forks, fanning-mills, straw-cutters, ploughs, cultivators, harrows, waggons, carts, horse-power threshing machines, &c., invited and repaid attention. Did our space permit, many of these implements might properly receive brief notice. A hay press manufactured by the "New York State Beater Press Co., attracted crowds of admiring spectators, being kept almost constantly in operation. It is worked by two horses, and will beat and press 500 lbs. of hay into a bale in eight minutes. A cotton gin manufactured by Mr. Emery, of Albany, was also in operation, and awakened much curiosity and interest. E. W. Mills, of Marcellus, exhibited some wind-mills for pumping water, which appeared to be very effective. A multitude of washing-machines and clothes-wringers were on exhibition. If the ladies do not escape the drudgery and inconveniences of washing-days, it will not be for want of efforts in their behalf on the part of American genius.

Bee-hives of several patterns were shown, all, however, made on the moveable-comb principle. Mr. K. P. Kidder, of Burlington, Vermont, kept up an almost unintermitting succession of short lectures on the honey-bee and how to tame it. He illustrated the success of his method by familiarly handling a very large swarm, and taking such liberties with them as would only be tolerated in one who had gained entire ascendency over them. Mr. Kidder assured his auditors that any one of them could do as he did, by observing the rules laid down in a little work of his, and by using a blow-pipe of his invention, for diffusing smoke among the bees.

The show of grains and vegetables was very fair, considering the unfavourable nature of the season.

The floral display was a very attractive one, and was arranged with much taste by Mr. James Vick, the celebrated seedsman and florist. But what shall we say of the fruit? Though thought to be hardly equal to former Exhibitions by those in the habit of attending from year to year, we must confess our surprise at the variety and excellence of the specimens. The grapes especially deserve honourable mention. They occupied nearly as much space as all the rest of the fruit exhibited. Both native and exotic varieties were largely represented, and we were particularly interested in inspecting and tasting as we were politely allowed to do, the kinds adapted to out-door culture. Some large specimens of the Delaware were shown by F. C. Brehm, of Waterloo. This grape is well worthy the attention of Canadian growers, as it is early, hardy, of excellent flavour, very little liable to mildew, and a good bearer.

Discussions were held on three evenings during the Fair week, but the subjects were not such as were calculated to excite general interest. "Steaming and cutting food for stock" was the topic the first evening. "The classification of fine-woolled sheep" was discussed the second evening; and the question, "Is it best for dairymen to raise their stock or purchase it?" was considered the third evening. No conclusion was arrived at on either of the subjects of debate.

Our visit was rendered very agreeable by the cordial reception and kind treatment we met with from the officers of the Society. We also received much polite attention from Mr. Bragdon, associate editor of the *Rural New Yorker*. We made the acquaintance of several gentlemen of note among American agriculturists, and were especially pleased to meet with Messrs. Moore, of the *Rural*, Harris, of the *Genesee Farmer*, and Luther H. Tucker, of the *Country Gentleman*, all of whom we have long known and esteemed as able and eminent agricultural writers. A number of Canadians were present as exhibitors, visitors, and judges, a circumstance which we note with much pleasure, believing that intercourse of this nature will tend to cement the ties of international friendship, and promote beneficial rivalry in the most peaceful and useful of industrial arts.

Ohio State Fair.

The Ohio State Fair was held at Columbus, the capital of the State, Sept. 13-16. This city was founded, or "laid out," as the Americans phrase it, in 1812, and is, therefore, more than half a century old, a very respectable antiquity for a western city. At that period Ohio was the "far west," and was looked upon by staid and quiet eastern people as almost out of the world. Times have changed since then, and now the *far* west is away beyond the Mississippi. Columbus is situated on the Scioto River, and has a population of between thirty and forty thousand. It is a substantially-built city, and occupies a rise of ground, from which fine views of the adjacent county stretch away in every direction. There are many fine public buildings, the most conspicuous of which is the State House, an immense Doric edifice, 340 feet in length and 220 wide. It is crowned with a rotunda 64 feet in diameter, the eye of which is 120 feet from the ground. There is access nearly 40 feet higher, outside the dome, whence a sublime outlook can be had. Several noble buildings are devoted to public charities, such as the Lunatic Asylum, Deaf and Dumb Asylum, Institution for the Education of the Blind, &c. Green Lawn Cemetery, south-west of the city, occupies 83 acres of land, which is covered with the native forest trees, and with its graceful avenues and walks, forms a most picturesque city of the dead.

The State Fair was held about two miles from the R. R. depot, in a beautiful grove well supplied with water, the very *beau ideal* of an exhibition ground. A two-tracked street railroad extends from the depot to the Fair-ground, rendering access convenient and cheap—the law-fixed price being only five cents for the two miles' ride. Great efforts had been made to eclipse, or at least equal, the Exhibitions held on previous occasions at Cleveland, but it was generally admitted that this was not accomplished. The Show was a good one, but Cleveland has many advantages over an inland and smaller city like Columbus, and hence it is not surprising that it should maintain a manifest superiority. There was a fair turn-out of stock in general, the flowers, fruit, grain, vegetables, dairy produce, &c., gave evidence of the productiveness of that "great garden of a State," as we once heard Ohio denominated;—but the chief features of the Show were the implements and the sheep. Nothing has so interested and surprised us during our late tours in the United States as the wonderful multiplication and improvement of agricultural machinery. American genius has always been noted for its inventiveness in the direction of labour-saving contrivances, but it has had a most remarkable development that way of late. Just prior to and contemporaneously with the war now raging, this increase of machines and implements has taken place. Observant and devout minds recognise in this circumstance a beneficent providential agency, the effect of which has been to preserve the country from the results that must otherwise have inevitably followed the abstraction of so many able-bodied men from the fields of peaceful toil to those of bloody strife. English papers have predicted lessened crops and scarcity of bread in consequence of the withdrawal of labour from industrial pursuits, but muscles of wood and steel have largely taken the place of those of human flesh, and thus this calamity has been averted. The display of sheep at the Ohio Fair was almost wholly in the Merino class; hardly any long-woolled sheep were shown. Among the few exhibited was a Cotswold ram, owned by Thos. Ashton, of Elyria, Ohio, which was bred by Mr. F. W. Stone, of Guelph. He is a noble animal, and carried off the first prize in his class. The Merinoes were numerous, and excellent in quality. Conspicuous among them were the ram "Hamburgh," owned by S. S. Matthews, of Licking Co., which took the sweepstakes prize; another ram, owned by J. S. Delano, of Mt. Vernon, Knox Co., which took the first prize for full-aged rams, but was not entered for the sweepstakes; and the first-prize yearling ram owned by A. L. Bingham and C. C. Bels, of West Cornell, Vermont. These three animals were valued by their owners at from $4,000 to $5,000 each. Our best acknowledgments are due to Mr. Klippart, Secretary of the State Agricultural Society, and Col. Harris, editor of the *Ohio Farmer*, for polite attentions during our stay at the Exhibition.

We had intended giving a more detailed account of the Ohio State Fair, but unfortunately the notes we made have been mislaid or lost, and as misfortunes never come singly, the *Ohio Farmer*, containing the account of the Exhibition, has for some cause or other failed to make its appearance on our table.

The Union Exhibition.

The United Exhibition of the Toronto Horticultural and Electoral Division Societies, was held on the 5th and 6th instants, in the "Crystal Palace" and grounds adjacent. The weather was unfavourable until the afternoon of the second day, a circumstance which of course considerably lessened the attendance of visitors.

The number of entries at a similar Exhibition last year was 1,511. It then comprehended four societies. This year it was the Union Exhibition of two societies, the Toronto Electoral District and the Toronto Horticultural, and the number of entries was 1,365. The following is a classified statement of the number of entries at the recent Exhibition:—

Cattle	64
Horses	49
Pigs	20
Poultry	29
Sheep	74
Grains, &c.	65
Roots, &c.	123
Dairy products	39
Implements, &c.	30
Fine Arts	156
Other entries in Arts and Manufactures,	217
Fruits	204
Plants and Flowers	80
Garden Vegetables	215
Total	1,365

The show on the grounds outside of the Palace was, we regret to say, extremely small. Several of the cattle sheds were entirely unoccupied, and the one in which the cattle on exhibition were placed was not full. This was also the case with the sheep and pigs, there being only enough of each present to fill a few pens. The stables, also, were almost empty, while the implement shed was occupied only by a few coops of poultry, there not being present a single waggon, cart, carriage, mower or reaper. The few agricultural implements at the show were placed in the Palace.

Entering the Palace by the eastern entrance, the attention of the visitor was first arrested by the very large turn out of stoves, of which nearly eighty were shown, although there were but two exhibitors in this class, J. G. Beard & Sons and Messrs. J. R. Armstrong & Co. The assortments shown by both were very creditable and furnished most satisfactory evidence of the high standard of excellence which has been attained in the Canadian manufacture of these articles of prime necessity and universal demand.

Messrs. E. Burnham & Co., of 277 Yonge Street, Toronto, exhibited samples of their curry combs—a branch of manufacture which they have recently for

the first time introduced into Canada. Samples of boot building were exhibited by Mr. J. Clendinning, Toronto.

Messrs. Rice Lewis & Son exhibited some circular and crescent saws, some Indian rubber belting, two or three light iron bedsteads, a "save all cinder sifter," an anti-corrosive clothes wringer (a labour-saving invention of simple design, which has now come into very general use) and various other articles of home manufacture. They also filled up profitably a good deal of space with a variety of imported articles, which, although not entered for a prize, made a very good show.

Messrs. Hurd & Leigh exhibited some most beautiful specimens of China ware, finished, enamelled and gilt, at their establishment in this city.

An assortment of colours, dry and in oil, made by the Toronto Linseed Oil Manufacturing Company, attracted a good deal of attention.

A number of churns were exhibited. Mr. E. Lawson, of Kingsstreet, Toronto, showed the Double Dash Rotary Churn. Mr. A. Odell, of Bowmanville, Norton's horizontal screw dash churn, and Mr. Charles Jones, of Bronte, his "Champion" churn, patented last year.

Coe's super-phosphate of lime was exhibited by Mr E L Snow, the agent for Mr Coe This manure is now manufactured both in Montreal and Toronto It has given general satisfaction, and is getting a large sale, upwards of 100 tons of it having been disposed of last season.

Mr John Nasmith exhibited some of his far famed biscuits, and a general assortment of fancy bread; Messrs. Selway and Iredale, an assortment of lasts of all sizes, Mr. E. D. Campbell, of East Flamboro', an assortment of Canadian medicines; Mr. Thos. Nightingale, of Yorkville, an assortment of pottery including drain tiles, brick, and various sizes of sewerage pipe, of vitrified iron stone; Mr. J. J. Vickers, of the North Western Express, surface specimens of roofing slate from Vickers' quarries, Fort William, Lake Superior; Mr J McCausland, of the Canada Stained Glass Works, Toronto, some very excellent specimens of stained glass, in various styles.

Upstairs the visitor found himself among pictures, sewing machines, crotchet, knitting, netting, tatting, spinning, weaving, embroidery, wool and worsted work among the counterpanes and stockings, blankets, and rag carpets, stuffed birds and pianos, lithography and printing, and other things of a similar and very dissimilar character.

The show of fruit was considered the best ever witnessed in Toronto Although the gross quantity of fruit exhibited was less, in some respects, particularly in the show of hot-house grapes, it excelled the display at the Provincial Show last week. Mr. George Leslie, of the Toronto Nurseries, was the largest contributor to this department of the Exhibition. Besides a number of special entries, he had an entry for "the best display," which includes, with some additions, nearly the whole of the splendid assortment to which was awarded the first prize for "the best display" at Hamilton. This entry included, as one item, no fewer than 101 distinct varieties of apples.

Of pears there was a very good show. Among the exhibitors in this class were—Geo. Leslie, J. D Humphreys, Geo. Tattle, W. Higgin, Jno. Best, Judge Harrison, Geo. Cooper, A. Shaw, &c.

Good orchard-house peaches, the "Royal George," "Cooledge's favourite," and "Barrington," were exhibited by Judge Harrison. Some quinces, melons, citrons, nectarines, crab-apples, &c., were also exhibited, but presented no feature calling for special remark. Some fine mushrooms were shown by Mr. John Gray, jun.

Samples of wine made from the Canadian grape, were exhibited by Col. E. W. Thomson, Judge Harrison, Mr. John Wilson, Dixie, and Mr. John Sherman, Oakville.

The show of flowers, considering the late season of the year, was good. Fine collections of annuals were sent in from the Normal School and the Provincial Asylum. A handsome basket of flowers was exhibited by Mr. George Vair, of Yorkville. The show of dahlias was particularly fine. Very nice phloxes were shown by Mr. Gray and Mr. Leslie: Petunias by Mr. Gray, Rev. Mr. Baldwin, and Mr. C. Young, Yorkville, and Gladiolas by Mr. Jas. Fleming. Fine cockscombs, verbenas and balsams were exhibited by Mr. C. S. Gzowski. Roses were shown by Judge Harrison, Mr. Gray and others. Fine displays of green house and stove plants were shown by Judge Harrison and Judge Morrison. The latter had the largest and best display of fuschias, which is very good for the season of the year.

The show of garden vegetables was really good. The number of entries was large, and the samples were in general very superior The display of carrots, turnips, cabbages, tomatoes, and sweet corn, could not well be surpassed. The cauliflowers were especially good many samples being shown of large but closely compacted heads of the purest white colour

The display of field roots was rather limited, except as regards potatoes, which were shown in great abundance, and of first rate quality.

The grains exhibited were excellent samples, taking into account the unfavourable season.

Flaxseed was exhibited by Mr. James King, of York, and Mr P Bartholomew, of Ringwood. A specimen of flax, in its raw state, was shown by Mr. John McCarter, and specimens of scutched flax were brought for exhibition—not for a prize—by Mr. John A. Donaldson.

Mr. Bilton and Mr. J. Tackaberry, both of London township, exhibited each a bale of hops.

For the prize for the best twenty-five pounds of tobacco grown in Canada, there were four competitors.

West Riding of York Agricultural Exhibition.

The Annual Exhibition of the West Riding of York Agricultural Association was held on the 13th inst., at Yorkville. The entries were numerous and the attendance was large.

In the latter part of the afternoon and in the evening, up to the hour of closing, the village Town Hall was crowded with visitors; and so long as the cattle were on the ground appropriated for their exhibition, had also a large gathering of sight-seers. The weather throughout the day was exceedingly pleasant.

The ladies' work, the pictures, the smaller articles of manufacture, the prints, flowers, vegetables and grains, were exhibited in the several rooms of the Town Hall. For the stock a large space of open ground to the north of the building was secured. There were no pens save for the pigs and the sheep. The cattle were left at large, much to the inconvenience of exhibitors and visitors.

The Show was, upon the whole, a very good one, and may be accounted a success. Some of the officers connected with the Association claimed that it was better in the agricultural department than that held last week in Toronto. The display of vegetables certainly beats it, but only a very limited quantity of fruit was shown. The total number of entries was near 800. There were 40 of horses, 5 of Durhams, 10 of Devons, 16 of Ayrshires, 20 of Galloways, 34 of grades, 79 of sheep, 7 of fat cattle, 28 of pigs, 49 of poultry, 169 of seeds and vegetables, 158 of flowers and fruit, 41 of dairy and other domestic produce, and 148 of ladies' work

The chief feature of the cattle show was the number and excellence of the Galloways exhibited—larger than on any previous exhibition of the kind. The Ayrshires made a respectable appearance, the largest drove being shown by Col. R. L. Denison. Mr James Laurie, of Scarboro', also showed a first-class Ayrshire cow, and a bull calf; and Col Thomson two cows and a two-years old heifer—all very good. The show of Durhams, as will be seen by the figures given above, was poor. Mr. Charles Way, of Yonge street, exhibited a fine bull under three years old; Mr. David Watts a second of the same description; a third, shewn by Mr. Edward Musson, of Islington, was sired by the "Duke of Cambridge," an imported animal of notable excellence.

The exhibition of Devons was good. There were some very superior animals upon the ground. The grades were in strong force and of excellent quality. We noticed two two-year-old heifers belonging to the Hon. J Ross; one grade heifer, two years old, and a two-year old cow, owned by Mr Gibb, of York the latter a very pretty animal. Mr. James Laurie had two cows with their calves; Mr. Richard Proctor, a three-months-old calf; and Col Thomson a yearling calf and an aged cow Among the sheep we would mention favourably Col Denison's ram lamb, the Leicesters shown by Mr J Laurie, Mr. A. Jeffrey, of Vaughan, and Mr. W. Bowes, of Vaughan; the shearling rams shown by Messrs Laurie and Jeffrey, and two ram lambs shown by the two last-named gentlemen and Mr Davis, of Scarboro' The show of poultry was rather large, but there was nothing in it deserving of special mention.

The chief outside attraction of the day was the horse show. The collection of animals was, upon the whole, good, but at no time were there all on the ground together. They were, of course, chiefly confined to animals kept for use and hard work, not for fancy From the "bloods" we select two shown by Mr. Dew, of York Township, and Mr. Musson, of Bicoke, as amongst the best. Mr. Stewart, of York Township, showed a fine draught mare, and Mr. March, of Vaughan, a two-years-old entire colt, both very fine animals. The exhibition of horses for general purposes was not of a high character.

The chief interest was concentrated on the "teams" and saddle horses. Mr. Clark, of Brampton, showed a beautiful span, very powerful fellows, but not heavy, and possessing very graceful action. They are a model for the farmer of this country. Another pair, shown by Mr. Laurie, of Scarboro,' were of pretty nearly equal excellence. Next, we would place a span shown by Mr. Dougall McLean, of ploughing celebrity. The show of carriage horses was limited. A couple of span, the one shown by Mr. Roach, and the other by Mr. Grand, were the best on the field.

There were very few agricultural implements upon the ground; neither threshers nor mowers being shown. Mr. Patterson, of Richmond Hill, exhibited a couple of well-made iron ploughs; and Mr. Mahaffy, of Brampton, three of the same description of implements, which has earned him so many prizes. Mr. J. Fleury, of Aurora, also exhibited a substantial looking iron plough Mr. Patterson also exhibited three chaff cutters, adapted either for work by man or horse. Messrs. W. & T. Walker, of Brampton had a couple of very neat barrow drills. One of them is adapted to drop dry manure which it first breaks into small pieces—upon the seed as it falls into the ground. The deposit is covered up in the usual way by a roller which follows close to the seed tube.

The interior of the building presented a very respectable and pleasing appearance. The fruit and flowers were placed upon the centre table of one of the rooms; on the sides were the ladies' work, and "nicknacks" generally. The vegetables were shown in several rooms. This department of the Exhibition was decidedly good, being in many respects superior to the display at the Exhibition in the Palace here last week.

The show of grain was very good indeed, both as regards quality and variety. The fall wheat was very superior, and the judges must have had some difficulty in deciding which specimens were the best. Spring wheat was also good, though hardly up to the fall. Of buckwheat and oats there were several bags entered, and all the specimens were good.

The show of fruit was not so good as it might have been, and not at all equal to the show in the other departments. This is attributed to the fact that the farmers understanding that a number of professional gardeners and fruit-growers were going to exhibit, would not enter. Had they known that the competition would have been confined almost exclusively to farmers, there would have been a much larger collection of fruit shown.

There were very fine flowers shown, the only exhibitors being Mr. D. L. McPherson and Judge Morrison.

In one of the rooms there was a good collection of domestic products, consisting of bread, cheese, butter, &c.

Mrs. Thurman, Yorkville, showed some beautifully made "Melton Mowbray" pies Some clarified honey and honey combs, together with some home-made cakes and home-made wine, completed the collection of domestic products.

During a portion of the afternoon and evening a brass band did much to enliven the company.

County Fairs.

Having attended some of the County Fairs during the past few days, we will endeavour, as briefly as possible, to give our impressions with regard to them. As these local Exhibitions necessarily occur pretty nearly at the same time, it was of course only practicable for us to attend a few out of the multitude.

South Riding of Wellington.—This Show was held at Guelph, and took place on the 11th inst. Judged by former occasions of the kind on which we have attended, this Exhibition was not up to the usual mark. Two circumstances militated against its success; the number of township shows lately held, and the non-appearance of Mr. Stone among the competitors, in consequence of a sale of his stock appointed for the next day. The show of horses was a good one, especially in the class of matched farm teams, but the stock generally gave no fair idea of what is owned in the county. Some good sheep were exhibited, but far more of them would have been on the ground, but for the expectation that Mr. Stone would show as usual, and that he would distance all

competition. The pigs and poultry were but a meagre display, and might easily have been quadrupled within a radius of two miles of Guelph. Indoors things were better. The show of grain was excellent: finer spring wheat and barley we never saw. In flax seed there was considerable competition, and some fair samples were shown. Mr. Henneberry, of Fergus, showed the only specimen of scutched flax, which was prepared with the brakes now manufactured by Mair, Inglis & Co., of Guelph. A special prize of $5, offered by W. J. Brown, Esq., for the best dressed flax, was awarded to Mr. Henneberry. Mr. Jos. McGarr, of the Waterloo Road, exhibited some ropes, twines, &c., of his own manufacture. The display of roots was magnificent. It would be difficult to surpass them, especially the potatoes and turnips, anywhere. Two fair samples of Indian corn were shown, but this is a grain against which there seems to be considerable prejudice in the County of Wellington, for what reason we know not. The show of fruit was limited, but of good quality. Domestic work was shown pretty largely, and there were some good specimens of embroidery. The implement part of the exhibition was not extensive, though some of very good manufacture were on the ground. At the dinner in the evening, much interest was excited by the presence and remarks of Sanford Howard, Esq., late of the *Boston Cultivator*, and now Secretary of the Michigan State Agricultural Society, and the Michigan Agricultural College.

West Brant.—The Exhibition for this County was held the day following that at Guelph, viz: Wednesday, 12th inst. This county has extensive and pleasant grounds, together with a noble exhibition building, situated on a flat just west of the town of Brantford. As a whole, the Show was a most creditable one, and though the weather was rather unfavourable, the attendance was very large. The stock department was well filled, and the show of sheep was particularly good, especially in the Leicester and Merino classes. The assortment of poultry was large, and embraced some fine specimens. Implement manufacturers were out in full force. We noticed a very nice triple harrow, all iron, and were much pleased with the collection of ploughs. J. Bingham, of Norwich, showed a good double Michigan plough, and a light, nice one-horse plough of his manufacture. Straw-cutters, root-slicers, sawing machines, cheese presses, &c., invited attention. Mr. S. Day exhibited his gig hay rake, and Mr. Rundell, of Chicago, showed his horse pitch fork. The exhibition building, though a large one, was well filled. The display of vegetables was very fine. Several samples of cured tobacco were shown. Some immense pumpkins were to be seen. The array of fruit was exceedingly fine, particularly the out-door grapes, of which Mr. Arnold, of Paris, was the chief exhibitor. Some Flemish beauty pears, shown by Mr. W. Smith, were much and deservedly admired. The show of flowers and green-house plants was very good. In dairy products, the Exhibition was well sustained. Several samples of honey, home-made wine, and maple sugar were exhibited. There was also a large assortment of bread. Goold & Co., showed a splendid lot of stone ware from the size of a milk pitcher to that of a water barrel. Stoves, cabinet ware, the fine arts, &c., were represented, and to crown all, a Ladies' Bazaar was held during the show. A juvenile flute and drum band from Mt. Vernon did much to entertain the visitors. The little fellows really played remarkably well. A melancholy accident through a gloom over this Fair toward the close of the afternoon. A violent squall of wind and rain set in, and the force of the wind broke the flag staff that surmounted the judges stand in the midst of the horse ring. Sad to relate the broken top struck a man in the head who was holding a colt, and killed him on the spot.

County of Norfolk.—The Exhibition for this County was held at Simcoe, on the 13th inst. The weather was fine, though a little cold, and the show of cattle, farm products, &c., and the attendance of visitors, was encouraging, especially the latter. The grounds were crowded most of the day. The Norfolk Agricultural Society is poorly provided with buildings, a circumstance which conflicts very much with the success of its shows. The horse department was decidedly the best part of the Exhibition. The cattle were chiefly grades, but few pure-bred specimens being on the ground. The same remark applies to the rest of the stock. The sheep were strongly dashed with Leicester, Cotswold, or Southdown blood, but scarcely any of them were thorough-bred. So of the pigs, all of which we think were more or less tinctured with nativism. The show of poultry was excellent. Very few implements were exhibited, but these were good. Two bee hives and several samples of honey were shown. The grain was first-rate, especially the spring wheat and oats. There was a fine display of Indian corn. The roots were splendid. Over thirty entries of Swede turnips were made, a fact which speaks well for the tendencies of farming in Norfolk. Some good broom corn, and some well made brooms were shown. A creditable display of fruit was made. The apples were very fine. Several nice samples of flax were shown. There is we believe no scutching mill in the county. This defect we hope will soon be remedied. In domestic manufactures and the fine arts, the show was particularly good. There were some hair wreaths that exhibited no little skill and taste. At the reading of the prize list, addresses were given by Mr. Chrysler, President of the Society, and the Editor of The Canada Farmer.

Messrs. C. H. Waterous & Co.'s Portable Steam Saw Mill.

The portable steam saw-mill exhibited by Messrs. Waterous & Co., of Brantford, was one of the most interesting features of the Provincial Exhibition, and deserves something more than the passing notice it received in our report, when a multiplicity of other objects of less importance were pressing themselves on the attention of our reporters. The mill was in operation during the Show, and elicited the warmest expressions of admiration from the thousands of spectators who stopped to look at it. The engine which worked the sawing apparatus was "stationary" in the technical sense of the term, and inasmuch as it was built into the ground in a substantial framework of brick but it was so simple and light, and with the attached saw-mill could be so readily removed, with a view to its being located where its services might be required, that the whole affair might with the greatest propriety be termed a "portable" steam saw-mill. It was astonishing to observe how much work the comparatively tiny mill got through with in a given time, and how satisfactorily the work was executed. Many mill-owners who stopped to look at and examine it, expressed their surprise at the rapid manner in which it cut up into one-inch planks the huge logs with which it was fed. It is capable of cutting 2,000 feet of inch lumber in a single hour. One peculiarity of the mill is that there is little belting required, and no extra wheels, as the piston-rod is attached to the shaft of the saw, thus making the action direct, and the mill more portable. The engine and saw-mill exhibited were made to order, this being the first time they were put in operation. They are found to last well, gentlemen present who had used a similar engine and mill for over five years testifying that no other expense had been incurred than what was the necessary result of the usual wear and tear. Messrs. Waterous & Co. deserve credit, not only for the mechanical skill shown in the construction of this very valuable machine, but for the spirit they displayed in exhibiting it in operation during the Show. The saw-logs were brought from Lynden, and 8,000 feet of one-inch lumber were cut each day during the few hours the mill was running—the men in charge had to be boarded at considerable outlay,—and the expense altogether to Messrs. Waterous & Co., we were informed, footed up some $300. The judges, singularly enough, did not award a prize for the "Portable Steam Saw Mill," for what reason we are not aware—but the Revision Committee, on having it brought under their attention, and having seen it in operation, promptly made matters right by awarding for it the distinction of a diploma. In bestowing this mark of honour, they but endorsed the universal verdict of the thousands who inspected it during the Fair week, that the "Portable Steam Saw Mill" of Messrs. Waterous & Co. was one of the most interesting and valuable features of the Exhibition.

The Winner at the Provincial Ploughing Match.—Mr. Walter Hood, who carried the first prize at the ploughing match, does not hail from Ancaster, as stated in the printed prize-list, but is a resident of Seneca township, of which also he is a municipal councillor. Seneca township sent six ploughmen to the match.

Fall Shows.—The Addington County Agricultural Show is to be held in Newburg on Tuesday, 25th October. The Camden Township Show will be held in Newburg on Saturday, 22nd October. The Ernestown Show will be held at Odessa, on Thursday, 20th of October.

The Hamilton Horticultural Society.

This Society held its Fall Exhibition of fruits and flowers, on Tuesday the 20th of Sept. As usual, the show was very good, and the articles well arranged. The fruit was unusually fine, and in this deparment particularly there has been a very steady and marked improvement for several years. The number of entries of fruit was (257) two hundred and fifty seven The grapes were excellent, and one of the out door sorts, Allen's Hybrid, was equal in flavour to some of the hot-house grapes.

The display of flowers, especially of green-house plants, could not be expected to be as large as at the exhibitions held earlier in the season, but the number of entries in this department was two hundred and eight.

The foliage plants were very well grown and made a beautiful display. We were most particularly gratified at the number of plants shown by amateurs, and especially at their healthy and beautiful appearance A plant case intended as the first prize to be given for the best bouquet of dried grasses, ferns, &c., designed by Mr. Laing, was also on exhibition, and ought to call out spirited competition.

There was also a display of very fine vegetables, the entries numbering 331. We rarely see finer cauliflowers, celery, carrots, &c., &c., than were here brought together. In this department also the amateurs showed that skill and knowledge are by no means the exclusive prerogative of professional gardeners. The H. H. Society is doing a good work, may it long prosper.

Double Number.

We are making arrangements to issue, on the 1st prox., a double number of The Canada Farmer. As the issue of our first number was unavoidably postponed until Jan. 15, we must, in order to be even with our subscribers, supply an extra number sometime during the year. We take the opportunity of doing this in connexion with the publication of the prize list which, in its officially corrected form, will appear in our next. The forthcoming number will also contain engravings of prize animals at the Provincial Exhibition, and be, on various accounts, specially valuable for permanent reference. New subscribers will do well to secure the double number by forwarding their subscriptions for 1865 forthwith.

The Ex-President's Retiring Address.—Finding that Col Johnson's address at the recent Provincial Exhibition occupies considerable space, and being unwilling to curtail it, we have postponed its publication until our next. It will appear in the double number.

Bears' Wool Mitts.—Mr. W. H. Thornbury, of Avening Mills, Nottawasaga, has left at our office a curiosity in the shape of a pair of mitts, made of wool shorn from a native bear. This animal is of the variety commonly known as the Brown-nose Black bear, and was caught when a cub near Angus, in the County of Simcoe. Mr. T. has had him about 18 months, and has tamed him by kind treatment, so that he is not afraid to unchain him and let him follow his master like a dog. He hybernates for about three months in the coldest weather. Last spring he was shorn with a pair of shears, such as are used in shearing sheep. A pound and a half of wool was obtained. Mr. T. thinks from 4 to 6 lbs might have been got, had he been shorn earlier in the season. The wool was carded at the Stayner Carding Mills, Nottawasaga, in the usual way, and then spun and knit. It is wool, though a little hairy. We advise the owner of this creature not to trust him too implicitly, especially among children. Though his clothing outwardly resembles that of a sheep, yet inwardly, doubtless, he has the disposition of a bear.

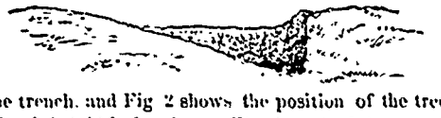
Large Cauliflower.—Mr. Robert Passmore, of Rockwood, has sent us a specimen of his gardening in the shape of a large cauliflower, from 17 to 18 inches across. The bloom was very compact, and fine in texture, and the flavour was all that could be desired. We question if it was surpassed in any respect at the recent Provincial or local Exhibitions.

Heeling-in Trees in the Fall.

We promised some time ago, that before autumn, we would give a description of the best mode of taking care of trees during the winter, which it is desired to take up in the fall with a view to transplanting them. The month of October is usually the most suitable in this climate for taking up trees and shrubs, and we now redeem our promise, that the hints we have to give on this subject may be in season.

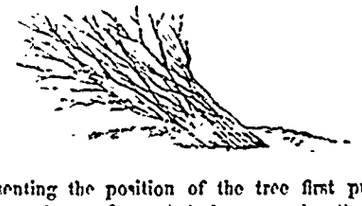
It is to be desirable to procure our trees and shrubs in the fall, for several reasons, among which the most common are, that we are able to get a better selection from the nurseries in autumn than we are very often able to obtain in the spring, and by having the trees at hand we can get them out in the spring as soon as the season opens, at our own convenience without being compelled to do it just whenever the trees may happen to arrive. But such is the severity of the winters, that trees set out in the ordinary way and exposed to the cold frosty winds, are very apt to perish. In order to obviate this evil, and yet secure the advantages already mentioned, we have recourse to the practice of "heeling-in" the trees as soon as they are received, in the manner we will now describe.

The first thing to be done is to select a suitable place. It is very important that it should be one that is well drained, where no water can stand during the winter, and where the soil will be dry. If the side of a gentle slope can be found it is to be preferred, and if it slope to the north, so much the better, for the reason that it is less exposed to changes of temperature. Having selected the spot, a trench should be dug, having one side cut away so as to admit the roots of the tree, while the trunk and top lie upon the ground. Fig. 1 represents the form of



the trench, and Fig 2 shows the position of the tree after it is laid in its place. The length of the trench will vary with the nature of the ground, and the number of trees to be heeled-in. After laying down the first row of trees, the earth that was taken out of

the trench is to be used in covering up the roots of the trees, and about three-fourths of the length of the trunk. Having covered up the first row of trees a trench may be opened at the foot, running parallel with the first row, into which a second row of trees may be placed, as shown in Fig. 2, the dotted line



representing the position of the tree first put in. This second row of trees is to be covered in the same manner as the first. A third row of trees can now be added in the same way, and so on indefinitely until the whole number of trees is put in. When the whole is completed, the bed will look somewhat as shown in Fig 3, the roots and most of the trunks being covered with earth, and the tops lying on the ground and over lapping each other, much after the fashion of the shingles on a roof. The roots should be covered to a depth of six or eight inches. After all the trees are put in, a ditch should be dug along each side of the bed, and brought together at the foot, and continued a sufficient distance to take off all the surface water. If a covering of snow can be depended upon throughout the winter, the trees will need no further protection, but if such a covering cannot be expected, it is very desirable that the tops of the trees should be protected by a covering of evergreen boughs thrown over them. It is not safe to cover them with straw, for this affords a harbor for mice, and they would gaw the bark off, and seriously injure the trees. It is important on this account to see that there is no grass, or weeds, or heaps of rubbish that can afford a shelter for mice, in the vicinity of the trees. Even an inverted sod gives them shelter, so that a meadow or piece of grass turned over late, is an unsafe place.

We have recommended that the tops of the trees should be covered, for the reason that experience teaches us that this is the best way, but it is not absolutely essential, and if we could not get evergreen branches without too much expense, we would not hesitate to leave the trees with the tops uncovered.

When laid down in this way, the trees are not exposed to the cold, frosty, drying winter winds. It is the winds, very often, that kill fall transplanted trees. They fairly season the wood and dry up every particle of sap. It is chiefly for this reason, that in our climate we advise spring planting, and to those, who for any reason find it preferable to obtain their trees in the fall, we recommend heeling them in, as above described, for the winter, and setting them out as early as they choose in the spring. Trees cared for in this way, will pass the winter more securely than when left standing where they grew, and it is a common practice to take up half hardy shrubs and roses and keep them through the winter thus heeled-in, in order to preserve them from injury.

Gathering Apples.

The advice given upon this subject by a correspondent of the *Country Gentleman*, is so appropriate and so much needed, that we copy it now, in the hope that it will be in season to be of benefit to some of our readers.

"What I wish to say to farmers upon this subject is, to *pick* your apples, if they are worth gathering at all they are worth picking. Apples ought to be handled as carefully as eggs, for what would break an egg would bruise them, and when they are bruised they are spoiled for long keeping.

"To pick the apples you need some light ladders and a half bushel basket, with a hook attached so that it may be hung upon a limb or ladder round while being filled. The barrels should be placed as wanted at each tree, and when the basket is filled, do not pour them from the top of the barrel as you would a basket of potatoes, but lower the basket into the barrel, and then turn it over carefully. You may think this a slow way to gather apples, but it *will pay* much better than to shake them off. In this way, one man will pick from ten to fifteen barrels in a day.

When the barrels are filled they should not be headed up tight, for there is nothing will spoil an apple quicker than shutting it up in a close place without air. The best way is to leave the barrels open but if it be necessary to head them up, there should be holes in the sides of the barrels, so that they may have a free circulation of air.

"They should be stored in sheds or other airy places, until there is danger of their being frozen, then they should be taken to the cellar, which should be kept cool and airy, but free from frost.

"When gathered and cared for in this way, apples may be kept sound a great length of time. There is generally a better market in spring than in the fall, and if you want apples for your own use, it is much pleasanter to have them sound and fresh than rotten.

The Fruit Display at the late Provincial Exhibition.

We promised in our last issue that we would give a more detailed account of the Fruit Department in the late Provincial Exhibition, and now proceed to redeem our promise. It has been our constant endeavour to persuade the farmers of Canada, and our readers generally, to pay more attention to fruit culture. The array of fruit spread on the tables of the Crystal Palace at the late Fair, was every way encouraging to those who beheld it, especially considering the unfavorable characteristics of the past season; and we trust an enumeration of the leading objects then displayed, will stimulate those who did not have an opportunity of seeing for themselves.

A very fine show of fruit was made on the table appropriated to the nursery-men and market-gardeners. The prizes offered for the "best display" of all kinds of fruit called forth a spirited competition between Mr. George Leslie, of the Toronto Nurseries, Mr. Beadle, of the St. Catharines Nurseries, and Mr. C. Arnold, of Paris. The first prize was awarded to Mr. Leslie, whose collection comprised 101 different varieties of apples, 32 different varieties of pears, 7 of crab apples, 20 of open air grapes, 4 of hot-house grapes, 2 of peaches, 4 of plums, 2 of melons, and a plate of Law on blackberries. Among the pears we noticed some fine samples of the Flemish Beauty and Beurre Clangeau. Of the open air grapes in this collection the finest were the Concord, Delaware, Clinton and Diana. Among the hot-house grapes were some superior specimens of Wilmot's Black Hamburg, an excellent early grape for general use for the table. Among the apples were first rate samples of the following fine varieties: the Dutch Codlin, a good early apple; Kentish fill-basket, very large and nicely tinted; Lady-apple, a tiny, fancy apple, which sells in the New York market at from $10 to $15 a barrel; Duchess of Oldenburg, which promises to be very valuable in Canada, of good quality, while the tree bears very young; the St. Lawrence, a late autumn apple, found to be well adapted for Canada; and American Golden Russet, an excellent winter keeping variety. Among the crabs, the "Montreal" and "Transcendent" were particularly good. Mr. Leslie received the first prize for the best thirty varieties of apples, and the second prize for the best twenty varieties of pears.

Mr. Beadle's entry for the "best display of fruit," comprised also a very fine assortment, although not so large as Mr. Leslie's, and had the second prize awarded to it. Among the apples, excellent samples of the following good varieties were specially noteworthy—the Ribston Pippin, one of the best of our early winter apples, and which experience has proved to be finer and of richer flavour, when grown in Canada, than in its native England; the Baldwin, of which Mr. Beadle exhibited the finest specimens at the present show, a winter apple, profitable for the market, being a good keeper, although the tree is tender in some parts of Canada; the Tallman Sweet, one of our best sweet winter apples, hardy and very productive, the Northern Spy, a large apple and a hardy tree, which has been found one of the most profitable for cultivation in all parts of Canada; the Snow apple, one of the hardiest varieties, and found particularly suited for culture in Canada; the Golden Russet, a long keeping winter apple, a prolific bearer and so far as it has been tried, found well adapted for this climate, the Swazie Pomme Grise, a medium sized apple, in best condition in February and March, tree very hardy. The pears shown by Mr. Beadle were well worthy of a careful examination. Out of a great number of excellent varieties, the following deserve to be singled out for special mention: the White Doyenne, one of our best October pears, and the tree generally found to be hardy; the Belle Lucrative, deservedly a favourite; the Beurre Diel, an early winter pear of good quality, in condition to be used in the latter part of November and beginning of December; the Beurre d'Anjou, a new variety of great promise recently introduced from Belgium, thus far found to be exempt from disease and highly productive; the Buffam, an October pear, a hybrid between the White Doyenne and the Seckel, very productive, and so far as tested, well adapted for culture in Canada; the Fulton, very hardy, from the State of Maine, and can probably be grown with advantage as far north as any variety now cultivated, sweet and of a peculiar aromatic flavour, the Seckel, a very small autumn pear, regarded by pomologists as the standard of excellence in quality among the pear tribe; the Louise Bonne de Jersey, a pear of vinous, rather acid flavour, and the tree an immense bearer. Mr. Beadle had also a fine display of open-air grapes.

The following varieties may be noticed:—Allen's hybrid (white), a new grape, very sweet, with little pulp, and which so far has been found hardy; very pretty clusters of the Concord (black), a hardy and prolific grape which promises to be very valuable in many parts of Canada; the Prince of Wales, and Dalhousie, new varieties raised from the seed by Mr W. H. Read, of Port Dalhousie, having very large berries; the Ontario, another large variety; good samples of the old standard Isabella, and of the Diana (amber), which ripens about the 1st October, the same time as the Isabella. This collection included some grapes of a variety named "Adirondac," grown by Mr. J. W. Bailey, at Plattsburg, N. Y., which ripens as early as the Hartford Prolific, and is about as hardy as the Isabella, of a vinous flavour, and has very little pulp. Mr. Beadle received an extra prize for his pears.

Mr C. Arnold, of Paris, received the third prize for the "best display." His collection was also very meritorious. Among his apples we noticed particularly some fine samples of the Gravenstein, a large, tender, juicy fruit, one of the best, if not the very best, of our fall dessert apples; and of Seek-no-further, a good variety of winter keeping apple. His collection of pears included some very excellent samples of the Flemish Beauty. Mr. Arnold also gained the first prize for the best collection of grapes grown in the open air. Among the varieties included in his collection, of which very fine samples were shown, were—the Black Prince, a grape introduced from Europe, the cluster exhibited weighing nearly a pound; the Concord, Hartford Prolific, Ontario, Diana, and Rebecca, the last named being a delicious, sweet aromatic grape, free from pulp, and in many respects closely resembling the Hartford. The hot-house grapes shown by Mr. Arnold, included excellent specimens of the White Syrian, Black Hamburg and Golden Chasselas varieties.

Mr. W. H. Read, of Port Dalhousie, who has devoted special attention to grape culture, got the first prize for the best six varieties of black grapes, grown in the open air. We noticed among these the Ontario, a large berry, the largest being almost an inch in diameter, while the cluster must have weighed nearly two pounds; the Prince of Wales, a seedling of Mr. Read's own raising, first exhibited at the Show at which the Prince of Wales was present—very large berries, some of them about four inches in circumference, having little pulp, and for the most part seedless, two very considerable recommendations to the grape-fancier; the Dalhousie, another seedling of Mr. Read's raising, the clusters large, and somewhat like the Hamburg, the vine hardier on account of being a native, and lastly, a beautiful bunch of Concords, a grape which has succeeded well in this country, being at once hardy and prolific.

Messrs. Bruce & Murray, of the Rosedale Nurseries, Hamilton, carried the first prize for the best twenty varieties of pears. Among the varieties shown, we noticed an unusually fine sample of the Flemish Beauty; a very fine sample of the White Doyenne; the Howell, a new and early variety, which ripens shortly after the Bartlett, of good size, and having a vinous agreeable flavour; and the little Seckel, one of our most delicately flavoured pears. Messrs. Bruce & Murray also got a first prize for the best six varieties of open-air grapes, other than black. Among these we noticed the Delaware, Allen's hybrid and the Rebecca. They also got the second prize for the best six varieties of open air black grapes. Among these we noticed the Hartford Prolific, one of our earliest grapes, and well suited for Canada; the Concord, a hardier grape than the Hartford, and suitable for almost any part of Canada; and the Isabella, the latest of the grapes that ripen well in this country.

Messrs. Wolverton & Smith, of Grimsby, got the first prize for the best twenty varieties of apples, which included fine samples of the Pomme Grise, Snow Apple, and the large-sized Fall Pippin, Hawley, Gloria Mundi, and Blue Pearmain. They also got the second prize for the best ten varieties of pears. Mr John Freeds, of Hamilton, got the first prize for the best fifteen varieties of apples. This collection included good samples of the Baldwin, the Twenty Ounce, the Duchess of Oldenburg and the Fall Pippin. Mr. J. P. Williams, of Hallowell, got a first prize for the best ten varieties of pears. This collection included some very luscious Bartletts, and good specimens of the Belle Lucrative, a delicious sweet pear, and of the Beurre d'Amalis, which is found to succeed pretty far to the north. Mr. Williams also got the second prize for the best thirty varieties of apples.

On the tables appropriated to the production of amateurs were a large and very creditable display of apples. The entries were very numerous. Mr. R. B. Werden, of Picton, one of the most enthusiastic amateur fruit growers in Canada, carried off the first prize for the best 20 varieties of apples—a circumstance exceedingly creditable to him, when we remember that Picton is a good way north of what are considered the best fruit growing districts in Canada. The most noteworty varieties in his collection were the Cornish Gilliflower and the Alexander, both very large, and very good samples of the Northern Spy and Baldwin. Mr. R. R. Gage, of Hamilton, got the second prize for the best 20 varieties. We noticed in his collection some very fine Baldwins and Greenings. In the collection of Mr. J. King, of Hamilton, were some good Twenty Ounces and Ribston Pippins. Mr. S. J. J. Brown, of Niagara, got the first prize for the best ten varieties of apples. These included some splendid samples of the Northern Spy, fine specimens of the Swazie Pomme Grise, and some good Baldwins and Roxbury russets. For the best four varieties of dessert apples, Mr. R. Warren, of Niagara, carried the first prize. His collection embraced some good Snow apples, superior samples of the St. Lawrence and very good of the Northern Spy. Mr. George Murray, of Yorkville, got the first prize for the best four varieties of cooking apples, amongst which were capital specimens of Rhode Island Greenings and Fall Pippins. First prizes were awarded to Mr. G. Z. Rykert, St. Catherines, for the best 21 apples, fall dessert; to Mr. James Wildes, Hamilton, for the best 12 fall cooking apples; to Mr. John Wilson, Toronto township, for the best 12 winter dessert apples; and to Mr. James Harvey, Barton, for the best 12 winter cooking apples of one variety. These were of good size, and of the Northern Spy variety.

On the same table as the apples was the amateurs' display of plums and peaches. The show of plums was small, but the samples were good. Mr. George Brown, of Hamilton, got the first prize for the best 12 dessert plums, which were of the blue egg variety. Mr. William Benham, of Guelph, got the first prize for the best 12 cooking plums, which were very good specimens of the yellow egg variety. For the prizes for the best 12 peaches, there were only two entries. Mr. S. J. J. Brown, of Niagara, got the first prize, and Mr. Thomas Buchanan, of Hamilton, the second. An extra prize was given to Mr. S. J. J. Brown for a sample of blood peaches, which are of use only for preserving purposes.

There were only four entries of Siberian crabs in the amateur list, and but one prize was awarded, an extra to Rev. Dr. Green, Port Nelson, who exhibited some "Transcendents," a large, showy variety of the Siberian crab-apple.

The display of pears by amateurs was very good—the show of this fruit increasing in excellence yearly, and an advance being observable in the number of varieties exhibited. For the best eight varieties, the first prize was carried by Mr. Thomas Buchanan, Hamilton, whose collection embraced very fine samples, all well grown, of the Louise Bonne de Jersey, Duchess d'Angouleme, Beurre Diel, &c. For the best 4 varieties of pears, Mr. James Heslop, of Flamboro' West, carried the first prize, his samples, which were very good, forming a well-assorted collection of Flemish Beauties, an autumn pear, White Doyennes, a little later, and Beurre Diel, later still, and Glout Morceau, a winter pear, all of them varieties of the best quality. For the best 12 winter pears of one variety, it is somewhat singular that the judges should have bestowed the distinction of the first prize on a variety of third-rate quality, the "Vicar of Winkfield" possessing nothing but its size to recommend it. It may be remarked, also, that they awarded the third prize for winter pears to the "Grey Doyenne," which happens to be an autumn pear, ripening just after the "White Doyenne," to which they awarded the third prize for autumn pears. The first prize for the best 12 autumn pears, of one variety, was carried by Mr. Thomas Buchanan, of Hamilton, who exhibited some good samples of Bartletts.

For Dr. Beadle's prizes, offered to amateurs for the largest collection of really valuable pears, there were three entries. Mr. R. B. Werden, of Picton, carried the first prize, exhibiting no fewer than 32 varieties. Mr. James Heslop, of West Flamboro', carried the second prize, exhibiting 10 varieties. Mr. F. Currie, of Niagara, the third, exhibiting 13 varieties.

Of Quinces there were 7 entries. The first prize was awarded to Mr. G. Z. Rykert, of St. Catherines, who exhibited some very large and fine specimens.

The prizes for hot-house Grapes were open for competition, both to amateurs and nurserymen. The first prize for the best collection of grapes grown under glass, was carried by Messrs. Bruce & Murray, of the Rosedale Nurseries, Hamilton. Their collection embraced, among other varieties, the Chasselas Musque, a delicious white grape; the Muscat Hamburg, a new variety, combining the size, colour and ease of propagation of the Black Hamburg, with the peculiar aromatic flavour of the Muscat grapes, a very fine, well-grown sample of the Muscat of Alexandria; and the Buckland Sweet Water. Mr. T. King, of Hamilton, and Mr. C. Weston, of Barton, amateurs, got the second and third prizes, each exhibiting fine samples of valuable varieties. For the best two bunches of black grapes from under glass, Messrs. T. Buchanan, Hamilton, John Sherman, Oakville, and C. Weston, all amateurs, got respectively the first second, and third prizes. All three exhibited the same variety, the Black Hamburg. For the best two bunches of white grapes, from under glass, Mr. C. Weston got the first prize for Muscats of Alexandria Messrs. Bruce & Murray the second, also for Muscats of Alexandria; and Mr. C. Arnold, of the Paris Nurseries, the third for White Syrians. The amateur display of open air grapes was large, and generally of very marked excellence.

Grapes for Canada.

To the Editor of THE CANADA FARMER:

SIR,—I must say that I, in unison with many others, feel a degree of pride and patriotic pleasure in THE CANADA FARMER. I have been interested and instructed, and now would add my mite, that may at least show I am anxious to help.

I have a hobby—my hobby is the grape,—and I would be glad to inspire my brother farmers with some of my enthusiasm. My own success and that of many others convinces me that there is scarcely a county in Canada in which the grape cannot be grown with success; and if there be any where it cannot be grown upon a large scale, yet enough may be raised for family use, and that not only for the table, but enough to enable you to make your own wine.

I can assure my brother farmers that by purchasing a few of the best grapes and a volume by the best American writers on grape growing, they can easily cultivate a taste for horticulture in the minds of their boys (as for the girls, they will not need much cultivating, they take to it naturally, as the duck to water), and when autumn comes they will surprise you by pouring into your lap the rich clusters of grapes, luscious and refreshing, a dessert a king might envy.

This is not mere fancy. I have growing in my garden thirty varieties of grapes, and fully half of these would ripen in almost every county in Canada. The only difficulty in growing grapes in Canada has been in obtaining varieties that would ripen sufficiently early; and now, thanks to the zealous horticulturists of America, we have several varieties equal to any in the world, that will ripen anywhere that Indian corn will ripen. A friend recently took some of my grapes home with him to Vicksburg, Mississippi, and when he treated his Southern friends to a few clusters of Canada grapes, they were amazed, and said they had nothing there to compare with them.

Of the thirty varieties I am cultivating, there is one which stands thus far unrivalled as to quality, and which, tested by the saccharometer, is as sweet, or sweeter, than any European variety. I mean the Delaware, and if it were not quite so small, it would leave us but little to wish for. It is hardy, not subject to disease, and is among grapes what the Seckel is among pears.

But my letter is getting unreasonably long. At another time I will describe the different varieties and give a few simple directions, which will enable farmers residing in any county in Canada to grow these grapes and ripen them, too.

Yours, &c.,
JOHN C. KILBORN.

Beamsville, Aug., 1864.

NOTE BY THE ED.—We hope Mr. Kilborn will give the readers of THE CANADA FARMER the benefit of his large experience, and that he will attend the meeting of the U. C. Fruit Growers' Association with samples of his grapes.

THE BEST "PROP" FOR HEAVILY LADEN FRUIT TREES—Never prop up a tree loaded with fruit, to prevent the branches from breaking down. Any branch or tree which requires propping, has more fruit than it ought to carry, either for the good of the tree or the good of the fruit. The first thing to be done is to remove immediately all the smaller, poor, or knotty specimens. If this is done before the growth of the fruit has ceased, and sometimes even after ripening has commenced, the improvement of the remaining portion will more than compensate for the reduction in number. If you wish to have good, healthy, uniformly growing fruit trees, not destroyed by premature age, do not let them overbear.—*Country Gentleman.*

New Raspberries.

Several new varieties of the raspberry have recently been introduced to notice. Of their merits we know nothing more than is stated by the originators, or those who offer the plants for sale. As very little improvement has so far been made in this fruit, we do not expect a great deal of these new sorts; still they may have some qualities superior to the older kinds, which entitle them to the notice of cultivators. The kinds are as follows:—

Clarke. Raised by E. E. Clarke, of New Haven, and pronounced by prominent fruit growers, who have tested it, of more value than all kinds in cultivation. It is described as perfectly hardy, of larger and stouter growth than any other kind. Increases very slowly. Of strong vital qualities, it will carry a good amount of fruit the same season planted, and produce one or two good canes for the succeeding season. There is usually only three or five outsiders from the stool, or runner plants. Fruit, bright red color, firm, picked at the proper time; sweet, and of the richest and best flavor. The fruit spurs, or branches, usually grow from one to two feet long, loaded with fruit of the largest size and perfect form. The greatest bearer known.

Semper Fidelis.—An English variety, just introduced to notice. Recommended by the fruit growers of the west of England as a most productive and superior fruit. The canes are from 10 to 12 feet in length, and the fruit proportionally large, of fine flavor, pleasing red color, and very solid. The canes are of that strength, and the wood of that peculiar hardness that they require no support. The most certain cropper, producing fruit in corymbs, from 18 inches to two feet in length from the bottom of the cane to the top, fruiting in clusters from every eye; producing fruit from July to October. First-class horticulturists have seen the fruit and given testimonials of its merits.

Philadelphia Raspberry.—A native variety, found growing in a wood, within the limits of the city of Philadelphia. It is perfectly hardy, requiring no protection during the winter, nor any extra care or culture; will grow in any good corn land; produces immense crops, and sells at high prices. The fruit is large, of a purplish red, darker than the Antwerp, rich and firm, bearing carriage well. Canes purple, very strong, with but few spines, thick and stout standing upright, without stakes or railing.—*Magazine of Horticulture.*

The Hornet Raspberry.—Having fruited this variety of the raspberry for two seasons, though on a small scale, we are willing to risk our pomological reputation in pronouncing in its favour, and recommending it for general cultivation. It is the largest and most beautiful of all the family, and comes next, or side by side, with the Hudson River Antwerp, to Brinckle's Orange in point of flavour. It appears to be a robust grower, and it is a most abundant bearer, beside it continues to bear for nearly twice the length of time of most others. It throws up shoots or new canes sufficiently numerous to supply an extended bed in two years.

The hornet is a French variety, and is not quite hardy, requiring to be laid down on the approach of cold weather. But this scarcely amounts to an objection, inasmuch as we believe it to be the true policy in the cultivation of all raspberries, that they should be pruned in November, just as they are desired to be in the spring, laid down and covered with a few inches of earth. Ours have uniformly turned up in the spring green to the very tips, and always producing excellent crops.—*Germantown Telegraph.*

Summer Sours.—Physiological research has fully established the fact that acids promote the separation of the bile from the blood; which is then passed from the system, thus preventing fevers the prevailing diseases of summer All fevers are "bilious," that is the bile is in the blood. Whatever is antagonistic to fever is "cooling." It is a common saying that fruits are "cooling," and also berries of every description; it is because the acidity which they contain aids in separating the bile from the blood, that is, aids in purifying the blood. Hence the great yearning for greens and lettuce, and salads in the early spring, those being eaten with vinegar: hence also the taste for something sour for lemonade on an attack of fever. But this being the case, it is easy to see, that we nullify the good effects of fruits and berries in proportion as we eat them with sugar, or even sweet milk, or cream. If we eat them in their natural state, fresh, ripe perfect, it is almost impossible to eat too many, to eat enough to hurt us especially if we eat them alone, not taking any liquid with them whatever. Hence often buttermilk or even common sour milk is antagonistic. The Greeks and Turks are passionately fond of sour milk. The shepherds use rennet, and the milk dealers alum to make it sour the sooner. Buttermilk acts like water melons on the system.—*Hall's Journal of Health.*

The Household.

Making Home Happy.

One of the very best means of preserving the health, happiness and morals of sons and daughters, for raising them up to occupy high responsible and honourable positions in society, and for securing to them an old age of quiet repose, with a happy freedom from wasting and wearing diseases of mind and body, is to make home, the family fireside, the companionship of parents and one another, the sweetest, happiest and most delightful place of all others. Taking into consideration the intensely inquiring character of the youthful mind, and the tendency in all to regard as true what is put in print, there is, perhaps, no other one method of bringing up a loving and lovable family, of securing a happy household, than that of supplying the children with suitable reading from the time they are first able to read at all. There may be some difference of opinion as to what kind of reading is most suitable, but the great mass of the intelligent and the good will have no difficulty in arriving at the conclusion that in the main it should be such as will combine truthfulness with interest. Fill and feed the mind with facts in language which shall engage the attention; facts, and truths, and histories, which lead out the affections, the best feelings of the human heart, which will wake up the sympathies to a healthful and practical exercise. There is no sense in domestic life so purely beautiful, except that of family worship, than that of father, mother, children all gathered around the table, before a cheerful, blazing fire, of a winter evening, reading aloud by turns with intervals of remark as to the sentiments conveyed, their application to the times or to one another, their literal correctness, the propriety of the modes of expression, and the many other points which may be suggested to the mind of reader or listener, as page after page is passed over. Very many articles might be selected from different writers as an example of the miscellaneous reading which might, with advantage, come before a family once a month. The subjects are various enough and practical enough, and withal truthful enough to engage the attention, impart instruction, and lead out the mind to thoughtful enquiry and to practical action in any family circle which might meet together. All the articles are truthful Fact and not fiction is the best nourishment, the most appropriate food for young minds: to feed them on imaginery narrations is as inevitably pernicious to the mind as the habitual use of stimulants is to the body. An early grave, or a life of poverty, dishonour and bodily suffering is the fate of those who "drink;" as certainly will those who feed daily on fiction "spoil" the mind, weaken it, unfit it for the duties of life, and for the high and holy exercise of the sympathies and the best feelings of our nature. Novel-reading is the parent of selfishness, of hard-heartedness, and, of a wayward, aimless, fruitless life. The last persons in the world to devote themselves to the beneficence of life, to the practical charities which so elevate us, are novel-writers and novel-readers. The blessings of the good be upon him who, reading this article, shall resolve that there shall be at least one family magazine in the world which shall come every month to eager households, freighted with all that is beautiful in sentiment, truthful in narration, and in matter instructive, pure and elevating, to be read aloud in the family; of the advantages of which a recent writer well says:—

"Books and periodicals should be angels in every household. They are urns to bring us the golden fruits of thought and experience from other minds and other lands. As the fruits of the trees of the earth's soil are most enjoyed around the family board, so should those that mature upon mental and moral boughs be gathered around by the entire household. No home exercise could be more appropriate and pleasing than for one member to read aloud for the benefit of all. An author's ideas are, energised by the confidence and love of the tender family affections, and every heart is open to the truth, like the unfolded rose, to receive the gathering dews The ties of love between parents and children, and brothers and sisters, are thus cemented yet more and more, and varied charms and pleasures are constantly open through this medium to make a home a very paradise. If parents would introduce this exercise in their families they would soon see the levity and giddiness that make up the conversation of too many circles giving way to refinement and chaste dignity. Read to your children, and encourage them to read to you, instead of reading your books and papers in silence, and in silence laying them away" Thus making home inviting, cheerful and happy, the sons will be kept from the contaminating influence of the street, the corner grocery, the engine-house and the tavern, while the daughters will grow up loving, domestic, virtuous and pure, and both sons and daughters will live happily, healthfully, usefully, and long.—*Hall's Journal of Health.*

Simple Mode of Purifying Water.—It is not generally known that pounded alum possesses the property of purifying water. A tablespoonful of pulverized alum sprinkled into a hogshead of water (the water stirred at the same time) will, after a few hours, by precipitating to the bottom the impure particles, so purify it that it will be found to possess nearly all the freshness and clearness of the finest spring water. A pailful containing four gallons, may be purified by a single teaspoonful of the alum.

The way to make an Æolian Harp.—Of very thin cedar, pine, or other soft wood, make a box five or six inches deep, seven or eight inches wide, and of a length just equal to the width of the window in which it is to be placed. Across the top, near each end, glue a strip of wood half an inch high and a quarter of an inch thick, for bridges. Into the ends of the box insert wooden pins like those of a violin to wind the strings around, two pins in each end. Make a sound-hole in the middle of the top, and string the box with small cat gut, or blue first-fiddle strings. Fastening one end of each string to a metallic pin in one end of the box, and, carrying it over the bridges, wind it around the turning pin in the opposite end of the box. The ends of the box should be increased in thickness where the wooden pins enter by a piece of wood glued upon the inside. Tune the strings in unison, and place the box in the window. It is better to have four strings as described, but a harp with a single string produces an exceedingly sweet melody of notes, which vary with the force of the wind.—*Scientific American.*

Improved Pan Cake.—Mix your flour with cold sour milk, buttermilk best. Add a little soda; stir and bake at once. The point in this is, that your milk be cold, otherwise you will have but the ordinary success. If the batter is raised when you mix it with the soda, it will fall before you get it baked. But if your milk or batter is cold (as cold as ice, all the better), it will not rise till it gets on the griddle; and then it will bake as it rises, the heat driving it up, and that higher in the jar, as it is heat that causes the fermentation. Thus you bake it, not only when risen to the highest point the batter in the jar (under ordinary circumstances) would admit, but the excess of heat on the griddle raises it higher than can possibly be done in the jar. Mix then your batter, very cold, with flour, sour milk, a little salt and soda, bake at once, on a griddle somewhat hotter than ordinarily, so as to give a rich, brown surface to the cake. It will be seen thus that emptyings (yeast) are dispensed with. But salt must be used so as to get rid of the raw taste. A little more salt is thus required than when emptyings are used. Bake and turn quicker than usual. The discovery is our own.—*Valley Farmer.*

On the Removal of Stains from Silk.—A correspondent of the London *Pharmaceutical Journal* writes:—"Being anxious to discover some means by which the colour could be restored that had been extracted from a violet silk dress by acid-juice having been accidentally thrown upon it, I applied to more than one chemist and druggist, thinking there must be some chemical agent which would restore violet, as spirit of hartshorn, it is well known, will restore black.

"Not being able to obtain any information on the subject, I thought of trying some experiments for myself: the first, proving successful, may be worth recording, if only to amuse the more learned with an account of the simple attempts of an amateur.

"Having recently superintended the 'iodine process' for annihilating a blot of marking-ink from linen, it occurred to me to try it on violet silk; the plan I adopted is as follows, and will serve as a recipe:—Brush the portion of fabric with tincture of iodine; then, after a few seconds, well saturate the spot with a solution of hyposulphate of soda, and dry gradually; the colour is perfectly restored, and I consider my experiment highly satisfactory.

"I should have stated that it was knowing something of the chemical composition and properties of iodine that induced me to make the experiment which I have described."

Miscellaneous.

A New Textile Fibre.

In consideration of the high price at which all varieties of textile fabrics are now held, it is important that the materials from which such fabrics are made should be increased in quantity. Cotton is almost out of the market. Until the war is ended, and the questions at issue decided positively, we cannot count upon another crop with any certainty whatever. Flax is beginning to come into the market to some extent, and factories to spin and otherwise work it up into wearing apparel are springing up in various parts of the land. The machinery required for this branch of industry is in great demand, and we hope ere long to see some substantial evidence of energy and enterprise in the shape of cheap, durable, and elegant linens. There is always a demand, however, for coarse, heavy, and strong bagging or crash. This has hitherto been supplied from the overflowing abundance of the cotton crop, but that being cut off and foreign materials being also high, it is necessary to look about for some addition to the list of fibres from which heavy sacking can be made. Such a fibre has been discovered in the husk of the maize plant or Indian corn which is grown in such abundance in this country. The husk which envelopes the ear is now used to a great extent in Austria for making paper Immense quantities are made and the quality is said by competent judges to be equal to the best rag-paper ever manufactured. It is in the process of obtaining the paper stock from the corn-husk that the fibre is set free. Neither are injured but are separate and distinct products of the wonderful plant. The fabric which is woven from this fibre is immensely strong. Cordage is made from it and it bears some resemblance in colour to the cocoa-fibre. Although far inferior to it in strength it is much superior in point of softness and elasticity. Some samples of cloth we have seen woven from this fibre would make excellent toweling or "crash" for covering carpeting. It is also valuable for making enamelled cloth or oil-cloth, and it takes any coating applied to it readily and retains it firmly. Specimens of enamelled cloth made on this fabric as a base are equal to the best English cloths.

The very general interest which attaches to the discovery of a new material which can be used in the arts should lead manufacturers to look into this subject. It is in this state an Austrian discovery, and is a valuable one. Thousands of yards of cloth made from this fibre alone (so we are assured on the authority of the Austrian Consul, Charles F. Loosey, Esq., of this city,) have been shown us by the gentleman named. Samples can be seen at this office.

It will be seen that in addition to the paper stock the husk of the Indian-corn is capable of producing a marketable fibre, and still retain its value as cattle fodder, for in these processes the life-sustaining element is not lost but obtained in all its purity. The methods of weaving and of freeing the fibre from its vegetable envelope are not completed, nor is the expense great, and we are confident that good results will follow an immediate investigation of this subject. — *Scientific American.*

Practical Hints.

To Draw Rusty Nails.—Rusty nails may be drawn from wood with ease by first giving them a blow hard enough to start them in a trifle.

To Drive Nails in Hard Wood.—Nails may be driven into hard wood by first touching the small end to grease.

How to Clinch Cut Nails.—Common nails, heated red hot, and put into cold water, will clinch and answer the purpose of wrought nails.

To Make a Waggon Jack.—A good waggon jack may be made by taking a piece of board two feet long, or longer, according to the size of the wheel, and another long enough to put under the axle after it is raised, place one board in front of the wheel, one end on the ground, and the other just under one of the spokes, close up to the felloe; then take hold of a spoke on the opposite side of the wheel with one hand, while with the other hand you place the other board under the axletree. In this way a heavy waggon may be lifted, and the jack is quickly and cheaply made.

To Keep Swill.—To keep swill from freezing in winter, and a bad smell and flies away in summer, take a good tight barrel and dig a hole in the ground (in a convenient place) two-thirds the height of the barrel, place it in a hole, and pack the dirt around it to near the top of the barrel, and keep on a good tight cover.—*Rural New Yorker*

Salmon Breeding in Ireland.

To the Editor of THE CANADA FARMER:

SIR,—In your issue of the 15th instant I notice that, in reply to "Angler's" request, you promise us shortly an article on fish culture, in the meantime I think that, perhaps, a description of the manner in which I have seen salmon-breeding carried on in the Irish lakes may not be unacceptable to your readers. Lough Corrib, in the West of Ireland, is what is there considered a very large body of water, and its salmon fisheries have been always very valuable. They have been held as property under a charter of, I believe, Queen Elizabeth, and some twelve years ago were purchased by their present enterprising proprietor. He immediately commenced measures for increasing the stock, and the following was the plan he adopted, and which has proved highly successful: A small pond was chosen or dug out close to the bank of a stream, at Oughtevarde, that discharged into the lake some twenty miles from the sea; this pond was carefully cleaned, and all pike or other inhabitants inimical to young salmon, removed About twenty yards or less (I write from memory) from the pond, was a strong natural spring of clear water; this water was conducted to the pond in two shoots, open at the top and made of common 12-inch plank; these, although seemingly shoots, were, in fact, boxes, with the ends much lower than the sides. A deposit of pebbles was then placed all along the bottoms of these boxes, then a layer of pretty coarse gravel, and then a finer one, and the water from the spring was let on. You will perceive that the division of the shoots into boxes prevented the little stream carrying off the deposit that formed the artificial bottom, which was, nevertheless, perfectly even, as the obstructions only were high enough to be a little above the gravel. There was nothing more necessary, except to place a grating across the dam that communicated with the river from the pond. The breeding salmon were caught some time in December (the time for this purpose is the most important consideration in the whole matter, and depends on the locality); the milt and roe procured and treated in the way so often described, and with the details of which "Angler" is, no doubt, familiar, and carefully deposited along the bottom of the boxes, and, of course, sank into the stony bed. Here it lay till spring, when young salmon in multitudes made their appearance; it was estimated that there were 17,000 (seventeen thousand) in the pond the first spring. These were kept in the pond until the next year's brood were nearly to be expected, and being then of an age to take care of themselves, were turned into the lake. During their sojourn in the nursery they were fed to a small extent on maggots. To provide them with these, some dead crows were placed in things like iron landing-nets and stuck out over the pond; they, of course, soon corrupted, and the desired dainties made their appearance and tumbled into the water. I should think that, on account of the severe winter, perhaps that two ponds might be required in this country. Hoping that this letter, although relating only to salmon, may be interesting to "Angler" and others, I am, yours, &c.,

T. H. LYNCH STAUNTON.

Sangeen, 30th Aug., 1864.

P. S.—I may say that at the time I was employed by the Board of Works as an engineer, that part of my duty was the construction of salmon passes over dams, which caused me to take an interest in the matter. There can be no doubt that salmon might in this manner be introduced into all lakes and rivers below Niagara, the cost being the merest trifle, except, indeed, that of procuring the parent fish at the proper season. T. H. L. S.

BAGS.—The whole world of organized beings is put into bags, and is made up of bags. If we examine our own bodies we find that every organ is placed in its appropriate sack, and each is formed of a series of sacks. The brain is surrounded by the pericranium, the heart by the pericardium, each bone by the periosteum, and all of these are delicate membraneous bags. Each one of us, as well as each of the myriads of lower orders of animals that have appeared on the earth, commenced its existence as a simple sack or cell; and its growth proceeded by the addition of other cells. If we place a thin shaving of any bone, or a minute scrap of any organ under a microscope, we find that it is formed of multitudes of minute cells or bags. And finally the whole system is put into that perfect bag, the skin. Bags also play a great part in civilization. The whole organization of society, with its commerce, manufactures and agriculture, its armies and navies, its churches and courts, its republics and monarchies, its opulence and its pauperism, all depends upon that little cloth bag—the pocket.

HOW TO CATCH FROGS.—Take a good fishing pole, 15 or 20 feet long, with a good line attached, and fasten from 4 to 6 fish-hooks of medium size to the end of it by winding some cord around the hooks, so as to let them project all round the line. Tie a piece of red flannel three or four inches above the hooks: then let the line down in front of the frog, and he will jump up after the flannel and seldom escape the hooks.

Markets.

Toronto Markets.

"CANADA FARMER" Office, Oct 15, 1864.

Flour dull and lower, superfine and fancy $4 25 per barrel, extra $4 40 to $4 60.

Fall Wheat dull at 85c to 92c per bushel; the latter for few samples.

Spring Wheat held at 75c to 82c per bushel.

Barley dull at 70c to 81c per bushel.

Oats unsteady at 35c to 37c for Canadian.

Peas 60c to 65c per bushel.

Rye 56c per bushel.

Hay in good supply and demand at $12 per ton for best.

Straw active at $7 to $8 per ton.

PROVISIONS—*Butter*—Fresh, wholesale, per lb., 13c to 15c; rota per lb., 18c to 23c.

Eggs—Wholesale, per dozen, 10c to 12½c, retail, per dozen, 12½c to 15c.

Hams—Wholesale, per lb, 11¼c to 11¾c, retail, per lb, 12½c.

Flitch Bacon—Wholesale, per lb., 8½c to 9c, retail, per lb, 10c.

Cheese—Wholesale, per lb., 10c to 10½c, retail, per lb., 12½c to 14c.

Lard—Wholesale, 11c per lb.; retail, 12½c.

Beef—Market well supplied, second quality, $3 50 to $4; extra $4 to $4 50.

Sheep $2 00 to $4 00 by the car load.

Lambs each $2 to $2 25 for good.

Calves—Each $3 to $4.

Hides (green) per 100 lbs., $4 to $5.

Calfskins per lb., 18c to 20c.

Sheepskins 75c to 80c.

Lambskins 75c to 80c.

Coal $7 to $8 per ton.

Wood $4 to $4 75 per cord

Salt $1 25 to $1 50 per bbl.

Water Lime $1 to $1 50 per bbl.

Potatoes—New plentiful at 50c to $1.

Coal Oil at 20c to 40c for Canada; 45c to 55c and 60c for Pennsylvania.

Newmarket Markets, Oct. 14.—*Fall Wheat* 75c to 83c. *Spring Wheat* 70c to 74c. *Flour* $4 to $4 50. *Barley* 70c. *Oats* 35c. *Peas* 5 c. *Butter* 17c. *Eggs* 10c.—*Era.*

Montreal Markets, Oct. 14.—*Flour*, per barrel of 196 lbs.—superior extra, $4 70 to $4 80, extra, $4 50 to $4 60, fancy, $4 35 to $4 40, superfine from Canada wheat, $4 to to $4 25, market dull and drooping *Oatmeal*, per bbl of 200 lbs.—Range for good, $4 75 to $5. *Wheat*, per bushel of 60 lbs.—Some car loads of U C Spring were sold at 92c, and a small cargo (a few thousand bushels) at 90c. *Ashes*, per 100 lbs.—Pots are very dull a lot of firsts with choice tares, sold at $5 50, but other sales were at $5 45, while $4 47½ was paid for both sorts. *Pork*, per bar. of 200 lbs.—Market firm; holders are asking a further advance for mess, a sale of thin mess reported at $18 50, but could not be repeated, no prime mess or prime in market. *Butter*, per lb.—Market quiet, no quotable change in prices. *Cheese*, per lb.—Good dairy, about 9c to 10c.—*Witness.*

Lindsay Markets, Oct. 14.—*Fall Wheat* 78c to 80c. *Spring Wheat* 70c to 73c. *Barley* 60c to 70c *Peas* 50c to 55c. *Oats* 40c. *Potatoes* 25c Butter 15c to 16c *Eggs* 10c *Hay*, per ton, $10 to $12.—*Post.*

Brockville Markets, Oct. 15.—*Wheat*—Fall, per bushel 60 lbs., 4s 9d to 5s, do. spring, 4s to 4s 6d *Rye*, per bushel of 56 lbs., 2s 6d to 3s *Corn*, 3s 9d to 4s *Peas*, 3s to 3s 3d. *Oats*, per bushel of 34 lbs, 1s 9d to 2s. *Barley*, per bushel of 48 lbs, 2s 9d to 3s 6d. *Potatoes*, per bushel, 1s 3d to 1s 6d. *Hay*, per ton, 40s to 50s. *Wool*, per lb., 1s 9d to 2s.—*Recorder.*

Guelph Markets, Oct. 14.—*Fall Wheat*, 75c to 83c per bushel *Spring Wheat*, 65c to 75c. *Oats*, 30c to 31c. *Barley*, 60c to 7 c. *Peas*, 50c to 55c. *Hay*, $10 to $13 per ton. *Butter*, 15c to 17c per lb. *Eggs*, 10c to 12½c per dozen. *Potatoes*, per bag, 37½c to 50c. *Apples*, 37½c to 50c *Straw*, $2 to $2 50 *Wool*, 36 to 38c per lb. *Beef*, $3 to $4 50 per cwt *Pork*, $5 to $6 per cwt. *Hides*, $5 50 per cwt. *Flax Seed*, $1 20 to $1 25.—*Advertiser.*

Berlin Markets, Oct. 14.—*Fall Wheat*, 90c to 95c, *Spring Wheat*, 70c to 75c. *Flour*, per 100 lbs., $2 25 to $2 50 *Oats*, per bushel, 35c to 40c Barley, 70c to 75c. *Rye*, 70c to 75c. *Peas*, 50c to 55c. *Potatoes*, 20c to 37c. *Beef*, per 100 lbs., $4 to $5. *Pork*, per 100 lbs., $5 to $6. *Lard*, 8c to 10c *Tallow*, 8c to 10c. *Hams*, 10c to 1 c.—*Telegraph.*

Cobourg Markets, Oct. 14.—*Fall Wheat*, 85c to 88c. *Spring Wheat*, 77c to 80c. *Oats*, 35c *Peas*, 60c to 65c. *Potatoes*, 20c to 25c. *Eggs*, 10c. *Butter*, 17c to 18c. *Hay*, per ton, $6 to $7 *Barley*, 70c to 75c. *Beef*, $5 to $6. *Hides*, per cwt., $4 50.—*World.*

London Markets—Oct. 14.—GRAIN—*Fall Wheat*, per bush. 80c to 87c, *Spring Wheat* 75c to 77c, *Barley*, per bushel, 60c to 65c, *Oats*, per bushel, 30c to 32c, *Peas*, per bushel, 55c to 57c, *Corn*, per bushel, 50c to 80c. HAY—*Hay* (new), per ton, $11 to $14, *Straw*, per load, $2 to $3. HIDES, &c.—*Green Hides*, per 100 lbs., $4, *Dry* $9, *Calfskins*—*Green* 10c to 12½c per lb, *Dry* 14c to 16c, *Pelts* 25c to 40c, *Fresh Skins* 62c to 85c; *Wool* 40c to 43c per lb; matted and unwashed subject to a deduction of one-third the weight. PROVISIONS—*Butter*, in kegs, 16c to 17c, Fresh, by the basket, 18c per lb, *Eggs* 8c to 9c per dozen.—*Free Press.*

Owen Sound Markets—Oct. 13—*Fall Wheat*, 75c; *Spring Wheat*, 65c to 70c, *Oats* 30c to 32c, *Barley*, per bushel, 65c to 68c, *Peas* 45c, *Hay*, per ton, $10 to $11, *Pork* $4 50; *Potatoes* 37½c, *Butter* 15c, *Eggs* 10c.—*Times.*

Ingersoll Markets—Oct. 13.—*Fall Wheat*, per bushel, 75c to 78c, *Spring Wheat*, per bushel, 70c to 74c, *Flour*, per 60 lbs., $2, *Oats*, per bushel, 30c to 3 c; *Barley*, per bushel, 65c to 70c; *Peas*, per bushel, 50c; *Rye*, per bushel, 75c; *Potatoes*, per bushel, 50c; *Pork*, per 100 lbs., $5 to $6; *Hay*, per ton, $10; *Butter*, per lb., 16c to 18c; *Cheese*, per lb., 11c to 15c; *Eggs* 8c to 10c.—*Chronicle.*

Brampton Markets, Oct 14th —*Fall Wheat*, 80c to 84c, *Spring Wheat*, 75c to 77c, *Oats*, 20c to 22c, *Peas*, 40c to 55c, *Barley*, 65c to 71c, *Butter*, 16c to 18c, *Pays*, 12½, *Hay*, $6 to $8 50, *Wood*, 35c to 40c —*Times*

Hamilton Markets, Oct 14 —*Spring Wheat* per bushel, 70c to 78, *Fall Wheat*, 80c to 92, *Barley* per bushel, 70c to 77c, *Peas*, 55c to 60, *Oats* 25c to 30c, *Corn*, per bushel 55c, *Rye*, 55c, *Potatoes* per bushel 60c, *Beetles* per bushel 60c to 65c, *Eggs* per dozen, 10c, *Beef* per 100 lbs, $3 50 to $4, *Butter*, per lb 17c to 20, *Lard* in kegs, 15c to 17c, *Hay* per ton $14, *Straw*, per load, $3 —*Spectator*

Ottawa Markets, Oct 14 —*Fall Wheat* per bushel $1 to $1 05, *Spring Wheat*, per bushel, 95c to $1, *Barley*, per bushel of 48 lbs, 50c to 60c, *Corn*, per bushel of 56 lbs 60c to 65c, *Oats*, per bushel of 34 lbs, 35c, *Peas*, per bushel of 60 lbs, 50c to 60c, *Wood*, dry cord wood, 40c to 45c —*Citizen*

Chicago Markets, Oct 13 —*Wheat*—The demand for wheat was more active, and the market closed with buyers at $1 47½, to $1 47¾, and sellers at $1 58 for No 2 spring. *Corn* was firmer but there was no decided change in prices The sales were at $1 17½ to $1 18 for No 2 *Oats*—There was a brisk demand for oats and the market advanced 2c per bushel Opening sales for No 1 were made at 98½c but afterwards large transactions took place at 100c at which figure the market closed firm *Barley* was quiet, and the sales were at the range of $1 01 to $1 05 for No 2 in store There was more activity in the cattle market to-day, and good, smooth steers and fat cows were fully 25c to 37½ per 100 lbs higher than last evening's quotations Sales at $4 00 to $5 for medium grades, $5 25 to $6 50 fair, and $7 to $8 25 for common Provisions—There is scarcely anything doing in *Pork*, and prices must be regarded as nominal There was some demand to-day for *Dry Hams* at $20, *Hogs* were dull, prices declined 25c to 75c per 100 lbs the market closing dull and drooping, sales at $9 50 to $11 25 principally at $10 to $11 for lots of 200 lbs averages and over

Milwaukie Markets, Oct 11 —*Wheat*—$1 49 to $1 50 for No 1 spring *Flour*—The flour market was firmer, but inactive There was more inquiry for spring extras, and good brands were saleable at $7 to $7 10, while holders asked $7 20 to $7 25 *Oats* were in good demand, No 1 at 55c to 57c, mostly at 56c The market closed firm—sellers asking 57c. *Corn* was scarce and salea ble at $1 20 A fair sample of No 2 barley sold at $1 53 *Rye*—There was considerable inquiry for rye, and good samples would have readily sold at $1 15 —*Sentinel.*

Albany Markets, Oct 13.—GRAIN—*Wheat* more active, sales white Michigan at $2 50 for choice, $2 10 to $2 40 for common *Corn* better, with sales at $1 46 to $1 48. *Barley* quiet, Canada West at $1 88 —*Journal*

Boston Markets —Oct 13 — FLOUR—Market dull, *Western Superfine* at $8 to to $8 75, *Common Extra* $9 to $9 50, medium do $9 75 to $10 25 good and choice do $10 50 to $14 per bbl GRAIN—Corn is in moderate demand Sales of *Western Mixed* at $1 60 per bushel *Oats* are in steady demand, *Canada* at 90c to 9 per bushel, *Rye* is selling at $1 50 to $1 55 per bushel, *Shorts* are selling at $42 per ton PROVISIONS—*Pork* is without change Sales of prime at $38 to $40 mess $41 to $43, clear $45 to $47 per bbl cash *Lards* in steady demand Sales of Eastern and Western at 20c to 21c Extra mess at $18 to $23 per bbl cash, *Lard* is dull Sales in bbls at 22c to 22½ per lb cash *Hams* are selling at 18 to 20c per lb cash —*Journal*

Detroit Markets, Oct 13 —*Flour*, quiet at $9 25 to $9 50 for superior, $8 75 to $9 for high extra, $8 25 to $8 50 for extra, and $7 for superfine, fancy at $7 25, *Wheat*, a shade better; for No 1 white $1 93 was offered, for No 1 amber $1 75 was asked and $1 65 for red, *Corn*, offered on Change at 135c; *Oats*, offered at 66c with no buyers, *Barley*, $3 75 per 100 lbs.—*Tribune.*

Advertisements.

1865.

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