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Vol. II. No. 21.

TORONTO, UPPER CANADA, NOVEMBER 1, 1865.

POSTAGE FREE.

The Field.

Steam Cultivation.

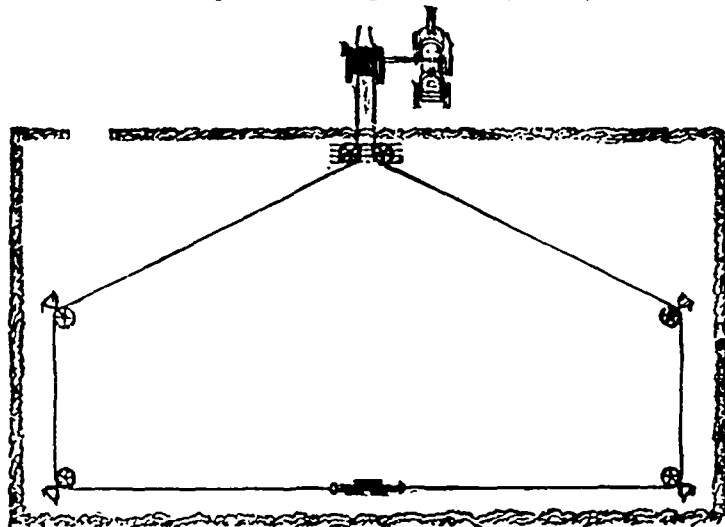
The date at which we have arrived, in thus briefly sketching the history and progress of steam culture in England, is the year 1856. At this point, it may be well to advert shortly to a few of the causes which have prevented some of the prominent schemes we have noticed from being earlier developed, and more universally adopted. To our mind, it appears that the delay is partly attributable to defects in the implements themselves, and partly because steam ploughing apparatus arrived at that stage in its history when it could be successfully used before its need, was felt, or its utility appreciated. In confirmation of the former theory, it is only necessary to advert to the great complication of ropes and engines which characterized the inventions at the period to which we have referred; while the machinery was constructed of materials altogether too weak for the purposes intended, from a mistaken idea that every agricultural implement should be as light as possible. The natural results were that the machines broke

down, and the patience and purses of the farmers were simultaneously exhausted. The rope, too, made of iron wire, at a great expense, usually wore out in ploughing two hundred acres. To this it was found necessary to strengthen it, but the large additional weight, thus imparted to it, absorbed too much of the available power of the engine. At this juncture, if

night." This strange lack of interest is accounted for by a well-informed agricultural authority, as follows: "There can be no doubt that a redundant population and the paralyzing effect of the old poor-law had considerable influence in retarding the use of machinery in farming; also, that a wide-spread and deeply-seated conviction that the employment of mechanical power diminished the demand for hand labor, and this conviction, which was shared in by all classes, led people to take very little interest in labour-saving inventions." However, a better day has dawned. Old-fashioned prejudices and fossilized landmarks have been swept away; and at the present time, upwards of fifteen hundred sets of steam-driven implements, distributed in the British Islands, in India, and in Africa, are unwearingly tearing up and comminuting the soil, and thereby increasing its productiveness.

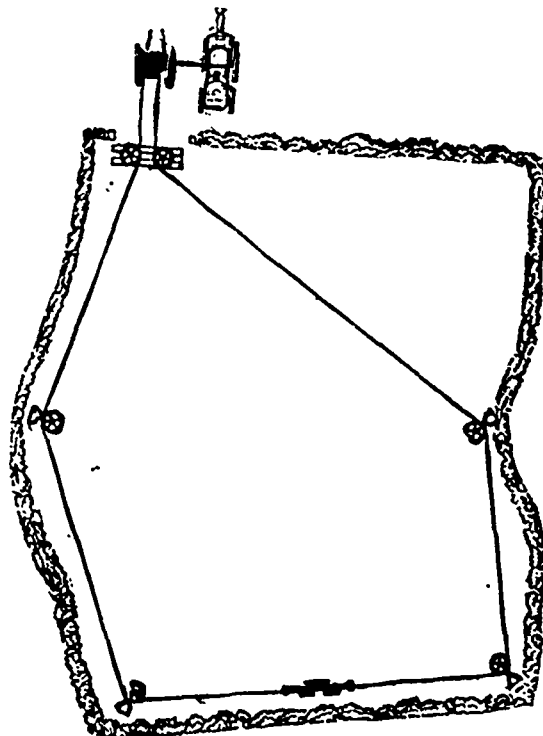
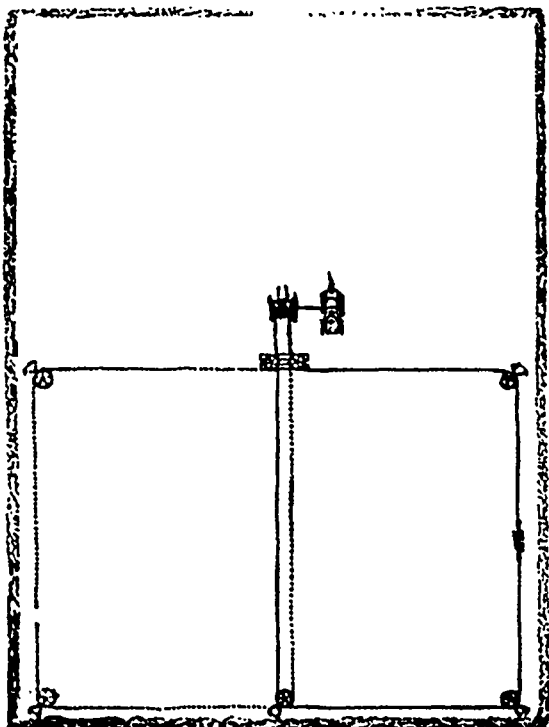
In resuming our imperfect sketch of the history of steam ploughing up to the present time, we may conveniently divide the inventions which, since 1856, have been brought before the public, into the following classes:—

- 1. Engines which travel over the surface, and drag their implements with them.
- 2. Engines on the locomotive principle, which work on railways, and drag their implements after them.



steel had not fortunately come to the rescue as a light, strong, and highly durable metal for the formation of ropes, the steam plough would in all probability

have been consigned to that bourne from which no defunct invention ever returns. Still another fruitful source of wear and tear of the new steel rope arose from the coiling of this wire on the drums by squeezing it into the V shaped groove. At last the Burton clip-drum was invented, and the rope was firmly but gently clasped, as if by an iron hand, while its shape and texture were preserved. With regard to the other cause—that steam ploughs were invented before their need was felt—we may remark in the words of the political economists, that "the machinery of a country will naturally correspond with its wants, and with the history and state of its people." As an illustration of this principle, take the following reliable fact:—"Not longer ago than the Shrewsbury meeting of the Royal Agricultural Society of England, in 1845, a model of Atzlar's American Steam Plough was exhibited in a public room in Shrewsbury, and the town placarded, informing visitors of the fact, and yet no one went near to inspect it except two Russians, who dropped in towards



3. Engines which move along headlands and apply their power to the implements by means of wire ropes.

4. Engines which remain stationary while at work, and draw their implements by means of wire ropes.

Quite a number of schemes under each of these heads have either been introduced to public notice, or have been patented. We will now proceed in general terms very succinctly to notice the claims of the several schemes. With respect to the first-named system,—engines which move over the land,—they certainly possess the advantage of exercising their motive power directly on the implement which accompanies them. Besides the objection of their immense weight, however, in passing over arable land, the consumption of fuel and water, owing to the unevenness of the surface of the soil and great friction, would certainly be four fold that of a stationary engine; while the cost of repairs would probably be ten times the amount. The second scheme,—laying down rails all over the farm,—costs too much at the outset. Probably £20, or even £30 per acre, would scarcely defray the introductory expenses of the farmer adopting this system. The third method is that perfected by the late Mr John Fowler, of Leeds,—an honoured name, which is immortally associated with the history of steam cultivation. Fowler's system, and that of the Messrs. Howard, of Bedford (shortly to be noticed), share pretty equally the patronage and popularity of the agricultural world at the present day. The rivalry between those firms has not always been free from little acerbities. Each system, however, possesses so many excellent characteristics and recommendations that it would be invidious in us to attempt to settle the question of superiority. In Fowler's system the engine unquestionably employs its power more directly, and requires a shorter length of rope, than where the engine is stationary at one point, as in Howard's method. Still there are drawbacks, of some weight, to Fowler's apparatus. When the soil is at all wet "the passing of a heavy engine along the headlands, and the necessary haulage of fuel and water after it, destroy in a great measure the fertility of the ground traversed, and leaves a good deal of hard work subsequently to be done by horse-power, in bringing the land to a tilth. Again, in hilly countries the engine is at work sometimes on a steep ascent, and sometimes on a steep descent, at times inclining to the right, at others to the left." A little reflection will render it apparent that the cost of keeping the engine in repair, under these circumstances, will be much greater than where the engine is stationary, and always working on the level.

We now come to the fourth and last system of our list. It is almost unnecessary to state that this is the method adopted by Messrs. Howard, and illustrated in our last issue. The leading objections urged against this plan are "the extra length of rope required, and the loss of power by the employment of pulleys round which ropes are passed." Both of these objections have, in our estimation, been considerably exaggerated, but the limits of the present article do not admit of our discussing the various points presented for an exhaustive inquiry of the subject. The advantages claimed for this system may be briefly enumerated as follows:—Moderate prime cost, little expense incurred by repairs, simplicity of construction, more easily managed by ordinary farm labourers, and, finally, that an irregularly shaped field may be ploughed and cultivated as well, and almost as quickly as a square one. The large illustration in our last issue exhibited the arrangement of the ropes and apparatus in the case of a rectangular field; while the cuts accompanying the present article, show three methods of accommodating Howard's steam tackle to fields of irregular shape.

STEERING SEED WHEAT.—There are many methods of steering, brining, and liming seed wheat, and they are all intended to prevent the smut.—*Morton's Farmer's Calendar.*

Thick Sowing, Shallow Ploughing, and Weediness.

The experience of 20 years has taught me that thick sowing inflicts an enormous aggregate loss on British agriculture, and that loss is greatly aggravated by the ordinary shallow ploughing; for, as I have before said, the thistle and other strong and deep-rooted weeds are merely decapitated by ordinary ploughing, and, consequently, our laid barley crops give unmistakable evidence that those weeds have still possession of the soil and subsoil. They stand towering above almost every barley crop, while in my own, scarcely one can be found, owing to my second or under plough (drawn by four strong horses) having, when prepared for the root or cabbage crop, destroyed them by tearing them from their stronghold in the subsoil. The weediness of Great Britain costs the country millions annually. These weedy intruders take the lion's share of the food intended for our crops. But look at the difficulty of harvesting such crops, especially in a wet harvest time as this is. These green weeds not only tend to delay the drying and carting, and heat the stack, but supply a stock of seeds for future crops. The sample is also frequently diminished in value some 2s. or 3s. per qr., because these flat laid weedy crops almost always turn out a bad, light sample. But why are these crops laid flat? Mind, I do not object to heavy crops, whose weighty heads bow them down, and appear to be laid; but, if you examine them, you will find, as mine are, that the stems are not horizontally flat, but that they are merely bowed or arched, leaving plenty of room for circulation of air through those arches, which never allow the heavy heads to come near the ground. They are, although laid, actually reposing on arches formed by the strong reedy stems of their neighbours. These stems, stiff, glassy, and reed-like, stand erect as stubble, and resist your steps when walking, very differently from the soft, spongy stubble of thick-sown crops. Mark the difference in growth of a thick and thin-sown crop when the warmed soil in spring stimulates vegetation. In one case the crowded stems rush upward in a vertical struggle for light and air, which, being excluded from their stems in later growth, cause those stems to become spongy, soft, and deficient in that glassy covering which not only protects the circulation of the plant but keeps the stems erect. In consequence of over-crowding, down goes your crop prematurely, and up come your weeds, which have now lost the shade of their competitor, the corn. Light, frothy straw, and bean, miserable kernels follow as a natural consequence, and are certain prelude to a low price and loss of profit. But then, say the advocates of thick sowing, "But I like a thick crop at harvest." I reply—"So do I; but what is the true test of a thick crop?—not bulk, but weight, both of straw and corn. Experience has taught me that I always get a greater weight of both by thin sowing than from thick." It is easy to understand why thick sowing has so strong a hold on the agricultural mind, and why it is no longer justifiable in practice. Before drills were invented, broadcasting was a necessity, and considering the variability in ploughing it is easy to understand that much seed being too deeply placed never came up, while much of it near the surface was food for birds. The farmers might well be felicitous about exact depth of furrow, and carefully laying them, as well as having a sower "cunning in his art." But drills and iron steel-toothed harrows have changed all this, and rendered a very much smaller quantity of seed absolutely necessary, for each seed in well cultivated ground is, by the drill, placed in a proper position to grow; therefore let my old practical friends take the hint, and adapt themselves to an altered state of things. Even now I hear that many of our north-country friends, over the Border and near it, cling to broadcasting, thus depriving themselves of the benefit of that labour-saving machine, Garrett's horse-hoe, which takes 7 feet in width, and by which from 12 to 20 acres a day may be both cleaned and cultivated. Owing to the removal of trees and fences, drainage, and generally improved cultivation, our seeds are no longer subjected to such dangers as formerly.

It is curious to trace how much accident has had to do with diminishing the quantity of seed. When the drill was first introduced there was the desire to put in the same quantity of seed as when broadcasted, not considering how perfectly the drill placed every kernel, while by broadcasting much was wasted. An old friend in Warwickshire gave me an instance of this accidental diminution. When the new drill came, he ordered the man to take care to put in plenty of seed (their usual quantity being 3 bushels of wheat). The man saw so much seed coming down the pipes that he "thought there must be a plenty." The field was of 20 acres, and when the master returned at midday he found they had only put in 6

pecks. Great was the dismay and doubt whether it should be re-sown. However, the other half of the field was drilled with 3 bushels. At harvest the thin sown beat the thick by more than a quarter per acre, and over since six pecks has been the quantity of that neighbourhood. Surely we ought not to wait for an accidental discovery when it is so easy and inexpensive to make comparative trials on a small portion of each field. I have been led to make these remarks by my practical experience in thin sowing and deeply cultivating. It must be borne in mind that I allude to strong, heavy land, well drained and kept free from weeds and properly manured, and in the cereal county of Essex. Let each man judge of his own soil and climate, and take into consideration all other circumstances. It would be impossible to lay down an inflexible rule for all soils and all climates; but, at any rate, I am satisfied that by moderate and careful experiments we shall all gradually arrive at a considerable diminution in the quantity of seed sown, especially as our agricultural practice approaches nearer to perfection. As I have often said before, the quantity of corn produced does not mainly depend upon the quantity of seed sown; it is the natural or artificial fertility of the soil that causes the young plant to multiply its shoots or stems in spring. The half peck per acre of wheat on my 9-acre field is now cut and in shock, as well as the two lands of two sorts of wheat on each side of it sown with my usual quantity of four pecks. The half peck appears, both in straw and grain, to have the advantage, but we shall test them carefully, by weight and measure, both of corn and straw. This is a singular instance of an extreme case, because we gave it up for lost, in the winter; but in the spring it branched out horizontally close to the ground and then up rose vertically, after forming the curve of resistance below, from 10 to 25 strong reedy stems from each plant, each stem having a fine ear averaging fifty kernels, being an increase of from 500 to 1,400 for each kernel. This is somewhat different from the average of the kingdom—9 for 1, as described in Mr. James Caird's admirable book. My men estimate the general yield of the field at 32 bushels; if so, the increase of the half-peck will be 52 bushels, or 416 kernels for one. There certainly must be something radically wrong in our agriculture, when we find 9 for 1 as a general average increase. In Russia, where there is no hoeing, and where weeds and wheat grow in company, the average increase is from 3½ to 5 for one, according to the quality of the soil. The question, as a national one, will be better for a thorough agitation. There is something practically absurd in supposing that we can put in a screened kernel of wheat in properly prepared ground, and only obtain from it a quarter of an ear, or ten kernels, and that it must only produce that one ear. I believe that the same principle holds good for wheat as for turnips, trees, or animals.

Put ten animals for nine months on a pasture which only contains food enough for one, the consequence would be death to most of them, and half starvation for the survivor—so it must be with plants: we know it is so with trees and turnips. The want of air and light, as well as other food, is destruction. We never see two trees in close proximity without observing that they turn their backs to each other, and extend their arms in opposite directions; few or no branches are formed between them. It is not the want of earthly food that causes this, but the want of that aerial food, without which neither plants nor animals can flourish. Let my practical friends ponder on this important matter, and let them remember that whenever they wish to raise a new stock of corn, they carefully put one kernel in a hole, in well cultivated ground, and rejoice in obtaining an enormous produce. A good field of wheat should, in early spring, look as flat as if its stems were glued to the ground, every shoot pushing out horizontally, before it takes its vertical movement.

Agriculturists admit that this is the proper appearance, but they can never obtain it by thick sowing and crowded plants, for then the early movement is an upward struggle for light and air (as we see in a crowded fir plantation), and down they all go, too often prematurely, and ruinously, their spongy stems rendered soft by the absence of light and air, being unable to sustain the impact of rain or wind. I need scarcely say that a thin sower should select perfect seed—heavy as well as bulky—and freed by the blowing machine from all seed weeds, or light corn. This wet, warm harvest there will be an unusual quantity of sprouted grain useless as seed. I have heard farmers say that, as a matter of economy, they sowed tall corn. This would never suit a thin sower, and it is certainly a very false economy. Last year one peck per acre produced the largest crop on my farm, both of corn and straw, viz., 56 bushels of wheat and 2½ tons of straw per acre, accurately measured and weighed. For careful experimental dibbling I am indebted to Mr. Hallett's simple dibble.—*J. J. Mechi, August, 1865.*

Mr. Lawes' Experiments in Wheat Growing in 1865.

We have on previous occasions invited the attention of our readers to the interesting series of experiments in wheat culture conducted by Mr. J. B. Lawes, of Rothamsted, Hereford, England. In a communication to the *N. B. Agriculturist*, which we append, Mr. Lawes gives some interesting details of the result of this season's crop, which are well deserving the careful attention of our agriculturists. He says:—"The abundant wheat crops of 1863 and 1864 have been followed by a crop varying much more according to soil and other local circumstances than either of its immediate predecessors. The amounts of produce yielded in any particular field, or on any particular farm, are, therefore, the less reliable as indications of the character of the harvest generally. I think, however, that from the results obtained in my experimental wheat field, which has just yielded its twenty-second crop in succession, taken together with those obtained in fields on the same farm which have been treated more in accordance with ordinary practice, we may gather that on the heavier soils of the country, if moderately well-farmed, the wheat crop of 1865 will turn out to be above the average, at any rate in quantity, if not in quality also.

The following table gives the produce per acre and the weight per bushel of the dressed corn obtained on several of the differently manured plots of the experimental field, 1863, 1864, and 1865, and also the average produce on the same plots for the thirteen years 1852-1864 inclusive, during which time (and in some cases for a longer period) the same description of manure has been applied year after year to the same plot. It may be also further explained, as in former reports, that the different "artificial manures" each contained the same mineral manure, but in combination either with different quantities of ammonia salts, or with nitrate of soda:

Plots	How manured each year	Harvests			Average of 13 years 1852-1865.
		1863	1864	1865	
Bushels of Dressed Corn per acre					
3	Unmanured	17 1/4	16	13 1/4	15 1/2
2	Farmyard manure	44	43	37 1/2	35 1/2
7	Artificial manure	53 1/2	45 1/2	40 1/2	37 1/2
8	Do.	55 1/2	49 1/2	43 1/2	39 1/2
9	Do.	55 1/2	61 1/2	41	35 1/2
Weight per Bushel of Dressed Corn					
		lb.	lb.	lb.	lb.
3	Unmanured	62.7	62.0	60.6	56.1
2	Farmyard manure	63.1	62.5	61.5	59.6
7	Artificial manure	62.6	63.1	61.6	58.8
8	Do.	62.3	63.5	61.4	57.8
9	Do.	61.8	62.6	61.1	57.5

It is seen that the land which had received no manure of any kind for more than 22 years gave considerably less produce in 1865 than in either 1864 or 1863, and less also by more than two bushels than the average of the last thirteen years. The quality of the grain, as indicated by the weight per bushel, although inferior to that from the same plot in either 1864 or 1863, was, nevertheless, much above the average of the 13 years, the weight being nearly 4 lb. more. Where 14 tons of farmyard manure were applied every year, little more than 37 bushels of wheat were obtained per acre in 1865, against 40 bushels in 1864, and 44 bushels in 1863. Still, the produce with the farmyard manure was higher in 1865 than the average of the previous 13 years, which amounted to less than 36 bushels. The produce by the different artificial manures was, in 1865, from 5 to 7 bushels less than in 1864, and from 11 to 13 bushels less than in 1863; but, on the other hand, it was from 3 to 8 bushels more than the average of the preceding 13 years. Thus, though with each of the very different conditions of manuring, the produce of 1865 was materially less than that of 1864, and in a still greater degree less than that of 1863, it was at the same time in every case (excepting where entirely unmanured) notably higher than the average of the preceding 13 years. The weight per bushel of the dressed corn was also in every case higher in 1865 than the average of the 13 years, though lower than in 1864 or in 1863.

Turning from these results to those obtained under the ordinary management of the farm, it will be sufficient to state that the produce in four separate fields was, respectively 38, 48, 48, and 51 bushels of wheat per acre, amounts which represent a considerably higher yield than the average of the farm over a series of years. There can, indeed, be no doubt that on many light soils the wheat crop of the season just passed, suffered both from the frosts of the winter, and from the heat and drought of the summer, and that the better crops of the heavier lands have in many cases suffered, at any rate in quality and condition, from the unsettled harvest weather. At the same time, I am disposed to think that the wheat crop of 1865 will turn out to be, in the aggregate, little if any below an average one."

Law and Duncan's Potato-Digger:

We took occasion to mention in our last impression, that we had seen a potato-digger at work while travelling by rail lately; and having learned that Mr. Oliver had been using one of Law & Duncan's machines during this and the last season on his farm of Redheugh, near Gogar, we went out there on Thursday last to see it. Mr. Oliver's machine had been supplied by Mr. John Pringle, from his implement depot at Edinburgh, and as Mr. Oliver's experience of it has been considerable, between sixty and seventy acres of potatoes being grown on his farm, his opinion of it is therefore valuable to those who are not as yet acquainted with the machine.

The ground on which it was at work when we visited Redheugh was of a very stiff nature, and from the long drought it would have been difficult to lift the crop satisfactorily by the plough. Notwithstanding these obstacles, the machine lifted the crop in a very perfect manner, and at the same time without injury to the tubers, or at least certainly not more than would be the case if the plough had been used. Mr. Oliver puts a double mould-board plough, drawn by a single horse, between the drills to clear the way for the digger; for as the stalks were rank and lying over the drills, the digger would have been apt to choke if this had not been done. The plough merely runs along the surface without breaking up the land. Three horses were yoked to the digger, that is, two abreast and one in front, the latter being found necessary on account of the unusual stiffness of the land. Two sets of three horses are used, each set working half a day, which is found better than keeping the same set at it from morning till night. Of course when taken from the digger the horses are employed in carting.

The machine has a set of revolving forks with flat prongs, which throw the potatoes and dirt against a strong netting stretched on a frame on the right hand side of the machine, and the body of soil in the drill, including the crop, is lifted and prepared for the forks by means of a long share, which passes transversely underneath the drill, and can be lowered or raised to suit any depth at which the potatoes may have been planted. Mr. Oliver has made what he considers an improvement on the share, by giving the cutting edge a greater dip than it originally had, which seems to prevent it from cutting the potatoes. He also recommends that each digger should be provided with a spare share, in case of anything going wrong with that which is at work, so as to prevent loss of time in getting repairs done. The frame in which the working parts are fixed is supported in front on a pair of wheels.

The digger has lifted three and a-half Scotch acres at Redheugh daily, twenty-five women being required to gather after it, while by the ordinary mode of lifting forty women should have been required, taking into consideration those who must go before the plough and pull the stalks of a rank crop. There is, therefore, a saving of labour, and also of expense in another way; for it is less troublesome to take twenty-five hands out from Edinburgh in the morning and back at night than was the case when forty were required. Mr. Pringle has supplied several diggers this season to farmers in the same district, and, in fact, it is a machine which must speedily come into universal use in all parts where potatoes are grown extensively. Mr. Oliver is of opinion that the introduction of the digger, taking its efficiency and the high price of labour into consideration, is as great an improvement as the introduction of the reaping machine; and with all the other advantages which it possesses, the land is much more perfectly cleaned than it can be when the plough is used in lifting the crop.—*Scottish Farmer.*

A LITTLE MORE CULTIVATING.—We never harrow enough; we never cultivate enough. Too mellow ground cannot be made—the mellow the better. And yet we harrow simply to cover the grain, unless the land is very rough. This is all wrong, wrong. Let the cultivator be used freely, followed by the drag freely. Let them swim through the soil. Some ground needs frequent ploughing in addition to the cultivating and harrowing. You cannot pulverize too much; you cannot pulverize enough. "But there is no time to do all this." True. And here is the great difficulty; we have too much, too much land; our work has got the start of us—and it will keep it always where there is so much of it. Better cultivate one acre thoroughly than two in the usual manner—for it will yield as much as the two without manure, unless your land is in a very peculiar condition, which is rarely the case.—*Rural World.*

Ditching Machine.

We had the opportunity on Monday of witnessing the operation of a new machine for digging ditches, particularly for laying tile in. The machine consists of a series of 22 spades, placed on an axle-tree and revolving with it, entering the ground forward at such an angle that they meet with the least resistance.—As the machine advances, the spades are made to extend backward and partially under the loosened earth, taking it up, and when at the proper elevation the spade is made to turn one-fourth round by a trip, depositing the earth upon a shield, which carries it out to one side of the ditch, thus giving all the motions that are made in using the ordinary hand spade. The machine can be set to run at any required depth up to 8 inches at each passage of it over the ground, and by repeated passage to the depth of three feet. The inventor assured us that with two men and two good teams, fifty rods of ditch could be cut in an hour. The ground on which we saw it work was very unfavourable; being a quick-sand the spades did not take it out clean, much of it falling back.—The motions, however, were complete, and every part worked well, and we can see no reason why it will not be a complete success in land that would require drainage. The machine is the invention of Mr. Judd Stevens, of Wayne Co. N. Y., and is now under the control of the Chicago Ditching and Spading Machine Co., (chartered by the last legislature,) who will give any further information desired.—*Prairie Farmer.*

Farming in California.

The *San Jose Mercury* gives the following account of a three thousand acre farm at that place, which is worked by a Professor Gates: "One would suppose that the professor would have his hands full to carry on a first-class educational institution, with nearly 200 students, and a three hundred-acre farm at one and the same time; but with competent assistants, and his business thoroughly systematized, he manages the whole with the regularity of clock work. He has on his ranch 2,500 acres of grain, besides several acres of hay. Some of his earlier sown grain stands now at least three and one-half feet high, and is as rank and thick as it can grow. One field of a thousand acres would astonish the optics of any New England farmer. He estimates that his entire yield will not fall far short of 40,000 sacks of 160 pounds each. To prepare this immense tract for seeding required the services of about 35 men and 50 horses and mules for three months. It will require sixty men to do the harvesting. The work is all done with the most improved machinery. For instance, there are on the ranch no less than nine gang-ploughs, twenty-five waggons, three headers, five mowers and reapers, one splendid steam thresher, and other farming implements without number. To form some idea of the expense attending the securing of this immense crop, we need only mention that the sacks alone will cost about \$20,000. We believe it is the largest tract in the State tilled by one man."

H. Young, Springfield, Bradford County, Pa., says:—"If you tap maple trees as soon as the ground begins to freeze in autumn, the sap will run as freely as in spring."

BENEFIT OF BONES.—There is nothing that the farmer wastes that is so valuable as bones. The phosphorus contained in them is of the richest matter for farming purposes. They should never be thrown away. Save them always. Either break them up as fine as you can, and apply to the soil, or burn and pulverize them. Treated in this way, or reduced by acid or alkalis, they are the most direct stimulants the soil can have. They rank among the superphosphates. At least save your bones, and give them to your gardens in some form or other. They will tell in any form.—*Rural World.*

TIME TO SOW FALL WHEAT.—I was talking to an Englishman to-day, and remarked that I thought many farmers in this section put their wheat in too early. "Yes, sir," he said, "they do." "Old Mr. W. used to put in his about the 20th of September, and he raised the best wheat in the neighbourhood. One of his neighbours who used to sow the last week in August, once said to him:—"You don't sow early enough." "Well," he replied, "What is the reason, then, that I get better wheat than you do?" "Because you plough more than I do." "Well," he said, "I do plough more. Sometimes the boys want to sow as early as you do, but I tell them the land needs another ploughing, and set them at it, simply to keep them from sowing so early."—*Gonesee Farmer.*

The Breeder and Grazier.

The Hereford Breed of Cattle.

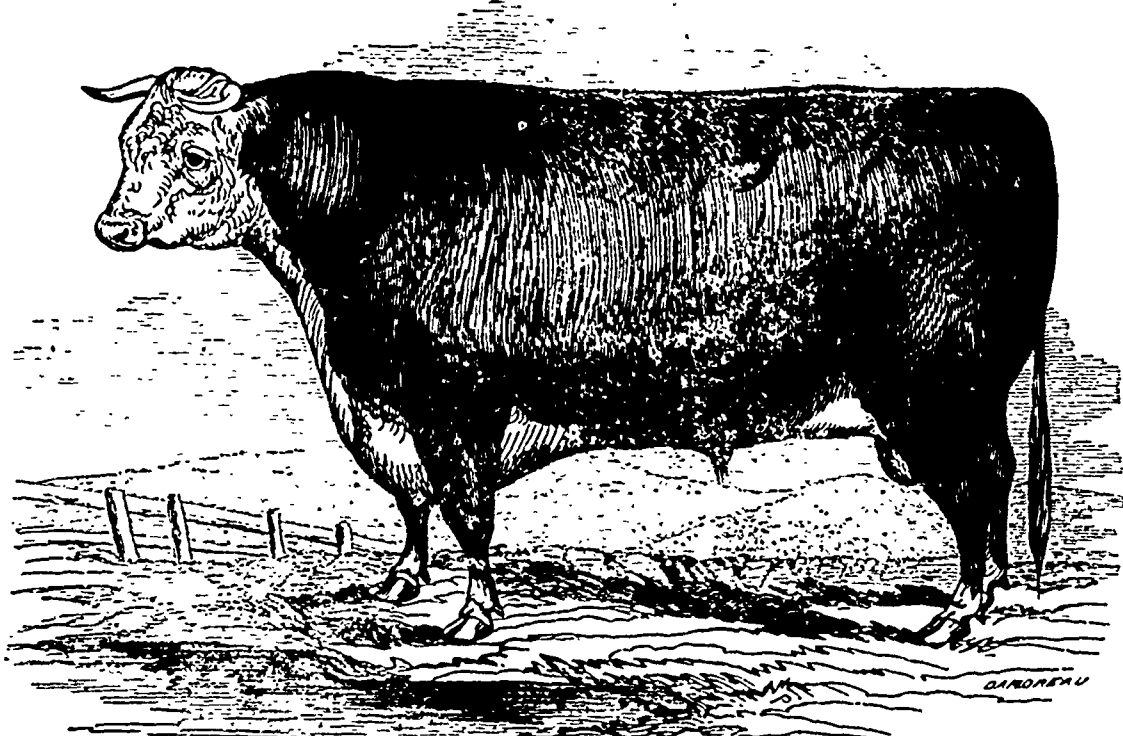
Most of the leading traits of this valuable breed of cattle, have already been enumerated, in an article which appears at page 100, Vol. I. of

more perfect than that of most of our existing breeds of cattle. The character of the head bears a striking resemblance to the Devons. The muzzle, however, is somewhat coarser, and there is altogether more of that quality which breeders designate as "throatiness." The peculiar quality of the hair is very fairly shown in the accompanying portraits. Generally speaking it is wavy, soft, and of moderate length.

well sprung as in their more aristocratic Shorthorn compeers, but this deficiency is compensated by their fine sides, and by the massive proportions of the chest.

The splendid appearance of the two animals herewith illustrated, together with the twenty-three other Herefords, of both sexes and various ages, that composed the magnificent herd exhibited by Mr. Stone, at the late Provincial Fair, was something to be

FIRST PRIZE AGED HEREFORD BULL, AT THE PROVINCIAL EXHIBITION, LONDON, 1865.



The Property of F. W. STONE, Esq., Guelph.

THE CANADA FARMER. Still, in presenting to our readers the accompanying portraits of two remarkable specimens of Herefords, the property of F. W. Stone, Esq., of Moreton Lodge, Guelph, and

The horns are wide, with an upward tendency. Their colour is generally of a clear yellow or white. In some instances the points or tips are of a much darker hue and are occasionally quite black. In the form

remembered. His animals possess every distinctive excellence of this really useful and valuable bovine tribe. Judged by his Herefords alone, his reputation as a judicious and successful breeder is indis-

BEST HEREFORD COW, AT THE PROVINCIAL EXHIBITION, LONDON, 1865



The Property of F. W. STONE, Esq., Guelph.

These animals at the recent Provincial Exhibition, may not be amiss to briefly point out a few other distinguishing characteristics of this picturesque breed, that occur to us. The form of the Herefords is

and symmetry of the shoulder, the Herefords stand unrivalled among all known breeds. Their hind quarters, too, are generally well developed, and the tail is gracefully "set on" The ribs are seldom so

putably established. As we recently observed, there are no Herefords at all to compare with his on the continent of America, and, we may safely venture to add, only a few in Britain.

Cattle Trucking.

WHEN, while rushing at speed through some great railway junction on our Northern or Western lines, we flash by a quarter of a mile of cattle trucks shunted off into a siding to make way for our express, and hear the lowing and bleating of their inmates, we innocently imagine that those pastoral sounds are but natural expressions of astonishment, elicited from animals leaving for the first time the fat pastures and breezy downs on which they had been born and reared. But a perusal of the evidence given in 1864 before the Select Committee on Cattle Diseases Prevention, &c., of which Mr. Bruce was chairman, painfully undeceives us. We there learn that the sounds to which we have adverted are wrung from the poor creatures by horrible sufferings, to which they are unnecessarily exposed on their way to the slaughter-house by the careless indifference of railway companies. Fat cattle and fat sheep invariably arrive at the stations from whence they are to be railed to market wearied and thirsty. No means of watering them are ever provided at those stations by the railway companies, nor are reasonable and convenient arrangements ever made for trucking them. Amid all the strange sounds and confusion inseparable from active railway traffic, terrified by panting and screaming engines, hounded and beaten about by exasperated and perplexed porters and policemen, the over-driven animals are at last forced into their trucks, hotter, more weary, and more thirsty, if possible, than when they first staggered into the station. And in those trucks the bewildered creatures are left, without food and without water, until they reach their destination. Cattle trucks, being unprovided with buffers, whenever they stop (and they stop very often) inflict upon the animals confined in them all the pains and penalties of a sharp railway collision. The strain upon the feet and hips of heavy beasts on such occasions are terrible; they are so violently thrown one upon the other that the ends of the trucks are occasionally forced out. Grievously as they suffer when travelled by sea they suffer far more grievously when travelled by land. Graziers, in their evidence before Mr. Bruce's committee, stated that they prefer travelling their animals on foot distances of 50, 60, and 70 miles, rather than exposing them to the cruelties exercised on them by the railway companies; and yet it has been computed that a fat beast travelled on foot deteriorates at the rate of 1s. a mile. They also stated that when compelled by distance to convey their animals on the rail, they are in the habit of entering into special agreements with the companies to carry them from point to point without stoppage, in order that they may escape, if possible, the usual losses by privation and crushing. The moment a butcher handles a beast he can tell, from its bruised condition, if it has travelled by rail, and on that account he bids less for it. All this suffering and consequent waste of meat and money might easily be obviated by better railway legislation. At stations where cattle are trucked, special accommodation for trucking them quietly and carefully, and an abundant water supply, ought to be provided; and no railway truck ought to be without buffers. A reasonable time ought to be fixed for performing the journey to market, and a heavy drawback to the grazier ought to be allowed in cases of excessive delay. There can be no real difficulty in improving the present vicious system of cattle transit; it is merely a question of custom and of cost. Nobody ever thinks of travelling horses in trucks without buffers, or of starting them heated, wearied, and thirsty, without any provision of meat and drink for the journey. It is to be hoped that graziers will ere long become alive to the folly of breeding and fattening prime animals in order that they may be maltreated by the railway officials who truck them, and be starved and crushed on their way to market. We do not expect that railway companies will move in this matter without compulsion, but the agricultural interest is strong in both Houses of Parliament, and a very small amount of pressure, in the shape of a brief act of Parliament, would work wonders in the way of improving the existing scheme of cattle conveyance on the railways of the United Kingdom.—*Fall Mall Gazette.*

FEEDING STOCK.—Little and often is the rule. How little and how often, may be asked. So little that the stock will eat up clean what is given them morning, noon and night; and in the long, cold nights of winter, a feed just before bed time, say about 9 o'clock, is advisable. This we call often; that is, four times a day. Though the quantity should be such as to be eaten up clean; yet it should be enough to keep the stock in good, thrifty condition. No starving or half feeding them. This does not pay.—*Rural American.*

The Dairy.

Production of English Cheese.

NOTWITHSTANDING the large quantity of cheese annually imported into England from America it appears that the price in the English market is yearly advancing. Whether this is to be accounted for by reason of the consumption being greater, or by the principle of a decreased production, or by a combination of both causes, is not perfectly clear. The fact, however, is patent that the whole supply is gradually becoming more inadequate to supply the wants of an ever-increasing English population. A correspondent of the *Mark Lane Express* makes the following suggestive observations on the subject:—"While I acknowledge the home consumption and the supply from abroad to have increased, I cannot but lament that the production of English cheese has been on the decrease. In these remarks I make especial reference to the midland counties. I am unable to speak with any degree of confidence of the dairies of Cheshire, Gloucestershire, or other cheese-making counties; but of dairies of the midland counties I do say that, during the last twenty years, there has been a gradual, though now it has assumed the form of a radical change. In my own parish there is 67 per cent. less cheese made than twenty years ago; and many other parishes in Leicestershire are at as great if not a greater ratio. The cause of this change in the farming of these counties is to be attributed to the advance and altered mode of living of agricultural society. One main reason is the anxiety, trouble, and annoyance of cheese-making in the household. We readily admit the impossibility of the mistress obtaining the three household requisites of neatness, cleanliness, and regularity, when the business of making cheese is performed in what should be a private house. The other reason which I may mention lies with the dairymaid. This personage and the milkmaid, which our ancient poets did so much to celebrate, are fast losing that renown which was formerly attached to them, and, I am firmly persuaded, will soon be of the past. The dairymaids that are to be obtained are chiefly of that class which requires the strict eye of the mistress to make cheese-making successful. It is a notable fact that the breed—if I may be allowed to use such an agricultural expression—of dairymaids is yearly diminishing. I think the time is far distant when cheese-making apparatus—although I far from overlook the usefulness of many—will be very generally adopted by Leicestershire farmers. Unless there is some system pursued by which it can be manufactured independently of the farmer's private residence, I see no other than that the making of cheese will continue on the decline.

"Will it serve the best interests of the country for cheese-making to be discontinued? I think I may say, for many reasons, it will not. Without cheese-making we should be struggling against a scarcity of stock. It is clearly perceptible that an abundant supply of stock is co-existent with the dairy, and vice versa. Is it not probable that the present cry amongst farmers, of the dearness of store animals, may be accounted for in this way? If all will be feeders, and none will be breeders, we shall no longer be independent of other countries for our supply of either stock or cheese. Dairying is objected to by some on account of its impoverishing nature; but, with liberal feeding and an occasional dressing of some fertilizer, this objection may be overcome, and the profit remaining may be handsome. If, then, it is desirable that cheese should continue one of the principal products of British agriculture, what system can be adopted to promote that desire? I say firmly, but emphatically, the American. The various cheese-making apparatus might be used with great advantage; and the economy in power for pressing, and the saving of labour, in an establishment on a large scale, might be such as greatly to reduce the cost of making."

Selecting Cows.

First, I get a broadside view of the animal, at a distance of about two rods, as I have noticed for years that there was a great similarity in the general proportions of all first class milkers; being very small in girth just back of their forward legs as compared with the girth just forward of their hips. I have never known a first rate milker, of any breed, not

thus proportioned; so that if this form is wanting in an animal I have recommended to me, I do not care to look at her more, unless I want a breeder for some other purpose than the dairy. For breeding *oxen* I should want a cow of reverse proportions, i.e., larger girth forward.

I next feel the size of the "milk veins," and trace them to their entrance into the chest, which, in superior cows, are large, admitting the ball of the largest finger; if divided, or sub-divided, as is sometimes the case, I judge of the size of each orifice, as I care less for the size of the vein itself, than the orifice. Next, I examine, by sight and touch, the udder or bag, which must be capacious in order to hold much milk, with teats wide apart and free from large seed warts or sores of any kind; I then inquire how long she goes dry before calving, as I don't want a family cow to give milk less than 46 weeks out of every 52; and to close, I milk her with my own hands.—*A Vermonter in Rural American.*

Importance of Milking Properties in Cattle.

THE following passage is taken from the report on the exhibition of live stock at the Royal Society's Show at Plymouth. It appears in the *Journal* of that Society,—the writer being Mr. J. D. Dent,—and is well worthy of perusal:—"Before closing my remarks upon the Cattle Classes, I must again enter my protest against the mistake made by our breeders of fashionable stock, in so entirely neglecting the milking properties of their cattle. Amongst the Shorthorn, Hereford, and Devon classes, we had perfect models of female symmetry in every point but one—that which provides sustenance for the offspring. The feminine character is lost, and we are year by year showing mere cylinders of beef. * * In the fashionable breeds we are losing fast the most beautiful characteristic of the sex, and, as I believe, from nothing but over-forcing, and carelessness on the part of the breeder. Our shows would gain in interest if the bulls could step out easily and majestically, and if our cows and heifers were indeed the milky mothers of the herd. But now, amongst the aged bulls, to walk as far as the ring is a matter of serious difficulty, and to parade once or twice around it a painful task, for they resemble some gouty specimens of the human race, whose tempers and figures are alike destroyed by over-feeding, and the sufferings consequent thereupon. But serious as are these difficulties, it would be a yet harder task to get a pail of milk from a whole class of cows." *Bell's Weekly Messenger*, after commenting on the remarks just quoted, makes the following suggestions:—"Cows and heifers in the first and second class being disqualified as prizetakers if proved to be in a barren state when shown, it would be well if fertility in adult bulls were made a condition of obtaining honours in the corresponding male classes. Sufficiently authenticated certificates of fruitfulness within three months preceding the time of exhibition might be demanded. If the rule were carried out with vigilance and impartiality, the usefulness of the Royal Society would be unspeakably enhanced."

A CHECK ON THE BUTTER MARKET.—The formation of "Anti-Butter Leagues" is now an agitated measure in many of the American cities, the conditions being that each family shall use but one pound a week, by way of ornament to the table, until the article can be purchased at a reasonable price. It is claimed that the enormous prices at present demanded are not warranted by any scarcity of supplies, but on the contrary the season has been unusually prolific to dairy farmers, and the grievance is attributed to the monopoly of an army of speculators, who are scouring the country and holding back the stock from retail trade. The same cause, without, has influenced the exorbitant rates ruling at present in this Province. The failure of fall pasturage has been a favourite apology with sellers in this market, who have had the assurance to demand 25 cents per pound for indifferent qualities during the past 6 weeks, but the story is a fabrication and for a greater portion of that period the pasturage has been abundant. The subject of "Anti-Butter Leagues" might be brought up under the head of "general welfare," at the next meeting of the Hamilton Co-operatives, but there is some doubt whether the butter market would be affected thereby to a much greater extent than the depression occasioned by total abstinence societies in the price of rye.—*Hamilton Times.*

Sheep Husbandry.

Cotswold Sheep.

The late test of the Wool Growers' Association, as to the comparative loss of different wools by thorough cleansing, will have its good effect on the public. The Merino Wool Growers have, through the Agricultural press, by their reports of enormous fleeces in the grease, made the impression on the public that the fine wool families were as much superior to the English Combing wool breeds, in the quantity of wool they produced, as in the quality. This test puts all such assertions in their proper light before the Wool Growers of this country, and the introduction of new machinery, and new forms of fabrics for want of cotton supply, has enhanced the value of all combing wools in England and America, and has placed their commercial value nearly equal, pound for pound, with the ordinary felting or fine wools. The latter fact, in connection with the late test, must have a great tendency to increase the flocks of Cotswold and other combing wool breeds in America, in all proper situations, viz., where the pasturage is rich and the soil strong, and population most dense, and butcher's meat in most demand. Let the Merinos be consigned to cheap and thin soils and grasses, and to remote localities far away from the great centres of trade and population, where no demand exists for butcher's meat; here let them live and increase during their natural lives, producing wool alone, and they will be found in their appropriate and most profitable sphere.

The Cotswold is a highly improved animal, having to perfection all the high feeding qualities of the best short horn cattle, and will make from a given amount of rich food as much return in butcher's meat as any other animal of any species, and of more value per pound in the city markets when made, than the first class beef. They thrive only in small flocks and with high handling, rich food and plenty of it. With the sheep family they occupy the same class that the short horn does with cattle, that is the very best and cheapest machine the farmer can employ to manufacture his grain and grass into meat and manure. The percentage of wool produced in the late test relatively to the weight of carcass is not a fair one so far as this particular breed is concerned. It does it more than justice. The specimen selected is the lightest carcass-yearling I have ever known, whilst its fleece is fully up to the average of yearlings. As a breeder of Cotswold sheep, I have never owned a yearling purely bred and well kept, that did not exceed the weight of this specimen from 25 to 60 per cent., and many yearlings might have been found weighing 160 lbs., and producing no more wool. I have weighed buck lambs from the test, weaned in March, in the following August, drawing 140 lbs. live weight. The heaviest fleeces ever produced by this breed is by yearlings, if well kept.—*Cor. Country Gentleman.*

SHEEP CROSSING.—A recent Essay, by Mr. Clutterbuck, contains the following remarks as to a cross between the Cotswold and Down sheep:—"The first cross, as a rule, is confessedly the best. The question now arises—what is done with the ewe lambs which ought to furnish mothers for future flocks? As a rule, the lambs are sold as they fall, and very generally are bought by those who fat them all. As an instance, a farmer of much experience sold 100 wether tegs at a market away from home, where they were pronounced the best sample of such stock (that is, the first cross between the Cotswold and the Down) that had been seen there. Contrary to his custom, he kept the ewes, and was tempted to breed from them; though his rams were well selected the produce was of a very inferior character, and wisely he returned to his former practice, crossing the best draft ewes of the Hampshire breeders with the Cotswold ram. It might be said breeding from the draft ewe is in itself a gain; sometimes it may be, but what is contended for is that even the best cross breeding leads to the indiscriminate sacrifice of the ewe, which, in flocks like those of Sussex, Wilts, Hants, Gloucester, Leicester, &c., is not the case. The half-bred sheep just now is in great request, from the large price of wool and the fattening qualities said to belong to this class of animal. 'Breed from the best natives, cross for fattening,' is a recorded saying of Mr. Frost, bailiff to his Majesty George the Third, at a time when the first great movement in the improvement of sheep stock seems to have had its commencement; and the saying, founded on the experience of that day, is, doubtless, true now."

SMALL-POX IN SHEEP.—On the occasion of the outbreak of this disorder among the flock in 1862, the Government justified an inquiry into the value of vaccination as a preventive. Mr. J. F. Marston, resident surgeon of the Small-pox Hospital, and Professor Simonds, of the Royal Veterinary College, were appointed to carry this out. After patient investigation and experiment a report was subsequently made, the substance of which may thus be summed up: That sheep-pox is only known to have existed in England on three occasions, namely in 1760, 1847, and 1862; that it is highly infectious, and, like the small-pox in man, occurs but once in the same animal; that the deaths from natural disease often amount to seventy-five, and are seldom less than 25 per cent., while many of those spared are left in a worthless condition; that vaccination cannot be relied on as a preventive or a mitigant; and, even if it was protective, not more than 35 per cent. would be influenced by it; that the inoculation of sheep with human virus is equally ineffective; that cows are not susceptible to the action of sheep-pox, so that viraion cannot be resorted to as a means of furnishing lymph; that separation although sometimes available in arresting the disorder, is impracticable with large flocks; that slaughtering and burying the bodies are only justifiable at the very first outbreak; and that the only remaining conservative measure is inoculation, which, if rightly carried out, offers considerable advantages. First, it gives security against a natural attack of sheep-pox; secondly, it limits the period of the existence of the disease; thirdly, it mitigates the severity of the attack; fourthly, it saves the lives of many animals, and produces but little loss of condition; fifthly, it contracts the extension of the disease, for one confluent case would do more harm than fifty inoculated cases would do; sixthly, that the mortality among the animals inoculated with those taking it naturally is as 3 per cent. in the one case to 50 per cent. in the other.—*London Field.*

Poultry Yard.

Poultry Items.

FROM THE "FIELD."

DISINFECTING AFTER ROUP.—Could you kindly tell me if any disinfecting liquid that I might put over a small house and grass run in which I have had one or two bad cases of roup? The house is of wood, and the run is thirty-five feet by twenty feet. I used to keep one cock and four hens in it.—**TORMENT.**—[If the house is well cleaned, and then brushed over universally with a solution of chloride of lime-water, it will be effectually disinfected. The grass may be mown, or the ground dug over and resown.—*Ed.*]

LICE IN POULTRY HOUSES.—My hen house is infested with myriads of small insects, some red, and others white, very small—a species of foul lice. I have had the house whitewashed, and also burnt brimstone in it, first closing up the apertures; but they are worse than ever; indeed, so bad that the fowls have deserted the house, and will neither roost or lay in it. It is a large building, and far larger than the number of fowls that I keep require. Please give me a recipe that will cure this.—**LUCRUS.**—[We should recommend a trial of chloride of lime and water, washing and brushing the solution into the cracks and crevices, the house to be thoroughly cleaned out before the application. Should this fail, we could recommend nothing else but brushing the whole interior with mineral turps, which can be obtained at about 3s. to 3s. 6d. per gallon.—*Ed.*]

WANT OF SUCCESS IN HATCHING.—I shall feel obliged if you will explain in your next paper a curious circumstance which has happened in my yard. I have not been able to hatch a single Braham chicken this year; when the eggs were examined they had no chickens in them (being quite rotten,) and thinking it was the fault of the cock, I bought another of a quite different strain, when the same circumstance occurred again. I then changed the hens, but this not having the desired effect, I am at a loss how to account for it, and shall feel extremely obliged if you could give any solution of the difficulty.—**COCHIN.**—[The circumstance of the eggs being rotten proves that they were originally fertilised, as unimpregnated eggs remain clear, and do not stink. As the want of success has continued after the stock has been changed, the cause is most probably in some local conditions affecting the birds.—*Ed.*]

CHOLERA IN POULTRY.—I shall feel very much obliged if you or any of your numerous correspondents can suggest a remedy for the following complaint, by which I have lost twenty-three out of my stock of thirty-five duckwing chickens. The symptoms are, I

imagine, very similar to those of Asiatic cholera in the human subject, and the disease, as the result shows, quite as contagious and fatal. About a fortnight ago I had as handsome a lot of three-parts grown chickens as could well be imagined; most of them being of the same blood as the bird I took first at Birmingham with 1862 and 1863. They were almost all seized at once with excessive purging, and became gradually weaker and thinner, until death supervened, in the majority of instances in from two to four days. Thinking that nothing but poison could effect such wholesale destruction, I had several cut open, and found excessive inflammation and enlargement of the bowels, with a quantity of mucus in the intestines. They had no appearance of cold or roup about the head, but the eye became dim, and they walked "all in a heap." To show the malignant nature of the disease a batch of nine younger game chickens (belonging to a friend of mine,) which happened to come in contact with mine, all died in one night; and another of sixteen Hamburgs is reduced to nine, with a prospect of further diminution. Curiously enough, the old fowls are not affected by it in the slightest degree, and the older chickens appear to get through it better than the younger ones. They have all had an unlimited range of grass-fields, and have always been extremely healthy. I must add that I have tried rue, oil, butter and chalk, with little or no success. Any suggestion in the event of a recurrence of this most fatal malady will be most welcome to—**A SEVEN YEARS' SUBSCRIBER.**—[We should be disposed to try the effect of a strong dose of calomel and opium—say one grain of each two or three times a day. The remedies mentioned in the letter would be quite worthless in a malignant complaint.—*Ed.*]

FROM THE MARK LANE EXPRESS.

Onions are said to be an admirable food for fowls, or rather an adjunct to their ordinary food. If given regularly, it is said that they will prevent attacks of the more ordinary diseases of poultry.

Meat is said by some authorities to be an essential food for poultry, especially in the winter, when they cannot get the worms they pick up in summer. Others again, maintain that the habit of giving meat to poultry is productive of grave evils—the cause of many of the worst forms of disease which affect them. By these authorities it is called an unnatural food, inasmuch as the digestive organs of the birds are not fitted to assimilate them. There must, we think, be some mistake in all this, for we know of a surety that fowls do eat when they can get it, and entirely of their own accord, an enormous quantity of animal food: here it is not cooked; the game found in nature's garden is raw. If meat is an unnatural food for poultry, they certainly have a most unnatural appetite for it. Throw in one lump of meat amongst a lot of fowls; if not literally a bone of contention, it is something vastly like it, so eager are all to get a grab at it.

We believe the habit of giving much food in a short space of time to poultry is a very bad one. If you notice their habits you will perceive that the process of picking up their food under ordinary, or what we may call the natural condition, is a very slow one. Grain by grain does the meal get taken, and with the aggregate no small amount of sand, small pebbles, and the like, all of which passing into the crop assists digestion greatly. But in the "hen-wife's"—we by no means are personal in using this now celebrated distinctive appellation—mode of feeding poultry, a great heap is thrown down, and the birds allowed to "peg away" at such a rate that their crop is filled far too rapidly, and the process of assimilation is slow, painful, and incomplete. No wonder that so many cases of choked craw are met with under this treatment.

THERE is a poultry pestilence raging in the suburban hen coops round Paris. Fowls are found dead in scores, without any perceptible cause.

FRENCH EGGS.—The number of eggs, fowls and game, imported into France in the first half of this year was 2,009,800, as compared with 1,680,729 in the first half of 1864, and 1,601,041 in the first half of 1863. The exports of eggs from France to June 30 this year, were 13,979,186, against 11,568,136 in 1864, and 9,903,913 in 1863 (corresponding periods).

LICE IN CHICKEN-HOUSES.—We hardly know what to advise to rid the houses of this pest. We have always found lime-washing effectual when thoroughly done. It must be well worked into all crevices; holes which the brush cannot reach must be stopped, and the operation must be repeated till the desired result takes place. If the fowls are supplied in the house and in their run with a couple of bushels of dust, or better still, of wood ashes, with which should be mixed four or five pounds of black sulphur, they will use it as a bath and rid themselves of their visitors.—*F. B. in Agricultural Journal.*

The Apiary.

Management of the Apiary for November.

BY J. H. THOMAS.

As soon as the weather is cold, and snow falls, all stocks should be put into winter quarters, or prepared for wintering out of doors. I would advise, however, that all stocks be wintered in some dark cool place, and yet so warm as not to freeze. Bees as well as cattle may be wintered exposed to cold and frosts: but who will say that it would not be better if such were housed? Hundreds of stocks perished last winter with abundance of honey in the hives, exposed in the open air, that might have been wintered safely in a proper place. I am anxious to impress upon the minds of all my bee-keeping friends the necessity of wintering their bees where it will not freeze. Now is the time to prepare a place, and see that the bees are properly put into winter quarters. A dark dry cellar, or dark room, away from the fire, will answer—any place where it is dark and cool, but not cold enough to freeze. The better way is to prepare a place on purpose, something like a root cellar, only it should be properly ventilated. For particulars see "Canadian Bee-keeper's Guide." All box hives that are wintered in a proper place may be inverted, and a piece of wire cloth tacked on to keep them in. If my moveable comb hives are used, the honey-board should be removed and the cover of the hive left on; but if stocks are wintered out of doors, box hives cannot be inverted: several holes should be bored in the top and covered with a cap or empty box. Moveable comb hives should have the honey-boards removed, and after tacking on a piece of wire-cloth or stiff net, the covers should be filled with clean straw, corn husks or corn cobs, which will absorb the moisture and keep the bees warm. Should the weather remain warm during this month, stocks may be left on their stands until December. Let it be remembered that bees wintered in a dark cool place where it does not freeze, and properly ventilated, consume but little honey, and will cast earlier and stronger swarms.

Bees.

A CHAPTER OF WELL SETTLED FAMILIES.

- 1. All stocks of bees should be kept strong in numbers.
A well garrisoned city may defy assault.
2. A moderate increase of swarms will keep them strong, and secure the largest yield of honey.
As the calves are raised at the cost of butter and cheese, so bees are multiplied at the expense of honey.
3. Bees filled with honey are not inclined to sting.
As the robber's knife is staid by your purse, so bees are bribed with proffered sweets.
4. In natural swarming, bees will fill themselves with honey.
Emigrants to a new country carry their treasures along as capital to begin with.
5. Bees are armed at smoke or otherwise, instinctively seize their stores.
The householder, at the cry of fire secures what he can.
6. There should be no communication between occupied hives, allowing the bee of one to pass directly into the other.
No house is large enough for two families.
7. A swarm of bees destitute of a Queen fast dwindles away; and unless supplied with one, soon perishes, either by robbers or moths.
A country without a government, a farm without an owner.
8. Swarms having combs insufficiently protected by bees, furnish a retreat for millers and food for worms.
Ungarded treasures invite thieves.
9. An excess of drones should be avoided by discouraging the construction of the cells that hold them.
Drones are the "dead heads" of the hive—the useless males in the farmer's herds.
10. The building of drone comb may to a great extent be prevented—first by securing the construction of new combs in hives containing young queens; second, by placing frames to be filled in other places near the centre.
An ounce of prevention is better than a pound of cure.

- 11. Queens are most economically reared in small swarms.
Who would employ ten men to do what one could do better?
12. Small swarms if united in the fall, winter more safely, and consume less honey.
In union there is strength.
13. Bees of colonies containing fertile and infertile queens, should not be put together without first "breaking them up," i. e., inducing them to fill with honey, and destroying the infertile queen.
14. Natural swarming, always uncertain and perplexing, exposes the bee-keeper to much loss of time and money; while artificial swarming, securing at all times the presence of a worker-laying queen, doing away with all watching, and loss by flight to the woods, is both sure and economical.—Melcalfe's Key to Bee-keeping.

HONEY IN FRANCE.—It will perhaps excite some surprise when we state that the imports of honey into France, in the six months ending June 30, this year were 49 tons, while in the corresponding period of 1864 there were 102 tons, and in the corresponding period of 1863, 29 tons. The exports of honey from France to June 30 this year, were 121 tons, against 236 tons in 1864, and 120 tons in 1863 (corresponding periods).—Scottish Farmer.

PARASITE OF THE BEE.—"An acarus infesting the parasite of the bee has lately been discovered, and a photograph of the insect, magnified one million times, has been taken by Mr. A. Beitsch. It is covered with a carapace or hollow shield, and its feet are armed with sharp claws, by which it keeps a firm hold upon the microscopic creature from which it derives its nourishment, and which in its turn preys upon the honey-gathering bee. As we can discover no limits to the minuteness of organized beings, so we can fix no term to this extraordinary series of parasitic animals preying one on the other."

How admirably and truthfully is the last reflection expressed by the poet:—

"The very fleas have other fleas,
And smaller fleas to bite 'em,
And I these fleas have lesser fleas,
And so ad infinitum."

—Ez.

EFFECT OF CHLOROFORM ON BEES.—A few days since Mr. Annan, builder, Downfield, wishing to have the honey taken from a hive without resorting to the common practice of smoking the bees with brimstone, and thereby killing them—and having before heard of chloroform being used—felt anxious to try the experiment, which was done by Mr. Laird, druggist.—Mr. Laird first closed the doorway, then covered the hive with a cloth to shut out the light as much as possible, after which he commenced to blow chloroform amongst the bees, immediately upon which they began to make a humming noise; but, as the chloroform was continued to be blown in amongst them, the storm speedily changed into a calm, when it was soon discovered that the bees had fallen asleep, so that they were easily removed to another hive without harm to any one; and next morning they were all awake and in a lively state, humming around their hive—no doubt wondering what had happened. This being a successful and useful experiment in keeping the bees alive, we think it right to make it known for the benefit of others.

CHANGE OF SCENE TO BEES.—A friend who has been a bee-master for forty years, informs us that he considers a change of scene, especially from garden to heather, of great advantage to the bees. He noticed that when his hives were removed to hill quarters for a few seasons, they became effeminate and thowless, and that when strange hives made an attack on them or their stores, they showed a deficiency in courage; whereas he noticed that when sent off regularly to ransack among the hills, they always showed a more stirring and plucky nature, and enemies were seldom successful in a battle. This he accounted for in this manner:—Bees in a wild state change their abode frequently; indeed, this they are obliged to do from the trees, etc., in which they lodge being destroyed; hence their effeminacy when confined in the same abode for a number of years. Then when they are placed among the hills, they are generally placed alongside of bees from various districts, with which they learn both to battle and to do the amiable. In short, they see society, become bees of the world, and return to their garden nooks with renewed health and pluck, over and above adding considerably to the value of their stores. We have heard an extensive breeder of pheasants state that he considered a change of scene for breeding birds also required in order to keep the old bird in health, and in a state in which they would breed annually. Keepers know how spiritless birds become in such places after a year or two of confinement. But when the pens are made of light materials, and changed in situation every two years or so, birds remain comparatively healthy.—Scottish Farmer.

Veterinary Department.

The Albert Veterinary College.

THE Albert Veterinary College (Limited,) is to be opened on the first Monday in October, temporary and very suitable accommodation having been secured at Queen's Road, Brompton, London, until such time as the new buildings can be raised on a site that has been obtained near the Chelsea Hospital. It would be rash in us to speculate on the future of this institution. It is fairly launched under most distinguished patronage, and we may conclude that all those noblemen and gentlemen who have consented to become vice-presidents consider there is room for a second veterinary school in our great metropolis, a view in which we entirely concur. Having no faith in monopolies of any kind, we hope to see an honest rivalry springing up between the two schools, that will incite all to greater exertions in the cause of science, and lead to the public advantage; at the same time we trust that this rivalry may be maintained without any bitter feeling, or any attempt on either side to glorify itself unduly at the other's expense. There is abundant room for both. It is to be expected that, for a time at least, the Camden Town establishment, having the claim of antiquity, and presided over as it is by very eminent professors, will be well supported, and perhaps the larger number of bona fide veterinary pupils. The Albert College, however, by adding to the regular professional branches a course of lectures on the Principles of Agriculture and Chemistry, ought to attract students from a wider field.

Every year the impulse to emigrate appears on the increase, and this will continue so long as our population gains upon our area, or, in other words, so long as the national prosperity continues. The bulk of our emigrants must turn their attention to the cultivation of stock and crop, principally the former.—A knowledge of the physiology, pathology, and treatment of our domestic animals will be invaluable to such. An insight into the principles that regulate the growth of our crops, a knowledge of those natural laws which are ever at work producing results incalculably important, will be knowledge that may be turned to account, and that will guide to a reasonable and intelligent practice; at any rate, will prove more practically useful than a study of the details of some particular farm practice, admirable though the same be for a certain soil and district, but utterly unsuited for the wild prairie or the backwoods. Add to this that the students will have the opportunity of attending a course of lectures on chemistry, and we think there is a very promising bill of fare offered to the enquiring mind at a moderate expense. Again, how frequently do we meet with men retired from the army and navy, bent upon enjoying the pleasures of a country life, but ignorant of the business for which they have a decided taste. A session or two at this institution might assist them to direct their attention to the acquisition of practical knowledge.

The practice of farming can never be taught in a lecture-room. He would be mad who should attempt such an utter impossibility. Practical knowledge, the power of dealing with the varying circumstances of soil, climate, machinery, the labourer, and the animal, and turning all to a profitable account, must be learnt by persevering attention on the farm; but the student may be materially assisted in acquiring such knowledge, if he study the principles upon which agriculture as a science depends, and which, as it were, affords an explanation of the apparent anomalies which otherwise arrest his progress at every step. We are led to believe that the agricultural and chemical classes will prove attractive to many whose ultimate object is the veterinary profession. The country practitioner would frequently be in a better position to advise as to the general management of live stock if he had some knowledge of the requirements of a farmer's occupation. These, then, are some of the reasons why we anticipate that the Albert Veterinary College will offer considerable attractions to the emigrant and the gentleman farmer, as well as to the student of veterinary science. Success will depend upon management. There must be hearty co-operation between the head and the staff, enlightened and liberal management by those who have undertaken the heavy responsibility of watching over the details, and unremitting attention to the interests of the public. Believing that, under good management, this institution will tend to elevate the veterinary profession, and prove useful in other ways, we heartily wish it success.—Bell's Weekly Messenger.



A DELICATE DESSERT.—“A housewife who has tried it” sends the following receipt: Lay half a dozen crackers in a tureen, pour on enough boiling water to cover them. In a few minutes they will be swollen to three or four times their original size. Now grate loaf sugar and a little nutmeg over them, and dip on enough sweet cream to make a nice sauce, and you will have a simple and delicious dessert that will rest lightly on the stomach—and it is easily prepared. Leave out the cream, and it is a valuable recipe for sick room cookery.”

AGRICULTURAL STATISTICS.—“Thomas McNab,” of Montreal, writes on this subject as follows: “In the Report of the Agricultural Department of Washington for the month of September, I notice an extract from THE CANADA FARMER of 1st September, on ‘the value of correct statistical information of Crops.’ This is a subject to which little or no attention appears to have been paid in Canada, but it is one of the importance of which, in a new and agricultural country like this cannot be over-estimated, not only as showing the probable annual value of the crops, and the yield per acre, but also the progress made in clearing the land for cultivation, and the relative fertility of the different sections of the country. It is undoubtedly a primary object to be undertaken by the Bureau of Agriculture; and one which the agricultural press of the country should urge upon the attention of the local boards of agriculture, and through them on the Government. A few years ago the Highland and Agricultural Society of Scotland undertook for the Government the collection of agricultural statistics in Scotland. The expense was small, the system pursued simple, and the result was satisfactory. I take a deep interest in all that pertains to agriculture, and would much like to see some steps taken towards the collection and publication of agricultural statistics, not only as affording valuable information to the people of Canada, but which would be of the greatest service to put into the hands of intending immigrants to Canada. I would be glad if through the medium of THE CANADA FARMER the results could be brought prominently before the Minister of Agriculture.”

WINE MAKING.—“A. B. Brownson, of Bayfield, writes as follows: “I wrote to you in the early part of Sept. last for information about home-made tobacco, you answered it Vol. I., No. 17, page 261, and I acted upon your suggestion. Having no screws I took an upright pole under the beam in my cellar, and a wedge and an old axe were all the appliances that I used, and so that you can judge for yourself, I have sent you one plug. I have used no other kind for the last year, and am still of the opinion that farmers can grow and cure their own tobacco, at about six cents per pound, and in one year earn enough to pay off our national debt. Now, I want some information about wine-making. Last fall I had a large quantity of the Clinton grape, say three or four bushels. After giving away as long as any person would come for them, I then took it into my head to make them up into wine. I went to a neighbouring brewer who pretended to know all about wine-making from the grape. I followed his directions, and in the spring following a friend of mine called to see me, and I tapped the wine and gave it him to drink, with a request that he should give me his opinion of it. He drank part of it, spit some into my face, some on the carpet, then ran outside to empty his mouth. When he could speak he said it was bad wine, and pronounced it about second class vinegar, so I acted on his suggestion to make it into vinegar, and rolled it out into the sun, where it has been all summer, but now it is neither wine nor vinegar. What I want to know is how to make wine out of grapes. I shall have barrow loads this year, and they are all coloured now.”

MOWING AND REAPING MACHINES.—“M. O. Cole,” of Orwell, communicates the following:—“In the name of common sense and justice to horses, what is the use of drawing about the field so much wood and iron! Look at the sickle, weighing only about six or seven pounds, a little more than a common grass scythe, and its cut in all ordinary machines is not more than a square foot at a stroke. Next, consider a man with his grass scythe, instead of one foot at a stroke, he cuts about ten or twelve. Now compare the forces employed. The one is the man's arms, the other a “sweater” for two horses. Next, contrast the implements—the one weighs about fifteen pounds, and the other about from twelve to sixteen hundred pounds, and at the same time the scythe does quite as much work while in actual operation (i. e. forward cut) as does the monster drawn by two horses. As regards the quality of the work done by machines in general use, we cannot expect much to improve; but in regard to the awkward, heavy and complicated machinery employed, horse-flesh, as well as good common sense, call loudly for improvement. I have pulled off and cut away nearly a quarter of my old machine (St. George) this season and made wood for the fire and old cast iron for the foundry, and thereby saved about the draught of a horse in working it, with no detriment to its working capacities; and yet there is enough left of each material, if rightly employed, to make two or three machines. During the ensuing winter, as soon as the busy work of the farm is over, I intend to make a machine that will not be more than a quarter the weight of the lightest machine I have yet seen, and at the same time it will possess equal if not superior strength to the heaviest. Whether it will work, or fail to work, on trial next season, will not change my notion of the groundless necessity of so much ‘wood and iron.’”

The Canada Farmer.

TORONTO, UPPER CANADA, NOV. 1, 1865.

Causes for Thanksgiving.

Since our last issue, “Thanksgiving Day,”—now established, we are glad to believe, as a national institution—has been observed; and at the call of our government, the whole country has joined in grateful acknowledgement of the Divine mercies. While many kept the day merely as a holiday, the great majority of our population mingled religious worship with their festivities, and presented thankful homage to the Giver of all good. In our view such an observance is eminently proper, and the bounden duty of a Christian people. We hope to see it kept up year by year as a national “harvest home.”

It is comparatively easy to be thankful in the midst of prosperity and abundance. The somewhat irreverent remark of the toothless old lady at the dinner table, that it would be easier to be thankful if the meat were not so tough, indicates a tendency in human nature of which there are numerous and constant illustrations. At present, we seem to be emerging out of a condition of straitness into one of comparative comfort. For some time past the country has been in the merciless grip of “tight times.” Now, however, the spirit of commerce is reviving again; trade shows briskness and vigour; money, as business men say, is “easier;” and a general feeling of hopefulness is taking the place of despondency. The face of society, recently clouded with gloom, is brightening up and beginning to wear a smile.

This change is very much owing to the bountiful harvest which we have been permitted to gather. After several unfavourable seasons, the earth has again yielded all manner of store; and with abundance of products, there have come high markets. With plenty to sell, there is no lack of buyers. Almost every marketable commodity is readily con-

vertible into money. It becomes us to acknowledge the goodness of God in all this, and to be mindful of the source whence our blessings are derived.

In nothing, perhaps, are we so prone to absolve ourselves from responsibility, as in regard to our harvests. Yet they are more dependent on human agency than we are apt to think. We do not now refer to skillfulness in farming, although, unquestionably, failure often results from want of proper culture. Much may very justly be said about unwise cropping,—neglect of proper rotations,—manuring—drainage,—care of stock, &c., and we are accustomed in these columns to give “line upon line and precept upon precept” in reference to such topics. But we have now more particularly in view moral responsibility. Every attentive reader of the Bible must have been struck with the forcible utterance of the ancient prophets on the connexion between the discharge of religious duty by a people, and the enjoyment of bountiful seasons. What applied to Jewish agriculturists, applies no less truly to the farmers of Canada. That voice of Divine majesty which said of old: “I called for a drought upon the land;” “I smote you with blasting and with mildew, and with hail;” is not wholly silent in those days. It was not a superstitious feeling which in the olden time traced blasting and mildew, drought and caterpillar, to a superhuman agency. In this age there is a tendency to an opposite extreme. Nature and second causes are alone looked at, and there is too little recognition of that resistless and omnipresent power, to whose behests all human plans and labours are subject. Man may plant and water, but God giveth the increase. We are far from affirming that every failure of the crops is a Divine judgment for national sin; but we do not hesitate to say that there is a principle involved in this matter which is well worthy our attention, and of which we are too apt to lose sight.

It is doubtless the special province of the pulpit to bring out and enforce these aspects of human responsibility, and we could have wished that greater prominence had been given to them, than, judging from the newspaper reports of the recent thanksgiving discourses, would appear to have been done. The subject is of grave and universal interest, and is one of many illustrations of the fact that enlightened patriotism and intelligent piety are close allies.

Some one has remarked that “the course of nature is a standing miracle.” An eloquent writer observes:—“If we could see the wheat woven by fairy spinners, apples rounded and painted and packed with juice by elfin fingers; or if the sky were a vast granary or provision store, from which our needs were supplied by invisible hands in response to verbal prayers, who could help cherishing a constant undertone of wonder at the miraculous forces that encircle us? But consider how much more amazing is the fact! Consider how out of the same moisture the various flowers are compounded; the dew that drops in the tropics is transmuted into the rich orange liquor and banana pulp, and sweet substance of the fig; the pomegranate stores itself with fine fragrance and savour from it; the various colours and qualities of the grape are drawn from it; and in the temperate orchards, the rain is distilled in the dark arteries of trees—into the rich juice of the peach and the pear, the apple and the plum.” All nature proclaims our dependence on the Great Father above us. Not all the skill of man could make a single grain of wheat germinate, or a blade of grass shoot, did heaven withhold the fructifying influences which are its gift. It surely befits us, helpless pensioners upon the Divine bounty as we are, devoutly to recognize the hand that supplies us, than to espouse the cold, blind, atheistic philosophy of which there is so much in the present day,—which talks with wise look and learned phrase about “nature's laws,” but never lifts a loving, trustful, thankful eye to nature's great and glorious Law-giver.

We have other causes for thanksgiving beside those connected with the processes of nature and the procession of the seasons. Our lot is cast in a good and pleasant land. Its natural scenery, varied resources, and ability to support a teeming population, its free, civil and religious institutions; its antecedents and privileges as part of the British Empire;—the justice of its laws, the security it enjoys as to life and property; the wisdom of its rulers, its virtue-crowned monarch, and stable throne;—are all causes for devoted thankfulness. Immunity from pestilence; deliverance from war, by which we have been repeatedly menaced; and the long list of personal and family blessings of which each individual and household must make their own enumeration: surely these things loudly call on us to present our united gratitude to Him from whom "cometh every good and perfect gift," not only on a day set apart for the purpose, but at all times.

Farmers, as a class, have been charged, whether justly or no we will not undertake to say, with giving way to a spirit of grumbling and complaint. Their calling not unnaturally awakens at particular seasons a little anxiety, and it is easy for this to degenerate into distrust and misgiving. It is well to watch against these tendencies. A cheerful, hopeful disposition is worth a great deal to the man who must earn his bread with the sweat of his brow. It is indeed a treasure to every man who has it, whatever his occupation. Despondency and repining, sever the sinews of industry, and paralyze the arm of toil. Better than silver and gold, houses and lands, is a contented mind, for that we are assured on the highest authority, is "a continual feast."

The Exportation of Canadian Stock.

For some weeks past, herds of cattle have been making their way to various railroad depots throughout the country, and freight trains have largely consisted of cattle-trucks. There has been a regular bovine exodus from all parts of the land. Hogs, too, have been on the tramp. If our American neighbours were a mutton-eating people, we should have to record the fact that the sheep also were fast leaving us; but they eat mutton so sparingly that our flocks are not much affected by the present eager demand for meat in the United States market.

Some people are greatly alarmed at the wholesale exportation of cattle and hogs which is now going on. They think the country is being drained of live stock, and look with gloomy foreboding at the prospect of scarcity, with its attendant high price of meat. But this is a very superficial view of the matter. The live stock which is being sent out of the country, bears a very small proportion to the number of animals owned by our farming population. It requires a large annual sale of stock to work off the natural increase of the herds; and although there has been unusual demand for live produce this fall, there is no lack of young stock left. Our farmers are not so foolish as to leave themselves without breeding and growing animals. The meat market will be rather higher than usual this winter, but our brisk commerce has put a good deal of money in circulation, the consequence of which will naturally be the invigoration of business generally, and consequent ability to pay higher prices for the necessaries and luxuries of life.

The state of things just noticed will have a beneficial tendency, by encouraging our farmers to pay more attention to stock-raising. Neglect of this is one of the weak points of Canadian agriculture. The plea in defence of neglect has been that it did not pay to raise live stock. Especially has the idea been prevalent that it was a losing game to raise pigs. The peas and corn required to fatten them were more profitable sold in the bag, than sold in the form of meat. Stock must be kept on a farm if there is to be a proper supply of manure. No stock, no manure—no manure, no crops—are axioms that ought to be

as familiar as household words to every agricultural community. In weighing the question of stock-raising, we incline to think our farmers have not been accustomed properly to take into account the value of the manure thereby obtained. This is, however, a most important item in the profit and loss account of cattle-keeping. Another trouble has been neglect of root culture. It is impossible to keep stock advantageously without roots. This fact, and the fact also, that roots play such an important part in a judicious rotation, ought to induce more attention to them. Turnip culture has been pronounced the sheet anchor of British agriculture. It has wrought little short of a revolution in farming matters in the old country, and it will do the same here, if it can be made general. Turnips do not require to be sown until the hurry of spring work is over, and thus a season of comparative leisure may be appropriated to this important crop. They are a pretty sure crop, and, on good land, highly productive and remunerative. In this country they cannot, as in Britain, be fed on the ground, but require storage. They, however, stand a considerable degree of cold, and keep well either in pits or moderately well-protected cellars.

Many circumstances point to increased attention to stock raising, as the direction in which the agriculture of this country needs to undergo improvement. The exhaustion of numerous farms by too many white crops,—the necessity of placing less dependence on wheat, and more on other products, the better demand and higher price for stock, all give promise of a change in this respect. The immense mortality among the cattle in Great Britain and other European countries, will have a tendency to keep up the price of stock in this country for some time to come, and should we be spared the visitation, which has wrought such havoc among the herds of the old world, our farmers may confidently expect that stock-raising will be more remunerative than it has been. We trust that the precautions taken by our own and the United States governments, will prevent the infection finding its way across the Atlantic, and that this branch of agricultural industry may receive no check from that source.

The present is not only a good time to raise more stock, but to improve its quality. Our farmers, by selling off inferior animals and keeping their choicer ones,—and now that money is a little more plentiful, purchasing improved stock, and driving their females to well-bred animals, may do much toward getting their farms better stocked. It is a golden opportunity which they will do well to make the most of. It costs no more to keep a good animal than a poor one,—in most cases it costs less, and it should be the aim of every one to keep up with the age in respect to improvement. We say to our agricultural readers most earnestly:—"RAISE BETTER STOCK, AND MORE OF IT."

MISTAKE OF THE PRINTER.—Mr. Charles Arnold of Paris, has called our attention to a typographical error in our account of the recent Exhibition, which we gladly correct. We stated that in grapes, Mr. Arnold "took second prizes." It should have been "took several prizes."

THE CATTLE PLAGUE IN BRITAIN.—We have an article on this subject in type, but from a press of editorial matter, we are compelled to defer its publication till our next issue.

Exhibition of the Vaughan Agricultural Society.

We had the pleasure of attending the autumn Show of this flourishing Society, which took place at Woodbridge on Wednesday, October 25. This bustling little village is situated in the valley of the Humber, and is delightfully surrounded by the hills which form part of the water-shed of that river. From an early hour in the morning, buggies, waggon, and almost every variety of vehicle on wheels began to pour into the village, and to deliver their freight of human beings at the doors of the several taverns. Towards noon the place was as busy as a bee-hive, and every available nook and corner, where a horse could be "anchored," or a vehicle placed, were occupied. The ground on which the exhibition was held, is a large, partially cleared dell or "flat," situated below the level, and on the south side, of the village. The turnpike is parallel to, and closely adjoining, the west side of the ground, and around its eastern, and part of its southern sides the river sweeps in a circular bend. Horses, cattle, sheep, pigs, poul-

try and agricultural implements were regularly distributed round the boundary fence; while to the horticultural and dairy products, and the industrial display a large and commodious tent was appropriated. A large circular space in the centre of the ground was enclosed by ropes and stakes, and was reserved exclusively for exhibiting the horses. The show-ground was well patronized during the entire day, but more especially so in the afternoon, when a large crowd—amounting, it was estimated, to over 5,000 persons—was assembled. In addition to the Fair proper, there were numerous other attractions offered for the special delectation of the less knowledge of the assemblage. Quack doctors, artful swindlers, unprincipled cheap Johns and boarse peep-show proprietors, were present on the show-ground in considerable force, and loudly bawled for patronage and support, offering sundry and manifold allurements wherewithal to "wheedle" the cents out of the pockets of the devoted "sons of the soil." In this task, these astute corsairs of society seemed to succeed pretty well, and would undoubtedly leave Woodbridge with purses considerably replenished. The weather, after some cheering blinks of sunshine in the early part of the day, began to be somewhat cloudy towards noon. It kept fair, however, though apparently under protest, and this was, or ought to have been, a cause for thankfulness. As is not unfrequently the case at our agricultural exhibitions, there was considerable delay in getting the various articles conveyed to the show-ground. It was, hence, somewhat past noon before the judges could commence their duties. Once started, however, they worked with a will, and we are glad to add that, so far as we could learn, their decisions were satisfactory. The Secretary's books showed a large list of entries in every department of the show. As usual, however, several animals and articles entered on the books were not forthcoming on the show-ground.

The display of horses was very creditable to the district. Some fine pairs for general, as well as for purely agricultural purposes, were exhibited. The harness and saddle horses presented a fine appearance, when their trotting capabilities were exhibited in the ring. Cattle also formed an attractive feature of the show. Some very fine animals were exhibited among the Durhams; while the same remark applies to the Galloways. Grade cattle mustered stronger than the other classes, and some of the specimens would be difficult to surpass, at any exhibition in the Province. Yokes of oxen, of which there were five shown, were, without exception, splendid animals, and gave evidence of much docility, combined with great strength. The sheep classes were pretty well represented, Leicesters and Cotswolds appearing to be the favourites. Among the former, were some very fine animals, which, in point of excellence, left but little to be desired. The Cotswold pens, too, showed some very creditable specimens of the breed; while the Southdowns, of which there were a few, were hardly equal to the classes just named. We noticed a single pen of five Merinos, that at all events had the distinction of exciting much curiosity, and of eliciting many remarks, not always of admiration. Pigs of both large and small breeds were well represented. Some of the former were really handsome animals, while a few of the latter were as coarse as the most devoted admirer of the large Yorkshire breed could desire. Of poultry, there were about twenty coops, some of the inmates being very fair birds, and others only moderate. The white turkeys, geese, and Aylesbury ducks formed the most attractive features of this part of the show. The implement department was pretty well filled, and some of the articles were particularly good. The principal exhibitor was Mr. John Abell, of the Woodbridge Agricultural Implement Manufactory. This gentleman showed a fine assortment of ploughs of various kinds, chaff and straw cutters, and a combined roller and clod-crusher, constructed on Cambridge's principle. This implement is in twenty sections, weighs about 15 cwt., cost \$70; and must altogether be a valuable acquisition to the occupiers of strong, clayey soil. After examining Mr. Abell's implements in the show ground, we paid a flying visit to his manufactory for the purpose of inspecting several machines, which had been intended for exhibition, but could not be completed in time for the show, in consequence of the illness of one of his principal workmen. The mechanical appliances possessed by Mr. Abell are numerous, and really excellent; some of them having been imported from Britain. The machines and implements for agricultural purposes which we saw in the building, in every stage of their construction, were characterized by excellent workmanship, and appeared well designed for the several uses intended. In consequence of the great pro- of business at the time of the late Provincial Fair, Mr. Abell was unable to compete at London—a circumstance which is somewhat unfortunate, as his implements are really excellently constructed, and deserve to be more widely known. To return to the show ground. The

remaining portion of the outside display consisted of wares, buggies, waggons, and other miscellaneous articles. Haggert & Bros., of Brampton, had a couple of "improved stoves" on the ground, which they have recently patented. By a contrivance, which is both simple and ingenious, the patentees claim to "gain a certain amount of heat lost in every other stove." The buggies, of which there were two or three, seemed well constructed, and very tastefully finished. The waggons were also strongly built and elaborately painted.

In the tent was a varied and most attractive display. The dairy products were excellent, and some of the butter was really elegantly got up. Home-made bread looked wholesome and inviting; while honey and home-made wines were well represented. The display of roots and horticultural products, especially apples, was very fine. Grain, of all kinds, and Indian corn, showed well for the farming skill of soil of the county. Closely adjoining lay a "perfect sample" of one of our latest candidates for agricultural honours, in the shape of a splendid bunch of flax fibre. It was exhibited by Mr. J. A. Donaldson, of this city. The same sample took the first prize at the Provincial Fair, and was scutched and prepared by Mr. Rea, of Port Stanley. Among other articles, too numerous to mention, were a fine assortment of boots, with highly ornamental soles. The ladies' department presented a rich and varied display. Both as regards quantity and quality, this feature of the Exhibition was a great success. Patch work, crochet work, embroidery, fancy knitting, and various other descriptions of feminine hand-work, attracted crowds of admirers. We noticed, by the way, that the first prize "gentleman's shirt" had the somewhat suggestive emblem of a pair of doves, represented as fondly cooing, worked on that particular locality of the under garment which is supposed to cover the heart! The fortunate wearer of that shirt, with the magic device, cannot fail to live in a kind of perpetual elysium. We regret that space will not permit of our noticing other delightful features of this department. We will therefore sum up in a few lines by remarking that the various articles exhibited by the fair ladies of Vaughan, gave favourable evidence of their taste, skill, and industry.

West Riding and Township of York Union Exhibition.

The Union Show of these Societies was held at Oakville on Wednesday and Thursday, the 11th and 12th days of October. The spirited village was decked in holiday attire for the occasion. Flags of every variety of colours streamed from the houses; while a graceful arch of evergreens spanned Yonge Street near the Town Hall. The weather was particularly favourable, and a fair gathering of visitors was attracted to the display. The hall proper was devoted to the show of fruits, flowers, fine arts, ladies' work, and some miscellaneous articles. Three tables running the length of the building were loaded in this way, as well as the platform at its ends. In the rooms underneath were arranged the grain, seeds, roots, &c.; while outside and in the rear of the building the live stock, poultry, and agricultural implements were exhibited.

Of horses, the list of entries amounted to somewhat over forty; but only a small proportion of this number actually appeared on the ground. Some of the animals were possessed of good form and action; others again, were only moderate. Cattle appeared in somewhat meagre quantity, and as a class were not particularly creditable to the district. The Galloway and Angus cattle, however, shown by Messrs. A. McNeil, of Vaughan, and R. L. Denison, of Toronto, were very favourable representatives of their respective classes. Some creditable specimens of Leicesters and Cotswolds occupied the pens appropriated to sheep. We observed that the comb had, in some cases, been vigorously plied to increase the size, and heighten the attractions of the animals, and the "tousled" appearance which resulted, was the reverse of a success. In that class of quadrupeds, the flesh of which is condemned by members of the Hebrew persuasion, were some of the largest and coarsest specimens that we ever remember to have witnessed. The display of poultry was moderate both as regards quantity and quality. The implement department consisted of a few ploughs and

harrows, some of which showed superior workmanship, and general adaptability for the purposes intended by the maker. Unquestionably the great attraction of the Exhibition consisted in the display of vegetable and other productions in the Town Hall. Roots of all kinds were particularly good. There was a fair supply of fruit when the comparative lateness of the season is considered. Some fine flowers in pots,—principally stove-house varieties,—were exhibited by Mr. Geo. Vair,—the intelligent gardener of D. L. McPherson, Esq. In other rooms of the building, dairy products, pickles, and honey were shown. Several loaves of home-made bread also attracted our attention, some of which looked a little over-baked. Closely adjoining were some bottles of home-made wine of a rich carmine tint, which was of nothing in particular. It might have been manufactured, for anything we could discern to the contrary, of either beet or blackberries. Fine arts and ornamental work formed a delightful feature of the exhibition. Many of the specimens shown merited an extended notice, did space permit. Noiseless Sewing Machines were in active operation, and seemingly did excellent work with a little of the noise produced by their "clicking" competitors. Not the least interesting part of the exhibition was a number of horse-shoes of superior form and finish from the veterinary force of Messrs. Smith & Barry, of this city. On the whole, the Union Exhibition was fairly successful, following so closely, as it did, that of the Toronto Fall Exhibition. It is, however, probably desirable that an amalgamation could be effected between those societies, in order that a larger district might be represented.

Etobicoke Fall Show.

The annual Fall Show of the Etobicoke Agricultural Society took place on the 19th ult., at St. Andrew's, in a field on the farm of Mr. Bolton. The grain, roots, and vegetables, and ladies' work, were exhibited in a tent erected in the centre of the field. The forenoon was very stormy; but, after two o'clock, the day cleared up, and the grounds were visited by a large number of people, the principal attraction being the exhibition of ladies' work. The show of horses was particularly fine, there being 25 entries. Agricultural horses preponderated. There was a considerable number of cattle on the ground. A fine herd of Devon cattle was exhibited by Mr. Moore, Etobicoke; and two good specimens of Angus bull calves by Mr. H. Dorell. Of sheep there was a large number shown. Mr. John Ackroy, of Etobicoke, had a nice pen of Leicester ewes; and Dr. Lovell had a pen of Southdowns. Of swine there was a good show. Mr. Thomas Smith, Smithfield, and John Balzell, Vaughan, had some fine animals on the ground. There were a few agricultural implements. A gang plough, shown by L. Butterfield, Bradford, was commended by the judges, and he took the first prize for ploughs. Mr. Abell, of Woodbridge, had on the ground two very good ploughs; and Mr. Peter Malaby, Weston, exhibited a set of iron harrows. A strongly-made and well-finished farm wagon was shown by Sangster & Watt, St. Andrew's. The display of grain was not so large as that of last year, but was very good—the fall wheat particularly so. Roots and vegetables were a poor show. Mr. Wm. Jardine, Etobicoke, had some very fine mangel wurzel, and Mr. A. Mather, Etobicoke, showed some very good onions and potatoes. The display of fruit was very fine, especially that shown by Mr. Samuel Wood, of Islington, who had as fine a lot of apples as were exhibited at the Electoral Division Society. Dairy produce was well represented, and was very fine. We doubt whether the butter, either in firkins or in rolls, could be surpassed in any of the other shows. In ladies' work there was a first-rate exhibition. In worsted work, that shown by Miss Musson, of Weston, showed good taste; the Misses Harper, of King had a great many articles on exhibition—a knitted quilt by them must have cost a good deal of labour, and their mils and socks, of Canadian wool, were all that could be desired. Miss Edmonson and Miss Mather, Etobicoke, had one or two good specimens of raised worsted work on exhibition. Some beautiful specimens of leather and of hair work were also exhibited. Mr. David Stewart, of St. Andrew's, had a fine collection of boots and shoes—strong and substantial work. Taken as a whole, the show was a success.

Wentworth Agricultural Exhibition.

The Agricultural Societies of North and South Wentworth, and the city of Hamilton, held a joint Exhibition in the Crystal Palace grounds, on the 10th and 11th ult. The weather was delightfully fine, and the number of visitors on the second day far exceeded expectation. In live stock the exhibition was above an average character; the horses were numerous and the quality generally good. The show of Durhams was quite extensive, in which a number of specimens from Mr. Thomas Stock's herd took a prominent position. The Galloways mustered in considerable force, comprising several first class animals. The Devons and Ayrshires were rather inconsiderable in point of numbers, but of good average quality. Some of the sheep were excellent, both long and short woolled,—the Merinoes attracting much attention. The show of pigs was small, but the quality was decidedly superior, especially in Suffolk and Improved Berkshires. Implements were few, but of good workmanship, possessing no special novelty. In the Crystal Palace the show of roots was pretty good, considering the unfavourable season. An excellent specimen of the Greystone turnip was exhibited. This is a new hybrid variety, well spoken of in Britain, and deserving a full trial in Canada. The collection of grain was pretty extensive, and, on the whole, of quite an average quality. Several samples of flax seed were on exhibition, indicating the extension of the culture of this valuable crop. In fruit the show was meagre, the season in this district having been unpropitious. If, however, the Society had chosen to extend adequate premiums to garden and orchard products, there is no doubt but the well known horticultural skill of Hamilton and its neighbourhood, would have well sustained its wonted reputation. The exhibition afforded another strong proof of the advantages of a union of different societies, and the arrangements reflected great credit on the board of management.

LARGE ROOTS OF BEET.—We lately received from Mr. Robert Bruce, of Markham, two immense roots of beet. These fine specimens obtained the first prize at the Whitechurch Fair recently held at Stouffville. They measured close upon two feet in length, and each root weighed somewhere in the neighbourhood of eleven pounds.

"HONOUR TO WHOM HONOUR."—We are not oversensitive about newspaper credits, and we are well aware how, in the hurry of scissoring and itemizing small extracts may fail of getting proper acknowledgment. But when articles of weight and length are transferred bodily from our columns into those of other journals without the credit, we confess that we cannot attribute the thing to mere oversight.—Our agricultural contemporaries are with scarcely an exception, scrupulously honourable in this respect, but for some time past an eastern journal has made extremely free use of our editorials and correspondence, so much so that forbearance on our part has ceased to be a virtue, and we therefore respectfully request our contemporary henceforth to give "honour to whom honour."

TRIAL OF PLOUGHS AT STOUFFVILLE.—We learn that at the Fall Fair of the Whitechurch Agricultural Society, held at Stouffville, on the 15th inst., an exciting and rather novel trial of ploughs took place. The Directors of the Society had wisely determined that all the ploughs should be tested by the Dynamometer before the awards were made. The trial came off in the presence of a large number of the best ploughmen of that section of country. It was deliberately and carefully gone about, and decisive in its results. A plough made by Mr. A. Duncan, Gormley, carried off the prize, its draught being 50 lbs. less, while ploughing one inch deeper than any of the others. The implement was of the most approved build and finished workmanship, and called forth the special commendation of the judges.

Agricultural Intelligence.

North Riding of Wellington Show.

We learn from the *Guelph Herald* that the eighth annual Exhibition of the Agricultural Society of the North Riding of Wellington, was held in Elora on Wednesday, the 11th inst. The weather was auspicious, and the concourse of competitors and spectators probably exceeded that of any previous similar gathering, while the show itself in the quantity and character of the animals and articles exhibited, certainly eclipsed those of previous years. The exhibition of live stock was worthy of all commendation.—There was a very fair show of horses, and the younger animals gave promise of a still greater improvement. In cattle the Durhams gave evidence of being the favorite breed. There was a good display of bulls, a two-year-old thorough-bred Durham, owned by Robert Cromar, Esq., being a very fine animal.—In sheep the display was good—far in advance of last year. Messrs. Tindale, Gordon, and Metcalf carried off a large proportion of the prizes. In swine the show was indifferent, but there was quite a fair display of poultry, showing that adequate attention is paid to that not least profitable class of farm stock. The samples of grain and roots exhibited were alike numerous and excellent, Mr. McQueen's first-prize fall wheat, and several samples of other varieties of grain, for which the Messrs. Hunter and other exhibitors took prizes, being of very superior quality. The show of roots was very fair, the varieties of potatoes numerous, and most of the samples excellent. Turnips were good for the season. In the class of dairy produce there was not much competition for salt butter in firkin, but in fresh there were sixteen entries, and in moderately salted seventeen. The dairy department gave evidence of much skill and taste on the part of the farmers' wives and daughters, the samples of butter being not only excellent, but most tidily got up. The display of fruit was the best we have seen in North Wellington. Mr. G. Armstrong, of the Fergus Nursery, and Mr. B. Bolding showed some fine varieties of apples. Some very fine pears were shown by Mr. J. Burnett and Mr. John Beattie. The domestic manufactures have ever been a favorite and well-fitted department in the North Riding. We notice that Mr. James Gordon, who took a majority of the prizes for many years in this department, has found formidable opponents in Mrs. Jamieson, Miss Couse, Miss Kelly, Miss Bain and others. In the mechanic's department, the show of buggies, cutters, &c., was very creditable to the builders. The ploughs were tested in a field adjoining the village. Two handsome prizes were offered by Mr. Major—\$20 for the best iron plough, and \$10 for the best wooden do. In the first class the judges decided that the iron plough belonging to Mr. George McInnes, Fergus, was entitled to the first prize, both from its make and finish, and on account of the work. A very superior wooden plough by Mr. Robert Anderson, of Alma, won the prize of \$10, Mr. McInnes coming in second.

TORONTO GORE FALL EXHIBITION.—The annual Fall Fair of the above Society, took place at Clairville, on the property of J. P. Delahaye, Esq., adjoining Mr. G. Smyth's hotel, on Wednesday, Oct. 18, the day appointed by his Excellency the Governor-General for thanksgiving. The grain, roots, vegetables, and ladies' work, were shown in a large tent erected in the field. The morning was rather gloomy, with slight showers, but cleared up by noon, and by one o'clock quite a large number of people had collected on the grounds. The horses, cattle, and sheep, were of fine quality, and showed that the farmers of this locality are giving a great deal of attention to improving their stock. The show of horses and colts was particularly fine. It was the opinion of those qualified to judge, that they would compare favourably in quality with those shown at the late exhibition in London. The show of farming implements, although not large, was of good quality. The grain and roots were excellent. Exhibitors evidently were particular not to bring anything but the choicest kinds. The ladies' department was well represented. Some fine specimens of needlework, knitting, quilts, rugs, wool-work, leather-work, &c., shown, were deserving of all the praise they got from the visitors.

A sample of the second crop of hay has been exhibited in Quebec, upwards of three feet in length.

A small freehold estate of about 214 acres, in the Parish of Merton, Surrey, and about 10 miles from London, was lately sold for the extraordinary price of £60,000, being at the rate of £250 per acre.

OHIO STATE FAIR.—From the *Ohio Farmer* we condense the following statements as to the success of this Show, which took place at Columbus, Sept. 12-15th:

"The show of cattle of the Shorthorn breed, was better than we have anywhere seen since the great show at Dayton in 1860, when the prize herds of Ohio, Kentucky, and Indiana, so stoutly contested for the palm of excellence. * * * The quality of those on exhibition was of marked excellence, and there were enough in number to show that we have the means among us to bring up, within a few years, an interest which in former times was the pride and glory of Ohio, and which contributed in a great measure to the solid wealth of the State.

"As was to be naturally expected, the sheep department was filled with a numerous and notable host, showing the progress which our wool-growers are making in the production of one of the greatest staples of domestic consumption. * * * Besides the main feature of fine-woolled sheep, there was a handsome show of South-downs, and a still larger show of Cotswolds and Leicesters, and a few Shropshires. The raising of these latter breeds of sheep ought to attract more attention than is at present bestowed upon it in this country. The increasing demand for this sort of wool, and the greatly increasing demand for mutton, in connection with the special adaptation of pasturage and markets in certain localities, point to this as a profitable branch of neglected husbandry. The growing of these sheep, though considerably on the increase in Ohio, is still far behind the greater increase of demand. Large wool-growers can probably do better with fine woolled sheep. On the whole, we believe there has not been a better show of sheep at any State Fair in the country, than was exhibited this year at Columbus."

The show of implements was also good, and the attendance of visitors excellent.

GEORGETOWN MONTHLY FAIR.—The first Monthly Fair, held in Georgetown, on Friday the 6th, was a great success. Some three or four hundred head of cattle changed hands, besides a large number of sheep, hogs, &c., also an extensive quantity of grain and farm produce was sold. Several thousand dollars was interchanged during the day, and a large business done by the merchants and business men of the place.—*Guelph Mercury*.

THE FALL WHEAT.—The report of the condition of the fall wheat crop in this vicinity is extremely favourable, the late rains having given it a fine start, so that it bids fair to attain a strong and healthy growth before winter sets in; and should there be a good covering of snow during the hard frosts of winter, there is every prospect of a good crop of the staple serial. The pasturage keeps wonderfully good, and the abundance of feed should have a tendency to keep down the price of dairy produce.—*Guelph Herald*.

FRUIT NORTHWARDS.—To show that fruit can be profitably raised in this country, we take pleasure in mentioning that Mr. G. S. Armstrong this year raised in his nursery garden, near Fergus, 100 bushels plums of all sorts, which produced the handsome little sum of \$250. The crop was an immensely large one, some of the trees bearing over four bushels each. Mr. Armstrong is an enterprising and successful gardener, but others have an equally good chance in fruit growing, and none should be without a few trees of various kinds—apples, plums, &c.—*Fergus Constitution*.

AMERICAN INSTITUTE MOWING-MACHINE TRIAL.—The judges appointed at the great field trial of mowing-machines, held at Hunt's Bridge, July 25 and 26, have awarded the gold medal of the society to the Buckeye mower, built by ADRIANCE, PLATT & Co., Poughkeepsie, and No. 165 Greenwich Street, New-York, the many severe tests to which the various machines were subjected having developed so many points of excellence and superiority in the "Buckeye," as to fairly entitle it to this award.—*New-York Times*.

SHEEP SALES IN ENGLAND.—Recent British papers contain accounts of the usual yearly sheep sales and ram lettings, from which we gather that there is no diminution either of interest, or of prices. Rams sold at from 8 to 23 guineas a piece, and ewes at from £3 to £5. Tups were let at from £3 to £9 each. These prices were obtained at what may be called ordinary sheep sales, but far higher ones were obtained at the offering of flocks of high repute. Thus, at the Biscathorpe ram letting, 150 rams were let at an average of £16 9s. One animal brought the extraordinary price of £137. Our Sheep farmers are as yet but partially awake to the value of choice animals, as improvers of their flocks.

LARGE DROVE OF CATTLE.—Drovers, American and Canadian, are doing a heavy business between this and Owen Sound. Last week nearly 500 head of cattle came down the Owen Sound Road, on their way to the American market. Mr. A. Speers, of Gait, had 220, and Mr. Thomas Head 150 head—the rest were owned by American buyers. Everything on hoof in that district is being bought up, and fat or lean, all are making their way to the markets of our cousins across the border.—*Dumfries Reformer*.

OVER SPECULATION IN GRAIN.—The *New York Commercial Advertiser* says that the grain speculation in the West appears likely to result disadvantageously to that section. Large amounts of breadstuffs have been bought up by speculators, upon the supposition that the crops will prove largely deficient, enabling the holders to realize a handsome profit. The movement has checked the natural flow of flour and grain to the seaboard, and resulted in the general rise in the prices of those products. But a short time can intervene before the closing of the canals, when it will be impossible to forward the usual proportion of crops east, and the result will be that the speculators will have to carry their stocks until next spring.

THE PRICE OF STOCK IN NEW YORK.—Everything on hoof is running up in price, and some people wonder how American buyers can afford to pay the price they are doing. The reason is simple enough—the prices they are getting at this time are enormous. For example:—In New York milch cows are in active demand at \$125 to \$150 in greenbacks—at present rates being about \$102 in gold. Thus, if an American buyer picks up a likely beast for \$30 here, he can nearly triple his money by it in New York. This is the secret for the great run upon cows of late. In swine, too, the prices hold good, 14 cents in greenbacks being paid. In heeves the sales have become a little dull, under heavy receipts, but best cattle sell as high as 18 cents per pound. No wonder, then, at the price being paid here.—*Ec*.

THE CATTLE EXODUS.—A number of American buyers are now, and have been, through the County of Bruce, buying up large numbers of cattle—fat or lean. Drovers have been gathered at Fort Elgin, Paisley, and other places, and forwarded to the States. The local drovers have, in a great measure, been driven out of the market by the Americans, who, we understand, give very good prices. Our Port Elgin correspondent says that \$70 has now been offered for Mr. Scott's three year old heifer. A fair was held at Fort Elgin on the Saugeen Show day, and about \$1,000 changed hands. The farmers of Bruce have raised great numbers of cattle during the last few years, and now have a good chance of getting rid of their surplus stock at prices which will well repay them, and leave a great deal of money in the County.—*Paisley Advocate*.

PORK RISING.—The price of pork is evidently on the rise, or as the market quotation sometimes states, "dead hogs are looking up." Yesterday, one splendid hog sold in the market at the rate of \$3 75 per 100 pounds, and other purchases have recently been made in this city and throughout the country at \$9 and \$9 75 per 100 pounds, according to quantity. This price is of course for first-class. A great deal of light pork comes in, however, which does not command anything like the above figures. Farmers will profit no doubt by holding their hogs over till the season is more advanced, and fatten them well in the meantime. There is every reason to think, from the present demand, that the hog trade will be more brisk this year than for a long time past. The principal need is for export demand.—*London Free Press*.

NOVA SCOTIA.—In accordance with a suggestion of the Board of Agriculture, and a recommendation of the Agricultural Committee of the House, the Legislature of this Province at its last session voted a sum of \$10,000, for the importation of stock, with a view to improve the breeds of horses and cattle in the Province. The *Journal of Agriculture*, published at Halifax, states that after much consideration it has been determined to purchase both horses and cattle in England, and to defer the final arrangements for the importation till December. It is found that there will be facilities for having the animals brought out in a comfortable manner very early next spring, in time for use next season, so that the advantages of a fall importation will to a certain extent be secured, without the risk and expense of having to keep the animals over winter in the Province. It is probable also that the Board of Agriculture will add to the sum voted by the Legislature such surplus sums as can be spared, after providing for other requirements.—*Ec*.

Horticulture.

New Canadian Hybrid Grape.

Mr. CHARLES ARNOLD, Nurseryman, of Paris, has been for many years experimenting with the grape, in order if possible to produce a fruit sufficiently hardy to thrive in our climate, and yet having a

tory of the process of hybridizing, may prove interesting to such of our readers as are not familiar with it. Previous to the flower of the grape opening, the upper portion or cap, (which in the course of growth is raised up, not bursting and spreading out like many flowers,) is carefully cut off with a pair of scissors, thus exposing the pistil and anthers. The anthers, or stamens, are then cut out. These anthers have each a tuft of pollen at their extremity, which,

pollen, is a matter of some delicacy and difficulty; inasmuch as the Black Hamburg is grown under glass, and takes a longer season than an out-door grape, and it is not easy so to time things as to have the pollen ready when the plant to be improved is at the proper stage for its reception. This difficulty was, however, overcome, and a cross effected between a native grape of the best variety (*Vitis cordifolia*) and the Black Hamburg aforesaid. The hybridizing



flavour fit for table use. There is reason to believe that success has at length rewarded his persevering endeavours.

He began to try hybridizing with the Black Hamburg as a fructifier, in 1855. A few words explain-

when the pistil exudes a gummy secretion, is dusted upon the pistil, thus fructifying the plant. Pollen from the Black Hamburg was substituted for the natural pollen by Mr. Arnold in the experiment now narrated. The substitution of foreign for the natural

process produces no perceptible effect upon the fruit of the first year, but the seeds of the hybridized bunch are sown the following season, and the seedling plants thus obtained, are cultivated until they come into bearing, and shew their quality. A number of them

will be stamped with the characteristics of one or other of the parents. Others will combine the peculiarities of both. This is the object aimed at in hybridizing. In the case of the seedling we are now introducing to notice, fruit was first borne three years ago. It showed in Mr. Arnold's opinion, sufficient promise to encourage further trial, and the last two years have justified the hopes entertained of it. Our engraving is a facsimile of average bunches, both in respect to size and shape, produced the present season. There have been both larger and smaller bunches on the vine this year. We give an average one, which the artist has drawn from life, and carefully transferred in its exact natural size and proportions, both as to berry and bunch. Last year this grape was not half the size it has been the present season. According to the known law which governs new seedling fruits, it may be expected to improve for some years to come. In regard to its flavour, we are enabled to speak very confidently, having tasted and eaten to our heart's content, comparing it with the Black Hamburg and other grapes. Its foreign parentage is distinctly marked. There is no mistaking the Black Hamburg flavour, though it is modified by the native stock so as to be somewhat tarter. This grape has a flesh to it,—not a solid pulp like the fox tribe of grapes, out a substance more like the Black Hamburg. Its tartness is decidedly pleasant, and there is no foxy taste whatever about it. It is a grape quite equal in flavour to the Delawares grown by its side in Mr. Arnold's garden. We have, however, tasted better Delawares than those of the present season, raised by Mr. Arnold. This year, from some cause or other, the Delawares have not quite their usual richness.

We regard this Canadian hybrid as a grape of much promise, and sincerely trust it may prove all that its originator expects and hopes. Mr. Arnold is proceeding slowly and cautiously in the matter. He has no plants of his new seedling for sale at present, and will send out none, until its character is more fully established. The uncertainties connected with seedling fruits are well known to experienced horticulturists. They are so discouraging that it is only the persevering and patient who reap harvests in the field of discovery. Mr. Arnold has shown these qualities in a high degree, and we doubt not, will in the end gain his object. He is experimenting with other grapes, and has a most promising cross between the Black St. Peters and Clinton, which if it continue to do well, will prove an acquisition. Our readers will we are sure, agree with us, that the production of a seedling like that now described and illustrated, is an event of no small importance to Canadian horticulture. It goes far to justify the assertion repeatedly made in our columns, that Canada is yet destined to prove a grape country. We doubt not that it will ultimately verify to the letter the glowing description of Canaan found in Holy Writ: "a good land, a land of brooks of water, of fountains and depths that spring out of valleys and hills,—a land of wheat, and barley, and vines."

The Apple Borer.

It is high time for those who have neglected to attend to their trees in the spring, to see to them now. There are comparatively few orchards which have been neglected, that are not infested by the borer. The trees are not all necessarily killed that are attacked—but all suffer more or less. Sometimes this effect is not seen; in others not readily. Those trees alone that are severely attacked will die or give unmistakable evidence. And it is not generally surmised that it is the borer that is affecting the trees, but some other inscrutable malady: so little are people acquainted with this enemy of the orchard.

The egg which was deposited in the spring or summer, is now hatched—and the worm is at his depredations. You will find him at the foot of the tree. Scrape off the rough outside bark—and if the tree appears all healthy around the collar—all is well. But if dark or discoloured spots are found, depend upon it the borer is there, especially if a small perforation is found. Follow this with your knife, and

you will find the worm—from a quarter to half an inch in length. Or wash the part cleared of the outside bark, with strong lye or soap-suds. Repeat several times. This is more salutary if performed earlier.

If the grub escapes the lye or the scrutiny of the knife, examine the trees again in the winter or early spring. He will then make himself known to a certainty. There will be little heaps of dust or castings—that is the spot. An orifice will be found. Follow this, and you will get into a circular hollow of about the size of a cent. If your search is early, you will find the grub here: if late, he will be farther up where he has his quarters, sometimes 10 to 15 and even 18 inches above the ground. You can trace him to this spot by a cylindrical hole. This hole will lead you somewhat into the wood if you follow it—but out again to the bark before it stops. There is your enemy laid up in the pupa state, ready in the spring to emerge a fly—or rather, a beetle, going only on his depredations at night, depositing eggs (in May and June) for another crop.

One borer will thus hurt a tree to some extent; several will make it pale and sickly; a large number will form a circle of burrows around the tree—and your tree is girdled—dead. And yet you have only the little heaps of castings to tell what is the matter. Young trees, because they are tender, are mostly affected, and most readily destroyed. A little trouble will save a fine orchard.—*Rural World.*

The Love of Flowers among the Working Classes.

Many instances of the way in which this love for flowers evinced itself came under my notice, and I will mention two or three illustrations of the strength of this love as proved by the efforts made by individuals. A poor man, living in a close little back room on the third floor, and eking out a wretched existence by ill-paid army work, transformed an old fish-basket into a small garden. In this he had sown a few simple annuals, but they were all so well grown and tastefully arranged, that Mr. Sowerby, the judge at the Russell Square Flower Show, specially recommended them for an extra prize. A poor widow, living in a back cellar, into which the sunshine came only for one hour in the day, anxiously watched for that hour to come round, in the hope that her geranium might have every chance. The result of all this care was not very encouraging, for the plant only just lived and never attempted to flower. But yet it was a great comfort, notwithstanding, to this poor woman. She said to Mr. Parkes, "I never thought before that a flower would live in my room. I did not believe before that I should ever care for anything again in this world like as I have cared for that geranium. Indeed, sir, I've got almost to love it as if it could speak." A poor man, into whose room sunshine never came, with a zeal and energy worthy of praise, made an ambitious attempt at a conservatory by means of an old orange box, and a second-hand window sash, which he nailed against the wall of the back-yard of the premises in which he lived, and exhibited some very creditable specimens of plants grown under difficulties. There was living, at the time of the first flower show, an old man, whom no one could induce to leave his room. The clergyman, the Scripture-reader, and the city missionary had all failed to move him, and their arguments were as nothing to him. He had lived so long in seclusion, that, as he said, "he was ashamed to be seen in the street, the people would all stare him so;" and so strong a hold had this strange feeling on him, that for years he had not crossed the threshold. A plant was given him, in the faint hope that it might supply him with a fresh interest in life. He was greatly pleased, and bestowed much care and attention upon it, and at the time of the show brought it in his own hands to the room, saying that he would not trust it to the care of any one else. He had a prize, and to the surprise of us all, without any personal solicitation, he afterwards presented himself at the Sunday evening service, and became a regular attendant there.

Other instances might easily be produced to show the individual interest which was taken, but enough has been said to prove this. At the workmen's club it was an absorbing topic; a rivalry was established between certain members of the club. Geraniums were matched against geraniums for the prize, and annuals against annuals; and the best mode to water the soil and wash the leaves of the plants was a frequent subject of discussion. One man had the temerity to say that he could grow a cauliflower, and that before another show he would make the attempt. After the last exhibition the members of the workmen's club were so satisfied with their powers as flower-growers, that they said they were willing to grow flowers against any other club of

working men in London. No one, with these facts before him, can doubt that, whether we look at the general results of the flower shows, or the individual interest as proved by these examples, there is a real love of flowers among the working classes of London. No doubt, indeed, this taste may be said to be innate in nearly all. Bacon, Lord Verulam, who is so good an exponent in few words of large facts, says that the "Almighty first planted a garden," and "that it is the purest of human pleasures," adding, "that it is the greatest refreshment to the spirit of man, without which buildings and palaces are but gross handiworks." Thus does the philosopher express not only the universality and propriety of the taste for horticulture, but also suggests indirectly its familiar association with architecture.

The love of flowers among the richer classes in London is evident enough. Rarely do you enter a large house without seeing proof of it. And we may be certain also that it would be more frequent than it is in the dwellings of the poorer and working classes had they improved facilities for it.—*F. Bell in Society of Arts Journal.*

A New Horticultural Theory.

THE Texas correspondent of the *New York Tribune* writing from Castorville, tells the following singular story about planting watermelons: When we had stopped to feed ourselves and water our horses, about noon, on the first, and about five miles from Austin, a superannuated negro man, old enough to be mossy, came down to the fence, and, after regarding us over the top rail for a minute, enquired if we would buy some 'millions' (watermelons). Several of us went with him to his 'patch,' which was about half an acre in extent. His melons were the largest I had ever seen, but there was one monster that loomed up among its fellows like an elephant among oxen.—Some one asked him the price of it. "All I want is the price of the chicken, sah!" Seeing no chickens about, an explanation was asked: "Why, you see, sah, early in the Spring, before planting time comes, I takes a young chicken, as soon as its throat gets big enough, and I feed that chicken with seven dry watermelon seeds—just seven—and just as soon as he has got dem seven down his throat, I kills him, and sah, I plants dat dare chicken in the middle of the patch." "What," said one of the party, "do you mean to say that this is the way you raise melons?" "Dat is the way I raised dat one, sah," replied the old man, "and I've done the same thing dis forty year, and long afore I was in Texas." We satisfied ourselves with some twenty smaller ones, whose parent vine had originated in a less objectionable place. Who says negroes have no ideas of their own?

ON the farm of Seymour Johnson, of Cornwall, Connecticut, there is a hedge of raspberry bushes standing in the open field, which, on Saturday, the 1st inst., were loaded with fresh, ripe raspberries, both black and red.

CHARCOAL put to the roots of dahlia, and other flowering plants, will redden them vividly; flowers nearly white being thus turned to a deep red, sometimes altogether, and sometimes mixed with the lighter hue in a half dozen varieties, from one and the same root.

SEPTENNIS PSORIASIS.—Sidney Smith was once looking through the hot-house of a lady who was proud of her flowers, and used, not very accurately, a profusion of botanical names.

"Madam," said he, "have you the *Septennis psoriasis*?"

"No," said she, "I had it last winter, and I gave it to the Archbishop of Canterbury; it came out beautifully in the spring."

Septennis psoriasis is the medical name for the seven years' itch.

WATER FOR STRAWBERRIES.—I advise strawberry cultivators to supply both worked and new plantations of strawberries with abundance of water. If they do not do so, the plants will not crop next year. The plantations here are good and well foliaged; they are constantly supplied with water. The strawberry failure this year was a mistake, resulting from inattention. There never were two finer seasons for fruits and flowers than the seasons of 1864 and 1865. Chalky or sandy lands require to be watered copiously twice a week; clay lands once a week. Now plantations are much helped by mulching in hot water.—*W. F. RABOLFF, Tarrant Rushton, in the Gardeners' Chronicle.*

The Household.

Cure for Hydrophobia.

Dr Buisson, says the *Salut Public*, of Lyons, claims to have discovered a remedy for this terrible disease, and to have applied it with complete success in many cases. In attending a female patient in the last stage of canine rabies, the doctor imprudently wiped his hands with a handkerchief impregnated with her saliva. There happened to be a slight abrasion on the index finger of the left hand, and, confident in his own curative system, the doctor merely washed the part with water. However, he was fully aware of the imprudence he had committed, and gives the following account of the matter afterwards:—"Believing that the malady would not declare itself until the fortieth day, and having numerous patients to visit, I put off from day to day the application of my remedy—that is to say, vapour baths. The ninth day, being in my cabinet, I felt all at once a pain in the throat, and a still greater one in the eyes. My body seemed so light that I felt as if I could jump to a prodigious height, or that, if I threw myself out of a window, I could sustain myself in the air. My hair was so sensitive that I appeared able to count each separately without looking at it. Saliva kept continually forming in the mouth. Any movement of air inflicted great pain on me, and I was obliged to avoid the sight of brilliant objects; I had a continual desire to run and bite, not human beings, but animals, and all that was near me. I drank with difficulty, and I remarked that the sight of water distressed me more than the pain in the throat. I believe that by shutting the eyes, any one suffering under hydrophobia can always drink. The fits came on every five minutes, and I then felt the pain start from the index finger and run up the nerves to the shoulder. In this state, thinking that my course was preservative and not curative, I took a vapour bath, not with the intention of cure, but of suffocating myself. When the bath was at a heat of 52° centigrade (93° 3' 5" Fahrenheit), all the symptoms disappeared, as if by magic, and since then I have never felt anything more of them. I have attended more than eighty persons bitten by mad animals, and I have not lost a single case." When a person has been bitten by a mad dog he must, for seven successive days, take a vapour bath *a la Russe*, as it is called, of 57° to 63°. This is the preventive remedy. When the disease is declared, it only requires one vapour bath, rapidly increased to 37° centigrade, then slowly to 63°; the patient must strictly confine himself to his chamber until the cure is complete. Dr. Buisson mentions several other very curious facts. An American had been bitten by a rattlesnake about eight leagues away from home. Wishing to die in the bosom of his family he ran the greater part of the way home, and going to bed perspired profusely, and the wound healed as any simple cut. The bite of the tarantula is cured by the exercise of dancing, the free perspiration dissipating the virus. If a young child be vaccinated, and then be made to take a vapour bath, the vaccine does not take.

A husband as willing to be pleased at home, and as anxious to please as in his neighbour's house, and a wife as intent on making things comfortable every day to her family, as on set days to her guests, could not fail to make her own home happy.

HOW TO TEACH CANARIES.—Canaries can be taught to sing entire tunes by means of a flageolet or bird organ, in the following manner:—In ten or twelve days, when he begins to feed himself, or sooner if he begins to slug, let his cage be covered with a thin linen cloth eight days, then take the instrument and play one tune five or six times a day for fifteen days, then remove the linen cloth and substitute a green or red one of a thick material. He must remain covered up in this way until he is perfect in the air you wish him to learn. During this time it is best to put in his feed at night, that his attention be not divided. The organ should be sweet toned, as they copy with exactness. Some learn in two, and others in six months. This makes a bird a great favourite, and, of course, valuable.—*Skilful Housewife's Book*.

THE LAUNDRY AND WASH-HOUSE.—Perfection in this branch of housewifery does not contribute as much to sensual enjoyment as skill in the management of culinary concerns. Granting that the vulnerable point of good will lies in the stomach, it follows that the censorious friend or fastidious husband, will be less severe if the table linen is not snowy white and smooth, than if the same quality were wanting in the breakfast rolls or cakes. Yet the fame and gratitude springing from our contributions to appetite, are circumscribed to the circle of our intimate friends, while the merits or demerits of our laundries are carried as an advertisement on our husbands' bosoms, flaunted in every crowd wherein our daughters spread their

crinoline, and flutter out of every window in our houses like auction flags, challenging notice; therefore, to the ambitious housewife, success in the laundry is an ultimatum. WASH-HOUSE—Even in the smallest establishments, this house cannot be comfortably dispensed with, and we verily believe that one-half the dirt and discontent that mars the happiness of many homes, is traceable to the abominable habit of washing in the kitchen. It is too much for woman-nature to look upon heaps of foot linen, sloppy floors, and all the abominations of wash-day, and not feel disgusted at its close association with her table preliminaries. And yet she is a thrice-blessed woman if the finale is not in her own particular chamber. According to the usages of many parts of our country, she does well if her own sanctum is not turned into a pandemonium of rough dry clothes, sweating maids, thermometer at blood heat, and momentary risk of making woful wreck of your matchless baby's face, by coming in contact with a hot iron. We think there are few wives, after a little experience, who would not convert one of the double parlours and its rosewood furniture into a snug wash-house and suitable implements for this indispensable labour. Husbands would probably demur, for they know little of the discomforts of wash-day.—*North British Agriculturist*.

TREATMENT OF GOLD FISH.—A globe will ever be the most popular domicile for these fish; we shall give a few directions respecting how they should be treated in it. When purchasing a globe, procure as wide-mouthed a one as possible, and subsequently let it never be more than three-parts full of water. By these means you will secure as much air as possible for the fish under the circumstances. Keep the globe also in the most airy part of the room, never letting it be in the sun or near fire. Change the water daily, and handle the fish tenderly when doing so. Some persons when changing use a small net, some the hand—we cannot say which is best, but would advise our readers to use that which they may find the handiest. Never give the fish any food; all they require when in a globe is plenty of fresh air and fresh water—they will derive sufficient nutriment from the animalculæ contained in the water. Numbers of people kill their gold fish by giving them bread. Now, we do not deny that bread is good for gold fish, and that they will eat it, but the uneaten crumbs immediately get sour and deteriorate the water, to the great injury of the fish.

Two diseases, being the most frequent, may be pointed out as the principal ills which it is the lot of gold fish to be heirs to. Sometimes a fish seems less lively than usual, and on close inspection will have a sort of mealy look, and in a day or two this meanness will turn out to be a parasitical fungus. We have heard of several remedies for this very mysterious disease, but never found any of them of the slightest use. There is absolutely nothing for it but to take the fish, at the first appearance of the disease, and throw it away; for it will not recover, and it will infect the others, and thus destroy the whole stock. We would, however, advise the inexperienced gold-fish keeper, whenever a fish seems unwell, to place it by itself for a few days; he will then see whether the fungus makes its appearance—if not, the fish may recover and be returned to the globe. The other disease is apparently an affection of the air-bladder, arising from being supplied with too little air. We have found fish recover from it when removed from the globe and placed in a pond. When under the influence of this disease the fish swims sideways, and its body bent as if the back were broken, and in a short time dies. Whenever these symptoms are observed, the fish should be placed in a large tub of water, and a small stream of water allowed to drop into it; the water, through dropping, becomes more aerated, and the fish, thus receiving an abundant supply of air, will frequently recover.—*Sixpenny Magazine*.

"Wild Oats."

When all the world is young, lad,
And all the trees are green,
And every goose a swan, lad,
And every lass a queen,
Then fly for boot and horse, lad,
And round the world away,
Young blood, must have its course, lad,
An' every dog his day.

When all the world is old, lad,
And all the trees are brown,
And all the sport is stale, lad,
And all the wheels run down,
Creep home and take your place there,
The spent and maimed among,
God grant you find a face there
You loved when you were young.

—*McMillan's Mag.*

British Cleanings.

Lord Southesk's Tenantry and the Game Laws.

THE *Dundee Advertiser* reports a novel and interesting mode of getting rid of farmer's grievances in respect of game. The tenants of Lord Southesk having suffered from the deprivations of game on the estate, remonstrated with his lordship, and, failing to obtain any compensation for the infliction, boldly determined to stop the supplies. They had estimates of the injuries done to the growing crops carefully prepared, and when they paid their rents they deducted from the total amount due the estimated amount of damages. Lord Southesk remonstrated and pointed to certain clauses in the lease of the farms. The sturdy farmers, however, paid little regard to his Lordship's arguments, and resolved that if their landlord pressed his claim, it must be in a court of law. They would not pay a sixpence more rent unless compelled. "Under these circumstances, being determined not to admit the validity of the claim for damages, and finding the farmers resolute to fight out the dispute, a really brilliant idea occurred to Lord Southesk, and he suggested it to his tenants as the basis of a settlement. He proposed that they should themselves hire the shooting over two-thirds of the estate, and thus acquire a compensation in the sport and in the bags it might yield. The farmers readily agreed to adopt this plan. In fact they are said to have been delighted at the opportunity of acquiring the right to shoot over their farms. But there remained the knotty point about the damages already suffered. Here Lord Southesk would give up nothing. He refused to admit that his tenants had any right to claim damages. He refused to acquiesce in the deductions they had taken on themselves to make. To their credit, as men of sense, the farmers withdrew from a position barely if at all tenable, paid up the remainder of their rents, and signed the new arrangement which disposes of the game question for ten years. Both parties have signed a lease, parceling out the estate for shooting purposes, and defining the rights and privileges of the farmers on one side, and the landlord on the other. The Earl lets, at a moderate rent, two-thirds of his estate to the farmers under the style and title of the "Kinnsaird Game Association." The expense of "watchers" is divided between the two parties, but the farmers are to be at liberty to permit their "guests" to shoot game, provided that every guest so privileged has slept at the house of his friend. Thus the farmers are themselves made at once game-preservers and game-destroyers. They will no longer be able to complain if damage is done by game, because it will be their fault if the game become too numerous."

DEPOSITION OF DEW.—We learn from a British exchange, that "Mr. R. H. Allnatt, the Sussex meteorologist, has been making observations on the depositions of dew in the recent foggy nights, the result of which is a conclusion that in his neighbourhood, at all events, the amount of dew deposited in four nights was equal to a ton and a half per acre."

DOGS AND CATS.—The following appears in one of the London journals:—"Dogs and cats to board. Families going out of town can have their dogs carefully attended to at the private apartments of the Dogs' Home, Hollingsworth-st., Liverpool road, Holloway. N.B.—A scale of terms furnished on receipt of a stamped envelope. Address the Superintendent as above!"

PLAGUE OF FLIES.—The following extract from the *N. B. Agriculturist* is interesting. It shows that Canada is not singular in its occasional visitations by clouds of insects:—"A heavy thunder shower fell at Hawick on the evening of Friday last, and on Saturday morning a small fly appeared in perfect clouds. For five miles around the flies were in such swarms as almost to darken the air, and it was only by keeping up a constant fanning that people could manage to make way through the masses of insect life that danced in millions along every path and roadway.—During Sunday the insect invasion was unabated, and yesterday the flies were also to be seen though in greatly reduced numbers. When seen through a microscope the insect presents a rather strange appearance. Its body is dark blue with light coloured wings. It moves on six legs, and on its head are two horns along with an organ very like an elephant's trunk, which it uses almost constantly. A few people have suffered from its bite."

THE BEDFORD STEAM CULTIVATED FARM.—Mr. Bowick, Manager of Messrs. Howard's steam cultivated farms, sends to the British Agricultural press his harvest results for this season. He says:—"A portion of each field has been tested, and also a considerable bulk thrashed to supply the demand for seed wheat. The highest produce of wheat is 49 bushels per acre, weighing 63 lb. per bushel. The lowest 33 bushels, and the lightest weight 59 lb. per bushel. Barley, discoloured, averages 50½ bushels per acre. Oats and peas light. Beans 25 bushels per acre. Not a sprouted ear of any kind on 220 acres harvested, and the whole in excellent good thrashing condition."

A NOVELTY IN THE MARKET.—The *Northampton Mercury* has the following:—"The unprecedentedly high price of meat, we suppose, brought into our market last Saturday the novel importation of a large flock of geese. About five hundred, we believe, were brought by boat and rail from Ireland, and three hundred of them were driven up Bridge Street by a goosherd with as little difficulty as a flock of sheep may be driven, and infinitely less than a drove of pigs. The goosherd had a formidable pole, some ten feet long, with a crook at the end, with which he dexterously caught any wanderer by the neck, and reduced him forthwith to subjection. At least two hundred of the number were sold at 4s. and 4s. 6d. each."

DESTRUCTIVE WATERSPOUT IN FRANCE.—An exchange states that an extraordinary electrical phenomenon occurred in the forest of Chantilly two days since. About three in the afternoon a waterspout passed across the forest in less than five minutes, destroying almost everything in its passage for a width of fifty yards and a length of nearly five miles. About 600 trees, many of them oaks of large size, were either broken off close to the ground, or torn up by the roots, and shivered to splinters. Two of the rides, reserved for exercising the horses of M. de Lupin and Aumont, are so blocked up with the broken trees as to be altogether impassable. The course of the waterspout began about 200 paces from the station of Orry-la-Ville, and ended at the Garrefour St. Remi.

DISCOVERY OF PHOSPHATIC DEPOSITS IN NORTH WALES.—The *Scottish Farmer* says:—"A most important paper by Dr. Voelcker, was read at the recent meeting of the British Association at Birmingham, giving an account of some extensive phosphatic deposits recently discovered in North Wales. Such a discovery as that to which Dr. Voelcker referred is one of the deepest interest to British farmers, seeing that the mine produces specimens containing from 54 to 66 per cent. of phosphato of lime. If the expectations of Dr. Voelcker are realized by the result of further explorations, the discovery of this new source of phosphates must exercise a considerable influence on the price of superphosphates and other phosphatic manures."

KILLED BY BEES.—The *Carlisle Examiner* relates the following:—"A very sudden and melancholy fatality has occurred in the neighbourhood of Wigton, through which Mr. Toppin, innkeeper, of the Highland Ladie, lost his life. It seems that Mr. Toppin had gone up to Shea Green to take the honey from some bees, intending to take it by a method only recently brought into use. While at work, from some cause or other the bees seemed to get irritated very much, and came out of one of the hives, settling on the poor man's head, face, and neck, so as to completely cover them. He ran off to some little distance, and when followed and found, which was in a few minutes afterwards, he was found lying on his face, and quite dead. It seems most likely he had taken a fit of some kind, probably produced by the pain and fright."

SALE OF SHROPSHIRE SHEEP IN IRELAND.—As exhibiting the increasing interest manifested in sheep husbandry in the "Green isle of the ocean," we copy the following from the columns of a British exchange. The prices realized at the auction conclusively prove that Irish stock-masters can fully appreciate the value of breeding in rams for stud purposes. The majority of our Canadian farmers have evidently some considerable progress to make before they can compare favourably with the Patlanders in this respect:—"Mr. Charles W. Hamilton's annual sale of Shropshire sheep took place on Wednesday, and was well attended by many well known breeders of sheep from all parts of the country, as well as from England. The auction was conducted by Mr. W. P. Prece of Shrewsbury. The highest price given for a ram was £32 11s., No. 13, which was knocked down to Mr. Howard for the trustees of J. H. Smith Barry. The average of the rams was £13 7s. 9d., and the ewes averaged £3 1s."

THE MAN WITH THE WHITE HAT.—The *Week Lane Express* relates the following amusing incident:—"At an agricultural dinner held in Lincolnshire a few days since, Mr. W. North, whilst proposing "The Town and trade of Boston," begged permission of the chairman to exercise a privilege conceded to him by the stewards—that of awarding a judge's prize, which the official judges had overlooked. It would be fresh in the recollection of many present that at the last annual meeting he had the distinguished honour to receive a white hat (roars of laughter) as a prize for the worst stacking and the most slovenly stack-yard. He had carefully preserved the prize; and having made an inspection of a great many farmsteads, he had met with one that he considered fairly entitled its owner to be the holder of the hat for the ensuing twelve months, and having brought the hat with him to the meeting, he had very great pleasure in awarding it to the gentleman he had just alluded to, and that was the vice-chairman, Mr. W. Welsh (roars of laughter). Mr. North said the hat had never fitted him (laughter), and therefore he could very cheerfully part from it. He then, amid the convulsive laughter of the company, handed the hat and box over to Mr. Welsh, and resumed his seat."

THE ENGLISH WHEAT CROP OF 1865.—A competent authority has published in the British Agricultural Press, the following estimate of the wheat crop in England of 1865:—"As I think many persons are anxious to know something reliable about the wheat crop of this year, I send you my estimate of that grown upon this farm. The estimate of last year's crop, published September 9, 1864, was 3½ bushels per acre, and the actual produce was 35 bushels. This difference I attribute to the extraordinary dryness of the wheat at harvest last season; for it did not during the year weigh so much per bushel as when thrashed immediately after harvest. My estimate of this year is 3¾ bushels per acre, and the average of the last fifteen years is 2½ near the same quantity as possible; therefore we have, as far as quantity goes, an average crop of wheat; but the quality being bad, and the weight only 60 lbs. per bushel against 64 last year, of course it will be deficient in flour-producing properties. My highest produce of one field of fair clay land is this year 50 bushels per acre—the same as last year; but upon some light land, that was blighted in places, no more than 24 acres will be produced. The wheat crop may be summed up as follows—v.z.—Upon heavy wheat land a good crop, but quality not first-rate; upon light land a bad crop, and quality very inferior. Still I am of opinion that we are not much deficient in the quantity of wheat grown, if we take the average of the last fourteen years; of course there is nothing like the large crops of 1863 and 1864."

CAPITAL AND PARTNERSHIP IN FARMING.—The following remarks were made at a recent meeting of the Wigton Farmers' Club, and may prove suggestive to some of our readers:

I therefore proceed with an easy conscience to advocate large farms, as providing, under proper arrangements, what small farms cannot do—namely, the foundation for division of labour, mechanical appliances, consolidation and increase of capital, and for a profitable high-pressure rate of production.

To bring about slowly, but effectually, this combination of advantages, there seems to me to be one simple recipe—FARM PARTNERSHIP; and as most necessary to effect this result—systematic farm accounts.

My plan is this: Let two farmers join together, the one to look after the tillage, the other to take charge of the stock, and associate with them a third, with sufficient capital to farm some 600 to 1,000 acres, on the best system. The third may be a sleeping partner: or, say the younger son of a country gentleman, to whom might be assigned the charge of the books, the superintendence of the machinery, or such other special branch of farm business as he may be capable of managing. From the over-crowded state of the professions, such an opening for the younger sons of country gentlemen who might be adverse to trade would, I apprehend, be eagerly sought. I can hardly conceive a better position for a young man of good connection than a partnership with one or two clever agriculturists; and I can conceive no more advantageous mode than this by which a couple of clever farmers may find scope for their energy, and utilize their experience and ability to the best advantage. Or, as I have said, the monied partner might be what is termed a sleeping partner, the division of profits being in proportion to the work done, or money supplied. To each a firm, of course, book-keeping would be essential; and, to a firm so constituted, I conceive no bank would refuse such temporary accommodation for legitimate trade purposes, as it might from time to time require.

Miscellaneous.

Sound Doctrines for Canada.

"PA AS YU GO."—This little maxim has bin modestly at the service of the world for ages, supported by no pertickler pretensions tew rhetorick, cadence, or pompous period, but brimfull and running over with practical philosophie and plebeian sense, adressed tew the latitude and longitude of every human knitter. It kon tames within its four blessed monosyllables an analysis of welly; it is forsin's stoppin stone, and a lotter ov credit nun kan distrust wheres'er it goes. It is the right bower of ekonomee and a aid ov honnur tew piezzaro—dix the day hours with kwiet and drives the bolliv from the nitto dream. "Pa az yu go," and you will know how fast yuro a going, how far yu have gone, and when it is time tew stop. Tradesmen will bow when they meet yu, and det with us hungry wolf trod will starvo on yuro trail. "Pa az yu go" tem pers luxury and chastens want, adds dignity tew the poor man, and graso tew the rich man, wrongs nun and is justiss tew all. Hero iz an antidote for much that iz the philosopher's stone, hero is a motto for manhood; hero iz a leaven for eny sized lump. Yung man, pa az yu go, and when yu gis old yu will not depart from it; other virtues will sartainly cluster about yu, and when natur hands in her last bill yu will be awl the better prepared to "pa az yu go."

The above clever bit of humour is from the pen of the renowned Josh Billings, the Yankee philosopher, who, in his peculiar vernacular, gets off some of the best hits of the best of the day. The soundest doctrine is contained in this extract, and it would serve a great purpose if it could be indelibly impressed upon the minds of the people of Canada at the present moment. There never was, and we question if there ever will be, a time when the lesson which this teaches is more necessary, more to be desired, or more productive of good; and never before were they better able to follow its instructions. The neglect of the simple instruction—"Pay as you go," has brought about difficulties and disasters untold. To us neglect we can trace half the ills which the body-politic is heir to. All classes of the community, from the labourer who battles for bare bread, to the merchant whose bills payable sum up a million, have felt the abuse of the credit system, and all would have been richer, happier, and better men, if this simple maxim had been more heeded. We may have good harvests, good prices, flourishing times, in the present, and glorious prospects for the future, but if we neglect to "Pay as we go," our good fortune will be misused. The crisis of '57, at the end of a most prosperous period, was the result of neglecting to "Pay as we go." The depression of the past year has taught us a lesson which we will do well not to forget, even in the present prosperous season; and if any one thing more than another should be impressed on the popular mind, it is the simple maxim above inculcated. Farmers now can happily pay their debts, and in future "Pay as they go." Mechanics and mercantiles can go a good way towards it, and if they will follow this simple injunction, great good and no harm can come of it. By its observance, prosperity will be continuous, embarrassment seldom heard of, extravagance and overtrading will cease, and, in the words of the negro song,

"Hard Times come again no more."

—Trade Review.

A man brought before a justice of the peace, charged with some petty offence, pleaded in extenuation a natural infirmity. "I should have made a considerable figure in the world, my lord," said he to the judge, "if I hadn't been a fool; it's a dreadful pull-back to a man."

AN IRISH TOAST.—The following toast was given at an Irish Society's dinner: "Here's to the President of the Society, Patrick O'Rafety; and may he live to ate the hen that scratches over his grave."

NATIONAL IMPORTANCE OF AGRICULTURE.—"Agriculture is to a nation what the main-spring is to a watch. It is its life, its grand moving power, it gives energy and action to all the varied interests of a people, and as Daniel Webster truthfully and forcibly said, 'without it we could not have manufactures and we should not have commerce.' The three 'stand together like pillars in a cluster, the largest in the centre and the largest is agriculture.' There is no period—and there can be none—in the history of any nation when this great interest is not to be fostered and promoted, and none when it is not looked to as the main bulwark of a nation's strength and hope. In times of peace as well as in times of war this is alike true, and all nations of any importance have found it true. Not only are those countries the most prosperous in cycles of peace which are mainly agricultural countries, but in periods of war (whether foreign or domestic), the record of history has been that they have uniformly fought the best, achieved the greatest victories and established the most enduring and satisfactory peace."—*Maine Farmer.*

FAILURE AND SUCCESS IN FARMING.—Why is it that different men, with the same opportunities, variously succeed or fail after years of equal labour? One will become rich, the other poor, on the same piece of land. One has had continued prosperity, and increased his capital two or three fold. The other has shared many difficulties and "hard times." His farm has been continually going down, and he has become involved in debt. The secret of the whole matter, and a true answer to the above inquiry is, that the one considers farming an honorable occupation, and that it will pay. Hence he makes it his study. He procures the best books treating on agriculture, horticulture, stock raising, &c. He patronizes the agricultural journals, and cautiously imitates the experiments of his brother farmers. In short, he is a "Book Farmer." He considers farming a science, and practices it as a science, and is sure to succeed. The other has come to the conclusion, that, except with the *lucky few*, the *favoured class*, farming is a hard, slavish, non-paying business, and he begins to think of some other occupation for a living. He neglects his farm, and hence it goes down. His stock is not cared for, and soon it begins to degenerate. Every thing about the farm is neglected, and he becomes bankrupt and disheartened. This should not be so. Farmers may all succeed if they will but, in order to succeed, they must love the occupation, make it a study, and practice it upon correct principles. If their heart is really in the business, they will, in nine cases out of ten, win a noble success.—J. W. W., in *Kansas Farmer*.

Markets.

Toronto Markets

"CANADA FARMER" Office, Oct. 31, 1865.

Business in produce, at this point, has been very limited. Bad as the roads in the country have hitherto been, the recent thaw and rain has made them very much worse, and of the main avenues, farmers have the greatest difficulty in conveying loaded wagons. The demand for cereals has been fair under light receipts, and prices remain steady. There is no doubt that speculation among dealers in the early part of the season, and rates so high that they were only profitable in the event of an advance in foreign markets. Dealers now exercise no opinion, and prices remain steady and at rates near their true value. During the past fortnight has been quite as high as we have been accustomed to, with the exception of the grocery, but in the cattle markets, which have been rather excited, owing to the presence of American buyers, who are purchasing everything desirable at full price. The high prices which are being paid for all kinds of merchandise by American dealers, implies a diminution of production in their own country, and is, we think, a great favour to the reciprocity treaty. Although the present extraordinary demand cannot be expected to be permanent, there is every likelihood that it will last for some time, and the consequences as far as Canada is concerned, must be favourable, even in the event of a repeal of the Treaty.

Flour—market nominal, no stocks and few transactions. Inquiry good; No 1 superfine at \$6 00 to \$6 50; extra do. at \$7 25 to \$7 50; superior extra at \$7 75 to \$8 00, and higher.

Wheat in fair demand and steady, at \$1 40 to \$1 38.

Spring Wheat—quiet; selling on street, at \$1 15 to \$1 18.

Barley active, at 72c to 75c per bushel.

Peas steady, at 68c to 71c.

Oats in good demand, at 27c to 30c.

Corn unchanged.

Provisions—improving; **Butter** good supply at 19c to 22c per lb for rolls wholesale, dairy, in tubs, 16c to 19c per lb.

Cheese—more plentiful, wholesale 11 1/2 to 12 1/2c per lb, retail 14c to 15c per lb.

Eggs—market steady, with fair supply; fresh 15c to 17c per dozen on the street.

Potatoes—plentiful, and of excellent quality, with fair demand; wholesale, 25c, retail, 30c.

Beef—slightly higher; prime cuts 9c to 12 1/2c per lb.; stew and corn pieces 7c to 9c per lb.

Mutton—fair supply and in less demand. At 8c to 12c per lb. hind quarters 12c per lb., fore quarters 9c per lb.

Hogs—dressed, \$9 per cwt.; pork, quiet, in ss, \$24 to \$25 per cwt., prime do. \$21 to \$22.

Livestock—dressed weight, 1st class \$5 to \$6 00; 2nd class \$4 to \$4 50, inferior, \$3 to \$3 50, calves, small supply, \$4 to \$7 each; fair quantity in the market, sheep, \$3 50 to \$4 00 each per cwt load; lambs, \$2 to \$3.

Hay—in good supply at from \$9 to \$12 per ton for new, old scarce and higher.

Hamilton Markets, Oct. 27—Wheat—Quotations unchanged. Winter, \$1 45 to \$1 58, red winter, \$1 35 to \$1 45, Spring, receipts light, quoted nominally at \$1 10 to \$1 15. Barley, 70c to 75c. Peas, receipts light; 68c to 68c. Oats, firmer, at 30c to 33c, no shipping demand. Potatoes, plentiful at 45c to 50c. Corn meal retail at \$1 75 to \$1 87 1/2. Beans, 50c to 62 1/2c. Butter 20c per lb. Eggs, 20c per dozen. Tomatoes, 35c per bushel. Pork, mess, \$23 to \$25, prime mess, none offered. Live Hogs at 14c to 15c, for medium weights. Hams, unweighed, 15c per lb., covered, 17c. Bacon retails at 14c to 16c per lb.; whole salt, 13c. Hay, \$7 to \$10 per ton. Straw, \$3 per ton. Firewood, No. 1, \$4 25 to \$4 75. No. 2, \$3 to \$3 50 per cord. Tallow, rough, \$5 to \$6 per cwt., do. rendered, \$7 to \$8 per cwt. Hides, green, tanned, \$5, do. untrimmed, \$4 50. Calveskins, 7c to 8c per lb. Sheepskins and Lambskins, 60c to \$1. Wool, good combing would bring 45c; pulled lambs wool at 45c.—*Spectator*.

London Markets, Oct. 27—Wheat—Inferior samples, \$1 00 to \$1 20, fair average, \$1 25 to \$1 35, prime, \$1 35. Spring Wheat, \$1 13 1/2 to \$1 16. Barley, bright malting, 65c; inferior from 51 to 60c. Peas, sound white, 53 to 60c. Oats, 26 to 27c. Corn inquired for, at 62 1/2 to 70c for dry. Butter, prime dairy, 24 to 25c; No. 1 store, 25c; fresh, by the basket 25c. Dressed Hogs, \$10. Stags, &c.—green hides, \$8 50, calf, dry, 18c, sheep skins, fresh, \$1 25 to \$1 50, wool, per lb., 40c, Tallow, rough, 7c, tenn d. red, 9c. Hay, per ton, \$8 to \$10. Straw, per load, none.

Guelph Markets, Oct. 23—Fall Wheat, \$1 25 to \$1 77, Spring Wheat, \$1 15 to \$1 21. Oats, 29c. Peas, 64c to 60c. Barley, 56c to 60c. Hides, per 100 lbs, \$5 to \$5 60. Beef, do, \$6 to \$7. Pork, do, \$8 to \$9 50. Straw, \$3 to \$3 60. Hay, \$9 to \$10 50. Wool, 40c to 42c. Eggs, 10c to 12c. Butter, 15c to 20c. Apples, per bush, 60c to 70c. Sheepskins, 90c to \$1 20.

Kingston Markets, Saturday's market was not so well filled as on the previous market day, owing to rain falling during the morning. Prices, however, were little changed. The grain market was fairly supplied, and quotations remarkably steady. Spring Wheat is quoted at \$1 15, and Fall (scarce) at \$1 20 to \$1 30 per bushel. Barley, good supply offering at 65c. Rye, not coming in quantities, fetching, 65c. Peas, 70c; and Oats, 30c to 35c per bushel, both in fair supply. In the meat market, Beef is quoted at 10c per lb, with limited supply. Good meat sometimes fetches a higher price. Mutton and Lamb, 7c to 9c per lb. There is scarcely any Pork brought into market at all, and the price remains at \$10 per 100 lbs. Chickens, from 20c to 35c per pair. Fowls, per pair, 60c to 60c. Turkeys, each 75c to 85c. Butter, 50c 100 lbs sold for 25c, and prices range from 1 1/2c to 2c. Packed, by the tub, was offered at 23c per lb. Eggs were very scarce; few in market. Home-made Cheese, 9c to 10c. Potatoes, 45c; and Onions, 70c to 80c per bushel. Cooking Apples, on the market, 60c to 60c per bushel. The wool and hide market is very firm; Wool can be disposed of readily at 35c to 37 1/2c per lb. Hides, \$5. Sheepskins, \$1 to \$1 20. Calveskins, 10c per lb. Tallow, \$8.—*British Whig*.

Montreal Markets, Ludlow, Middleton & Company report.—Receipts 4,100 barrels, market with little enquiry. Sales: Superior at \$5 to \$5 15, extra \$7 50; superfine \$8 15 to \$8 50, No. 2, \$5 00, bags \$3 40; coarse grades scarce and wanted. Wheat—No sales. Corn steady at 60c. Peas—2 cargoes; sales 90 car bush at 50c per bush. Hides—1st lots \$4; seconds \$5 00; 1st \$5 70. 1st Tallow \$5 70 to \$5 80, seconds \$5 50. Butter advancing. Pork firm.

Oswego Markets, Oct. 25—Flour—Market steady with good demand at \$9 for brands from No. 1 spring, \$10 50 from red water, \$11 50 from white, and at \$12 50 for double extra from the mill. Wheat, quiet and no sales. Corn, nominal. Barley, quiet at \$1 14 to \$1 15, without sales. Rye, in demand, Canada at \$1. Peas, dull, Canada at \$1 12 1/2. Fall, unchanged, into is quoted at \$2 45 per barrel, and 14 lb sacks at 20c.

New York Markets, Oct. 25—Flour—Receipts 15,977 barrels, market closed heavy, and four to eight cents higher; sales \$5 00 for extra at \$7 70 to \$7 80 for superfine State; \$5 to \$8 15 for extra State, \$8 20 to \$8 40 for choice do.; \$7 70 to \$7 90 for superfine Western, \$8 10 to \$8 50 for common to medium extra Western, and \$8 50 to \$8 70 for common to good shipping brands. Extra No. 1 of Canada, Canadian flour dull, and 5c to 6c lower; sales 250 barrels at \$8 10 to \$8 20 for common, and \$8 80 to \$12 40 for good to choice extra. Wheat—Receipts, 31,120 bushels; market 1c to 2c better, sales 500,000 bushels at \$1 75 to \$1 80 for Canada, spring and Milwaukee club; \$1 82 for amber Milwaukee; \$1 75 for new Milwaukee, \$2 32 1/2 to \$2 30 for new amber State. Rye, steady; sales 50,000 bushels Canada West, at \$1 23 1/2 to \$1 25. Corn—receipts 40,815 bushels, market 1c to 2c better and active; sales 12,600 bushels at 77c to 85c for unsold, and 89c to 90 1/2c for sold. Mixed Western—the latter price in store. Oats, a shade firmer at 57c to 57c for unsold, and 54c to 57 1/2c for sound. Pork, steady and lower, sales 10,500 lbs, at \$3 25 to \$3 4 for No. 1, \$3 25 to \$3 62 1/2 for cash. Beef, steady. Lard, heavy at 24c to 25 1/2c. Whiskey, firm. Barley, 2c to 3c better.

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CHOICE GRAPE VINES, 4 and 5 years old, mostly Concord and Delaware, bore from \$1 to \$5 worth each of Grapes this year. They were planted too close in my Vineyard (only 6 feet apart), and one-half of them should be removed, and with care in moving, will bear a good crop next year. Now is the time to plant, and this chance may never happen again. Every person that owns a garden should have some of these hardy vines. A single vine that has been in the spread bore over 20 bushels of beautiful Grapes this year.

Price of Vines, neatly packed in boxes and delivered at G. W. R. Station—1 Vine, \$3. 4 for \$10, 20 for \$40, 40 for \$80, 80 for \$100, 100 for \$115, 1,000 for \$1,000. 1 and 2 year old Vines, \$25 per 100, or \$200 per 1,000. Single Vines by mail at 50c each.

Direct—
W. W. KITCHEN,
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Grimsby, C. W.

AN EXPERIENCED FACTORY DAIRYMAN

IS desirous of obtaining a situation as Foreman in a Factory for the ensuing Summer. References may be had of H. Farrington, Norwichville, P.O., C. W. For further particulars, apply
"A. B.," Haysville P. O., C. W.
November 1, 1865. v2-21-2t

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ONE of the Best Farms in the County of Hastings is now for sale, or to let, being the north half of Lot Thirteen, in the 11th Concession of Rawdon, containing 100 acres of magnificent land, in a thorough state of cultivation, also a large Brick House, very prettily situated, which cost \$2500 to build, with the requisite barns, stables, sheds, Orchard, &c.

There is excellent Duck and Woodcock Shooting, and Trout and other fishing in the vicinity.

Price, \$300, one-half of which may be allowed to remain on mortgage.

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The above is an opportunity such as rarely occurs to any one wanting a fine farm. v2-20-3t

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Cuts different sizes for Sheep or Cattle.
FIRST PRIZE PROVINCIAL EXHIBITION. Price \$16.00
Orders by Mail promptly filled.
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November, 1865.

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THIS preparation is a certain remedy for removing those destructive afflictions. Every day brings additional testimony of its thorough effectiveness. No flock-master should be without it. Prepared only by
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A new Quarter of this popular *Agricultural, Literary, and Family Newspaper* commenced Oct. 7. Now is the time to subscribe. Send \$3 for a year—or, if you wish to know more of it first, the 13 numbers of this quarter (Oct. to Jan.) will be sent, On Trial, for only 50 cts. Try *THE NEW-YORKER*, and see if it is not like a honey-comb, having sweets in every cell. Address
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THE PRACTICAL SHEPHERD.—This is the latest and best of Dr. RANDALL'S works on sheep husbandry—the Standard Authority on the subject. It tells about the Breeding, Management and Diseases of Sheep, and should be in the hands of every flock-master on the American Continent. Over 20,000 copies already sold. One large 12mo. volume of 454 pages—printed, illustrated and bound in superior style. Sent post-paid on receipt of price—\$2. Address
D. D. T. MOORE, Rochester, N. Y.
v2-21-1t
November 1, 1865.

FALL PLANTING. TORONTO NURSERIES.

THE search for Fall Planting being at hand, the attention of Purchasers is requested to the STOCK OF FRUIT AND ORNAMENTAL TREES, &c., for Sale at the "TORONTO NURSERIES" this Fall. The varieties are of the most thrifty character, and are warranted to give satisfaction.

All Orders by post punctually attended to. I would call attention to the large number of First Prizes awarded to my productions at the late Provincial Exhibition, showing that my Nurseries occupy one of the proudest positions in the country. Visitors to the Nursery will receive a cordial welcome and any information, or a descriptive Catalogue will be promptly forwarded on receipt of two cent stamps.

GEORGE LESLIE,
Toronto Nurseries,
Leslie P. O.
v2-20-2t
October 15, 1865.

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Toronto, Oct. 2, 1864. v2-19-1f

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