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TORONTO, UPPER CANADA, SEPTEMBER 1, 1865.

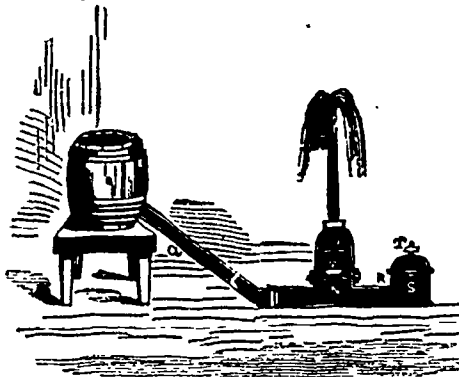
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The Field.

The Hydraulic Ram.

ABUNDANCE of water is a great acquisition to a farm, and scarcity of it is a serious drawback. This is, generally speaking, a well-watered country, and there are few estates which cannot, by some contrivance or other, be furnished with a plentiful supply. It is, however, a somewhat laborious and troublesome affair when all the water needed about a farm has to be raised from a deep well. If a large quantity of stock is kept, watering them becomes a serious item in the daily labour. Indeed we have known cases in which want of water, except at the cost of constant pumping, has been urged as a reason for not keeping such a number of animals as the farm really needed, to consume its forage products, and provide manure. The best pumps are tedious affairs when you have to raise a large quantity of water by hand, and as to windlasses and "old oaken buckets that hang by the well," they are indeed

knowledge. Well-digging, when it is necessary to go down any great distance, is expensive work, and is accompanied with more or less uncertainty as to striking a good vein of water. It often happens that



after a considerable outlay has been made on a well, the supply of water fails, and it must either be sunk farther down or a new one tried in another spot. Settlers on land and purchasers of improved farms,

stances do not forbid, a wise economy of time and labour would dictate such a location of them.

We have received some enquiries in reference to the best means of obtaining a supply of water from an adjacent spring, which we cannot better answer than by describing and recommending that ingenious machine known as the hydraulic ram. And as the subject is one of much importance and of very general interest, we present our readers with some illustrations of it. By means of the contrivance just named, a small stream, brook or spring may be made to force itself to a very high point, whence the water may be distributed at pleasure, to return finally to the source whence it came. The improved hydraulic ram will raise water ten feet for each foot of fall. Its operation will at once be understood by a glance at the accompanying engravings. The small one at the top of this page explains the principle upon which the ram is constructed, and shows its mode of action. Suppose that the water from a barrel be required to be carried to a cistern at the top of a house. A pipe, *a*, is laid from the barrel to the ram, and to a valve beyond it, which is



slavish institutions. Windmills have been extensively used in some localities where water can only be got by lifting from a considerable depth. They are becoming common on the Western prairies, and are found to answer well. We have observed an advertisement of a self-acting cattle pump, made in London, C W., but cannot speak of its merits from

do well to have an eye to the water supply, for it is a matter of no little consequence. In the choice of sites for the dwelling and barn-yard, the question of water conveniences ought to be taken into consideration. There are on many farms creeks and springs that may be turned to most useful account by locating the buildings near them, and where other circum-

forced down and kept open by the weight, T. The water rushing down the pipe, *a*, acquires momentum, and striking against the underside of the valve, S, closes it. The course of water is stopped, but the momentum cannot be so easily overcome, therefore that part of the column nearest the barrel still endeavours to escape, and as it cannot do so

through R, it opens the valve N, in the ram, and rushes up the pipe X. The momentum ceases, and S again opens, and allowing a fresh flow of water, occasions the former impulse to be renewed, and more water to pass into X. So rapid is the action of this machine, that the valve S is in continual vibration, and an incessant stream of water is produced.

The large engraving on our first page, shows how a stream of water, dammed up to form a pond, may be made to drive a ram and supply a dwelling and barn-yard at a considerable distance. As already stated, each foot of fall will count ten feet of an elevation in the delivery pipe. The volume of water furnished will depend on the size of the ram. The smaller sizes deliver through a half-inch pipe, and this constantly full and flowing, will supply a large quantity of water. The feed pipe must be larger than the delivery pipe, and in proportion as you increase the size of the former, you may enlarge the capacity of the latter. This machine is not expensive. One capable of throwing a half inch stream will cost about \$9. In addition there is, of course, the expense of the pipe, which will depend on the distance to be accomplished. Either lead or iron pipe may be used: the iron is best. Wooden tubing is sometimes used, but metal is considered better. The hydraulic ram is not very liable to get out of order. It goes regardless of the weather. Even severe frost does not stop it. The pipes need to be laid below the reach of frost, but that is the only precaution requisite. It is well to be at a little trouble and expense to cover in and protect the ram, as illustrated in our large engraving, but this is not absolutely necessary.



Our third engraving will show how simple and cheap an arrangement will answer the purpose, and may serve to remove the objections of those who think they cannot do anything very elaborate and costly. The hydraulic ram is a very useful and effective device for feeding ornamental jets and fountains. No landscape is complete without water in some form or other. Even a small jet is a very pretty embellishment to a place. We hope to live to see the day when gardens and ornamental grounds will be more common upon the farm. Why should beauty be so despised? It is as truly food for the mind as bread and meat are food for the body. When matters of taste and adornment are studied more, many a little creek flowing near the farmer's home, will be coaxed to disport itself in jets and fountains, and so add to the charms of the scene. There is no reason, moreover, why the farmer who has a good living stream, should not have his fish-pond, and raise fat trout for the table and market, just as he does fat chickens and ducks. Thus utility and beauty would be combined.

We are not aware whether there is a manufactory of hydraulic rams in Canada or not. Messrs. Rice Lewis & Son, hardware merchants of this city, are agents for an American firm by whom they are manufactured, and have always a stock of them on hand of all sizes

Hints for September.

FINAL preparation of the land, and sowing fall wheat are the chief labours of this month. Let the ground be thoroughly mellow, clear of weeds and their seeds, and, if possible, have some fine manure to harrow in with the seed wheat. By all means use a drill if it can be procured. It is much better to do so than scatter broadcast. Timothy should not be sown at the same time as the wheat, when it is intended to seed down the land. A fortnight later is preferable. Clover should be sown as early as possible next spring. Seed wheat infected with scab should be washed in brine and then sprinkled with powdered slacked lime and well stirred. Begin to give attention to hogs and other stock intended for the butcher. The mistake is often made of deferring the care of fattening animals until too late in the season for them to be fed to advantage. Autumn top-dressing of meadows is a good plan if there be any suitable manure to do it with. There is a lull of work between grain harvest and the securing of the root and other late crops which may be improved for doing many odd jobs. Provision of proper shelter for stock, draining of swamps, clearing off meadows of scattered stones and rubbish, picking out weeds from among turnips, so that they may not go to seed, repairing fences, soiling cows and cattle if the pastures are bare, ventilating and cleaning cellars, drawing out stone, and if there be abundance of this material, making stone fence. Corn will need harvesting this month, and with careful preservation, the stocks will prove valuable fodder. Make time to attend the Provincial and Local Agricultural Exhibitions, and be sure to take wife and children, that all may enjoy an improving holiday. This is a good month for butter-making, and the winter supply should be thought of about this time. In the garden, with the exception of the never-ending fight with weeds, there is not much to do except the pleasing work of ingathering. Strawberry plants may be set out this month, and with careful hoeing, weeding and watering, may be made to yield a fair crop next spring. Ground for new gardens or orchards should be well prepared in autumn by ploughing, manuring, and thoroughly mellowing. We recommend spring as the best time for planting out fruit trees in this climate. For bee-management in September, see "The Apiary" department.

Cultivating Wheat.

You want a dry, compact soil for wheat, in good heart, with lime and clay in abundance. There is little lack of these in most soils for raising the usual crops of the farm, especially of clay. For wheat, lime may be almost always applied with advantage. It strengthens the straw, and improves the berry. The mode of using it is, to spread it over the land after the last ploughing, at the rate of ten to fifty bushels to the acre, followed by the harrow. It is easy to apply it and will always reward for the trouble, with something over for the years following, as it has a lasting effect.

If the soil is poor, nothing is so good as to turn down a crop of clover or peas. These not at hand, manure, well-rotted, should be used, or the crop abandoned.

Corn ground, any ground if rich, compact, and well-balanced, will produce wheat. This much, however, must always be borne in mind—that the soil be dry, dry throughout. Otherwise it will heave, and be productive more of weeds than of grain. Wet soil should be drained, or wheat kept off; it is too valuable a crop to be treated shabbily.

It is not good in general to plough often for wheat, as it loosens the soil too much. It should, however, be sufficiently friable to work well with the drill. Of course, deep tillage is what is wanted for wheat, as it has many roots, and they occupy the soil above and below. A set near the surface, on the stem, extends outwardly; the roots from the seed extend downward; and thus the full soil is occupied. Cultivate deep, then, and mellow.

Sow six pecks to the acre, that is, if you sow. The best crops are obtained by drilling—best on many accounts, though the condition of the soil has much

to do where the drill is used. First and foremost, the land must be clean, or weeds will spring up between the rows. Corn ground is therefore objectionable on account of the bad tillage which that grain receives. Weeds get a chance to ripen, and sow the soil before the wheat does—and nothing will hinder a crop of weeds. Unless, then, you have a choice soil, as you should have, sow broadcast.

Clean culture reminds us of what we saw the past season, in travelling through the Genesee valley. The culture of wheat there is carried on to perfection. Weeds are not seen—or have not been so far as our observation extended. It was clean soil, clean culture, clean in appearance throughout. Nothing surpassed the beauty of these wheat fields. And so should it be here. It benefits there, and it will here.

Drilling has been practiced in Genesee for many years—and is an established thing, superior in many respects to the old mode. In Ohio, and in most of the wheat-growing States, the advantage of drilling is understood—and the little rows, thick and clean, show the superiority over the old mode.

Wheat is sown with us from the 16th of August to the 15th September. The best time for sowing is much depending upon the season that follows, the weather, and the location. Each must run his own risk.—*Rural World.*

Preserving Potatoes.

If grown in a lime soil, or with some fertilizer containing lime, as wood ashes, or some compost of which lime is a part, in the hill, we have them in perfection. What folly not to preserve them in the same perfection, the year round, or at least till the next year's crop is ready to take their place, if this can be done. But can it? Yes.

How? Look at an often observed fact, and you will have the secret. When a tuber is left in the soil over winter, if not too near the surface, where it will freeze and thaw too many times, it is always found when ploughed out in spring, in a fine state of preservation—not wilted—sound and hard as in autumn—cracks open in boiling—has all the meanness and fine flavour of the previous October—in short, has retained all its fine qualities unchanged, from October to May. It is always so with tubers thus wintered, as thousands have observed.

Now let us look at the attendant conditions in which these tubers have been so finely preserved. They were not sunned. Some think it well to let potatoes lie under a scathing September or October sun, five or six hours, before storing them. They could hardly do a thing more calculated to hasten a deterioration. Every moment of sunshine on potatoes, when harvested, injures them. They were not aired, for being left in a soil, compacted by the fall rains, little air could circulate among them. They were in total darkness all winter. They were moist by reason of the fall, winter, and spring rains and melting snows. They were cool, nearly to the freezing point, and sometimes below it. They have then coolness, moisture, darkness, little air and no sun as the attending circumstances, or conditions, of their perfect preservation. If this does not teach us a lesson, it is because we are not quick to learn.

But there is another fact, tending to the same conclusion. There are farmers, who, for a long series of years, have practiced as follows: dig their potatoes late, carry them at once to the house, dump them through a side window into the cellar, with all the soil that naturally attaches to them, and then let them be till wanted for use, a part of them as late as the following June, taking care to keep the cellar windows open fall and spring, and to open them in mild weather, during the whole winter.

It happens that those which fall near the window retain most of the moist soil that falls with them and are almost as completely imbedded in earth as are the stray tubers left in the field till the spring ploughing. Now if that portion of the year's stock, which is thus embedded in the moist soil be left till the last, these are found by many years experience, to remain fresh and good, hardly at all wilted; eyes hardly swelled till about the first of June. This implies a cool and damp cellar; and when these points can be obtained, there is not the least difficulty in a perfect preservation of the potato till as late as from the 1st to the 15th of June. The conditions, if we look at them, will be found to be nearly the same as in the other case,—no sun, little air, little light, moisture, coolness.

Now it cannot be necessary to describe minutely how these conditions can be secured, for the potatoes you would preserve in all their autumnal excellence, for spring and summer use. Let every one devise the best method for his own case. One who has a cool, damp cellar, so fitted with windows that he can easily keep the temperature low at all seasons, may find that the best place to pack away potatoes for spring

and summer use. Another may find it better, in his case, to bury them, mixed with moist soil, in the earth. By throwing an extra quantity of straw over them in winter and so covering them with straw or chaff, that they will not thaw till late, he may preserve them almost at pleasure; for so long as the ground in which they are imbedded is kept cold, they will neither grow nor will, nor will they lose any of the fine qualities they had the previous autumn. If the potato hole were on the north side of a building, or if a temporary structure of rough boards were placed over it, to keep off the sun; either of these would be a help. I will only add that if those who have a fine crop of potatoes will devise some way to protect them from the sun, air, and light, from the moment they are dug; and to keep as many of them as are designed for spring and summer use, cool and moist till the day they are to be cooked, "they will find their account in it."—*Prof. J. A. Nash.*

Deep Fall Ploughing of Wheat Stubbles to Extirpate the Midge.

To the Editor of THE CANADA FARMER:

SIR,—IN THE CANADA FARMER of July 1st, we have a sketch of "wheat insects," including the midge, its greatest foe. Among the remedies to destroy the midge, are to carefully destroy the worms that pass in the screenings of the fanning mill, "and deep fall ploughing of wheat stubble." Would not spring ploughing do as well? To adopt the remedy of ploughing the stubble, farmers one and all, should, commencing next spring, quit seeding to clover with wheat, and seed with oats, barley, &c. Seeding with clover on wheat in the spring, is generally adopted in these parts,—and it might require a good deal of agitation to arouse and create a will in every one to quit it. Wheat is our great staple, and the loss the country has sustained is very great. I recommend that all newspapers, farmers' clubs, influential men, &c., make use of their united influence, with the powerful aid of THE CANADA FARMER, in persuading all farmers to try the experiment of deep fall ploughing of wheat stubble, and to carefully destroy the midge worm that passes in the screenings of the fanning mill. The subject ought also to be seen to by our legislature, and county and township councils. In some places in these parts, but little harm has heretofore been done by the midge, but it is on the increase.

We have had light crops, or rather small yields from other causes. A sort of blight seems to affect my wheat, in spots, this season. I never had it so before, and have heard the same opinion from others. Wheat will not be near the yield that has been predicted. F. SMITH.

Charlottesville, Aug. 6, 1865.

Qualities of Hay.

TIMOTHY for muscle; clover for milk; corn for fat. The timothy should be cured in full blossom, or a little later. Clover should be cut when first reddening, before it is fully matured. This is the time, and the only time to cut clover. Then all the nutritive juices are in perfection. Such hay—or grass cured—has a slight laxative tendency—just what is wanted in winter. It will be greedily eaten, even when somewhat touched with mould—and give milk in profusion. This never fails. On the other hand, timothy, instead of secreting milk, will form muscle; hence, the hay for horses; and hence preferred so generally. Straw, when early cut and properly cured—not dried—has somewhat the quality of clover. But oh, how neglectful we are about the curing of straw, when it is one of the finest of employments. There is a fragrance about such straw, and the pale-green tint, which make it a valuable and most pleasant fodder.

Timothy, then, for horses; clover for milk cows; and straw, well cured and cut, for either. It is excellent to mix with meal, or feed carrots and beets with. We would, when thus fed, make but little difference between good barley or even oat straw, when early and properly cured, and timothy for stock, especially cows in milk. For young stock, tender timothy is excellent. We are so reckless in feeding. We feed promiscuously—we feed what we have to feed without taking much pains to get a proper selection, or to prepare it well. For instance, we feed few corn stalks, raised on purpose for fodder, when yet this is one of the cheapest and one of the best hays that can be fed—and in the summer, in a drought, it is of the greatest advantage, fed out green.—*Rural World.*

Shade as a Renovator of the Soil.

We have frequently taken occasion to state the fact, that the rapid deterioration of our soils has been brought about quite as much by the too frequent use of hoed crops as by slovenly culture. Plant a piece of new and fertile land in tobacco, corn or potatoes, for a few years in succession, and it will begin to show evident signs of exhaustion. The abundant quantity of potash and soda and the phosphates, which the land originally contained, will be lessened to a degree that cannot be accounted for by what had been carried away by the crops that have been harvested, for the actual annual amount of loss from this source is comparatively small. The loss, then, must proceed from some other cause; and a very little reflection will satisfy any intelligent person, that the true theory of a rapid exhaustion of a naturally rich soil is the loss, by evaporation, through the exposure of the naked surface of the soil to the ardent rays of our summer sun and facilitation of the process by the constant stirrings with the plough, the shovel, plough and the cultivator, which the proper cultivation of all hoed crops requires. The lightening of the soil; the incessant turning up of fresh earth to the action of the sun's rays; the energetic chemical action within the soil itself, which is thus produced, and which renders soluble the potash, the soda and the phosphates it contains—these are primary causes that lead to its impoverishment, and which the loss of organic and inorganic constituents, by cropping the land, has but a very small share in producing. Let us illustrate our meaning by an example drawn from history. The vast desert region that stretches from Cairo to the Red Sea was, ages ago, the seat of an enormous population, and of cities whose extent was of almost fabulous proportions. It was, at that remote period of the world's history, celebrated for its fertility. Its groves, its gardens, its meadows, its arable lands, were spread out into the interior for many hundreds of miles. It is now a sandy, barren, waterless desert, evincing no signs of fertility, except along the narrow strip of land which follows the course of the Nile, and which is nourished by the annual overflow of that stream. What caused this change? What but the stripping the land of its groves—the constant cultivation of the land under a burning sun, and the drying up of the springs and fountains by which the soil was moistened and fertilized. Here, with us, we suffer from similar causes, although, perhaps, in a less degree. As our forests are felled, the streams they once sheltered and nourished diminish in value—the springs run dry and the soil gradually becomes more arid and less fertile. As if to aid this process of degeneration to the best of our ability, we cultivate our lands to an enormous extent in hoed crops, and thus by evaporation and by washing rains perfect the work of destruction. Is there no remedy for this? Undoubtedly there is, and quite an easy one, if we would but adopt it. We cannot well prevent the destruction of our forests and the consequent diminution in the volume of our streams; although many earnest voices have already been raised in depreciation of this act of vandalism, and in explanation of its injurious results. But, if we cannot stay the woodman's axe, we can, at least, so modify our system of farming as to preserve our arable lands from exhaustion. It can be done in this wise. Everybody knows that the poorest lands recover, at least a portion of their original fertility, if when they are turned out to commons, they grow up again to pines and bushes and black jack. The fallen leaves and pine needles and the shelter from the sun's rays effect this change after the lapse of a few years. The same result may be more quickly accomplished on our arable lands that are still in tolerable condition, by avoiding hoed crops as much as possible, and by seeding them down more frequently to grass and clover. It is shade and rest they require—shade which is itself a fertilizer, and rest which enables the soil to recuperate by its chemical action that is always going on within it. Shade and moisture are thus given to it; the land is kept cool even in the heat of summer: evaporation and waste are thus avoided, and by the occasional turning in of the sod thus formed, or of a clover crop as it advances toward maturity—the plant food that the cereals require is restored to it, and by a recurrence to the same system of management, with the simple addition of manures drawn from the barnyard or collected in the form of composts from the resources of the land, can be kept in good heart from generation to generation.—*Maryland Farmer*

Not a Bad Idea.—An agricultural show has just been held in Algeria. The prize list was pretty wide in its scope, as it extended to the best dunghill. Pierre Hubert brought his sample in fifteen carts, and said he had more at home; but the jury awarded him 200f., and assured him in their report that he might contemplate what he did bring "with legitimate pride."

PROLIFIC CLOVER ROOT.—Mr. M. C. Feck, of Benson, Vt., writes to the *Rural New Yorker*:—"I have just found a curiosity in a clover root—one root from which grows 42 stalks and 752 blossoms, all matured. When grown in the field the plant measured 4 feet 6 inches in diameter from the extremities of the branches as they spread out on the ground. Who can beat my clover?"

CARROTS—SOW SO AS TO MOW THE TOPS.—Lyman Harrington, of Bennington Co., Vt., writes to the *Agriculturist*:—"Many who raised carrots cut the tops off with a knife, which takes much time. To avoid this the ground should be made very smooth when sown, and kept so, and no stones left on it. When ready to dig, let a good mower cut one swath (say 4 to 6 rows), rake off the tops, bearing heavily on the rake. All remaining uncut will be drawn, or lean one way. Then having his scythe very sharp, he can easily cut what remains, by sliding the point of the scythe close to the ground by the side of each row. A skilful man, used to it, can cut and dig from 50 to 100 bushels per day. I have practised it for many years, with much saving of time."

TREES A PROTECTION AGAINST INSECTS.—In an article on this subject in a recent issue of the *Prairie Farmer* we find the following suggestive observations: "There is little new in the statement that injurious insects are rapidly increasing both in variety and number throughout the West. The cut-worms, potato-bugs, chinch-bugs, etc., etc., are becoming almost intolerable pests. While we are all casting about to find some security against their ravages, we should not forget that there is one means already known and easily brought to bear, that we do not, as a general thing, give sufficient force. It is the planting of trees. If all our farms were dotted over with screens, belts and groves of timber, the birds, among the most destructive natural enemies of noxious insects, would be lured to the prairies that are scarcely visited by them now, and in return they would prey upon our enemies, and greatly lessen their numbers. Certainly the advantages thus accruing are not among the least of those arising from a general planting of trees on the prairies."

FERTILITY.—From an article on this subject in the *Agricultural Gazette*, we cull the following:—"Does fertility depend on the consistence of the soil, we can marl light lands, we can burn clays, we can harden by the sheepfold and the roller, we can lighten by the scarifier and the plough. Does it depend on full opportunity being given to rain water to traverse soil and subsoil and feed the roots of plants, we can by underground channels which carry off the water as it sinks, preserve its continual circulation throughout both. Does it depend on the natural contents of the land being fitted for the food of plants, we can lighten by the scarifier and the plough. Does it depend on full opportunity being given to rain to traverse soil and subsoil and feed the roots of plants, we can by underground channels which carry off the water as it sinks, preserve its continual circulation throughout both. Does it depend on the natural contents of the land being fitted for the food of plants, we can lime, and burn, and till, introduce the natural agency of air and rain, and the artificial agency of lime and heat, and thus stimulate that chemical action within the soil on which the preparation of food for plants depends. Does it hinge on the supply of additional fertilizing matter, we can add these matters directly from the dung heap, the manure manufactory, and the guano ship, or we can add them indirectly by feeding sheep and cattle on the land upon imported food. Unquestionably, fertility is to a very great extent a work of art. This is not less true on natural and shallow soils, where no such extraordinary change has to be effected in the original character of the land before it will yield good crops, than it is in the fens of Lincolnshire and Cambridge, now laden with rich grain crops, and herds and flocks of cattle and of sheep, where the natural fertility yielded formerly but sedge and rush, and bog and seaside plants, with only wild fowl for the live stock."

The Breeder and Grazier.

On the Care of Cattle.

This is the title of a valuable article in a recent issue of the *Scottish Farmer*, the main points of which we propose to lay before our readers in a condensed form. The moral view of the question is most suggestively stated in the text, "the righteous man regardeth the life of his beast." But further than this, there is an exceedingly close relationship between the humanitarian aspect of the case and the pecuniary interests of the farmer. That the fact is frequently overlooked does not make it the less marked. The popular notion that the stock of our farmers are hardy and able, as the saying is, "to stand anything," is most fallacious and dangerous; for it lies at the root of much of that careless practice which is the cause of so much disease in our farm stock. It is satisfactory to remark then at the outset that the interests of science and of humanity are coincident. "To begin at the beginning," says our able contemporary, "carelessness in the treatment of calves may be taken up. Almost from the first stages of the animal's life many seem to consider more the saving of food and trouble than the importance of having a first-rate animal. Utterly forgetful are many of our farmers, that the great object to be aimed at is the *progressive improvement of the animal*. The growth is a constant process, and every means should be taken to aid it in the healthiest way. It is obvious enough that this cannot be done by lessening either the quality or the quantity of its food, or by being careless as to the shelter provided for it, and the healthy exercise it is necessary it should have."

Breeders and feeders, as well as doctors, differ in opinion as to the best mode of management. One advocates the importance of allowing the calf to suckle its mother. Another as strongly opposes it. One, while not insisting upon the calf drawing its supply of milk directly from the mother, yet insists that the milk should be its principal food in the earlier stages of its life. And again another as vehemently maintains that milk may be good, but that artificial food is better. Without entering into any analytical consideration of these various modes the article proceeds to state that "one thing is certain—the habit of stinting the food, of whatever kind that may be and how given, is utterly vicious, and sure to result, as it does result, in a poor animal, poor both for breeding or other purposes. For it should never be forgotten that if the animal is once let down in condition—as let down it assuredly will be if food is sparingly given to it in its young days—that that condition will never be made up again; of the certain paces in the race, so to speak, which are lost, a few may be regained, the whole never. Let it be taken as an axiom in the art or science of feeding, that to gain the desired end, the best animal that can possibly be got out of the calf with which the feeder begins, is to keep up a progressive improvement; the advantages of to-day retained to be added to those of yesterday, to which end not only must the kind and the quality and quantity of the food be attended to, but the circumstances under which this food can best give out its good qualities to the animal. This will never be done if proper housing be not provided, in which ample room, pure air, and thorough cleanliness be attended to and secured. Good exercise ground in the shape of ample spaced yards should also be provided."

With regard to the housing of calves, good, clean, sweet bedding is highly essential. Damp, sloppy bedding, induces diseases, which often puzzle the farmer; and there can be no doubt that dirty bedding tends to increase the plague of lice "to which calves are even under favourable circumstances too liable." The popular notion, which inculcates the necessity for what is called "hardening" or "roughing" of young stock, is in its effects highly pernicious.

It has the effect of weakening their constitutions, and if pursued towards the young stock for two or three generations will ruin the best breed of cattle in the country. The offspring after this time will have lost nearly all the quality, early maturity, and propensity to fatten of their ancestors. It may be difficult to persuade those who uphold this practice to give it up on account of its cruelty, "but if they for a moment considered the whole bearings of the case they would give it up an account of its wastefulness. The school-master, they say, is abroad; when, may we well ask, will he visit in his wanderings those districts in which cattle and young stock are seen shivering in snow-covered or frost-hardened fields, or exposed to biting winds or dashing rains, and all to with scanty supplies of food, to tell their owners that heat is food just as food is heat; that there is a close relationship between the two which cannot be severed, as severed it too often is, without heavy loss being incurred? Nor would the labours of the schoolmaster in such districts be thrown away if he succeeded in instilling into the minds of some of their inhabitants, that in the case of cattle the teachings of an enlightened humanity, as well as those of an enlightened agricultural science, are at one in inculcating those principles of action which are best calculated to secure the comfort, as they are calculated to secure the paying point, of our farm stock."

Where Fat and Flesh Come From.

THEY come from the earth and the atmosphere, collected by vegetation. Grass contains flesh; so grain. The animal system puts it on from these. Vegetation then is the medium through which the animal world exists; it can exist in no other way. When grass or grain is eaten, the flesh constituents are retained in the system; so also the fatty substance, that is, the starch and sugar, from which fat is made. Some grains have more flesh than others; so of the qualities that make fat. In a hundred parts of wheat, according to Piessé, are ten pounds of flesh; in a hundred parts of oatmeal, nearly double that amount. Hence oats are better for horses, on account of their flesh-forming principle, rather than fat, as muscle is what a horse wants. For fattening purposes, however, corn and other grains are better.

When flesh itself is eaten, the system but appropriates what is already formed, but would as readily take it from vegetables, from flour.

The flesh-making principle—or the flesh itself, in its constituents—goes to form cheese in the dairy; the starch, &c., &c. Hence it is that some people assert that cream has little influence in cheese, farther than to enrich it: for cheese and butter are entirely distinct. The same kind of food is equally good for the production of either. This is a point of considerable interest, and is not yet fully explained—indeed, it is yet in its infancy. And a plant in its different stages of growth has a different effect. The fat of the plant is held in reserve for the seed; nothing is wasted in leaves, wood, &c.; the precious seed must have it. Hence when this takes place, the stalk is comparatively worthless to what it is prior to the change. And the fat cannot be appropriated so well in the seed as when it is diffused through the stalk. Tender herbage, therefore, is the best; and when secured before the direction of the oil takes place, so much the better will be the hay.—*Rural World*.

A PIG'S CONVENIENCE.—An Irish peasant being asked why he permitted his pig to take up his quarters with his family, made an answer abounding with satirical naïveté. "Why not? Doesn't the place afford every convenience that a pig can require?"

HORSES FEEDING ONE ANOTHER.—M. de Boussanelle, captain of cavalry, in the regiment of Beauvilliers, relates, in his "Military Observations," that an old horse of his company, that was very fine and full of mettle, had his teeth, all of a sudden, so worn down that he could not chew his hay and corn; and that he was fed for two months, and would still have been so, had he been kept, by two horses on each side of him, that ate in the same manner; that these horses drew hay from the same rack, which they chewed, and afterwards threw before him; they did the same with the oats, which they ground very small, and also put before him; this," added he, "was observed and witnessed by a whole company of cavalry, officers and men."

WORM DISEASE IN CATTLE.—An exchange states that "A new worm disease is raging among the cattle in Pennsylvania. The worms get on the back of the cattle and eat their way into the flesh. The animals are greatly troubled with the affliction, and roll over the grass as though in great agony. Sometimes, while grazing, they start off suddenly and run wildly over the meadows, as though suffering intensely."

TO PREVENT BULLS THROWING FENCES.—Fasten a button securely to each horn; then take some large annealed wire, make a loop large enough to pass a small rope through, and fasten it around the horn close to the button, one on each horn. Take a snap, such as are used to place in a bull's nose, put it in his nose, tie a small rope to the snap, pass it through the loop on each horn, and back again to the snap, and fasten securely. Mr. Bull will walk up to the fence, but will stop before he goes through, on account of a slight pressure on his proboscis.—*Correspondent of Co. Gent*.

LIGHT IN STABLES.—It is a great mistake to construct stables without light. It is necessary both for health and comfort. Repeated experiments show that disease is much more frequent in dark than in well lighted apartments. One who was long at the head of the medical staff in the Russian army states that cases of disease on the dark side of an extensive barrack, were uniformly, for many years, in the proportion of three to one, to those on the side exposed to strong and uniform light. Humboldt has also remarked, that the residents of South America, who wear light clothing—thus allowing a free ray of light to the skin—enjoyed immunity from various diseases, which prevailed extensively among the inhabitants of dark rooms, and underground locations. "Light, therefore, is a condition of vital activity, and in view of preserving the sight of a horse, it is necessary that he have free access to the sun's rays while he is the habitant of the stable."—*Rural American*.

THE WORD "SYMMETRY" AS APPLIED TO CATTLE.—

Bell's Messenger enlightens a correspondent on the proper use of this word as follows:—"Rugby" is informed that the word symmetry, when used with reference to cattle, as it is often used, to express neatness and smallness, is used improperly. Neatness and smallness constitute no part of the idea represented by the word. They may or may not consist with symmetry, but they are not symmetry. Neither would it be quite correct to say that symmetry means proportion, though it does mean proportion; but it means proportion in connection with the balancing of parts against one another so as to produce correspondence and equality, and is not necessarily, as to primitive meaning, of a complimentary character. Medical men use the word in the sense of coincidence, thus: if a patient's right eye is affected with some disease, and the left eye becomes also affected, that is symmetry. The one organ is supposed to sympathize with the other; and symmetry, or the coinciding of parts, is the consequence. Here we get the idea of balancing. In this way Abraham Tucker evidently uses the term when he says—"symmetry gives despatch to the eye by enabling it to take in objects by pairs." But a passage or two from one of the most interesting scientific works in the English language, Dr. Roget's "Animal and Vegetable Physiology" (Fifth Bridgewater Treatise) will perhaps put the matter as plainly as it is possible to put it within the space of a short article. "In these 'two classes' (annulose and vertebrated animals) a remarkable law of symmetry obtains in the formation of the two sides of the body, which exhibits the lateral junction of similar but reversed structures." "In vertebrated animals, all the organs which are subservient to the sensorial functions are double; those on one side being exactly similar to those on the other. We see this in the eyes, the ears, the limbs, and all the other instruments of voluntary motion; and in like manner the parts of the nervous system which are connected with these functions are all double, and arranged symmetrically on the two sides of the body. The same law of symmetry extends to the brain; every part of that organ, which is found on one side, is repeated on the other, so that, strictly speaking, we have two brains, as well as two optic nerves and two eyes." The etymology of the word symmetry conveys the idea of measurement; but the analogy between balancing and measuring is close. Generally, and in ordinary intercourse of language, the word signifies coadaptation of parts. 'Rugby' will see (and this is chiefly what we have to assert) that it is independent of size. A symmetrical object, an object whose proportions are well balanced, loses none of its symmetry when seen through a magnifying glass; neither does a colossal object whose proportions are characterized by incongruity and irregularity become symmetrical when viewed through a diminishing medium."

Sheep Husbandry.

Crossing Sheep.

A WRITER in the *Agricultural Gazette* makes the following remarks upon this subject:—

"Crossing cannot be adopted as a system without producing a variety of type, form, and size, which makes a flock, as a flock, not only unsightly, but unfit for breeding purposes, and consequently tending to the very contrary of that which it is desired to further and to recommend. It may be laid down as a rule that every ewe lamb that falls should be fitted to be the mother of future generations; we may be content that in such a matter the exception should prove the rule. Take one of the very best instances in favor of this practice, in one of the last recognised crosses, whose fixity of type has so far been allowed as to claim a recognition as a separate class in the prize list of the Royal Agricultural Society—the Oxford Down. In skilful hands, such as those to whom these prizes are awarded, a very fine animal has been produced, and perpetuated through many generations, and they have justly established their claims. But it will not be denied that the peculiar features of the original stock which furnished the cross, the Down and Cotswold, are too apt to show themselves, so much so, that great difficulty is experienced in keeping these effects within bounds, and it is said on good authority that when submitted to judgment, they are looked on as cross-bred sheep and no more. This is not said in disparagement of this stock, which is generally allowed to be often a profitable and therefore useful class of sheep, but is spoken of here as tending to prove the position that cross-breeding as a system tends to lessen rather than increase sheep breeding. Turn from the breeders, whose names are to be found in the prize list of the Royal and other Agricultural Societies, and from their prize animals and splendid flocks, and go into the district which lies between the Cotswold Hills on the one side and the chalk range on the other, where the cross between these two breeds finds most favour. 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 Down) that had been sent 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 fatting qualities said to belong to this class of animal. "Breed from the best natives, cross for fatting," is a recorded saying of Mr. Frost, bailiff to H. M. 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 true doubtless now. The practice of the Eastern Counties, so important as sheep districts, is essentially the same as that of the locality taken as an illustration. There are many instances of gentlemen whose parks offer the best opportunity for breeding the Sussex Down, who have been tempted to cross their flock, some with the Shropshire, producing at first at least a creditable animal; others using long-woolled or cross-bred (call them Oxford Downs) or other varieties, all leading in the same direction, producing ewes unfitted for the great purpose of their sex, the increase of their kind. If the Dorset ewe is crossed with a Sussex or other Down sheep, for the purpose of producing, rearing, and fatting off early lambs, the object is easily understood; or if the cross-bred ewe is put to the same purpose the object is understood,—the lamb and the mother usually go together to the shambles, and the sacrifice is made to the luxury of the world. The object of dwelling on these various phases of practice is to give prominence to a point not often noticed; and this is done with great confidence, because the increase of pure breeding as a system must tend to improvement—as general cross breeding tends to the deterioration of the stock—and furnishes such ewes as are best fitted for increased production."

AN EW E LAMB at one year old produced twins; the second year she again produced twins, the third year triplets, the fourth year triplets; these last all ewes, each of which now has lambs. If that was not a sheep story, we should set it down as a fish story, but sheep can do marvellous things in these days.—*Ohio Farmer.*

STRANGE ACCIDENT.—L. Perkins, a farmer, who was shearing sheep recently, says the Oregon Arena, met with a severe accident. He had a habit of carrying his tongue between his teeth while at work. In catching a sheep, it threw up its head and struck his chin, causing his teeth to close on his tongue, and severed it, except about a half or three-quarters of an inch. It was sewed together by one of the men present, and is doing very well.

SHEEP ELOQUENCE.—Eloquence has not entirely died out. The following is given as a verbatim report in the Illinois House:—

"Mr. Speaker—I think sheep is par-amont to dogs, and our laws hadn't oughter be so that dogs can commit ravages on sheep. Mr. Speaker, I represent sheep on this floor. [Laughter, and cries of that's so.] Up where I live, sheep is of more account than dogs; and although you may tell me that dogs is useful, still I say on the other hand, that sheep is usefuller; and show me the man that represents dogs on this floor, and that thinks dogs is more important than sheep, and I will show you a man that is tantamount to a know nothing. Mr. Speaker, I am through."—*Kansas Farmer.*

WEIGHTS OF SHEEP AND FLEECES.—The following are the live weights of the long-wool d breeds of sheep:—At two years old Leicesters weigh 120 to 150lbs.; Lincolns, at a year old, 80 to 100lbs.; Cotswolds, at two years, the same as the Leicesters; Romney Marsh, 120 to 140lbs.; Exmoor, 60 to 70lbs., at four or five years of age; Herdwicks, at the same age, weigh 40 to 50lbs.; Bampton, at two years, 120 to 150lbs.; Devonshire South Hams, at the same age, 100 to 120lbs. The weights of the fleece of the above are as follows: Leicester, 7lbs.; Lincolnshire, lowland 10lbs., uplands 8lbs.; Cotswolds, 7 to 8lbs.; Romney Marsh, 8lbs.; Exmoor, 4 to 5lbs.; Herdwicks, 3 to 4lbs.; Bampton, 7lbs.; Devonshire South Hams, 9 lbs.; blackfaced Scotch, 3lbs.

STRANGE FREAK OF NATURE.—We have to narrate a most extraordinary freak of nature which recently exhibited itself in the Township of Raleigh, in this county. Mr. Richard Cudmore, a respectable and well known farmer in that neighbourhood informs us that some two months, or more, ago, a ewe sheep belonging to him, gave birth to twin lambs, both of which are now living and well. The mother suckled these for some six weeks, when one day Mr. Cudmore missed her from his flock and pitied the lambs as they went bleating about the field. But what was his surprise, however, when some two days later he discovered the lost ewe in the woods suckling a third lamb of which it had just then been delivered! When brought again into the presence of her former lambs the ewe would have nothing to do with them, all her affection apparently being centred upon her third lamb, which, at latest accounts, was alive and doing remarkably well! We think this is one of the most extraordinary freaks of nature that we have heard of for many a day.—*Bothwell Petroleum Reporter.*

DEATH OF "GOLD DROP."—The *Middlebury Register* of the 9th learns "that Mr. Hammond's best ram, 'Gold Drop,' died on Sunday night. This sheep probably had a better reputation than any other that ever lived. Mr. Hammond could at any time for a year past have taken \$10,000 for him. He was valued at \$25,000. He will be sincerely mourned by all sheep-breeders at home and abroad. He was four years old."

The figures quoted above require no comment to show the point which the "sheep fever" of the past three or four years has reached. Without disputing the fact that the price named might have been taken for this ram, or that the valuation put upon him had a foundation in his actual earnings, no sensible man can claim any basis on which either should rest, beyond the current fashion of the day, and a most exaggerated notion, industriously diffused through the community, of the merits of the sort of sheep of which the animal mentioned was an example. While such a mania lasts, paragraphs like the above attract comparatively little notice; when the mania is over, and people sit down to count the cost in the sober light of ultimate returns, these "fevers" and those who take part in inciting them, appear and are commented on, in a very different way.—*Country Gentleman.*

The Dairy.

The Risks and Profits of the Cheese Trade.

There seems to be a very indistinct idea in reference to the cost of getting cheese to New York, and ready for the shippers. Under our present system of marketing it takes money and labour to forward our goods to the sea-board, and put them in the markets. It is quite a simple matter for a dairyman to sell 50 or 100 cheeses at the depot, or dairyhouse, and take his pay; he has only to deliver his goods at the railroad depot, and after that everything is managed by the dealers. If prices advance, large sums are made by those engaged in the trade; but if they decline, it goes the other way.

The cheese trade is an exceedingly risky business for dealers. They like it because the scales quickly turn, and, like dealing in stocks, it has its risks and excitements. It don't take long to tell whether a bad or good purchase has been made; only a few days are required to "wind or unwind the bobbin." Sometimes adverse circumstances bear hard on the dealer, and he is thousands of dollars worse than nothing, he keeps up good courage, however, and like the stock broker, commands a smiling face though his heart is sad, until a streak of good luck sets all right again.

More has been lost by dealers in the cheese trade than has been made, and yet so attractive is the business that the numbers operating increase rather than diminish. In old times farmers took the risk, and every few years large losses in the aggregate were sustained. Recently farmers sell only for cash on delivery, and no respectable dealer asks now for a moment's credit. To ask credit would at once create suspicion among producers, and purchases could not be effected.

If cheese is selling at 15 cents at the depot, it should sell to the shippers from the New York houses at seventeen cents, in order to be a paying business all round. The estimates are as follows:

Rates given by country buyers for purchasing.

One and half per cent. per 100 lbs.	..22
Gross freight to New York	..63
Freight on boxes	..07
Carriage	..04
Cooperage, (average)	..04
Average shrinkage on boxes, and loss on weight on incorrect scales	..15
Stamp, postage, and interest on moneys between time of sale and money collected	..10
New York house, 6 per cent. commission on sales	..75
Total	..\$2.00

or two cents per pound by the time it reaches the shipper's hands.

These are the charges which are made when cheese is sent on commission; so it will be seen what farmers may expect when cheese is disposed of in that way.—*Utica Herald.*

Cheese Making from a Few Cows.

"A Farmer's Wife," of Guernsey Co., Ohio, sends the following account of her simple method, to the *American Agriculturist*: "Cheese making is more profitable than butter making in the hot summer months, for those who have not a good place to set milk or cream. We seldom keep more than four cows; and from that number we make a cheese daily, weighing from 8 to 10 pounds. The morning's milk is strained into a kettle with the night's milk, and warmed. Then, after having the rennet-soaked a day or week previous, pour in as much as will curdle it in 15 or 20 minutes, but not sooner, as too much makes the cheese dry, and apt to crack. A little experience here, however, is all that is necessary, as it would be impossible to tell the exact amount of rennet to the quantity of milk, owing to the great difference in the quality of rennet. Stir it together, and when curdled, let it stand five or ten minutes. Then cut the curd in slices with a knife, about one inch thick, and cut crosswise in the same manner. Place the kettle again on the fire; put the hand in down to the bottom, stirring it gently, so as that the whole shall be heated evenly, considerably more than milk warm. This will separate the whey from the curd. Remove the kettle from the fire, and let it stand a minute. Dip, or pour off the whey on the top, and pour the curd into a large butter-bowl. Salt to suit the taste. Then cut fine with a knife, and put it in a crock, and set it in a cool place. If you have not such a place, put in salt enough for the next curd, which will preserve it until the next morning. Then make another curd in the same way, and

mix well together, and put to press. I prefer this method, for two reasons. First, while making cheese, the family can be provided with milk and butter. Secondly, the cheese needs some attention after putting to press, which can better be attended to in the morning. I use the lever press in preference to the screw, because the weight is constantly pressing, whereas the screw presses strongest at first. The weight should be light at first and gradually increased; and, if desirable, the cheese may be taken out the same evening and turned, after washing the cloth (which should be of linen), and put back to press until morning, when it may be taken out and rubbed well with butter, and placed on an airy shelf and turned and rubbed daily. I prefer letting it remain until morning before turning, as the cloth will then come off readily, leaving the cheese perfectly smooth. It should then be put back to remain until next morning. Cheese made after the above directions, and pressed in this way, will seldom crack, or be injured by the cheese-fly; but if any should crack, rub them well with flour.

“Cheese, but little inferior to the best quality, may be made from the milk of two or three cows, by straining the night's milk altogether into a vessel sufficiently large to hold it, as but little cream will rise when a large quantity of milk is contained in a deep vessel. Whatever does rise should be removed, as it will run off in the whey. Add the morning's milk, and proceed as above. A very simple, but rude press may be constructed by any farmer's wife in five minutes, which will subserve a good purpose. Place the cheese on a piece of a broad board, a little inclined, and use a fence rail for a lever, placing one end under a building or any other structure of sufficient weight, and on the other end lean a couple of rails, or hang a pail of stones. Cheese should be pressed only hard enough to remove the whey. A little practice will make perfect. While pressing, the cheese should always be kept shaded from the sun. I think we are inexcusable if we have not our tables bountifully supplied with this most wholesome, palatable, and nutritious article of food.”

Working and Packing Butter.

ONE of the causes of bad butter is the habit which some dairymen indulge in of leaving their butter unworked for a considerable time after churning. Every hour that the buttermilk remains in contact with the butter, after churning, is an injury, it cannot be freed from it too soon.

The grain of butter is often spoiled by too much working; on the other hand, if it is not worked enough, it will be spoiled; the process therefore requires much attention.

It is hard to define with accuracy what we mean by the grain of butter, but every one knows whether butter looks or feels greasy or waxy. When it has the appearance of wax, we say the grain is good, and the more it resembles wax in its consistency, the better is the grain. The more greasy it is in appearance, the more we say the grain has been injured. In order to free butter from the milk with the least injury to the grain, it should be gathered into an egg-shaped form with a wooden butter ladle, without touching it with the naked hand; it should then be washed longitudinally around the whole circumference, making the channels lowest at either end of the transverse axis, so that the milk can run readily away. Pressing the mass together, so that the particles are compelled to slide over each other laterally, as when putty is worked, and mortar is tempered, must be carefully avoided, under penalty of spoiling the grain.

Butter machine workers have failed of success chiefly because of the pressure which causes a rubbing motion of the particles upon each other; they mash the butter without properly working it. I have no doubt, however, that the mechanical ingenuity of our country will yet supply a form of this much needed instrument, which will relieve dairymen of the heavy labour of working it by hand, without injuring the grain.

It is not easy to work out all the buttermilk at once; it is, therefore, better to set it aside after the first working in a cool place for twelve hours, during which the action of the salt will liberate more of the buttermilk; the first process should then be repeated, with the same precautions against injury to the grain, it is then ready for packing. I need not tell the dairymen of this country that no packages save oaken tubs are fit for butter, nor that the wood from which they are made should be thoroughly seasoned. They should be prepared by pouring boiling water into them, in which they should soak for twenty-four hours; they are then to be filled with strong lime for two or three days, after which they should be well rubbed with fine salt, when they are ready to receive the butter.—*J. S. Gould's Address.*

Entomology.

Pear and Cherry-tree Slugs.

A SUBSCRIBER, writing from Owen Sound, is desirous of information respecting the habits of these destructive insects, and the best mode of counteracting their ravages. In his neighbourhood, he declares some trees are left without a green leaf. In other parts of Canada, too, we have observed almost similar effects. We shall gladly, therefore, do what we can to elucidate their history.

In a recent number we gave an account of the currant-bush caterpillars which have lately attracted so much attention. To the same family (*Tenthredinidae*) as the first of those described there, do the disgusting-looking insects before us belong. They live for the most part on the upper side of the leaves of pear and cherry-trees, of which they devour the green pulpy portion, or parenchyma, leaving only the skeleton of the leaf, and the skin of the under-side. As many as twenty or thirty may sometimes be seen pursuing their natural and only avocation of eating on the surface of a single leaf; while rarely are less than two or three to be found together. In some seasons they appear in such multitudes that the foliage of the trees they attack is completely destroyed, and those thus affected are obliged to put forth new leaves in the middle of summer from the ends of the twigs and branches. This, of course, materially impairs the vigour of the trees, and by diverting the supply of nutriment from its proper channels, lessens or destroys altogether the expected crop of fruit. This provisionally is not a very frequent occurrence, though more or less of these noxious insects may every year be found in our gardens.

About the first week in June* the young slugs begin to be hatched from their eggs, and continue to come forth till towards the end of the following month. At first they are white, but ere long a shiny matter exudes from their backs and produces their ordinary blackish, olive-green colour. Their under-side is dull yellowish; they are provided with twenty very short legs, each segment except the fourth and last being furnished with a pair; the head is dark brown, very small, and generally almost entirely concealed beneath the front portion of the body, which is swollen and much thicker than the hinder part, giving the insect rather the appearance of a small tadpole, though it is of by no means so lively a disposition. They take between three and four weeks to attain to their full growth, when they are about five lines in length. During this period of feeding they cast their skins no less than five times, coming out after the last moult in a clean yellow jacket, quite free from the disgusting slimy matter that formerly covered them. They change, also, slightly in form, becoming longer and of more regular shape. With this alteration in appearance they leave off feeding, and soon after descend to the ground; here they set to work to burrow three or four inches into the soil, and, forming for themselves a cell—which they line with a shining, sticky substance—undergo their transformation into the pupa or chrysalis state. For about a fortnight they remain in the ground in this dormant condition, and then their organs of flight having become fully developed, they break through their cells, emerge to the surface of the earth, and soon gaily soar away in the form of flies, ready to perform their appointed duties, enjoy their brief span of life, and die.

These flies are about three lines in length, of a glossy black colour, with four opalescent transparent wings, which have a smoky tinge, forming a

* The reader will of course understand that where dates are given in this and other articles on insects, the average time is indicated. No period can be accurately specified for the appearance, etc., of insects in this variable climate, as the seasons are so different, even in consecutive years. During the present season, for instance, the end of May and early part of June were unusually warm, and many insects came out which do not ordinarily show themselves till much later in the summer.

dusky cloud across the middle of the front pair, the hind ones being plain. The front and intermediate pairs of legs are dirty yellow or clay-coloured, with black thighs; the hind pair are blackish, with yellow knees. The females being provided with the usual saw like organs of this family, make little slits in the skin of the leaves, on which the slugs are afterwards to feed, and lay a single egg in each. These take about a fortnight to hatch, and then a second brood appears, which attain to their full growth, and descend into the earth towards the end of September or the beginning of October. There they remain till the following spring, when they leave their winter quarters and are changed into flies. And thus they go on in a continuous round of existence.

These insects are called the pear, or Cherry-tree Saw-fly (*Selandria Cerasi, Peck*). A very full account of their habits and transformations has been given by Professor Peck, in a work published at Boston in 1799, under the title of “The natural history of the Slug-worm.” It has for many years been out of print, and we have never been fortunate enough to meet with a copy.

These destructive insects, small though they be, are yet (according to the wise provision of Providence) subject to the attacks of foes that are far more minute. Prof. Peck—Dr. Harris states—has described a tiny ichneumon fly that stings the eggs of this saw-fly, and deposits in each one a single egg of its own. From this, in due time, a little maggot is hatched, which lives in the shell of the saw-fly's egg, devours the contents, and afterwards is changed to a chrysalis, and then to a fly like its parent. Prof. Peck found that great numbers of the eggs of this insect, especially of the second brood, were thus rendered abortive by this atom of existence. Birds also devour numbers while on the trees, and underground they are frequently destroyed by mice and other “small” animals. When these checks, however, are reduced or removed by circumstances, then the slugs appear in vast numbers, and carry on the work of destruction to the fullest extent.

Various methods have been resorted to, with variable success, for putting a stop to their ravages. Ashes or quick-lime sifted on the trees by means of a sieve fastened to the end of a pole, has been much recommended. The best remedy, probably, for this and other similar pests which are too minute to be picked off by hand, is that which is called Haggerston's Mixture; it is composed of two pounds of whale-oil soap dissolved in fifteen gallons of water, and is applied by means of a large syringe or hydro-pult to the affected trees.

ERRORS ABOUT INSECTS.—Several very erroneous statements concerning these annoyances are constantly going the rounds of the press, and even find admittance to books. We propose to correct a few of the more important.

Plums are not safe from the curculio, “as soon as the stone is formed.” If the first part of the season is favourable to the curculio's operations, the first set of eggs will be laid by the time the plums are half grown, and early fruit will escape with but little farther injury. But a second set of eggs will be ready for the later plums, and the first laying is often so protracted as to leave no appreciable interval between it and the second.

The apple borer cannot be exterminated by any kind of attack through round holes which it makes in the bark. These holes are made by the mature beetle in escaping from the tree after the grub has finished his work.

The caterpillars cannot be overcome by destroying their webs while they are foraging abroad. Neither are they always to be found at home until 9 o'clock A. M. Their habits vary with the weather, and are guided by acute instincts.

Honey bees are not injurious to fruit. Even wasps and hornets prefer that which has begun to decay, and rarely attack a sound spot.

Neither potato rot, pear blight, or black knot are caused by any insect whatever. As to plums and cherries, injury from any cause gives an occasion for rot. All these diseases, except pear blight, are fully ascertained to be, or be caused by, fungi. The leaf blight of the pear, and that which cracks the virgalien, are fungi; but as to the terrible fire blight we have no certainty as yet.

When you see a bird dive at a cherry, and then see a hole in the cherry, are you quite sure that the bird made the hole? Many kinds of bugs and flies make such holes, and a bird who picks them out is doing you good service.—*New York Journal of Commerce.*

Veterinary Department.

Rabies or Canine Madness.

RABIES, canine madness or rabies canina, is a nervous disorder produced by the peculiar poison from the bite of a mad dog. Dogs, and their congeners, cats, foxes, and wolves, suffer most frequently, but cattle, sheep, and horses are also attacked, even fowls are reported to have been affected; whilst in man the disease likewise occurs, and from its inducing a horror of water, is termed Hydrophobia. In all animals it invariably proves fatal.

It is very important to distinguish the very earliest symptoms of so dangerous a disorder. Mr. Youatt who had extensive opportunities of observing the disease, and has recorded his experience of it in a work entitled "Canine madness" published in London in 1830, mentions that the dog in whom rabies is showing itself licks and scratches very constantly and determinedly at any bitten part, and becomes sullen, dull and depressed, or restless, quarrelsome, and excited. He is always nervous and easily roused, and if annoyed becomes much excited, bites at his chain, his kennel, and at other dogs, or at cats if he can get near them. Even when undisturbed, and tolerably quiet, he snaps at intervals at visionary objects. His bark is greatly altered, and resembles a howl, its earlier sounds are prolonged and dolorous, and its concluding strains harsh and rough. His appetite is depraved, wood, straw, leather, and even excrement are devoured. The dog is very thirsty; unlike the man with hydrophobia, he has no dread of water, will swim through it and eagerly lap it; but the swelling about the throat, and the paralysis of the muscles of the throat, interfere with swallowing, especially in the more advanced stages of the disease. About the throat and mouth thickened viscid mucous adheres which is endeavoured to be removed by the choking rough spasmodic cough, and by diligently rubbing the lips with the paws. The animal's general appearance is changed, he has a vacant pre-occupied stare, saliva drivels from his mouth, his under jaw somewhat paralysed, is inclined to drop, his eyes are reddened, his breathing hurried, he looks thin and tucked up, walks with an uncertain sidling gait, and usually carries his tail despondingly between his legs. To the last, however, he remains conscious, recognises his master, and will often endeavour to do his bidding. Death occurs in from four to eight days, usually from exhaustion, occasionally from suffocation or apoplexy.

After death the blood is found dark coloured, imperfectly coagulated, deficient in fibrine, and causing straining of adjacent structures. The mucous membranes and glands about the throat are swollen, congested, and inflamed, and the inflammatory redness extends alike along the respiratory and digestive mucous membranes, sometimes reaching in the latter tract as far as the jejunum. In the stomach and bowels are found quantities of straw, dirt, and indigestible matters. The secretions in the bowels are discoloured, being of a chocolate, brown, or dirty green hue. As in so many other nervous disorders, the nervous system does not after death exhibit any very definite abnormal appearances. In a few cases engorgement of the vessels of the brain and medulla oblongata have been observed.

Professor Dick, the late Sir Isaac Pennington, Professor of Physic at Cambridge, and a few other good authorities consider that rabies has nothing to do with the bite of a dog; that it is merely a violent inflammation of the mucous membrane of the nostrils and throat, extending thence to the brain, and thus developing the notable nervous derangement; that it prevails like influenza as an epizootic; and that in man the peculiar symptoms of hydrophobia are the result mainly of a disordered imagination. These views are, however, untenable. Neither rabies in animals nor hydrophobia in man ever occur without the patient having been inoculated by the peculiar poison produced within the body of a rabid animal. In the large proportion of cases there is good evidence of the patient having been bitten by a mad dog. In 1810 a mad dog in the neighbourhood of Senlis bit fifteen persons, three of whom died of hydrophobia. A dog in Lord Fitzwilliam's kennels bit several of his fellows, and in five days died mad; six others of those bitten afterwards became affected, the first in twenty-three days, the last only after 183 days.—Wolves, jackals, and foxes have bitten hundreds of people, and of those bitten nearly one-half have died of hydrophobia. The saliva from a man labouring under hydrophobia has produced rabies in dogs. A groom died of hydrophobia from having his hands scratched by the tooth of a rabid horse, to which he was giving a ball. Not only the saliva, but even the

blood from mad dogs has been found by Hertwig to propagate the disease. The poison requires however to be brought in contact with an abraded surface. Upon the sound skin or even on a healthy unbruised mucous surface it is probably perfectly harmless. Dogs appear more susceptible to the influence of the specific poison than any other animals. Hertwig produced the disease in 14 out of 59 inoculated: Youatt gives even a larger proportion, stating that two out of three dogs bitten die mad. Of the horses bitten by mad dogs or wolves, a large proportion, fully one-half perish. Sheep and cattle, from the abundance of their woolly covering and the looseness of their skins, although bitten in large numbers, suffer in lesser numbers than dogs. The clothing of men affords a great protection against the bite of a rabid dog, for the envenomed tooth is thus wiped before it reaches the flesh, and hence the chances of inoculation are greatly reduced. The famous John Hunter records an instance in which twenty-one persons were bitten, and only one became affected with hydrophobia.

It appears that the poison remains for a variable time locked up as it were in the wound produced by the tooth. Hertwig found that in dogs about fifty days elapsed between the animal being bitten or inoculated, and his becoming rabid. Of sixty recorded cases in man, the average period between the bite, and the appearance of the disease varied from four to seven weeks; fifteen days was the shortest time, and nine months the longest. Such facts indicate the importance of at once cauterizing the bite inflicted by a mad dog. With nitrate of silver the lacerated surfaces should be freely run over. Where practicable, a still safer remedy is the removal of the injured part with the knife. Even where the wound has been made for several days the knife or caustic may still prove serviceable. When once the symptoms of the complaint have shown themselves, treatment is perfectly hopeless. The animal should be carefully chained up; if he has injured no one he should at once be destroyed; and if sufficient care were taken to destroy all mad dogs, and all dogs bitten by them, there is no doubt that within a few months this dreadful disorder could be entirely exterminated, and in England we might enjoy that immunity which Egypt, Isle of Cyprus, Madeira, and South America still have from rabies and hydrophobia.—*North British Agriculturist.*

Hours of Colts.—The feet of unshod colts should be pared down as often as they need it, since, if neglected, they may become permanently misshapen, and the unnatural strain upon the pastern, caused by the excessive length of the toe, is very apt to produce ringbone.—*Ohio Farmer.*

The Apiary.

Management of the Apiary in September.

BY J. H. THOMAS.

By the middle of this month, the fall honey harvest will be past, and bees will add no more to their stores. All honey boxes not removed before should now be taken off. All late or small swarms should now be put together, for one strong stock is better than three weak ones, especially if they are to be wintered out of doors. All stocks that have not sufficient honey to carry them through the winter, should now be fed in order to have them store it in the combs, and seal it over while the weather is warm. About 30 lbs. of honey are required to winter a strong stock safely in the open air; but half that quantity would winter a good stock if housed in a proper place. If moveable-comb hives are used, weak stocks may be strengthened by exchanging frames with a strong stock, or a frame containing honey may be given them.

Now is the time to feed bees, and not wait until winter. It is bad policy to disturb bees during the winter. A syrup made of common sugar will answer for feed where honey cannot be had; white sugar is equally as good as honey. All stocks that are fed should be carefully guarded against robbers by contracting the entrance so that only a bee or two can pass at a time. In properly constructed moveable-comb hives there is not the least difficulty in feeding. All queenless stocks should now be taken up, or supplied with a queen. Stocks in common hives that are to be taken up, should be attended to now, as they will add no more to their stores. Moveable-comb hives may be examined, and if milder grubs are found in the combs, they should be removed.

If grubs are in the combs, a number of cells in different places will be uncapped, exposing the young bees. This is done by the bees in search for the grubs; in other places the caps of the cells will be removed, exposing the web or gallery of the grub, which is formed directly over the heads of the young bees and looks white where it is exposed by the bees: in this a grub will generally be found. By touching these places lightly with a knife, the grub will be seen to move under the web, and its exact locality will thus be discovered. It may then be easily removed with the point of a knife, saving the bees much trouble. In common hives this cannot be done, though if nests are formed they may sometimes be seen by turning up the hive and looking in between the combs, and may often be removed with a knife. Let it be remembered that stocks that have cast five or six swarms are very apt to be queenless or so reduced in bees as to be almost worthless. In such a case give them more bees, or a queen, as the case may require.

Chinese Mode of Taking Honey.

MR. FORTUNE, the well-known English botanist, thus describes the mode adopted by the Chinese for taking honey from bee-hives. He says: "The Chinese hive is a very rude affair, and looks very different from what we are accustomed to use in England; yet, I suspect, were the bees consulted in this matter, they would prefer the Chinese to ours. It consists of a rough box, sometimes square and sometimes cylindrical, with a moveable top and bottom. When the bees are put into a hive of this description it is rarely placed on or near the ground, as with us, but is raised eight or ten feet, and generally fixed under a projecting roof of a house or out-building. No doubt the Chinese have remarked the partiality which the insects have for places of this kind, when they choose quarters for themselves, and have taken a lesson from this circumstance. My landlord, who had a number of hives, having determined one day to take some honey from two of them, a half-witted priest, who was famous for his powers in such matters, was sent for to perform the operation. This man, in addition to his priestly duties, had charge of the buffaloes which were kept on the farm attached to the temple. He came round in high glee, evidently considering his qualification of no ordinary kind for the operation he was about to perform. Curious to witness his method of proceeding with the business, I left some work with which I was busy, and followed him and the other priests and servants of the establishment to the place where the hives were fixed. The form of the hive in this instance, was cylindrical; each was about three feet in length, and rather wider at the bottom than the top. When we reached the spot where the hives were placed, our operator jumped upon a table there for the purpose, and gently lifted down one of the hives and placed it on its side on the table. He then took the moveable top off, and the honeycomb, with which the hive was quite full, was exposed to our view. In the meantime an old priest, having brought a large basin, and everything being ready, our friend commenced to cut out the honeycomb with a knife apparently made for the purpose, and having the handle almost at right angles with the blade. Having taken out about one-third of the contents of the hive the top was put on again, and the hive elevated to its former position. The same operation was repeated with the second hive, and in a manner quite satisfactory. But, it may be asked, 'Where were the bees at this time?' and that is the most curious part of my story. They had not been killed by the fumes of brimstone, for it is contrary to the doctrine of the Buddhist creed to take animal life; nor had they been stupefied with fungus, which is sometimes done at home; but they were flying about over our heads in great numbers, and yet, although we were not protected in the slightest degree, not one of us was stung; and this was the more remarkable as the bodies of the operator and servants were completely naked from the middle upwards. The charm was a simple one; it lay in a few dry stems and leaves of a species of Artemisia, (wormwood,) which grows wild on these hills, and which is largely used to drive that pest, mosquito, out of the dwellings of the people. This plant is cut early in the summer, sun-dried, then twisted into bands, and it is ready for use. At the commencement of the operation which I am describing, one of the substance was ignited, and kept burning slowly as the work went on. The poor bees did not seem to know what to make of it. They were perfectly good-tempered, and kept hovering about our heads, but apparently incapable of doing us the slightest injury. When the hives were properly fixed the charm was put out, and my host and his servants carried off the honey in triumph."



THE APPLE-TREE OR TENT CATERPILLAR.—"John Soules" will find an illustrated article on this subject at page 237, of vol. I of THE CANADA FARMER.

PLUM TREE SUCKERS.—Samuel Walker, of Deerpark, writes as follows:—"I have in my garden some plum trees, which give me a great deal of annoyance, by sending up a number of suckers. I have tried pulling them up and cutting them off to no purpose. Will you or some of your numerous correspondents be kind enough to inform me how to remedy this nuisance, and prevent other trees from doing the same? I may add that the several varieties of grafted plum are bearing a very abundant crop, while the natural plum has entirely failed this year.

GRUBS AT THE ROOTS OF STRAWBERRY PLANTS.—"G. B. Salter" writes as follows:—"I set out last spring a number of strawberry plants, which for some weeks did exceedingly well, but all at once I noticed that the leaves of nearly every plant was drooping and dying. Upon an examination of the roots, I found that numbers of the large white grub, known as the potatoe grub, had eaten the fibres, and in some cases the roots themselves. Can you inform me what I can use in the future to protect my plants from the grub?"

ANS.—We are of opinion that if you carefully prepare the ground for your strawberry plants, by thorough trenching to the depth of two feet, adding a liberal supply of rich, well-rotted manure, and afterwards reducing the soil to a fine tilth, you will not be troubled with the grub.

HATCHING EXPERIENCE.—"John Vetch," of Brockville, communicates the following:—"In your issue of the 15th April, 'G. H. M.,' of Paris, states that small hens are best for setting, as they are not so apt to break the eggs. My experience this season is as follows: I set a very large Brahma hen with 16 eggs. She broke one while fighting with another hen, and brought out 15 fine healthy chicks, and has not lost one. I also set three of the smallest hens I could get with the following results: One with 10 eggs, broke 6, and brought out 4 birds; one with 9 broke 4, and brought out 5 birds; and the other with 10 broke 7, and brought out 3 birds; which only makes 12 chickens for the three smallest hens, and 15 for the large hen. In former years I have always had good luck with my large hens."

BARREN PEAR TREES.—On this subject "Merrimac," of Hope, writes as follows:—"I think that the cause of your correspondent, 'Oscar's' pear trees being barren is in consequence of the soil being too dead, or too rich, or the roots penetrating into the subsoil, causing over-luxuriance from a superabundance of sap. Cutting off the roots of trees has sometimes been the means of causing them to bear fruit. Removing the decayed, cracked bark from old trees, is said to have a good effect. The same end has been obtained by removing annually a narrow portion of the bark, which is termed "ringing." In spring this process is said to improve the quality and precocity of the fruit. Ringing, when the blossoms are fully expanded, produces a similar effect, by interrupting the descent of the sap. Stripping off pieces of the bark from stem and branches checks luxuriance in pear trees. Renewal of soil to the roots has often been resorted to with success: where the soil is too rich, a poorer kind may be substituted, and where too poor, a richer. Bending down the branches has also had the desired effect, and has been accounted for by its retarding the flow of sap. A good and judicious soil, on a firm, dry bottom, which will prevent the roots from penetrating too deeply into the subsoil, with plenty of light and air, and proper pruning, is the only permanent and general mode of inducing fruitfulness."

RULES FOR THE PROVINCIAL PLOUGHING MATCH.—"A Ploughman," of Glanford, writes as follows:—"I wish to direct attention to the rules recently adopted for governing the approaching Provincial Ploughing Match. It is not my intention to criticise, but merely to call attention to, and, if possible get an explanation of No. 7, which, in my estimation, detracts considerably from the merits of a generally appropriate and satisfactory set of rules. Some portions of the rule referred to will be found unintelligible to the majority of those interested. This remark is particularly applicable to the expression: "no false cutting will be allowed." Every ploughman probably understands what is meant by the technical term "cut"; but it is questionable whether any ploughman or anybody else, after carefully perusing rule No. 7, could, consistently with its terms, determine when any portion of the "cut" was false. My first impression was that the "cutting" would be considered true when the share and coulter cut at right angles to one another, and "false" when the share and coulter formed an acute angle; but on reading further, I found that interpretation inconsistent with the concluding portion of the same rule which allows of cutting at less than a right angle.

ANS.—We presume the clause in rule 7:—"no false cutting will be allowed"—means that the two sides of the furrow slice must be of equal thickness and perfectly parallel, so that if the slices were entirely removed from a ploughed ridge, the under-surface then exposed would not be saw-toothed, as is frequently the case, but quite level. The remaining provisions of the rule are so obvious, that comment, or explanation, is superfluous.

The Canada Farmer.

TORONTO, UPPER CANADA, SEPT. 1, 1865.

The Yield of 1865.

Now that the cereals are harvested and the root crops alone remain to be heard from, a very natural curiosity is felt by everybody to know the results of the farmers' toil the present season, so far as they can be ascertained. It is greatly to be regretted that there are no means in operation for definitely arriving at the desired information, and one can hardly help giving way to a feeling of vexation at the impossibility of getting in plain figures the produce returns for the whole land at once. So much depends on the success or failure of the crops, and every description of business is so affected by the agricultural prosperity of the country, that it is a pity we cannot have some method put in operation, by which as early as possible, we can know the truth regarding a matter so universally and so deeply interesting. Last year the station-masters, along the line of the Grand Trunk Railway, were instructed to report at headquarters, the crop returns in their several neighbourhoods, as a guide with regard to the freight requirements upon the road. These returns were published; and from the length of the line, and its location, a very good summary was thus obtained of the crops. Most likely the same course is being pursued the present year, and, if so, we shall ere long, have some valuable data from that source. In the meantime, we have only occasional notices by the local newspapers, the testimony of travellers, our own observation, and a sort of general diagnosis of the state of the country to go by. The reports of the local journals are very meagre, indeed it is remarkable how meagre they are, and how small an amount of space is given in them to the leading interest of the country. But it is gratifying to observe that these "few and far-between" notices, with scarcely an exception, concur in giving the most favourable accounts of the harvest just gathered in.

The testimony of travellers, and our own observation, somewhat limited it must be confessed, are in entire accord with these accounts. The early part of the season was particularly favourable for putting in spring crops. Grass got an early start, made a fine growth, and the hay crop, everywhere good, was in many localities extraordinary. A large yield of hay is a fine foundation to begin with. It means plenty of meat, plenty of milk, and plenty of manure. Dry weather set in throughout a large extent of country about haying time, and continued so as to affect somewhat seriously the straw of the various kinds of grain, and the growth of the early root crops. Late planted potatoes are more flourishing and promise a far better yield than those which were got in early, thus reversing the usual order of things, and furnishing an illustration of the uncertainties that beset the husbandman's calling. Insect pests of all kinds have been very numerous the present year, owing perhaps to the peculiar character of our last winter. The snow fell before severe frost set in, and the ground remained covered until spring, thus affording shelter and protection to chrysalides and larvæ. Still the midge visitation, worst and most dreaded of our insect ills, has been more limited in extent and less mischievous than might have been anticipated. The experience of the present season is valuable, as proving that the midge attack is not entirely resistless. With due attention to the requisite conditions of the soil and season, a judicious system of cultivation and rotation of crops, and a careful selection of some well-proved variety of "midge-proof" wheat for seed, remunerative crops of our great staple may still be obtained, notwithstanding the prevalence of the midge. A high degree of fertility in the land is found to be a great safeguard against this pest. Thorough drainage, early sowing, and other precautions have been taught, by costly experience, to be needful if we are to continue raising a large breadth of wheat. In a word, better farming is the great lesson taught by this as by most other drawbacks to agricultural success. We believe that the yield of wheat is considerably above the average, and that the crops of all kinds will prove the best we have obtained for several years. Various estimates are formed of this season's wheat yield, but it is rather premature yet to deal in figures, as the promise of the harvest field is not always borne out by the revelations of the threshing-machine. So far as we have learned, however, the new sample turns out very well. The produce of a field of Soule's wheat, grown in the neighbourhood of this city, averaged 36½ bushels per acre of cleaned grain, and we hear of cases in which even this large yield has been exceeded. Several instances have come under our eye of 30 bushels and upwards to the acre, reported in the local journals. The midge-proof varieties are less productive, and will probably fall below the average of other kinds, though we learn that in at least one instance, 30 bushels per acre have been obtained from this wheat. Oats, all over the country, will, we believe, be above an average crop. In many localities the straw is short, but the heads are more than usually full. Barley and pease will undoubtedly prove the largest crops we have gathered for years. The splendid harvest weather we have had has enabled farmers to get their crops in, without any drawback as to quality of either grain or straw. Now that reaping machines are so widely used, the prevalence of a fair amount of nice weather, almost insures the good condition of the harvested crop. Flax culture has been tried to a considerable extent this season with the most satisfactory results. The samples we have had an opportunity of inspecting, could not have been surpassed in length and quality of fibre by the choicest produce of the "Emerald Isle." It is much to be desired that our farmers would make known their experience in the culture of this crop, as an encouragement and a guide to others. The flax plant is destined, we believe, to prove a great boon and blessing to Canada. We

have to chronicle progress in dairy farming as characteristic of the present season. The cheese-factory system has been set fairly going among us. Four efficient factories have been in operation in the Oxford dairy region with the most satisfactory results, and we are glad to hear of others about to be started in various parts of the country. We look with much hope to this new branch of agricultural industry. The yield of fruit this year is better than usual. The smaller fruits that come early in the season were most abundant, and the apple crop will be a large one. We have not heard much complaint of the curculio this year, and augur from that a good yield of plums. Peaches are only raised to any extent in the Niagara District, and we are not aware how they promise. This has been a good season for bees, and we anticipate a plentiful honey harvest. Bee-keeping, we are glad to find, is largely on the increase all over Canada.

We intimated at the outset that a sort of general diagnosis of the state of feeling among our population, gave favourable indications as to the year's yield. A few weeks have brought a great change in this respect. While the harvest was uncertain, our people, remembering the poor crops we have had of late, and yielding to that tendency to discontent which is so characteristic of poor human nature, filled the air with all manner of complaints, and muttered thunders about absurd and desperate means of relief, were heard in some quarters, while uneasiness and misgiving were general if not universal. There is no denying it, that a "change is coming o'er the spirit of our dream," that we are in some way or other getting rid of the nightmare that was upon us, and that a general feeling of contentment and hopefulness is abroad. There is only one way of accounting for this, and that is by the general knowledge of the fact that we have got an abundant harvest. No great political changes have taken place. There has been nothing to dazzle the public eye, or draw off attention from our actual condition. Tidings have come to us from other lands, which show that we are better off than many of our sister nations—the sight of teeming plenty has gladdened us—evidence has been given that we have our lot in a good and pleasant land—and thankful for present blessings—we are settling ourselves, as a sensible people ought to do, to work out the problem of our destiny, trusting in the all-wise and merciful Providence that has never ceased and never will cease to care for us and for ours.

Mule and Donkey Show.

THE second annual show of mules and donkeys was recently held in the Agricultural Hall, Islington, and was in every respect a decided success. This somewhat novel exhibition was originated by the "Society for the Prevention of Cruelty to Animals," assisted by the wealth and influence of Miss Burdett Coutts. So determined was this benevolent lady to support the movement that she purchased a pair of donkeys, one of them a prize-holder of last year, in order to enter the lists as a competitor. With her opportunities she had only to wish to succeed in order to ensure success, and her donkey waggonette was accordingly one of the most remarkable sights of the exhibition. The masters of these generally ill-used creatures were afforded a clear demonstration that kind treatment is all that is requisite to render the donkey as docile and tractable as the horse. Some good specimens of mules, and upwards of half a dozen of that fine animal, the Spanish ass, were exhibited. There were also shown some very pretty specimens of small foreign asses, whose beautiful forms attracted much attention and curiosity. One of our British exchanges remarks that "it was a matter of complaint during the dog show that an almost incessant barking and yelling of the dogs frightened the neighbourhood from its propriety; but the braying of the donkeys throws into the shade the less sonorous barking of the dogs, and

proclaimed the presence of the show long before you arrived at the building."

Towards the afternoon, when the prizes had been awarded, racing in the arena commenced, which is thus described in the *Field*: "Much amusement was afforded by the ups and downs of the animals and their riders, and, indeed, this part of the show was more patronised than the occupants of the stalls whilst in them. Often, in the races, a donkey would go in winning style for two or three rounds, when the rider would forget himself so far as to offend his quadruped by an extra pull of the rein (the only offensive weapon), and then down would go the head and up the heels, to the extent of losing the race; whereas, had the hands been kept still, it could not be lost. There is a limit to the endurance even of a donkey, and nothing can prove this better than a donkey-race."

The same journal winds up its remarks as follows: "We trust that this exhibition will be continued annually, as a means of teaching the costermonger how he may best treat his dependent, which can only be done by combining kind treatment with plain, good food, and a reasonable amount of work."

The Cattle Disease in London.

THE existence of a fatal and infectious disease among the cattle of the London dairymen is exciting general concern in Britain. Without a single exception, all of our recent British exchanges devote editorials to a discussion of the tremendous consequences involved in the extension of the plague throughout the country. Dearth of fodder, for some time past, has led to a serious rise in the price of meat, and afforded dishonest dealers an excellent opportunity of disposing of diseased animals at remunerative prices. But this state of things shrinks into nothingness beside the lamentable prospects of the present visitation. From an exhaustive article on the subject in the *Medical Times*, it would appear that the malady is new to the present generation, but that its symptoms are somewhat similar to the malady known in the south-east of Europe as the *Steppe Murrain*, and in Germany by the name of the *Rinderpest*.

It would seem that the first appearance of the malady, so far as it can be traced, dates back to June 27th, when six cows, purchased at the Metropolitan Cattle Market, were seized with it. These animals were at once placed in quarantine, but in spite of the precaution, the disease spread until one hundred and fifteen died. Since that date twelve distinct outbreaks of the malady have been traced; and it is also reported to have appeared in various points of England, and even in Scotland, although more accurate information is required before these reports can be confirmed. This much, however, is certain, that in the month of July over 2,000 head of cattle were lost to their owners in the neighbourhood of London alone. Indeed, some of our contemporaries are disposed to believe that this number is rather below the truth. Many instances are said to be known where the entire stock—numbering in some cases 70 cows—have been entirely swept away by the ravages of the plague.

The symptoms and course of the disease are described by the *Medical Times* as follows:—"The cow, previously quite healthy, is suddenly seized with trembling or rigors; in an hour or two purging of thin fecal matter occurs, soon followed by purging of a thin, watery, brown, serous fluid, sometimes accompanied with a little blood. Of course, the milk is at once suppressed. Soon after a serous discharge takes place from the nose, and the mucous membrane of the nose and vagina are observed to become denuded of epithelium. Sometimes there is tympanitis. Prostration and collapse follow, the extremities become cold, and subcutaneous emphysema is observed in the loins. Death usually results in a period of from twelve hours to seven days."

The Government has taken prompt measures to ascertain how far the disease at present prevails, with a view to limit its extension. Inspectors, elected from the veterinary profession, are appointed to visit localities where the malady rages, in order to report and advise. Unhappily, farmers and dairymen are pursuing a suicidal policy by keeping back information, and attempting to disguise the extent to which they have suffered. "By a ready co-operation with the efforts of the Government," says the *Agricultural Gazette*, "a great deal may be done in a short time; while the opposite course involves delay that will be fatal, as no measures of an active character can be taken until the extent of the mischief is known."

It is somewhat startling to learn, notwithstanding the immense reduction in the number of cows—amounting to over one-third—that the supply of milk in the Metropolis still continues at par. It is not difficult to conjecture how this result is compensated. London dairymen are a proverbially shrewd and ingenious race. In spite of ridicule and punishment, they fondly cling to "a cow with the iron tail." Under existing circumstances, all they have got to do is to milk the unconscious and not ungrateful animal a little harder. Certainly the milk may be thin, and lack nearly every characteristic of that yielded by the quadruped; but those shortcomings can be conveniently supplied. Chalk is plentiful in the south of England; and an inconsiderable portion of the famous "white cliffs of Albion" has been poured down the throats of the over-confiding Cockneys, in a state of solution, under the generic name of "milk." The journal last quoted is apprehensive that a considerable portion of the article supplied to the Londoners at present is not so harmless in its nature as even that which is largely composed of coloured water. Our contemporary says:—"If only water is employed to meet the deficiency, we shall offer no remonstrance, but unfortunately a certain quantity of milk can be obtained during the progress of the disease, and so long as it does not appear to be unfit for use, there is reason to fear it is mingled with the rest; true, we have at present no positive proof that such milk is directly injurious, but considering the state of the animal's system, it can scarcely be hoped that any quantity could be consumed with impunity, particularly by young children, who are likely to be the principal sufferers in such cases."

Of course, much remains to be learned respecting the disease. Numerous experiments will have to be carefully performed before any very definite or decided results can be expected. In the meantime, the precautionary measures of the Government can hardly fail to lessen, if not entirely arrest its progress. Ere long, we shall no doubt be in more complete possession of the facts of the case.

Recent Exhibitions of British Agricultural Societies.

INVERNESS, the beautifully situated Highland capital, was this year once more the scene of the annual show of the "Highland and Agricultural Society." The first show held in this place was in 1831, when only 198 cattle, 90 horses, 129 head of sheep, and 11 swine were shown. Immense strides of agricultural progress have been made in this district since that date. Land monopolized by the moor-fowl, and untrodden save by the foot of the sportsman, is now turned into pasture or the heather transformed into corn. Until recently Inverness could only be reached by a long journey by coach or steamboat, and competition was therefore principally confined to those who were more immediately connected with the district. About two years ago the Highland line of railway from Perth was opened out, affording distant exhibitors and visitors a quick conveyance to and from the north, and as a consequence the entries were largely increased. Space will not admit of our entering into any elaborate details of this most success-

ful exhibition. In general terms we can only say that the Shorthorns were a full and interesting class. Sixteen aged bulls were present, and nearly all of them were superior animals. The post of honour was assigned to Mr. Geddes' "British King," a massive rich, roan animal; followed as second by Mr. Longmire's "Victory." The two year olds were also a superior class, and the young bulls were both numerous and good. The female classes were well represented, and in particular may be mentioned the heifers. The polled classes mustered in great strength, and contained some first class animals, prize takers in many previous shows. In the Highland classes, many of the best breeders of this picturesque race of cattle were represented. Ayrshires were not so numerous, but those shown by the Duke of Athole are reported by the *Scottish Farmer* to have been particularly excellent. The horses generally speaking were of a good quality. The Leicester sheep, especially the tups were of superior merit, and the judges had considerable difficulty in deciding on their respective places in the prize list. The Cheviots and blackfaced sheep were prominent features in the show. The swine sections were not numerous filled, and while there were some fair animals brought out, the quality and style observable in English exhibitions were said to be wanting.

In the implement department there were 69 exhibitors, some of whom had large collections; but strange to say, there was not a single steam engine on the ground.

The twenty-eighth annual show of the Yorkshire Agricultural Society was this year held at Doncaster. As in all exhibitions in this county, horses were the grand feature. Altogether the entries in this department reached the large number of 339. Of these a great proportion were of the hunting class, several of whom had figured successfully in previous great exhibitions. The celebrated Derby winner, Blair Athol, held quite a *levee* during the day; his box, conveniently railed off, enabling a continuous stream of visitors to pass through without the least inconvenience. We have not space for an extended notice of this exhibition, nor for the names of the principal prize winners. Suffice it to say that cattle, sheep, and implements were all shown in large numbers and of very superior quality.

The Beaver Mutual Fire Insurance Association.

Few subjects are more worthy the careful consideration of farmers, than that of Insurance. At the rates usually charged by companies, many complain greatly of the expense of insuring, and are deterred from properly protecting their property on that account. This is very questionable economy at best, but the objection is greatly lessened if not wholly removed, by the low rates which can be adopted by an association which takes exclusively farm and other isolated risks, eschews all hazardous property, and is conducted on the mutual principle. These are the chief features of the Beaver Mutual whose annual report appears in our advertising columns. This Association conducts its business with great economy, and its rates are remarkably low. It insures farm property for either three or seven years. A premium note is taken of from 1 to 2½ per cent., according to the nature of the risk. One-sixth is payable thereon in cash, and assessments are made as necessity calls for them. To avoid assessments, insurers may pay half the amount of the note in cash and receive a full discharge for the term covered by the policy. The Beaver is evidently growing into public favour, and doing a rapidly increasing business. The Directors are thoroughly practical agriculturists and trustworthy men of business. The recovery of claims for losses is well guaranteed. It is essentially a farmer's Insurance Company, and we take pleasure in commending it to our readers as a good and sound institution, affording unusual encouragement to the discharge of a duty which every owner of property owes to himself and those dependent on him.

The Fergus Cup.

In addition to the announcement in our last issue of the continuance of this prize, we have been requested by the Secretary of the Board of Agriculture to state the specific conditions on which the Silver Cup will be awarded, and to remind intending competitors that entries will be received for this prize until September 9th. The Fergus Cup will be awarded "for the best two years old grade heifer, by a thorough bred Shorthorn bull, out of a cow not having more than five crosses by thorough-bred Shorthorn bulls." The intention of the Hon. Mr. Blair, in offering this prize, is to admit to competition the produce of common country cows, as well as those having a share of Shorthorn blood, as above limited; while other breeds, such as Ayrshires, will be excluded. The pedigree of the competing animals must be sent with the entries.

International Exhibition.

A GREAT international show of fruits, gourds, roots, vegetables, and cereals, open to all the world, is to be held in the Palace and grounds of the Dublin International Exhibition, on October 3rd, 4th, 5th, and 6th, when prizes will be awarded for fruit, agricultural and garden roots and vegetables, cereals, dried and preserved fruits, and table decorations. Exhibitors must give intimation to the comptroller of the show of their intention to exhibit, on or before the 29th September, and the articles must be sent in not later than the 2nd of October. All articles exhibited must be named. There must be six specimens of each sort of the larger fruits, and of the smaller fruits an ordinary dish. A silver medal will be given for the best collection of fruit and vegetables grown by botanical and horticultural societies in any part of the world, and a second medal for an assortment of fruits and vegetables from any of the colonies. The prizes vary from sixty shillings, and thirty shillings for the first and second, down to ten and five shillings. The prizes will, we apprehend, not be sufficiently large to attract the attention of private exhibitors in Canada, but we can hardly conceive a better opportunity for showing to the people of the British Islands the resources of the Province than by sending to this exhibition a well selected assortment of Canadian fruits and vegetables. There are thousands of intelligent people in the British Islands who would not credit a statement that we grow peaches and grapes in the open air, and would be astonished by a sight of our tomatoes and melons. We are quite sure that our horticulturists would willingly furnish the necessary fruits if an organization were formed to take charge of and forward them. Will not some of our horticultural societies take up the matter? Captain Cuff, whose card indicates that he is Provincial Agent of Canada at the Dublin Exhibition, would doubtless take charge of any articles sent to him for exhibition.

Trial of Implements at the Royal English Society's Exhibition.

In the department of implements and machines the Royal Agricultural Society's recent show at Plymouth, seems not to have fallen much short of previous years, and in quality and utility it maintained its previous high character. The testing of these implements took place the week before the show, comprising reaping and mowing machines, hay makers, and horse rakes, drills of all kinds, manure distributors, and horse hoes, carts, waggons, and miscellaneous. The articles tested consisted of selections made from the different stands of manufacturers in the show yard, and the reader may form some idea of the magnitude and difficulty of the work from the number brought on the trial ground. There were 25 reaping machines, 10 self delivering, 8 combined mowers and reapers, 13 mowing machines, 17 hay makers, and

23 horse rakes, besides a great variety of drills, and other implements. The trial ground consisted of about 70 acres, a space that was found insufficient for the purpose. The grain was principally oats and rye, a very heavy crop, twisted and laid in every conceivable direction.

From all the reports that have reached us, it is evident that the trial of implements was carried on under great difficulties, and, it would appear, with results anything but satisfactory. The weather during half of the time was unfortunately wet, and the ground and crops were in an unsuitable condition for a thorough and correct testing of the machines. We have long thought that these matters require more time and attention than is commonly given to them. Although somewhat long, we append some remarks in reference to this subject from the *Scottish Farmer*, which are equally deserving attention on this as well as the other side of the Atlantic:—

"Thus far the meeting of the Royal Agricultural Society has met with a most discouraging beginning. Out of the four days appointed for the trials two have been lost, or practically so; and unless the trials are extended for some time, we see no chance of the work which is before the judges being completed in the only way in which it should be completed, that is, carefully and thoroughly. The history, indeed, of those days cannot fail to bring strongly up in the minds of those opposed to the whole system of 'trials' of machines and implements, much that is sure to bear strongly against the principle upon which they are based, or at all events, upon which they are conducted. Waiving, for the present, our opinion as to the propriety or otherwise of giving prizes at those trials, and of which, by the way, much as has been said, yet much more can still be said on both sides—probably more of the 'pro' than the 'con'—there can at all events be but one opinion we should think on this: that if no better system than that which is at present, and which has been the rule at all the meetings we have attended, can be introduced, that that system is very far indeed removed from the system of working in ordinary farm practice. That a machine can be fairly tested with a trial of three minutes, or an implement with a run over of a short length or lengths of land, and under circumstances which are at the best exciting, and in many ways calculated to detract from the quiet painstaking care which is honestly demanded—that that machine or that implement can be said to come out of the trial as *tested*—in the way ordinary farm-work tests them—we cannot admit for a moment. If the judges have too much work to do in a given time, assuredly it would be the wiser policy to give them less; for unless the work be well and thoroughly done, it is obvious enough that the very aim which the Society has, or professes to have, in instituting these trials, is not attained. We have no hesitation in saying that at many of the trials at which we have been present—and here we include those of Societies other than the Royal—the circumstances under which the machine or implement was put to work possessed but a miserably faint resemblance to those of the ordinary routine of farm work. How is this, and why should it be so? Not seldom have these questions been put by those interested in the real and practical progress of our agricultural societies, and not seldom, we opine, they shall be asked again, with what effect, so far as getting a satisfactory answer to them is concerned, our readers may judge.

"These remarks, are not uncalled for: the recorder of the labours of our societies has a duty to perform to them as well as to the public which supports them, and that duty comprises not merely a laudatory notice of what they do well, but a condemnation of what they do ill. Considering the way in which trials are at present conducted, it is not at all a matter of surprise to us that every succeeding year of the Society's experience finds a large number of those who have competed dissatisfied with the results of these competitions. It is not, they say—and say truly—that justice has not been eagerly sought for by the judges, and that every one had the fullest attention paid to their interests; but they no less truly say that the very circumstances under which the trials are made preclude all possibility of fair justice being done to the claims of each; that where the minimum of time is given to the doing of the maximum of work to be done, the results cannot in any way be thoroughly satisfactory. Now, this is precisely the position in which the Society too frequently finds itself, and to which the implement makers—at all events the leading ones—take objection. And apart from all the influences which operate upon them in their desire to sell their machines and implements—influences which are entirely and thoroughly legiti-

mate—we venture to say that a large element in their consideration of the matter is to add to the attraction and to extend the area of the practical usefulness of the Society. And this, many of them feel, is not done by the present system—at least not done in the thorough way it can and ought to be done. We believe we give place here, by so saying to the sentiments of many of them; but whether we do so or not, these sentiments assuredly are our own; and in urging them upon public notice we believe we are doing a body of men who, by their enterprise and the time and money which they give so largely and so ungrudgingly to the development of the mechanics of agriculture, are deserving of it, a real service, and are consulting their best interests. Nor less do we say all this in the interests of the large body of farmers, those who attend not equally with those who do attend trials of our shows, and who are most anxious to have trustworthy opinions of judges, or those who ought to be judges, as to the relative merits of machines and implements competing for public favour. For how comes it to pass that in many, very many cases, farmers pay no attention to the rewards given to machines, so far at least as these rewards are supposed to shadow forth the real merits of the machines rewarded. On the contrary, as is well known, the fact of a prize having been awarded at any time is taken as no real index of the value of the machine to which it has been given. Those who do know the way in which trials, so-called—for trials they are not in anything like the real meaning of the term—are conducted at more than one of our Society's shows, know that as trials they possess no real value. The history of trials has yet to be written; but when it is so, some statements which must be made in its records, if these are truthfully drawn up, will go far to show that the prize list of more than one society—we do not say all societies—in place of being a guide to the farmer, has been more like what indeed it has not seldom been designated, "a mockery, a delusion, and a snare." We maintain it to be a position thoroughly incontrovertible, that the nearer the circumstances under which the trials of the Society are brought to the circumstances of ordinary farm-work, the more trustworthy and practically valuable the results will be. It seems to be but stating a truism in stating this, but truism as it is, it is undoubtedly overlooked, if not altogether ignored. And this farther we maintain to be incontrovertible, that the most cursory examination of the mode in which too many of our public trials are made, not only by the Royal Agricultural Society, but by other societies which are nameless now, will clearly prove that that is not the mode in which the ordinary work of the farm is conducted. Of course it will be understood that we mean that such will be the conclusion come to by those who know practically what farm-work is.

"The first step towards reform is the conviction that reform is needed; but so far as any evidence to the contrary has been offered on the part of all the wealthy agricultural societies, not excepting the Royal, they do not yet believe that it is so. It is no answer to the objections which have been made, and which will, we venture to say, continue to be made by those interested in a reform of the system till that reform is brought about—it is no answer, we say, to those objections to say that the time for making thorough trials is too short, or that the number of machines are too many."

Book Notices.

SECOND ANNUAL REPORT OF THE NEW YORK STATE CHEESE MANUFACTURERS' ASSOCIATION, UTICA, N. Y., 1865, p.p. 170.

This pamphlet is a valuable presentment to what is now fast becoming an important branch of our farm produce. The annual address of X. A. Willard, Esq., on "American Cheese Dairying—the means for its improvement and success," forms an appropriate preamble to its other contents. The lecturer discusses the advantages of association—the permanency of the system—prices and quality of American and English cheese—flavour injuriously affected, and how remedied—the Cheddar style—character of cheese demanded—cost of producing milk, &c.; together with a notice of the originator of the factory system, Jesse Williams, of Rome. There is also a very interesting address by W. H. Comstock, Esq., the secretary of the Association, on "The comparative advantages of the old and new systems of cheese manufacture." With a large amount of other useful information, in which we have detailed accounts of the various factories of the Association. The volume is brought to a close by a collection of spirited notes, from the pen of Mr. Willard, on the "Dairy Region," from which we make the following extract:

"The New Hartford cheese factory is situated about half-a-mile north of the village, on the old

Shearman farm. The building is new, and built in the most substantial and thorough manner. It is 100 feet long by 30 wide, two stories high, with floors and siding of matched pine, and receives the milk from 600 cows. The manufacturing-room is separated from the dry-house by a partition, along which stand the presses, ten in number, and so arranged, that by throwing up large panels, hung on pulleys in the partition, the cheeses may be removed to the tables with the greatest ease and convenience. This arrangement is somewhat novel, and appeared to be an admirable improvement on the old style of factories. The floor of the manufacturing-room slopes towards a narrow drain sunk in the floor just in front of the presses. This drain receives the whey, and conducts it to the vats, which are a long way from the building. By simple fixtures the floor may be flooded and washed, and all refuse slops carried off through the water drain, avoiding all taints from drippings of whey and slops about the building. These arrangements are perfect, and in this respect the New Hartford factory is a model of neatness, which some other establishments of similar character would do well to copy. The manufacturing-room is provided with three O'Neil vats and heaters of 650 gallons each, capacity, for holding the milk, and the number of pounds of milk received per day is 10,356. This is manufactured into 1,193 pounds of cheese, which is pressed in 20-inch hoops, making ten cheeses, 10 inches high. The milk is set at 60 degrees, and the highest heat in cooking the curd is 100 degrees. The curd, in manufacturing, is cut with steel-bladed curd knives, worked as fine as wheat kernels, and salted with three pounds of salt to the 100 gallons of milk. The curd, after it is first cut, stands about 20 minutes, when it is again cut, and in about an hour the heat is begun to be applied, which is continued for the space of two hours, the time of cooking depending on the condition of the milk and the atmosphere. Nine pounds of milk make one pound of green cheese, as it comes from the press. Colouring matter is to be used in the cheese during the summer. No grease is applied to the bandages. The hay-cheese made up to the 1st May sold for 18½c. per pound. The curing-room, which is well arranged as to light and ventilation, is provided with ranges, on which stood 150 very handsome cheeses, firm, with elastic rind, and free from spot or blemish. T. W. Moore and H. Ackley are the manufacturers. The pig-pens are located at a considerable distance from the building, in which are fed 100 hogs upon whey, no other food being employed; 36 calves are also fed from the whey coming from this establishment. Arrangements are being made to run the whey to a large stable near the factory, and fed to 80 cows, morning and evening. This is perhaps the best, or one of the best arranged factories in the country, and has a fine spring a few feet from the bank of the delivery window, which furnishes an abundance of water."

GAZETTEER AND DIRECTORY OF THE COUNTY OF GREY. By W. W. Smith, Owen Sound. p. p. 330. This work contains a large amount of useful information respecting the new but fine and rapidly developing county to which it relates. To many business men throughout the land it will be a welcome book of consultation and reference. Scarcely a question can arise as to the size and location of villages, distances, routes of travel, quality of land, facilities for trades, &c., but is answered by it. A very cursory glance at the volume gives one an impression of the extent, resources and prospects of the county, such as can be had in no other way, save by traversing its entire extent. The author must have been at great pains and expense to collect the contents of this work, and we hope he will reap his reward in an extensive sale of it. Copies may be obtained of Messrs. Rollo & Adam, Booksellers of this city. Price, \$1 50 cents.

TRANSACTIONS OF THE MASSACHUSETTS HORTICULTURAL SOCIETY, FOR THE YEAR 1864. BOSTON. Henry W. Dutton & Sons, Printers. pp. 100.

This is a large, nicely printed pamphlet, and contains Reports of the Committees on Ornamental Gardening; Flowers; Fruits; and Vegetables—together with a list of premiums awarded to successful exhibitors in each class. There are also Reports by the Library and Finance Committees; an address by the President of the Society; and lists of its Life and Annual Members. In the form of an Appendix, we are furnished with an interesting account of the ceremonies observed in laying the corner stone of the New Hall of the Mass. Horticultural Society, at Boston, on the 18th of August last.

NEW MUSIC.—We acknowledge the receipt from Messrs. A. & S. Nordheimer, Toronto, of the following pieces of piano-forte music published by them: The Bello of Canada, The Rosebud, Mary Morison, The Stamp Galop, and The Ionian Funeral March.

Agricultural Intelligence.

The Last Election to the Board of Agriculture.

To the Editor of THE CANADA FARMER.

Sir,—Under the above heading, in the last number of your Journal, I notice a letter from Mr. George Murton, of Guelph, in which he seems to imply an accusation against some party, of suppressing the votes cast for members of the Board of Agriculture, at the last annual meeting of the agricultural societies, so as to secure the return of the old members to the Board. I did not at first intend to make any reply to this communication, as I suppose it is a part of the duty of public bodies and their officers to submit in silence to occasional reflections upon them through the public press, however unfounded. But, on consideration, I have determined to state all the facts in regard to this matter, so far as I am acquainted with them, if you will be kind enough to insert this letter.

In the first place, then, the Agricultural Statute, with which it is the duty of officers of agricultural societies to make themselves acquainted, requires that the names of persons nominated at the annual meetings of the societies, as members of the Board of Agriculture, should be transmitted "forthwith," not to the office of the Board of Agriculture, but to the Bureau of Agriculture, at the seat of Government. Not relying, however, upon societies making themselves acquainted with this provision, I have always, while secretary of the Board, taken care to direct their attention specially to it, in a circular annually issued to the societies previous to their annual meetings. In proof of which, I give you the following extract from the circular issued at the beginning of last January, two or three weeks before the annual meetings of the societies, as follows:—

"The Statute requires that each County or Electoral Division Society shall, at its Annual Meeting, nominate four proper persons to serve as members of the Board of Agriculture, and transmit the names of the four persons so nominated forthwith to the Bureau of Agriculture."

"You are requested particularly to notice that these names have to be transmitted to the BUREAU OF AGRICULTURE, QUEBEC, immediately after the annual meeting."

It is clear, therefore, that if the names of the persons nominated are not sent to the proper quarter by any of the societies, it is the fault of such societies themselves, and not of any other party. Apart from this consideration, however, when in point of fact, a few of the societies have sometimes sent the names to me, as Secretary of the Board, although I could not tell whether they were merely duplicates of votes forwarded to the Bureau, or had been sent to this office alone, I have always taken care in such cases immediately to forward such returns to the Bureau. I did so this year, as usual, when I think the votes were sent to me from some five or six societies.

Further, I would state, on behalf of the Bureau, that on the 16th February I received a letter from Mr. Tache, Deputy Minister of Agriculture, dated 14th, in which he asked me to send a complete list of the Societies which had reported to me the votes cast for members of the Board, and also of those which had not so reported. This list I suppose was required for the purpose of ensuring the correctness of the statement about to be made up of the votes cast. I immediately transmitted it to Quebec, and have in my possession Mr. Tache's reply acknowledging the receipt of it. At the end of February, being about the same time as in other years, and more than a month after the annual meetings, the names of the members elected were published in the *Official Gazette*, and under date of February 27th, I have a letter from Mr. Tache accompanying a detailed statement of all the votes sent in from the Societies, the result being not exactly as stated by Mr. Murton, but as follows:—Mr. Christie, 26; Mr. Burnham, 24; Mr. Ferguson, 41; Dr. Richmond, 37; Mr. Johnson, 20; Mr. Stone, 22, and one or two straggling votes for each of six other gentlemen. In view of the above facts, I am disposed to think that every endeavour was made by the Bureau of Agriculture, as I know was the case in this office, so far as this Board had anything to do with the matter, to give the correct result of the votes sent in for members of the Board.

What number of votes may have been given for each nominee in addition to those stated above, I have no means of judging, except by Mr. Murton's letter, but I am of opinion that if the votes of any of the Societies failed to be taken into account, such failure was simply owing to the neglect of the Societies themselves, either in not forwarding their votes at all, or not forwarding them at a sufficiently early date to be received before the announcement of the election of the members of the Board in the *Gazette*, which, as I have stated above, was more than a month after the Annual Meeting of the Societies.

HUGH C. THOMSON,
Secy. Board of Ag.

Toronto, August 23, 1865.

Mr. WILSON, of Monkland Mills, Fergus, has fitted up a flax mill in that place, and is now buying the fibre from the farmers.

THE Farmington (Mc.) *Chronicle* says a species of insect is threatening the extermination of the Canada thistle. It envelops the top of the plant in a web, and prevents its growth and flowering. Success to it.

AGRICULTURAL EXHIBITIONS.—We are informed by the Secretary, J. B. Aylsworth, Esq., that the Addington County Exhibition will be held at Newburgh, on Thursday, October 12th. The same gentleman states that the Camden Township Show takes place at Centreville, on Saturday, October 14th.

THE WHEAT CROPS IN GREY.—The Owen Sound *Advertiser* says that the fall wheat in that section is nearly all housed, and generally speaking in good condition. Many of the farmers are now busily engaged in threshing. The yield is found in most cases to be excellent, averaging about 30 bushels to the acre.

CATTLE FROM THE NORTH.—Over 600 cattle were driven down the Owen Sound Road last week, and nearly all passed over the Galt Branch on the way to the American market. Mr. Speers, of Galt, owned 150, Mr. Head 100, and a number of Americans over 300. The cattle were purchased in the district of country between Durham and Owen Sound.—*Ex.*

FLAX.—The flax appears this year to have been a very good crop. For the last two weeks it is being delivered at the St. Thomas Flax Mills at the rate of fifty loads per day—weighing on an average a ton each. Perine & Young pay twelve dollars a ton for it—thus circulating about \$600 a day for the raw material.—*St. Thomas paper.*

HYDROPHOBIA.—A respectable farmer in the township of Holland, named John Cowling, was bitten in the chin in the month of February, by a rabid dog. Last week a twitching of pain in the scar, headache and restlessness presented themselves, and then the violent spasms which more particularly mark the progress of hydrophobia made their appearance, and he died in the most intense agony.—*Galt Reformer.*

WHITE FLINT WHEAT.—The *British Constitution* (Fergus, C. W.) says:—"We have been shewn a specimen of White Flint Wheat (fall), grown by Mr. Smith Seaman, of Egremont, County of Grey, which weighs sixty-five pounds, full, to the bushel, and is a clean, good sample. This is good, we think, for that part of the country. A load of it was sold to Wm. Robertson, Esq., of this town, on Monday, the 14th instant."

HOW MIDGE-PROOF WHEAT YIELDS.—A correspondent of the *Guelph Mercury*, in Georgetown, sends the following item to that paper:—"To remove the fallacy abroad with regard to the yielding properties of midge-proof wheat, I would state that Mr. Freeman, adjoining this village, threshed 15 acres of the above wheat last week, from which he had 330 bushels. A small quantity was left unthreshed, which those engaged in the work believed would have made out 400 bushels. But allowing there was only 50 bushels remaining, this would give a yield of 25½ bushels to the acre."

THE HOP CROP.—We (*London Free Press*) regret to state that the hop crop in the London township does not promise well. Up to a week past the prospect was excellent, but since that a black blight has fallen upon the hop, leaf and stalks. The blight is caused by myriads of green lice which infest the plants, covering them in all directions. In former years the caterpillar and hop grubs have been the chief enemy of this growingly-important crop, but the brood of the green lice is entirely new in this part of Canada, though frequently to be seen in the States.

A RARE SHEEP.—Captain Collins, of the ship *Seringapalam*, who has just arrived at this port from Alexandria, has brought out with him a fine specimen of the Cape sheep from Palestine, the tail of which is nearly half the size of its body.—*Quebec Mercury.*

SALE OF THOROUGH BRED STOCK.—We learn that Mr. J. Ashworth, of Quebec, who is well known as an importer and breeder of pedigree cattle, has recently sold to J. A. Sewell, Junr., M.D., of St. Albans, his Shorthorn bull "Lord Languish," by St. Valentine, 4, 318½ out of "Lilla Languish," by "Cirus," 17,337. Several of his thorough-bred Berkshires pigs have also been disposed of to local agriculturists and breeders in the States. We understand that with the removal of the Government to Ottawa, Mr. Ashworth intends to transfer his breeding establishment thither.

HAIL STORM.—On Tuesday, the 8th inst., a hail storm passed through the Townships of Normanby and Egremont, doing great damage, more especially upon the farms of John Robertson, Esq., on the 2nd concession of Normanby, Mr. McGillivray on the 3rd, and Mr. McFarland on the 1st concession. When the storm commenced, the hail-stones were as large as an ounce ball, diminishing in size as it passed eastward. About 100 bushels of wheat were destroyed on Mr. McGillivray's farm, besides other grain; on Mr. Robertson's, peas, oats, barley, and wheat were threshed from the heads so that the ground was covered with grain, and one field of late-sown oats was completely destroyed.—*Guelph Mercury.*

THE TURNIP WORM.—The worm that was so destructive to the turnip crop last year, has again made its appearance in this neighbourhood. The animal is deposited on the under side of the leaf, and is little more than one-third of an inch in length, but grows rapidly. In the early state of their existence they appear to be gregarious in their habits, herding together and sometimes migrating in a body from one leaf to another. This is the most suitable time to destroy them, which can be done by pinching off the leaf, or part of the leaf, to which they adhere. In this way thousands may be destroyed in a few minutes. Those whose roots were infested with them last year will at once admit the importance of either cure or preventative for the pest of the turnip crop. Some fields in this neighbourhood have been seriously injured by these pests.—*Guelph Mercury.*

THE CROPS IN CULROSS.—An exchange paper says: A correspondent in Teeswater kindly favours us with a few facts about the wheat crop in Culross and adjoining townships. He says almost in every case the wheat crop is excellent. Mr. James Fraser threshed last week 15 acres of fall wheat, which yielded 35 bushels per acre. Another field which was sown early yielded 40 bushels per acre. There are no signs in that section of the midge. The spring crops also look remarkably well. The season has been most propitious, no frosts, and warm rains every week. There is a large breadth of land preparing for fall wheat this season, and if the yield will be anything what like it is this year, it will amply repay the farmer for the difficulties he has to contend with in former years from bad crops and bad roads. If the new road scheme in Bruce is carried into effect, the latter difficulty will soon be overcome.

THE FLAX CROP OF OXFORD.—The effort made by one townsman, Mr. J. H. Brown, to promote the cultivation of flax in this section, has been eminently successful. This is only the sixth season given to the development of this industrial branch, and, so far, we believe the results have been most satisfactory. Out of the seasons mentioned only one did not supply an average crop, while two have far exceeded expectations. Thus, from the insignificant experiments of a few patches, the culture of flax has increased through the exertions of Mr. Brown, to count now by hundreds of acres. Nor is the growth of flax depending altogether this season upon Mr. Brown. Nearly six hundred acres are on private enterprise, which, with what has been harvested by Mr. Brown, will raise the breadth of this year's flax to sixteen hundred acres; and what is equally satisfactory, the produce of Oxford in seed and fibre commands the highest market price; only those who have taken the pains to collect statistics necessary, can form an idea of the increasing growth of this important branch of agricultural wealth. The prospect is that a good business season is before the flax mills of Mr. Brown, and the oil mill of Mr. Cottle, and here we might say, that no better flax can be desired than the five acres grown within the limits of the corporation of Woodstock, by the last named gentleman.—*Woodstock Times.*

British Cleanings.

AMERICAN MOWERS AND REAPERS IN ENGLAND.—The Royal Agricultural Society of England has yearly trials in the field of certain agricultural implements. At the Plymouth meeting a trial of reapers and mowers was had, and the first prize for the best single mowing machine, and also for the best single reaper, was awarded to an American manufacturer, W. A. Wood, of Hoosick Falls, N. Y. The first prize for Combined Reapers and Mowers was taken by a British firm, R. Hornsby & Sons, Grantham.

NEW PROCESS FOR HARDENING TIMBER.—The *Irish Farmers' Gazette*, of Aug. 5, contains the following:—"A native of Russia has discovered a process by which timber, though newly felled, may become so hard as to resist the influences of the most trying climates for an almost indefinite period. The most curious part of the invention is, that it does not involve the use of chemicals of any sort, such as steeping in creosote, &c., and that the process is applied to the tree while growing. The inventor is now making arrangements for the supply of his timber to railway contractors in England, and will not require any remuneration further than the amount which should be paid for ordinary timber, until the period shall have elapsed beyond which the ordinary railway sleepers, telegraph poles, &c., require to be replaced. The railway sleepers require renewing at intervals of from four to six years; but the inventor of the new process of preparing timber asserts that he will supply an article which need not be disturbed for fifty years."

DISEASED CORN.—We gather from an English exchange that in several corn-growing districts of Yorkshire, and on the Wolds, the growing crops of corn, principally of wheat, have been attacked suddenly by disease. "Some farmers term it 'blight,' others 'rust,' 'canker,' and 'mildew;' but whatever it is, it is quite unusual for any such attack to take place in a dry season like the present. In wet years something like it has been known, but not to the extent now apparent. In many places, fields which presented a healthy green look a few days ago are now of a dirty-looking brown; in fact, the straw has died and not ripened. The disease is not confined to wheat, but the oat and barley crops are likewise showing traces of it. In fields the most attacked, the appearance of the crop at a distance is that of an immense sheet of brown paper. There is none of that fine golden tinge so characteristic of well-ripened corn. The harvest has not yet commenced, but in a railway journey an old field here and there is seen cut. This premature reaping is necessary by the disease just named, which renders the straw comparatively valueless and the corn very small. In a field two miles north of Malton, it is believed there is not a straw that is free from the disease. The stems are all purple, and the foliage is a deadish brown. In a belief that the blight will spread, many people are about to cut their unripe corn. The damaging effects on produce must be very considerable."

NON-EXPLOSIVE GUNPOWDER.—A valuable discovery has been made by Mr. Gale, of Plymouth, whereby gunpowder is rendered non-explosive and explosive at pleasure. The *Field* gives the following account of a series of experiments recently conducted by Mr. Gale on a piece of waste ground opposite the Westminster Palace Hotel:—"At the appointed hour a numerous assemblage of scientific men was collected, and Mr. Gale at once proceeded to show, first, that a mixture of equal weights of powdered glass and gunpowder renders the latter of slow combustion, but still explosive, that is to say, slowly flashing off to the last grain; secondly, that a mixture of two parts of glass to one of powder is still slower; thirdly, that a mixture of three to one is so slow as to be scarcely attended with any danger when lighted, but that when four parts of glass to one of powder are mixed, even a red-hot poker inserted in the compound will only set fire to the grains of gunpowder in immediate contact with it. Further experiments on a large scale clearly proved that when this proportion is adopted the single grains of powder are so isolated by the glass that when one of them is exploded it does not communicate sufficient heat to its neighbours to cause the decomposition of their component elements. Thus far, therefore, we have arrived at a clear demonstration that the mixture of four parts of glass with one of powder,—by which the bulk of the latter is about doubled, while its weight is increased fourfold,—renders the mixture non-explosive—and that the addition is easily made."

Poultry Yard.

Pigeons.

These interesting birds have been known from the earliest ages, and the most refined and elevated thinkers that the world has seen, have not disdained to illustrate enduring affection and constant attachment by the figure of a pair of turtle doves. The dove, we are told, was consecrated to the goddess of beauty, and a pair of turtle doves or two young pigeons were a mother's first offering among the Israelites of old. The rearing and management of them is a delightful task to the juvenile members of a family, and the lessons of love and concord they may learn in these labours are many and important.

The practice of rearing various kinds of pigeons

for fancy or amusement has long been prevalent in England, and the "dove-cot" formed a picturesque appendage to the family hall in times as remote as the first Crusade. At the present day the pigeon-cot caps the house tops of many of the most densely populated cities of Europe. "Pigeon-fancying" is therefore as universal as it is interesting.

Pigeons live together in pairs; and when a cock and a hen form an attachment, the union is generally permanent. In its wild state the pigeon breeds only once a year; but the domesticated kinds will breed every month or six weeks. In fine weather they will provide food for themselves; but when the ground is covered with snow they must be fed. They are great devourers of food, and will eat any kind of grain. They are very fond of lime and salt which ought to be supplied to them liberally. Whatever number of broods a pair of pigeons may rear during a twelve-month, the hen invariably lays two eggs before she sits. The period of incubation varies from eighteen to twenty one days. The labour of hatching is shared between both birds. The

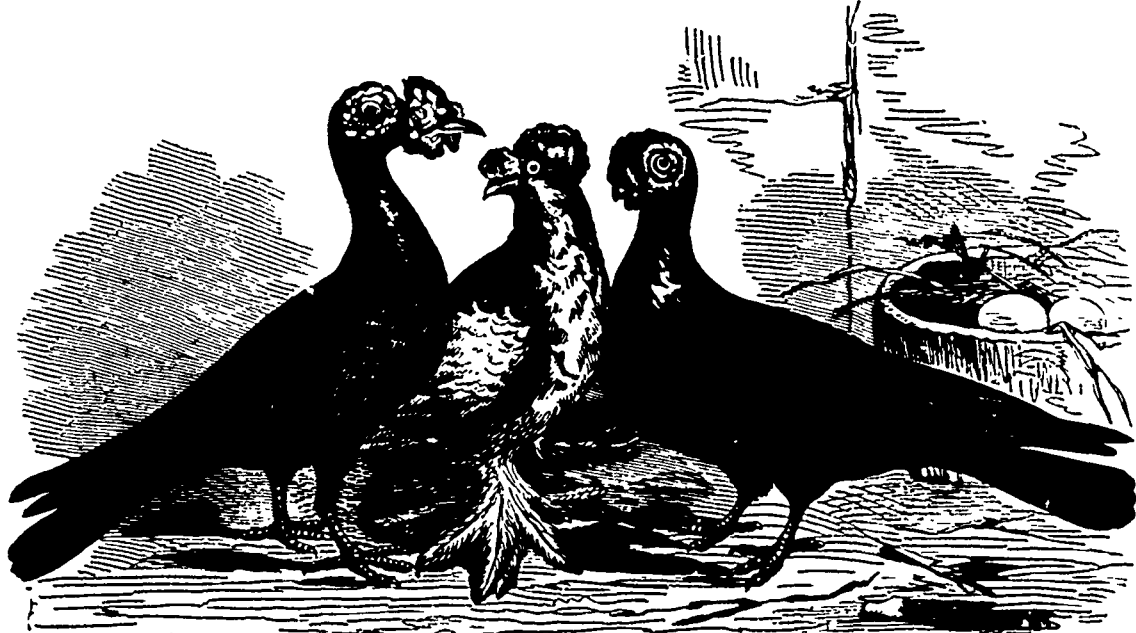
hen generally sits from the afternoon till the following morning, when the cock takes her place, and usually remains on the nest during the greater part of the day. When hatching is completed, the young only require warmth for the first three days. This task the female wholly supplies and never leaves them, except for a

brief space to take food. For the next ten days they fed by a glandular secretion, of a milky nature, elaborated in the crop of the parent bird and regurgitated. After this they are fed by what the old ones pick up in the fields and treasure in their crops.

The dove-cot pigeons, as well as the undomesticated varieties, retire to roost at an early hour, leaving it usually somewhat late in the morning.

Pigeons are subject to several diseases, and are also frequently much troubled by vermin. Of the former, the principal are the meagrim, the wet and dry roup, and the canker; of the latter, tick and lice are the most destructive. The birds should be frequently examined. The most scrupulous attention should be paid to cleanliness both in the birds themselves, and in every part of their houses, nests, and places of resort.

At moulting time, when they do not throw off their feathers freely, a little hempseed should be mixed with their food, and they should be kept a little warmer. These precautions, with the vigilant surveillance of a kind hearted proprietor, will ensure success to the "dove-cot," and repay the owner for his trouble. There are a great many varieties of what are known as "fancy" pigeons. Many of them are very rare and difficult to procure;



CARRIER.

TRUMPETER.

BARB.

They become much attached to the cot of their choice, and can scarcely be banished from it, except by the use of fire-arms. The "cot" may be constructed of any size and shape; but care should be taken to fix it in some quiet secure spot. A small one may be conveniently formed of a large cask, by cutting apertures of the proper size in its sides, and by fixing a small platform before each hole as a resting-place for the birds. The interior of the cask should be apportioned into chambers by means of small wooden partitions, and the whole may then be secured to a stout thick pole or trunk of a tree and

and no good purpose would be served by enumerating or describing them. Our artist in the two woodcuts before us, has illustrated six very handsome kinds, which we will wind up this article by hastily noticing.

As our readers will observe, the varieties shown in our first illustration are the Barb, the Trumpeter, and the Carrier. An eminent authority describes the Barb in the London Field as follows: "The principal characteristics are in the head with some peculiarities in the neck and body. It is essentially a self coloured bird, and the recognized colours are black,

white, red, yellow and dun. Mottles and splashes are not tolerated in the show-pen."

The same authority gives the following as the leading points of the Trumpeter: "Colour, mottled; crown, long and perfectly even; the rose should spread from the root of the beak falling well over it; feet, well feathered from the toes, the feathers gradually increasing in length to the back of the foot."

The Carrier is valued solely for the possession of the properties of eye, skull, &c.



MAWMET.

POUTER.

NUN.

elevated to the desired height. A warmish situation should be chosen as the site of the "cot," and the pole on which it is fixed should have a circular plate rising half way up to keep cats and other vermin from ascending. The top of the cask may be thatched or hoarded and the roof should descend over the caves.

They are not, as their name might seem to imply, used for conveying messages—a duty which is performed by the Smerlus, Antwerps, and Dragons. The Carrier is designated the "king of pigeons," and "its characteristics of elegance and strength appeal to the fancier's eye."

Our next illustration represents the Pouter, the Mawmet, and the Nun. The Pouter is a fine handsome bird, distinguished by the peculiar size and form of the crop, which the bird is able to distend at pleasure. They are difficult birds to rear, as, being very voracious, they are liable to over-feed themselves. When a Pouter is unable to distend his crop handsomely he is considered a defective bird. The Mawmet, or Mahomet is supposed to be the kind of bird that whispered in the ear of the bogus Arabian prophet. It is a beautiful bird, of a cream colour, having bars of black across its wings. The Nun is a fine bird, and much esteemed by fanciers. Its head is almost covered with a veil of feathers, from which circumstance it derives its name. "Its body is chiefly white; while its head, tail, and the six flight feathers of its wings should be entirely red, yellow or black. When its head is red, the tail and flight feathers should be red; and when the head is yellow or black the tail and flight feathers should correspond with it."

The Household.

FRENCH COFFEE AND ENGLISH TEA.—Mrs. Stowe describes these most appetizingly:

In the first place, then, the French coffee is coffee, and not chicory, or rye, or beans or peas. In the second place it is freshly roasted, whenever made—roasted with care and evenness in a little revolving cylinder, which makes part of the furniture of every kitchen, and which keeps in the aroma of the berry. It is never over-done, so as to destroy the coffee-flavor, which is in nine cases out of ten the fault of the coffee we meet with. Then it is ground and placed in a coffee pot with a filter, through which it percolates in clear drops, the coffee-pot standing on a heated stove to maintain the temperature. The nose of the coffee-pot is stopped up to prevent the escape of the aroma during this process. The extract thus obtained is a perfectly clear, dark fluid, known as *café noir*, or black coffee. It is black only because of its strength, being in fact almost the very essential oil of coffee. A tablespoonful of this in boiled milk would make what is ordinarily called a strong cup of coffee. The boiled milk is prepared with no less care. It must be fresh and new, not merely warmed or even brought to a boiling point, but slowly simmered until it attains a thick, creamy richness. The coffee mixed with this, and sweetened with that sparkling beet-root sugar which ornaments a French table, is the celebrated *café-au-lait*, the name of which has gone round the world.

As we look to France for the best coffee, so we must look to England for the perfection of tea. The teakettle is as much an English institution as aristocracy or the prayer-book; and when one wants to know exactly how tea should be made, one has only to ask how a fine old English housekeeper makes it. The first article of her faith is that the water must not merely be hot, not merely have boiled a few moments since, but be actually boiling at the moment it touches the tea. Hence, though servants in England are vastly better trained than with us, this delicate mystery is seldom left to their hands. Tea-making belongs to the drawing-room, and high born ladies preside at "the bubbling and loud-hissing urn," and see that all the due rites and solemnities are properly performed—that the cups are hot, and that the infused tea waits the exact time before the libations commence.

SMOKE FOR THE CURE OF WOUNDS.—A correspondent of the *Albany Country Gentleman* recommends smoke as a curative agent for wounds in men and animals. He says:—"I cut my foot with an axe. The lady of the house, seizing the foot while it was yet bleeding freely, held it over a pan containing smoking tag locks. In a few minutes the bleeding stopped, the smoke was removed and a bandage applied to protect it from accidental blows. The wound never suppurated, and consequently never pained me. I have seen the remedy tried in many similar cases, and always with the same result. Let the reader bear in mind that no liniment or salve, drawing or healing, should be applied. You have merely to smoke the wound well and nature will do the rest. I suppose the smoke of burning wood would produce the same results, but it would not be so manageable. There is a principle in the smoke of wool, which when applied to the flesh, coagulates the albumen, thus rendering it unsusceptible of putrefaction. The same principle stops bleeding by coagulating the blood. It promotes healing, and may be applied with decided benefit to all ulcers, wounds and cutaneous diseases."



New Annuals.

To the Editor of THE CANADA FARMER:

SIR,—A few notes respecting some of the new annuals of this season and last, may not be uninteresting to some of your readers.

Reseda crystallina.—This new mignonette is more robust and spreading in habit than its older relations, and the flower spikes are more elongated and pointed, and without any of the red tinge existing in the old varieties. Unlike, and inferior to them in one respect, it possesses no odour, and therefore lacks the greatest charm possessed by the older varieties. It, however, stands the heat better, and works up very well into bouquets. The seeds are perfectly black,—why it should be christened *crystallina*, I know not.

Helipterum Sandfordii is a new and pretty dwarf everlasting, growing about 9 inches high, and flowering in tufts of a bright yellow colour. It will be very useful for bouquets, during summer or winter, as from its neat habit it works in beautifully.

Rhodanthe atrosanguinea.—The finest of all this handsome family, of a deep crimson colour, and more robust in habit than any of its genus. Makes a fine contrast to the plant above mentioned, and like it, is also an everlasting.

Polycolymna Stuartii.—Another everlasting, neat in its habit, and with white flowers. Works up well with the two preceding ones. The seed is apt to germinate badly. All the everlastings should be sown in frames or hot beds, and afterward transplanted where they are to bloom. The flowers should be cut immediately, when fully expanded.

Portulacca splendens, fl. pl.—Double flowered Portulacca. The gorgeous appearance presented by a bed of this beautiful novelty, is almost beyond description. It is really a magnificent production, and I have no doubt when the seeds become cheaper will be generally planted. We have now four colours,—white, crimson, scarlet, and yellow, and as our seedlings come more into flower we hope to get other shades. The brighter and hotter the weather, the more bloom is produced. This must become a general favourite. It grows from two to three inches in height, and spreads considerably.

Chrysanthemum carinatum.—The purple and scarlet varieties of this showy flower are an acquisition. While being quite as showy as the *Zinnia*, they are more compact in habit, and, with very ornamental foliage, make a fine bed.

Chrysanthemum coronarium.—The double yellow, and double white varieties are very handsome, and worthy a place in every garden,—and look well in a mixed border or in beds.

Tagetes signata pumila.—The new dwarf Marigold, growing only 4 to 6 inches high, and with beautiful foliage. This makes a splendid bed or border, also a fine row for the ribbon system of planting.

During the present season, as the different varieties come into flower, I will add to the present list, if acceptable to your readers. The above descriptions are given from the plants at present in bloom in our grounds. W. T. GOLDSMITH.

St. Catharines, Aug. 2, 1865.

GRAPES FOR WESTERN OR NORTHERN ASPECT.—Dr. Schröder, of Bloomington, Ill., in an Essay on the Planting of Grape Vines, read before the Mo. Hort. Society says, after recommending Southern, South-eastern, South-western or Eastern aspects for vineyards.—"If on hills, and they are not too high or too steep, a Western, or even a Northern aspect might do. I have seen Concord and Hartford Prolifics grown on Northern aspects and they have done finely. The fruit was larger and richer than either of these varieties dare to be when grown in any of the Eastern States. Therefore, if you have to use a Western or Northern aspect I would advise you to choose these kinds. In such case I would advise you to run your rows North and South, while on all other aspects I should advise the rows to be planted East and West, especially if you use trellis."

New Evergreens.

THERE are a few evergreens that are either new or not well known, but yet are so very desirable that it may serve a useful purpose to name them here.

Among the Fir tribe, the Siberian Silver Fir (*Picea pichla*) is very hardy and very beautiful; it is truly an evergreen—a bright, shining, glossy evergreen; for many, as you know, have a rather fuscous tinge in winter time. Among Spruces the Menzies' Spruce (*Abies Menziesii*) is a magnificent 'hing; the silvery under-surface of the leaves is freely exhibited, through the habit of the shoots being somewhat erect; and in contrast with the green upper surface, presents an appearance that always interests the commonest beholder. The Douglas' Spruce (*Abies Douglasii*) is another admirable plant. In summer, when the growth is not fully mature, the plant at a little distance seems enveloped in a strange mistiness, which gives it a sort of fairy elegance none other has. Of the dwarfier trees *Cupressus Lawsoniana*, and *Thuja borealis*, are admirable evergreens, and among those of still dwarfier growth, the *Thuja ericoides*, the best of the hardy dwarf evergreens ever introduced. —T. MEKHAN, *Editor Gardener's Monthly*.

TOP DRESSING FOR STRAWBERRIES.—Supposing the land to be in good vegetable condition and deeply dug, I know no dressing which will so delight the strawberry, as a heavy coat of dark forest-mould. They are the children of the wilderness, force them as we will; and their little fibrous roots never forget their longing for the dark unctuous odour of mouldering forest leaves.—*Cor. Mass. Ploughman*.

THE TOMATO AS FOOD.—A good medical authority ascribes to the tomato the following very important medical qualities:—1st. That the tomato is one of the most powerful aperients of the liver and other organs; where calomel is indicated, it is one of the most effective and the least harmful medical agents known to the profession. 2nd. That a chemical extract will be obtained from it that will supersede the use of calomel in the cure of disease. 3rd. That he has successfully treated diarrhoea with this article alone. 4th. That when used as an article of diet, it is almost sovereign for dyspepsia and indigestion. 5th. That it should be constantly used for daily food. Either cooked or raw, or in the form of catsup, it is the most healthy article now in use.

GREAT PRODUCTION OF STRAWBERRIES.—Tobias Grubb, of this village, had a bed of strawberries this season so wonderfully productive that I think it is worthy of public notice. His bed is 29 feet square, and he set his plants on the 7th of May, 1864, 17 plants each way—making 289 plants in all. From these plants were picked, this summer, 292 quarts of berries, or nine bushels and four quarts—or more than a quart to each plant. Mr. Grubb is an aged gentleman and an invalid, and made this bed his special care. The plants were kept in hills, all the runners were pinched off as soon as they appeared, and the whole bed kept as clean as possible. The plants were of the Wilson variety. If anybody can beat this, I would like to hear of it.—B. G. DAVIS, *Sargertown, Crawford Co., Pa., in Rural New Yorker*.

DOUBLE GLAZED FRAMES FOR EXCLUDING COLD.—There are so many persons who desire to save their plants during winter, who have no means of applying heat in any way, that I think I may do them a service by bringing to their notice the plan I have found so very useful—viz., a double frame to keep out the extreme cold. This idea I obtained from seeing double windows employed in several London houses, in Piccadilly, and the west of London generally, to keep out the noise, and maintain the rooms at a more equable temperature. Knowing well, as I do, that a stratum of air between two glasses will keep out noise, heat, and cold, the adaptation of this principle to preserving plants in winter is not very surprising; and having in practice for two or three years proved its value, I now bring it before your readers in order to verify my discovery, or rather adaptation, of a fact well known. I have had my lights made with a very broad frame, so that two sashes can be made upon it—one under, one over—so that they both lift at the same time, when it is necessary to give air to the plants beneath. I have some of the usual—shall I say old-fashioned?—glasses, the snow has fallen upon them, and I find a very marked difference in the melting of the snow. The snow rapidly disappears from the single lights, but on my double sashes it remains. I will not go into the science of radiation, conduction, transmission of heat, &c., suffice it to say to a gardener, that with a double light the cold will not go down to half-buried pots or plants as through a single light.—*Septimus Piesse, Ph. D., in Journal of Horticulture*.

Markets.

Toronto Markets.

"CANADA FARMER" Office, S. pt. 1, 1865.

The weather for the past fortnight has been most favourable for the ingathering of the bountiful harvest with which we are blessed. The grain crop is now pretty well secured, and only oats and late sown grain are out. The state of our market a short time ago was exceedingly dull, and but few transactions took place. Within a few days past, owing to advances in New York, and accounts of unfavourable weather and crops in the West and in England, the grain and flour market here became rather excited, and prices were very firm, with an upward tendency. Stocks are so small, however, that although the feeling is good, operations are restricted. Extra grades of flour are in active demand, but very scarce. The offering of the new crop on our street market, as yet, have been very small, but prices here, as well as in other parts of the Province, have been good, and will handsomely repay the farmer for his grain and other crops. Live stock has been bought up with great avidity by the Americans in all parts of the Province, regardless of grade or species. Good cattle are scarce and in good demand. Inferior are high, and almost any kind bring a good price now. Beef and other meats are slightly higher.

Flour—market dull with few transactions; No. 1 superfine at \$4 60 to \$4 80; extra do. at \$5 20 to \$5 25; superior extra at \$5 70 to \$6 00.

Fall Wheat in fair demand and steady, at \$1 to \$1 12 on the street.

Spring Wheat—quiet; selling on street, at 95c to \$1 00, and higher.

Barley active, at 66c to 72c per bushel.

Pease steady, at 55c to 60c.

Oats in good demand, at 30c. to 35c.

Corn unchanged.

Provisions—Improving; Butter good supply at 10c. to 22c. per lb. for rolls wholesale; dairy, in tubs, 15c to 16c per lb.

Cheese—more plentiful; wholesale 10 1/2c to 11 1/2c per lb; retail 14c to 15c per lb.

Eggs—market steady, with fair supply; fresh 13c per dozen on the street.

Potatoes (new)—Plentiful, and of excellent quality, with fair demand; wholesale, 35c; retail, 40c.

Beef—in demand, but slightly higher; prime cuts 8c to 12c per lb.; stew and corn pieces 6c to 9c per lb.

Mutton—Fair supply and in less demand; at 8c to 12c per lb.; hind quarters 12c per lb.; fore quarters 8c per lb.

Live Stock—dressed weight, 1st class \$5 to \$5 60; 2nd class \$4 to \$4 60; inferior, \$3 to \$3 60; calves, small supply, \$4 to \$7 each; fair quantity in the market; sheep, \$3 50 to \$4 00 each per car load; lambs, \$2 to \$3.

Hay—in good supply at from \$7 to \$10 per ton for new, old scarce and higher.

Peterboro' Markets, August 23.—Flour, per barrel, \$5 Fall Wheat, per bushel, \$1. Spring Wheat, per bushel, 90c. Potatoes, per bushel, 80c to 40c. Barley, per bushel, 60c to 55c. Pease, per bushel, 60c to 60c. Oats, per bushel, 30c to 31c. Hay, per ton, \$8 to \$9. Wool, per lb., 35c. Eggs, per dozen, 7c to 9c. Butter, in rolls, per lb., 15c to 16c. Pork, per barrel, \$14 to \$16. Beef, per cwt., \$4 to \$5. Cordwood, \$1 75 to \$2. Apples, per barrel, \$3 75 to \$4.

Ottawa Markets, Aug. 23.—Fall Wheat, per bush, 95c. to \$1. Spring Wheat, per bush, 87c to 95c. Flour, Extra, per bbl., \$5 25 to \$5 50; superfine No. 1, \$5 to \$5 25. Rye, per bush, 50c. Barley, per bush, 60c to 60c. Corn, per bush, 60c to 87c. Oats, per bush, 40c to 45c. Peas, per bush, 60c to 75c. Beans, per bush, \$1 25. Potatoes, (cow) per bush, 55c to 40c. Turnips, per bush, 20c. Wool, fleeco washed, 60c to 60c. Butter, Fresh, per lb., 12 1/2c to 16c; Tub, 12c to 15c. Eggs, per dozen, 7c to 10c. Hay, per ton, \$7 to \$8.

St. Catharines Markets, August 23.—Flour, per 100 lbs., \$2 25 to \$2 60. Fall Wheat, per bushel, 90c to \$1. Spring Wheat, per bushel, 85c to 90c. Corn, in the ear, per bushel, 35c to 38c. Barley, per bushel, 55c to 60c. Oats, per bushel, 30c to 40c. Potatoes, per bushel, 60c to 62c. Apples, per bushel, 62c to 75c. Beef, per 100 lbs., \$5 to \$6. Mutton, per lb., 5c to 6c. Pork, per 100 lbs., \$9. Butter, per lb., 20c to 25c. Cheese, per lb., 9c. Eggs, per dozen, 12c to 15c. Wool, per lb., 35c to 45c. Hay, per ton, \$7 to \$8. Straw, per ton, \$5 to \$6. Firewood, per cord, \$3 to \$3 50.

Owen Sound Markets, August 23.—Fall Wheat, 70c to 90c. Spring Wheat, 65c. Barley, 50c to 60c. Oats, 30c to 35c. Hay, per ton, \$4 50 to \$5. Potatoes, per bushel, 45c to 60c. Butter, fresh, 12 1/2c. Eggs, 10c. Flour, per barrel, \$4 50. Wool, 36c to 40c.

Perth Markets, August 23.—Flour, per barrel, \$5 to \$5 50. Oatmeal, per barrel, \$6 to \$6 60. Spring Wheat, per bushel, \$1 25 to \$1 52. Peas, per 60 lbs., 75c to 80c. Oats, per 32 lbs., 32c to 40c. Mess Pork, \$20 to \$22. Prime Mutton, \$16 to \$18. Prime, \$14 to \$16. Lard, per lb., 10c. Tallow, per lb., 10c. Butter, per lb., 16c to 17c. Cheese, per lb., 10c to 11c. Eggs, per dozen, 8c to 10c. Wool, per lb., 37 1/2c to 39c. Apples, per 100 lbs., \$4 40 to \$4 60. Potatoes, per bushel, new, 37 1/2c to 40c. Hay, per ton, \$8.

Morrisburg Markets, 23.—Flour, per 100 lbs., \$2 60. Corn Meal, \$1 50. Oat Meal, \$3 00. Wheat, per bushel, 95c to \$1. Barley, 48c to 55c. Oats, 30c to 35c. Pork, per barrel, mess, \$22 to \$23; do, prime mess, \$16 to \$18. Beef, per 100 lbs., \$5 to \$6. Pork, \$8. Potatoes, per bushel, 60c to 60c. Rye, per bush, 50c to 60c. Butter, per lb., 18c to 19c. Eggs, per dozen, 11c to 12c. Cheese, per lb., 9c to 12c. Hay, per ton, \$8 to \$9. Peas, per bushel, 60c to 60. Wool, per lb., 15c to 35c.

New York Markets, August 23.—Flour opened 20c to 25c better, but after the North American's news the market became heavy, and closed dull at about the inside quotations; sales 10,000 barrels, at \$7 10 to \$7 75 for superfine State; \$7 90 to \$8 10 for extra State; \$8 15 to \$8 35 for choice do; \$7 10 to \$7 75 for superfine Western; \$8 to \$8 60 for common to medium extra Western, and \$9 to \$9 30 for common to good shipping brands extra round hoop Ohio. Canadian flour unsettled and irregular; sales 400 barrels, at \$8 10 to \$8 60 for common, and \$8 50 to \$11 for good to choice extra. Eye flour quiet. Wheat—Receipts, 43,145 bushels; market opened 3c to 5c better, but closed heavy at Satur-

day's prices; sales 40,000 bushels, at \$1 50 for inferior Chicago spring; \$1 69 to \$1 61 for amber Milwaukee; \$2 15 for new amber State, and \$2 15 to \$2 18 for amber Michigan. Rye quiet. Barley dull. Corn—Receipts, 78,635 bushels; market opened firmer, but closed dull at about previous prices; sales 10,000 bush., at 95c to 96c for unsound, and 97c to 97 1/2c for sound mixed Western Oats unsettled at 63c to 64c for Western. Peas opened heavy but closed firm, sales 6,000 bushels, at \$32 50 to \$32 75 for new mess, \$30 to \$30 50 for 1863 and '64 do., and \$24 for prime. Beef firm.

Advertisements.

PROCEEDINGS

AT THE

FOURTH ANNUAL MEETING OF THE BEAVER MUTUAL FIRE INSURANCE ASSOCIATION, held June 5, 1865, with Report of the Board of Directors:—

PRESIDENT: Richard L. Denison, Esq.; VICE-PRESIDENT: Charles E. Chadwick, Esq.; MANAGING DIRECTOR: S. Thompson; BOARD OF DIRECTORS: Richard L. Denison, Lippincott; C. E. Chadwick, Ingersoll, A. Barker, Markham; Hon. Oliver Blake, Townsend, Hon. J. Hillyard Cameron, Toronto; D. Campbell, Almonte; Jos. W. Collins, Newmarket, W. Henderson, Toronto; H. Rowsell, Toronto; John Snell, Edmonton, George Snider, Owen Sound; F. W. Stone, Guelph; D. Sutherland, Newmarket; D. Thurston, Toronto; S. Thompson SECRETARY AND TREASURER: T. J. Thompson; GENERAL AGENT AND INSPECTOR: John Blackburn.

At the Annual General Meeting of the members of the BEAVER MUTUAL FIRE INSURANCE ASSOCIATION, held at the Head Office, 20 Toronto street, Toronto, on Monday, June 5th, 1865, R. L. Denison, Esq., in the chair, the Fourth Annual Report of the Board of Directors was read by the chairman as follows:—

REPORT:

The Directors beg to lay before the members of the Beaver Mutual Fire Insurance Association their Third Annual Report.

For the past three years the amount of business done by this Association has been as follows:—

Table with 2 columns: Description and Amount. Includes Number of Policies applied for up to 1st May, 1863, 1864, 1865.

Table with 2 columns: Description and Amount. Includes Less declined and expired, Total Policies in force, May 1, 1865.

Table with 2 columns: Description and Amount. Includes Amount of Property Insured May 1, 1863, 1864, 1865.

Table with 2 columns: Description and Amount. Includes Amount of Premium Notes liable to Assessment, May 1, 1863, 1864, 1865.

Table with 2 columns: Description and Amount. Includes Amount of Cash Receipts for Premiums during 1862-3, 1863-4, 1864-5.

Table with 2 columns: Description and Amount. Includes Amount of Fire Claims paid, 1862-3, 1863-4, 1864-5.

By examining the above simple tables, the members will see at a glance, that the progress made by this Association has been truly extraordinary; and it is not too much to say, that no association of the like character has ever made more rapid strides in public favour. When to this we add, that this Association has never had but two suits at law, one of which was settled by arbitration, and the other resulted favourably to the Company to the extent of a large reduction in the amount claimed for a very doubtful loss by fire, and further, that at this moment, there is but one settled claim unpaid (not being yet due), we have said quite enough to show, that the Association has amply fulfilled the expectations of its early well wishers, and established (tautefulness to the farming community), to which its operations are limited almost entirely.

But we have, nevertheless, not been without our disappointments. The season of 1864-5 has pressed severely upon Insurance Companies of all kinds, and this Association has not been able to avoid many losses, amounting to a large sum in the whole. The claims for losses by fire during the past year number forty-four, amounting to \$12,342 15. Of these thirty-two have been paid. In one case the Directors refused to recognise the claim, as the insurer falsely swore he was the owner of the property insured, whereas he had no title to it whatever. In two other instances much suspicion surrounds the cases, and no final decision has been arrived at. The remaining cases are in course of settlement. One fire during the year was caused by arson, the insurer being caught in the act of firing his barn. He was arrested and tried at the last fall assizes at L'Orignal, but was acquitted, as he was under the influence of liquor at the time, and had destroyed a larger amount of property than was covered by his policy. In every instance the claims have undergone a thorough investigation by the Fire Inspector, and a saving of upwards of \$4000 was effected. Claimants are in the habit of overvaluing their property to a great extent, thus trying to obtain a larger sum than they are entitled to, and it requires the utmost watchfulness to prevent fraud.

In three instances investigations have been held before a coroner or magistrate in suspicious cases. In one instance, evidence was obtained whereby the claim was reduced \$375. In another instance, \$100 was saved; in the third case no saving was effected. Your Directors regret to say that incendiarism is found to have been the chief cause of the unusually large number of fires that occurred last winter, and it is much to be feared that in several cases the buildings were fired with the sanction of the insured. The Board would recommend that a reward of \$200 be offered for such information as will lead to the conviction of any incendiary, which they trust will have the effect of checking this growing evil.

In consequence of these untoward circumstances, your Board have found it impossible, as yet, to pay off the advances made by guarantee stockholders in previous years, as they had hoped to

do; and although the amount of indolence is not very important, it is to be regretted that the Association should be chargeable with interest on this score, thus increasing the expenses, and of course the cost of insurance. Had the members paid up their dues promptly, this expense would have been saved. The bad harvest of last year is no doubt fairly chargeable with the delays in payment of notes and assessments which have proved so general and inconvenient. As yet, not a dollar of costs has been incurred in the collection of premiums. Our operations in this respect have been much facilitated by our own Special Act, and by the Mutual Insurance Companies' Amendment Act of last session, which by defining the position of defaulters, and invalidating claims on account of unpaid premium notes overdue, have very materially simplified the operations of this Association, and other similar institutions.

Your Board would desire to give a word of caution to members against going to their barns or stables with lighted candles not thoroughly protected, which is the frequent cause of fires. This practice effectually vitiates the policy, and it will be impossible for the Board to sanction payment of losses arising from this cause. Smoking in or near barns or stables is also a most dangerous practice. Members desiring to make alterations, and employing carpenters to work on their premises, are required to notify the Secretary thereof, and to pay an increased premium of fifty cents per month for each \$500 insured—a very moderate charge.

Up to the present date, the cost of insurance under our premium note system, has been 25 cents per annum for each \$100 insured; but the members must not be surprised to find, that a larger assessment may possibly be required after harvest, to cover the excessive losses of last winter, and pay off the debt incurred in consequence. Should the summer pass away favourably, this increased assessment may be rendered unnecessary; but every member is already aware of his liability to such a call, and will, it is hoped, cheerfully bear the very slight tax thus imposed. The affairs of the Association have been conducted with rigid economy, and it can only be in the interest of members themselves that any further demand may have to be made.

The election of Directors on this occasion will be governed by clauses six and seven of the Special Act of last session, under which only five Directors are required to be elected in each year. Five of the present Directors, Messrs. Sutherland, Blake, Campbell, Collins, and Chadwick, will remain in office until the next Annual Meeting, other five, Messrs. Denison, Rowsell, Cameron, Thurston, and Henderson, have been balloted to serve until the following year. The retiring Directors are Messrs. B. W. Smith, J. P. Bull, Blackburn and Thompson. The vacancy occasioned by the lamented death of the late President, Col. E. W. Thomson, has also to be filled up. While alluding to this last circumstance, your Board cannot forbear expressing their admiration of the character of the deceased, and their deep regret at the loss to the community, and to this Association particularly, of his valuable and esteemed services.

One of the retiring Directors, Mr. John Blackburn, has performed the duties of Fire Inspector so efficiently, that your Board have felt that the Association ought to have the benefit of his permanent assistance, and have therefore offered him the position of General Agent and Inspector, which he has accepted.

In consequence of the inauguration by the Auditor General's Department of a system of official returns from Insurance Companies, which it is probable will be rendered compulsory during the approaching Legislative Session, your Board recommend that the power granted under Clause 1 of the Special Act, to alter the day fixed for our Annual Meeting, be acted upon, and that a by-law be passed by their successors, naming the third Wednesday in January for that purpose, so as to enable our financial year to close on the 31st December, and thus put a stop to any unfair comparisons between this and other companies, arising out of the difference of period at which annual meetings take place, and your Board are rejoiced to find, that such returns are hereafter to be made under oath, a precaution which the events of the past two years have shown to be necessary.

The total cash receipts for the year have been \$16,834 44; total payments \$17,925 44. The average amount insured under each policy is \$100. Average annual payment under the premium note system \$1 75; cash system \$2 10. The total number of cash policies in force is 2091. Total losses paid under the cash system, \$446 50; other losses, \$6951 57, including all payments for 1862-3, -4, and 5, to the 1st May, 1865.

All which is respectfully submitted. (Signed) R. L. DENISON, President. S. THOMPSON, Managing Director.

Toronto, June 3rd, 1865.

The Chairman having moved the adoption of the Report, it was carried unanimously, and the same ordered to be printed for distribution amongst the members and others.

Messrs. Holland and Pellatt were appointed to audit the accounts for the current year. The Chairman nominated Messrs. T. J. Thompson and J. A. Wilkinson, as Scrutineers, who proceeded to collect the votes of the members by ballot, for the election of five Directors, in the place of those retiring in accordance with the provisions of the special act of last session. The scrutineers reported the following gentlemen as duly elected:—S. Thompson, Geo. Snider, F. W. Stone, Jno. Snell, and A. Barker, Esquires.

After the customary vote of thanks to the chairman, &c., the meeting separated.

At a meeting of the new Board of Directors held subsequently, Richard L. Denison, Esq., of Lippincott, (Treasurer of the Provincial Agricultural Association), was elected President, and Chas. E. Chadwick, Esq., of Ingersoll, was chosen Vice-President of the Association for the ensuing year.

TREASURER'S STATEMENT OF CASH RECEIPTS AND EXPENDITURE FROM THE 1st OF MAY, 1864, TO THE 30th OF APRIL, 1865.

Table with 3 columns: Description, Amount, and Balance. Includes Balance per statement 30th of April, 1864, Less Commercial Bank, On Premium Notes, Cash system, and Assessments, Cash Premiums, Bills Receivable, Charges, Guarantee Stock, Bills Payable, Commercial Bank, balance of Receipts and Deposits, 1865.

EXPENDITURE.		\$	cts.
Fire claims.....		8339	10
Fire inspection.....		373	88
EXPENSES.—			
Travelling expenses, witnesses, coroners and magistrates' fees, and detective.....	\$197	00	
Auditing annual accounts.....	20	00	
Rent and Taxes.....	178	50	
Postage.....	376	24	
Petty expenses.....	114	59	
Advertising account.....	131	44	
Legal expenses 1863-4.....	305	40	
Legislative expenses.....	100	00	
Printing.....	40	75	
		1764	56
Guarantee stock repaid.....	876	40	
Agents, cash in their hands.....	87	53	
Commission to agents.....	2731	61	
Interest.....	164	01	
Salaries.....	2264	07	
Discount on silver and postage stamps, and loss on counterfeit notes.....	48	45	
Office furniture.....	121	83	
Directors' fees for 1863.....	193	00	
" " 1864.....	215	40	
		409	09
Agent in default.....	35	29	
Re-insurance.....	9	75	
Cash in hand.....	82	50	
		\$17,407	94

We have examined this statement and find it correct.
 GEO. B. HOLLAND, } Auditors. THUS. J. THOMPSON,
 H. PELLATT, } Secretary & Treasurer.

STATEMENT OF ASSETS AND LIABILITIES, 30th APRIL, 1865.

ASSETS.		\$	cts.
Premium Notes, (less assessments paid).....	\$50,044	37	
Cash in hand and in bank.....	92	22	
Office furniture.....	150	00	
Due by agents.....	191	73	
Bills receivable.....	125	00	
Provident Life Insurance Company, for proportion of taxes and petty expenses.....	61	85	
Canada Mutual Fire Insurance Company, balance of premiums of insurance.....	578	59	
	\$51,234	76	

LIABILITIES.		\$	cts.
Guarantee fund for instalments paid.....	\$2811	11	
Bills payable.....	4226	98	
Unsettled fire claims, estimated at.....	2550	00	
Printing.....	141	47	
Interest on guarantee stock.....	95	00	
Directors' fees and mileage unpaid.....	124	42	
Salaries account.....	206	63	
Agents' commissions unpaid, payable out of second assessment.....	815	00	
Re-insurance, premiums assessable.....	123	33	
	\$11,093	94	

AUDITORS' REPORT.

To the Board of Directors, Beaver Mutual Fire Insurance Association.
 GENTLEMEN—Your Auditors beg respectfully to report that the books of the Association submitted to them for examination are correctly kept, that the annexed statement represents a faithful and accurate abstract of Cash receipts and expenditure of the Company for the year ending the 30th of April last.
 Your Auditors beg to congratulate the Company on its continued success, and its very large increase of business since the last audit, and have much pleasure in bearing testimony to the valuable assistance afforded them by Mr. T. J. Thompson in their audit, and to the general accuracy of his accounts.
 All which is respectfully submitted.
 Your obedient servants,
 GEO. B. HOLLAND, } Auditors.
 H. PELLATT, }
 T. J. THOMPSON, } Sec & Treas.

Office, 20 Toronto Street,
 Toronto, August 1, 1865.

MILLER'S
Celebrated Scab & Tick Destroyer,
FOR SHEEP.



THIS preparation is a certain remedy for removing these destructive affections. Every day brings additional testimony of its thorough effectiveness. No flock master should be without it. Prepared only by

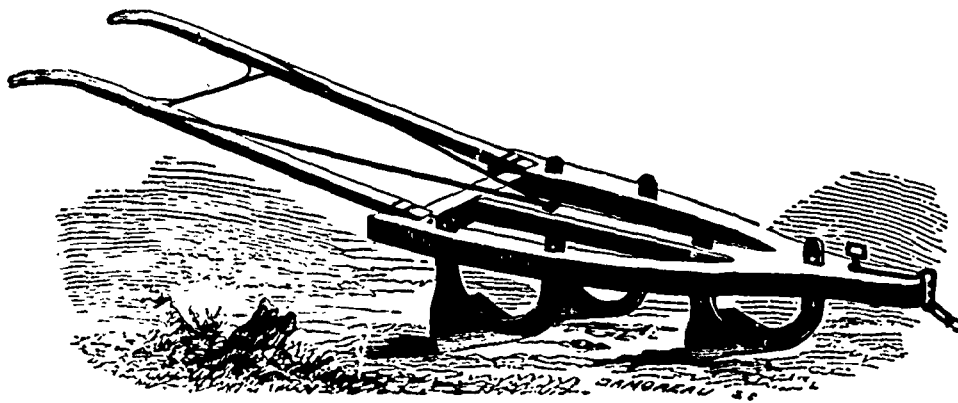
HUGH MILLER & CO.,
 Chemists, Toronto.
 August 1, 1865. v2-15-3t

DAIRY FARM FOR SALE,
OR RENT ON LEASE.

400 ACRES, near WOODSTOCK, Co. of Oxford, with extensive improvements, well adapted for a Dairy or Stock Farm. Also, **150 ACRES** near CHARLESTON, Co. of Peel, with considerable improvements, having a spring on the lot well adapted to run a Cheese Factory. Also, **100 ACRES** near EMBRO, Co. of Oxford, with considerable improvements.

For particulars, apply (post-paid) to
 JOHN DUNLOP, South Zorra, C. W.
 August 1, 1865. v2-15-4t

THE FOREST CULTIVATOR.



THE FOREST CULTIVATOR.—Patented by JOHN A. CULL, Toronto, has, after two years trial, proved itself to be the most useful implement on the Farm,—for all kinds of new land, a land encumbered with roots and stumps, it is an absolute necessity, and is so strong, that it will pass over logs without injury.

For Spring use after Fall ploughing, nothing can compare with it—the draught is light, and an ordinary team will cultivate five acres once, (or two and a half acres once and across) in a day. Apply, post paid, to the Patentee. v2-17-1t

PROVINCIAL
EXHIBITION
 OF THE
AGRICULTURAL ASSOCIATION
 OF UPPER CANADA,
TO BE HELD AT LONDON,
 ON
18th to 22nd September, 1865.

PERSONS intending to exhibit will please take notice that the entries of articles in the respective classes must be made with the Secretary at Toronto, on or before the undermentioned dates, viz:—
 Horses, Cattle, Sheep, Swine, Poultry, on or before Saturday, August 13th.
 Grain, Field Roots, and other Farm Products, Agricultural Implements, Machinery, and Manufactures generally, on or before Saturday, August 26th.
 Horticultural Products, Ladies' Work, the Fine Arts, &c., on or before Saturday, September 9th.
 Prize Lists and Blank Forms, for making the entries upon, can be obtained of the Secretaries of all Agricultural Societies and Mechanics' Institutes throughout the Province.

HUGH C. THOMPSON,
 Secretary Board of Agriculture.

Toronto, August 1, 1865. v2-15-3t

BERLIN MONTHLY MARKET :

THE first Market, for the sale of Cattle, Sheep, Butter, and Farm Produce generally, will be held on the NEW FARM GROUNDS,
ON THURSDAY, SEPTEMBER 7th, 1865,
 when Premiums, amounting in the aggregate to \$50, will be awarded for best Cattle, Sheep, and Butter exhibited.
 For particulars see Handbills.

HUGO KRANZ,
 Town Clerk.
 v2-16-2t

Berlin, August, 1865.

STRATFORD QUARTERLY CATTLE FAIR,

FOR the Sale of HORSES, CATTLE, SHEEP, and other Farm Stock and Produce.
 The Committee beg to notify Farmers, Cattle, and Produce Dealers, that the next Quarterly Fair will be held in Stratford, C. W., on Thursday, 7th September, and Thursday, 7th December.
 T. R. FULLER, Secretary. G. HORNE, Chairman.
 v2-17-3t

FLAX SCUTCHING MACHINERY,
 WITH MALLORY'S PATENT BREAK,
FOR SALE ON TIME.

APPLY TO
 J. B. TAYLOR,
 London, C. W.
 v2-17-2t

"BARON SOLWAY,"

THE Famous Prize Bull BARON SOLWAY, will be offered for sale at the Provincial Fair at London. He was imported in 1861, and is four years old. He has taken four First Prizes at Provincial Exhibitions, and in 1863 took the diploma for the best Durham Bull of any age. Specimens of his stock will be at London, where 5 Bull Calves of his get will be offered for sale.
 JOHN SNELL,
 Edmonton, Sept. 1, 1865. v2-17-1t

DAIRY PACKED BUTTER.

DODGSON, SHIELDS & CO.

WILL be prepared during the coming season to pay the highest market price for any quantity of really

CHOICE DAIRY BUTTER,

Packed after 1st September, and delivered at their Establishment,
 Cor. Yonge and Temperance Sts.,
 TORONTO.
 v2-17-2t

MORETON LODGE,
 GUELPH, CANADA WEST.

6th ANNUAL SALE OF
 PURE BRED
SHORT-HORNED AND HEREFORD CATTLE,
 Cotswold, Southdown and Leicester Rams,
 BERKSHIRE PIGS, AYLESBURY DUCKS AND
 DORKING FOWLS.

MR. KNOWLES has received instructions from Frederick Wm. Stone, Esq., of Moreton Lodge, Guelph, Canada West, TO SELL BY AUCTION, without reserve,

On Wednesday, the 4th day of October,

A choice selection of about 25 head of Young Bulls, Cows and Heifers, in good condition, from his celebrated herds of Short-horned and Hereford Cattle, bred from some of the most fashionable and well-known herds of the day.

Also will be offered about 40 magnificent Shearling and older Rams, consisting of Full-Blooded Cotswolds, Southdowns and Leicesters, in fine condition, large size, good quality, and well woolled, got by the Prize Rams, and about 20 prime young Berkshire Pigs (Boars and Sows) of the purest blood.

TERMS—Under \$25, cash; \$25 to \$100, 3 months; over \$100, 6 months' credit on approved endorsed notes, if required.

Sale to commence, with Pigs and Poultry, at 10 a.m. Luncheon at 12. Sale resumed promptly at 1 p.m.

Catalogues, with Pedigrees and other particulars, may be had on application to
 MR. KNOWLES,
 MR. STONE,
 Guelph, C. W.
 v2-17-2t Or of

THE CANADA FARMER is printed and published on the 1st and 15th of each month, by GEORGE BROWN, Proprietor, at his Office, No. 26 and 28 King Street East, Toronto, U. C. where all communications for the paper must be addressed.

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Communications on Agricultural subjects are invited, addressed to "The Editor of the Canada Farmer," and all orders for the paper are to be sent to
 GEORGE BROWN,
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