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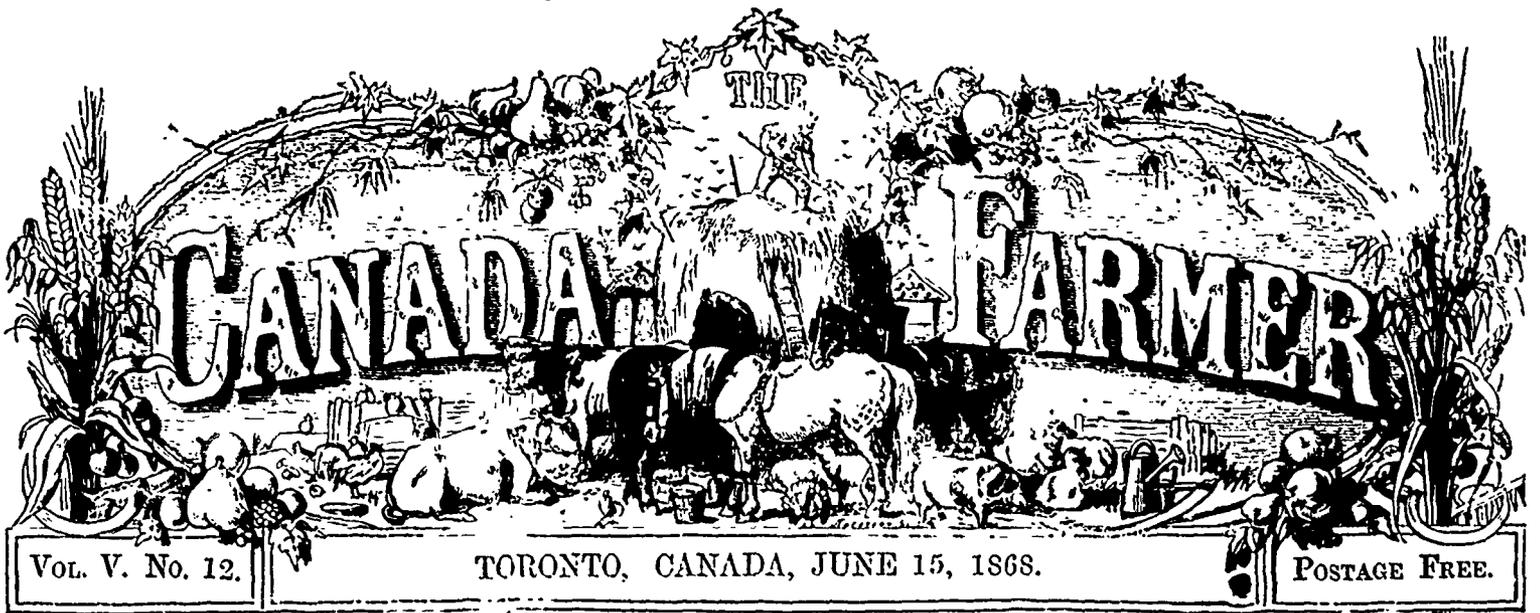
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VOL. V. No. 12.

TORONTO, CANADA, JUNE 15, 1868.

POSTAGE FREE.

The Field.

Alsike Clover.

The following is an extract from a farm journal:—
 "23rd May, 1868.—Made the weekly inspection of the farm. Went first to the Colt Ground, where the span of colts, now three years old, are growing into the future team. This place consists of four acres, fenced in with Black Ash pole or log fence, so high that they cannot jump over, and so strong that they cannot break through. This is the true way to prevent colts being breachy. The pasture is very rich, and is more than will be necessary to support the colts during the season.

"I noticed the Alsike clover particularly, which is now about five inches high. It possesses one unusual peculiarity, viz., that of doing best in the holes covered or nearly covered with water during the winter and spring. No doubt this is a valuable property as compared with red clover, which will not stand such hardship. Another thing to recommend its use is, that before timothy or red clover is ripe enough to cut for hay, the top flowers of the alsike are ripe, and shed their seed, which seem to catch at once and grow, as I find vast numbers of young plants only two inches high, the result of last year's laying. Our colt pasture is an uneven piece of land, and the roots and stumps not out sufficiently to enable us to level it yet."

This property of withstanding water in the winter and spring renders it a very useful plant for undrained farms, and reminds us of the native place of the Alsike clover, which was first discovered in the ditches of the fortification of "Alsike," in Sweden.

Prolificacy of the Thistle.

To the Editor of THE CANADA FARMER:

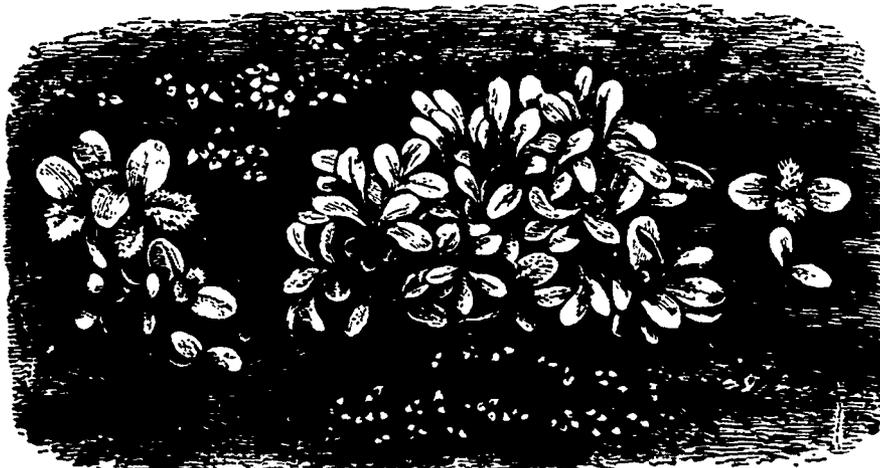
Sir, I have known you return your thanks for specimens of ripe strawberries, forwarded to you for trial; but the enclosed specimen of seedling thistles is entirely wanting in those mouth-watering qualities of which a ripe strawberry is so eminent a provocative, yet it may be of much more importance when gravely considered in its threatening aspect. My object in sending you these is to demonstrate the fallacy of Peter Shisler's assertion, published in a recent number of your journal, where he randomly asserts

"Not one in a million of the seeds of the thistle grow." I have seen them so thick on ploughed ground this month that you might count fully 150 to the square foot. The bunch in the centre, with the thread around them, is just as they were lifted, and too thick to count; the others are selected of different stages of growth, to show what they are. With your permission I will give a rejoinder to Peter Shisler's letter in your next issue, over the signature "Pablicola."

W. BURGESS.

Mimico, May 29th, 1868.

NOTE BY ED. C. F.—We gratefully acknowledge the compliment paid us by our correspondent in believing that we feel no "mouth-watering" after thistles, and assure him that we hold them in utter aversion. We have caused the specimen of seedlings forwarded



us to be engraved life-size, to give ocular demonstration of the prolificacy of this detestable weed, and to point an argument for stirring the soil with cultivator, harrow and horse-hoe, in order to secure its destruction. It is easy to exterminate weeds in the early and feeble stages of their growth. Merely a disturbance of the soil then suffices to destroy them, whereas when once they are rooted, it is a matter of extreme difficulty to get rid of them. We hardly think there is ground for controversy between our present and former correspondent. Speaking in a general, hyperbolic sort of way, one may say that not one in a million of these seeds vegetates, for it is quite evident that only a small proportion grows, inasmuch as a single thistle plant will throw upwards of 11,000 seeds, according to the estimate of Dr. Lindley, given in our last issue, under the head of "Weeds." We cordially second the most fierce and furious crusade against them. The publication of actual experience in attempts to get rid of this troublesome pest, though the statements may sometimes perplex by their apparent contradiction, cannot fail to be of service, and ultimately lead to effective methods of destruction.

Chinese Yam.

Dioscorea Batatas

To the Editor of THE CANADA FARMER:

Sir,—Having fully investigated the character and merits of this yam. I have some positions to announce in regard to it, which I should have much hesitation about advancing, if I were not well assured of their triumphant verification by my countrymen. I assert, that this esculent, by its concentration of each useful property, transcends in importance every other edible vegetable of the earth, and that it is destined to supersede the tropical and unreliable potato in all northern climates. The combination of its admirable properties as food for man, constitute it also the most estimable vegetable food, and the most nutritious aliment, for man and domestic stock, which God and nature, in their all-pervading beneficence and benign provision, have bestowed upon the inhabitants of our globe. I shall discuss all these points on a future occasion in the ample sense to which they are entitled. The present article is intended solely to impart such practical facts and advice in relation to the plant as will aid those who are now commencing its culture. I desire, however, to make known that there are more than fifty varieties of various colors and forms,

and varying in length from seven inches to two feet.

CHARACTERISTIC POINTS.—This yam is a native of the northern limits of the temperate zone, and will flourish in the coldest regions of our country, and of the British Territories, and will endure, everywhere, the winters in the open ground. Its produce is more than double the crop of any potato, and it never rots. It will flourish best on the now useless sandy lands of New Jersey and Long Island, and of the entire coast range, and it will also succeed on any other soil but a stiff clay. It does not require replanting annually, but reproduces abundant crops from the fragments and small tubers that are left in the earth. There can be no fragment, however diminutive, that will not vegetate. From tubers, the roots attain ten to twelve inches in length, and weigh four to six ounces. From sections of the root, such as used for the regular crop, the roots attain eighteen to twenty-four inches in length, and weigh from half a pound to one and a half pounds, and often more. A plantation of this yam, is in China termed "a Permanent Magazine of Food," and the roots may be dug fresh for use daily, from early spring to winter, thus furnishing new yams continuously. It

is more palatable than the best Mercer or any other potato. Its taste and flavor are intermediate between the finest potato and arrowroot, of an exceedingly delicate farinaceous character, and like the potato, it is devoid of all insipid sweetness. It is free from any ligneous or fibrous substance, and possesses the peculiar property of not being subject to rot or decay, but will remain perfectly sound and excellent in a dry state for a year, thus rendering it exceedingly valuable for long sea voyages, and for the prevention of scurvy. It is much more nutritious than any other edible vegetable used by man, and more so than wheat or any other grain. It is the only vegetable of all the earth which combines an ample portion of Azote, the grand constituent of animal substances which impart vigor to the muscular power of man and beast; and it is by the possession of this essential equivalent in this esculent that the use of animal food is rendered unnecessary by the Chinese and Japanese nations, whose immense populations comprise nearly one-half the inhabitants of our globe.

The culture of this most estimable and productive of all vegetables, on the sandy soils of the south side of Long Island, and throughout the sandy region of the Atlantic portion of New Jersey, which are of a character precisely adapted and congenial to its growth and development, and where the crops will consequently be much greater than in other locations, must impart a value to those lands which no one has yet anticipated; and they may soon command higher rates than any of the firm soils of the north side of the Island or of the upper section of New Jersey.

PREPARATION OF THE SOIL.—The ground for planting tubers should be rendered mellow and permeable to the depth of fifteen inches, and for roots to the depth of twenty inches. Old decayed stablemanure, or decayed peat or wood mould, should be mixed moderately throughout. Over-manuring is injurious, and pondrette is unsuitable.

PLANTING.—The season for planting is as soon as the freezing has ceased, and the ground has become settled.

Tubers.—These should be planted in a double row—the rows twelve inches apart, and the tubers ten inches apart in the rows.

Roots.—The sections of root should be about one and a half inches in diameter. They should be planted in a double row—the rows fifteen inches apart, and the roots at twelve inches apart in the rows.

There is no plant whose culture is more simple and easy than that of this yam.

Its extensive cultivation promises to our country a vast and inexhaustible resource, derived from such soils as have hitherto been most unproductive and unpromising. It will supersede and far more than replace the failing and uncertain crops of the potato, with the addition of this potent and comprehensive fact, that this esculent will succeed and yield ample and reliable crops throughout all the northern sections of the country, where the potato never has been, and never can be grown with success.

WM. R. PRINCE,
Linnæan Nurseries.

Flushing, New York, May 16, 1868.

NOTE BY ED. C. F.—We publish the foregoing communication, without, of course, endorsing it, having had no experience of the yam in this country, though many years ago our lot was cast where it was a principal article of diet. Our American exchanges speak favorably of it; and experience only can determine its value as a Canadian farm crop. There could be no harm in a cautious experiment next season, the time having passed for trying it during the present year. No Canadian will agree with our correspondent's assertion, that potato-growing has proved a failure in the north.

THE YELLOW ABERDEEN TURNIP has been found one of the most profitable varieties for field cultivation, being more solid and substantial, and containing more nutriment than most of the flat turnip family. W. A. Underhill, of Croton Point, N. Y., who has had much experience and success with root crops generally, has raised his own seed of the Aberdeen for the past fifteen years, continually selecting the best and most compact specimens for this purpose. He informs us that during this period he has improved the variety so much, that they weigh five pounds more to the bushel than at the commencement of his experiments.—*Country Gentleman.*

Hop-Growing

The *Rural New Yorker* cautions its readers against giving way to the rage for hop-growing, and says, very properly, that there is danger of its proving a losing affair with many. At present the demand for hops causes high prices, but before long this state of things may cease, and hop-growers burn their fingers. No one should embark in this or any similar undertaking under circumstances that would render a decline in prices, or total failure, ruinous. Some localities are specially favourable to this business. Good soil, cheap poles, abundant and cheap help, exemption from insects, and proximity to market, form a combination of most advantageous circumstances in certain cases. Still, prudence is wise and commendable. Especially is it of importance that no one should be in such hot haste to go into this business as to attempt to make a hop garden unless the land is in a good, rich, clean, mellow state. We know of some who are attempting to transform poverty-stricken sod ground into a hop-yard. They will find it up-hill work, and accomplish but little for their pains. Land of the very best description, with a deep tilth, and free from weeds, is necessary to success in hop-raising, and it is far better to spend one season in thoroughly preparing the ground, than to plant under circumstances that forbid the hope of satisfactory results. In such cases the maxim is of pertinent application, "make haste slowly."

A Handy and Powerful Lever.

Is working in soft ground, whether at pulling stumps or moving stones, the great want is a firm place to set the lever. We exhibit in the accompanying engraving a lever, which requires a very simple base, and if rigged with a pulley or "block and tackle," as shown, may exert a great lifting power. For such lifts a crooked lever has many advantages. We witnessed a short time since, the operation of such an one, and were struck with its utility. The ring to which the powerful inch-iron



Look is attached should perhaps pass through the bar closer to the inner angle than is represented. It might equally well be made so as to slip over the bar and hold in a notch on the inner side. Such a lever may be seven to nine feet long, and made of oak or hickory. It may be operated by hand, by attaching the upper end of the rope to a stump and pulling down upon the lower end; or by horses or cattle, by fixing the lower end and carrying the upper one off to where the team may be conveniently and efficiently used.—*American Agriculturist.*

LIMING HAY.—Liming hay that is put into barns in a partially cured state has been recommended by numerous agricultural writers within the past three years. A contributor of the *Prairie Farmer*, Chicago, gives corroborative testimony in favor of air-slacked lime for preserving clover hay which had been imperfectly cured. He says he applied a peck of lime to the ton—sprinkling each layer as it was put into the mow. The result was, it came out bright and green—all stock eating it greedily, and thriving well upon it. Clover and some other grasses lose much of their nutritive properties by being cured in a mow, or if left in the field too long, exposed to sun, rain, and dew.

Haymaking.

Grass and clover, when ready to be cut down, contain a considerable quantity of sugar, gum, mucilage, albuminous and other soluble compounds, which are all liable to be washed away by heavy showers of rain. As long as grass is still quite fresh, rain falling upon it has little or no injurious effect, for fortunately a coating of waxy or fatty matter covers the epidermis, and wraps, so to speak, the whole vegetable matter in a waterproof mantle. Rain, for this reason, may fall for days on newly cut grass without doing any injury to it; but the case is very different if, by repeated turnings, the crop has become more or less bruised and rain then descends upon the half-made hay; not only are sugar, gum and other soluble matters then liable to be washed out, but the bruised state of the plants, admitting at least a partial diffusion of the various constituents through the lacerated cell-walls, induces fermentation, which, if not checked at once, causes further loss. During the fermentation soluble albumen and sugar are destroyed—two of the most valuable elements of nutrition. In showery weather, grass recently cut should, for this reason, not be turned over more than is absolutely necessary, and under all circumstances it is desirable to handle the crop as lightly as possible, in order that it may not get much bruised.

I have seen farmers spending labour in turning hay on overcast days, on which a dew-point hygrometer showed the air to be nearly saturated with moisture, proving that evaporation could not possibly take place at the time, and rain might be expected at any moment.

As long as grass and clover are still quite fresh, the proportions of water to sugar in the green plant are too large to encourage fermentation; the nitrogenous constituents in newly-cut grass, moreover, only become ferments after the vitality of the plant has been destroyed, and the vegetable cells and vessels have become ruptured by partial drying, and their contents have been mingled together. With the evaporation of water, and the more or less complete destruction of the living organization of the plant, the conditions become more favourable for active fermentation. Should the weather unfortunately turn showery at that stage of the haymaking process, and the air become saturated for many days and weeks together, the half-made hay often begins to ferment already in the field. When this takes place, the hay loses in quality, and becomes much more liable to heat afterwards in the stack. If, on the contrary, fine and warm weather sets in, and evaporation sets in with rapidity, the percentage of moisture soon sinks sufficiently low to prevent altogether, or greatly to retard, fermentation. The hay remains sweet and shows far less tendency to heat in the stack, even if it actually contains more moisture than hay made in unfavourable weather. The more quickly the hay can be made in the field, and the less it gets bruised, or loses colour there, the less likely it is to heat in the stack. Much hay is injured, however, when it is quickly made and in a fine season; it looks to be ready before it is so.

If dried ever so much and ever so carefully in the field, hay nevertheless heats to some extent in the stack. A slight fermentation, so far from being injurious, may be useful, for, as is well known, peculiar aromatic principles are thus generated, which certainly renders hay more palatable, and, it may be, more nutritious. As long as the green colour is retained, there is no danger of the hay losing in quality, but if the heat in the stack becomes so intense and continuous as to turn the hay decidedly brown, I have no hesitation in saying that considerable loss in feeding matter is incurred.—*Dr. Voelcker in Journal of Royal Agricultural Society of England.*

Ditching Machine.

A DITCHING machine has recently been brought out and patented in the United States by an American inventor, which is well spoken of by parties who have seen it in operation. It is known by the name of the Sawyer and Barber Ditching Machine, and is manufactured by A. D. Rickett, Arlington, Ohio. It can be worked, we understand, with one horse, and is said to be adapted for almost any ordinary soil. Farmers in Northern Ohio, we are told, are using them extensively. In that section of country it is customary for the owners of this machine to execute ditching at the rate of ten cents a rod. The machines are made of different sizes, the smaller, to cut from one to three and a-half feet in depth, and the larger to cut from one to four feet deep, and eight or nine inches wide. There are many places in this country where such a machine is much needed.

Transmutation of Species.

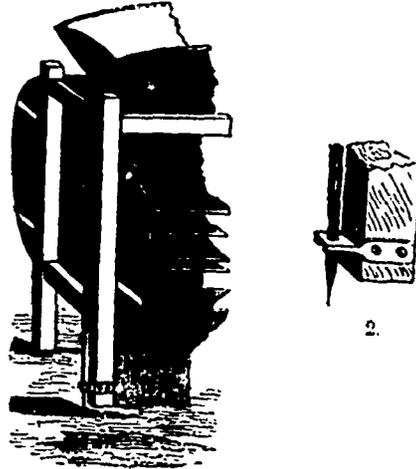
We were surprised to find in the columns of a contemporary daily paper recently a statement, on the authority of Elihu Burritt, that in a field near St. Ives, in England, a crop of barley was produced from oat seed. The thing, it is needless to say, is simply impossible. We are all familiar with the changes that result from hybridization. These are numerous and remarkable, but have, nevertheless, their limit, and never, under any circumstances, effect the transformation of one species into another. No amount of crossing would produce a horse out of an ass; and just as absurd would it be to expect by any process to transmute oats into barley, or any other distinctly marked species among the cereals. The subject brings up the long-vexed question of the conversion of wheat into chess, of the probability of which, notwithstanding the strongest evidence to the contrary, some not very close observers are still confident; and one of this class has even ventured to back his opinion by a wager to the amount of \$1000, that he will grow wheat from chess. On this subject we note the following very just remarks from the *American Agriculturist*:

WHEAT—CHESS—A \$1,000 OFFER.—Some still complain because we do not open our columns to a wider discussion of this subject. We have been looking into the matter for more than twenty years past—have studied it in its scientific relations—have received and read thousands of pages of manuscript, pro and con—have offered prizes, and had men come hundreds of miles with specimens to claim the prizes, and seen them return perfectly satisfied that they had made a mistake. We doubt not that many are honest in their belief that wheat will really produce chess; but we are just as sure that it will not—can not; and while seeking to devote our columns to such topics as will most benefit the largest number of our readers, it does not seem profitable to take up further space on this particular subject. Please allow us the same liberty of judgment in this respect, that we cheerfully accord to others.—We will only add here, that Mr. L. Gore, Chagrin Falls P.O., Ohio, an old and successful farmer, is fully convinced that wheat will turn into chess, and to show his faith, and, if possible, settle the question, he offers to wager \$1,000 that he can produce chess from wheat or rye, or both. His neighbour, Mr. David Robinson, will make affidavit that he has taken a kernel of chess from a wheat stalk, where it certainly grew. Mr. Gore's directions for securing the change are as follows: 1st. Sow rye in spring, and pasture it all summer; the next spring it will yield chess. 2nd. Sow winter wheat, or rye, or both in June, pasture until December, and let it grow the next season.—If any are disposed to try the question with Mr. Gore, they can correspond with him—we give his full address above. We have not time to take part in the correspondence, but we advise Mr. G. to look out for his \$1,000, if an enterprising man should accept his proposition. Perhaps he could not better use the money for the good of mankind, than to lose it in "settling" this "vexed question." Please excuse us, if we do not publish or answer the next hundred letters that come in about Wheat vs. Chess.

GROWING WATERMELONS.—At a recent meeting of the Herkimer County Farmers' Club, Judge Owen stated that he had a piece of land ploughed a foot deep, turning up the clay subsoil, which he planted with watermelons. The plants came up; but the sun dried and hardened the clay, and the vines did not thrive. He then went to the dung heap, and took from the centre a wheelbarrow load of manure that had thoroughly decomposed into a black mass. This was thrown into a barrel filled up with water. Commenced watering the plants with this liquid, and directly they began to grow vigorously. Thinned out the plants to two in a hill, and continued the application of the liquid, filling up the barrel with a fresh lot of manure and water from time to time. When the plants got fairly under way, they would make a growth of ten inches in twenty-four hours. Finally thinned out, leaving only two plants, and they in time covered all the ground. These made an enormous yield. One of the melons weighed twenty-eight and a-half pounds; six others weighed one hundred and twenty pounds. From this patch he picked all the melons he wanted for family use, and for the entertainment of his friends, and to close up in the fall he took off half-a-dozen wagon-loads of unripe melons. This satisfied him that the best way to apply manure to vegetables is in a liquid state.

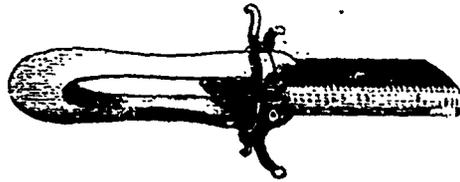
Fixed Foothold for a Fan-Mill.

BARN floors are somewhat uneven, and fan-mills have not weight enough to stand steadily when turned with a strong arm, to give a forcible blast, so they slide and dance about unless fastened by cleats or otherwise. Mr. Ellwood Hughes, of Fowlersville, Penn., sends the *American Agriculturist* the following description of an attachment to his fan-mill, which he finds of great service: "A bar of round $\frac{3}{4}$ iron, long enough to turn a short handle above the top of the leg of the fan-mill, has a thread cut at the bottom and passes through a nut fastened at the bottom

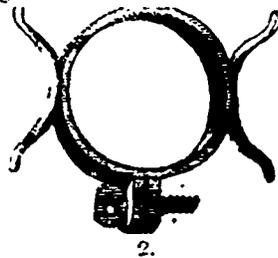


of the leg. The end of the rod is sharpened to a point so as to take hold in the floor, and the top passes through a staple in the top of the leg. Such a rod should be attached to two of the legs of a fan-mill, so that they may be screwed down to take hold in the floor. Thus the mill will retain its place while in use, and stand level, no matter how uneven the floor. When one has done using the mill the rods may be run up, and then the mill will slide smoothly over the floor." Figure 1 shows a portion of the fan-mill with the rod attached, and fig. 2 gives the screw at the lower end of the rod with the nut.

WHETSTONE HOLDER AND GUARD.—In using a stone for sharpening a scythe, beginners or inexperienced persons often cut their hands against the edge. Then, again, the best stones are usually fragile and likely to be broken into pieces too short to hold in the hand. We bought in London a little instrument use-



ful in both of the above cases. Fig. 2 is a little ring of zinc-coated iron, with four flanges or prongs and a tightening screw on one side. This is slipped over



a wooden handle cut out in the centre like a clothes-pin, (fig. 1). A whole stone, or a broken half of one, is securely fastened by turning the screw, which enables one to use up fragments, or to use very short stones; while the flanges guard the hand from being cut, if a wrong movement happens to be made.—*American Agriculturist*.

Plaster as a Manure.

GYPSUM, or plaster of Paris, is a sulphate of lime, in other words, a combination of lime and sulphuric acid in certain proportions. It is found in certain localities in the form of a hard, white, semi-opaque rock, which is dug out or blasted, placed in kilns, and subjected to a strong heat, which drives out the water, &c., and renders it brittle; it is then ground fine in mills erected for the purpose. When first ground it is very dry, but by exposure to the atmosphere gradually imbibes water, which adds greatly to its weight. It can hardly be called a manure of itself, for it only acts as an absorbent of ammonia and other salts that exist in the moisture of the atmosphere. Its good effects are most manifest when applied as a top dressing to clover, peas, and other leguminous crops, at the commencement of dry weather, when, from its absorbent power, it draws and retains the moisture from the night dews, (which contain much ammonia,) to the roots of the young growing plants. It also greatly benefits corn, potatoes, and other hoed crops, when applied sparingly to the surface of the soil, close to the young plants, when they are two or three inches high. 100 lbs. per acre is about as much as will be necessary to sow on clover, but more may be sown with advantage where the soil is deficient in lime. The lighter and drier the plaster is the better, and it should be kept in tight barrels in a dry place till wanted for use, as if once it gets wet its value is destroyed.—*Er.*

The European Larch.

This is well known as a beautiful ornamental tree, and as such is to be found in most gardens that have any shrubbery about them. From its quick growth, the *Country Gentleman* recommends its culture for timber, and estimates that in twelve years the larch crop on an acre of ground would be worth twelve hundred dollars, thus giving a yield of one hundred dollars per annum to the acre. Our cotemporary also advises the use of this tree as a screen, since though it is deciduous, it affords a much better protection than other trees which drop their leaves, on account of the profusion of small shoots which break the force of cold winds. The larch is easily grown from seed, which should be sown half an inch deep in beds of fine, rich mould, and shaded from the sun the first season.

WHAT OUR FARMERS REJECT.—The *Ogdensburgh Journal* says:—The canal boat *Solon F. Case* is at Anvil's dock in that city, taking in a cargo of leached ashes, which have been purchased from the asheries there. These are taken to Long Island and Connecticut, and sell at from eighteen to twenty-five cents per bushel as a fertilizer. Yet, says the *Mitchell Advocate*, here, where our farmers can get them for nothing, they are rejected as worthless. Science and experience, however, teach otherwise, and we find those who possess the knowledge coming nearly a thousand miles to procure what our farmers reject."

WORMS IN CORN.—If your cornfield is troubled with worms, scatter salt around the hills in small doses of a handful to a half-dozen hills, or at the rate of five or six bushels to the acre. Mr. Greeley has tried it; and finds that nine-tenths of the worms in the ground are killed by it, particularly the wire-worm.

SHOULD POSTS BE PLANTED UPSIDE DOWN.—A correspondent of the *Farmers' Club, American Institute*, says he has tried both ways—that in which the tree grew, and reversely—and in ten years' trial has found no practical difference.

HOPS.—People entering into the hop business had better count the cost before commencing, lest they hop out faster than they hopped in.—*Cor. Country Gentleman*.

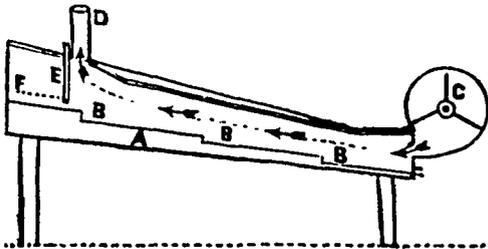
Bones and Ashes.

BONES and ashes pass through the housekeeper's hands every day. Wood is still the chief fuel in the farm-house and the value of the ashes is pretty well understood. They are prized for the lye they yield, and if there is a surplus from the soap-making they help the kitchen garden at the back door. The bones are generally thrown to the dog and lost. Now if the careful housewife would save the bones as regularly as the ashes, she would practise a wiser economy and help her kitchen garden twice as fast. Bones are worth twice as much as ashes for manure, if dissolved, and the ashes will reduce them. Put both into a barrel in the cellar, if you please, and after mixing them half and half, keep them constantly moist with soapsuds, the hotter the better. The suds should not be poured on in such quantities as to leach the ashes. In a few months the bones will be disintegrated, and the whole mass may then be mixed and will make an excellent fertilizer for the flower border or the kitchen garden.—*American Agriculturist*.

The Dairy.

Milk Cooler.

Among the contrivances the need of which has been seriously felt by cheese-makers on the factory system, is an efficient method of rapidly reducing the temperature of new milk, and depriving it of some portion of its animal odour. In the States various contrivances for the purpose have been patented, the principle of which is to pass the milk in tubes arranged in coils, through cold or iced water. This plan will, no doubt, lower the temperature, but seems to us deficient in the important point of removing at the same time the odour of the milk. An invention has recently been patented in this country which seems to combine both the desirable points. This contrivance was invented by Mr. F. Oakley, of Bond Street, Toronto, and is represented in the accompanying illustration. The apparatus is very simple, and will be at once understood by a re-



ference to the drawing, in which the principle of the operation and the various parts of the mechanism may be clearly seen. These last consist of a covered trough (A), with a series of steps (B) on an inclined plane, a fan blower (C), worked by hand or any available power, a chimney or air duct (D), to carry off the warm and impure air, as shown by the arrows, a movable sluice or floodgate (E), to regulate the flow of the milk, a strainer (F) to remove hairs, &c., that might be in the milk.

To this might be added, around the compartment which receives the milk, receptacles for ice, which would still further aid the cooling effect. This improvement is, we believe, contemplated by the inventor. The principle might also be advantageously applied to other processes besides cheese-making.

Rearing Calves.

The following is an extract from an essay on "Dairy Stock and its Management," read by Mr. Phineas Stedman, of Chicopee, before the Franklin (Mass.) Farmers' Club:

We come now to our second topic, viz.: "The management of dairy stock." It is of the first importance that all farm stock be kept in a thrifty, growing condition. It is much easier to keep a young animal growing, than it is to start that animal after it has, by want of care or proper food, been allowed to stop growing. Could every farmer be properly impressed with the fact that when a young animal is fed only sufficient to maintain its present condition and weight, that amount of food is lost, an important would be gained. I know of no single item in which we suffer so much loss.

The best method of rearing dairy stock will vary with different individuals. To rear calves dropped in spring, a good, and I think economical method, is to put two calves to a cow, (provided one not too valuable is at hand,) and turn to pasture. I prefer, however, to have them dropped in autumn, or between October and January. They may be allowed to take the milk from the cow at regular intervals, or be taught to drink the milk, and at three or four weeks old, skimmed milk may be substituted, and the calves will thrive well, with the addition of good hay and provender. For provender, I know of nothing better than a mixture of unground oats and linseed meal, in equal parts. At three months old, an ordinary calf will take two quarts of this feed and a small quantity of roots, without injury. Calves dropped at this season, have several advantages over those dropped in spring. They usually receive better and more regular care, are better prepared to endure the cold of the succeeding winter, and until they arrive at maturity, always hold an advance of several months, in age and size, while reckoned in the same class.

Over-Production of Cheese in the States

CANADIAN farmers and dairymen may derive many useful lessons from the experience of their American neighbours, who are older in the business than those on this side the border; and though we do not think there is any just cause for discouragement in the present prospects of Canadian cheese-making, yet it is as well to take timely warning, and avoid the evil of multiplying factories too closely together; and especially it is necessary to bear in mind that nothing short of the highest excellence in the article manufactured will ultimately render cheese-making profitable. The following remarks, by X. A. Willard, Esq., on the production of cheese in the United States, deserves the thoughtful attention of Canadian manufacturers:—

"The prospect of American cheese dairying cannot be regarded so remunerative a business in the future as in the past.

"The opinion has gone abroad that there is no branch of farming so profitable as the dairy. The consequence is that many are changing their system of farming, and rushing into cheese-making, when really better results would be secured by keeping steadily along in the business with which they are familiar.

"Dairying is now so extended that it will need the best united efforts of producers to make the business pay. Every increase is fraught with danger, and it is important that correct and reliable information be disseminated in regard to the extent and profits of the business.

"In the first place it may be well to inquire what the production is, and what the increase has been during the past eight years.

"According to the census of 1860, the production of cheese in the New England and the Middle and Eastern States was 101,000,000 pounds. New York then made 48,548,289 pounds; the Eastern States 21,620,986, and Ohio 21,618,893 pounds. According to the last New York State census, the cheese sold from the factories and dairies of New York alone, in 1861, amounted to 72,195,337 pounds. We know there has been a large increase of dairies in the State during the past four years, and from the best information I can get, New York is producing, in an average good year, at least 100,000,000 pounds.

"The increase in the Eastern States has been large and probably will not fall short of 40,000,000, while the Western and Middle States, New York excepted, must be at least 60,000,000. We have, then, 200,000,000 pounds of cheese as the product of the States, exclusive of the Southern and Pacific States and Territories. If to this we add 15,000,000 for Canada, we have the immense annual product of 215,000,000 pounds.

"We are exporting to Great Britain from 50,000,000 to 60,000,000, which leaves 160,000,000 pounds to be worked off among our own people.

"It must be evident that we cannot go on increasing this business without over-production, and those about entering upon it may well hesitate before making investments.

"As to the large profits from dairying, if the past year is to be a sample, it will require a magnifying glass of more than ordinary power to see them. Many have barely made the ends meet, and some have not been able to pay expenses."

Salting Butter, &c.

As to the quantity of salt to be used for butter, something will depend upon its manufacture and the market for which it is intended. The Orange county butter makers, who obtain the largest prices for their product, use at the rate of a pound and two ounces of salt for a batch of twenty-two pounds of butter. For winter butter, or butter designed for winter use, a little more salt is used at the last working.

There is a difference of opinion among butter makers in regard to washing out the buttermilk. We are strongly impressed that butter will keep best that is properly washed. It is the caseous or cheese particles in the buttermilk, the decomposition of which causes the butter to become frowy or rancid. The more perfectly these are expelled the better will the butter be preserved sweet and sound. Washing properly, to our mind, secures best that result. It is certainly much less work to get rid of the butter-

milk by washing, than by the "kneading process," besides there is less danger of spoiling the butter by overworking, since overworking injures the grain, rendering the butter salvy. It is claimed by some that when the buttermilk is worked without washing a more delicate aroma is retained, and this principle is observed in Holstein and Normandy, where a very superior butter is manufactured for the London market.

We have tested hundreds of samples of butter in London which came from France and Holstein. The butter is very slightly salted, and when fresh, has a most delicious flavor, but much of it does not keep well.

A most important point to be observed by butter-makers who hope to make a reputation for fine goods, is to pack in suitable tubs or packages. In our opinion, there is no wood so suitable for butter packages as white oak. The timber should be well seasoned, and the packages strongly hooped, so as to be water-tight. No leaky package can preserve butter for any considerable length of time.

In salting cheese, much will depend upon manufacture and the time it is desired to have it ready for the market. From two and a-half to three pounds of salt are usual for one hundred pounds of curd. The usual quantity at the factories is 2.7-10 pounds salt to 1,000 pounds of milk. In spring, when it is an object to have the cheese go into market early, 2½ pounds salt, and even less, are used to the 1,000 pounds of milk.—X. A. WILLARD, in *Utica Herald*.

DAIRY MEETING AT STOUFFVILLE.—The *Markham Economist* says the dairy meeting at Stouffville, held on the 3rd inst., passed off very agreeably. The result is that the Stouffville Factory was to go into operation on Wednesday, 10th inst., with the promise of about 100 cows to start with, and a prospect of considerable increase.

In France, milk is packed in small tin cans, easily moved by one man, and by a simple contrivance the stopper screws close down upon the contents of each can, so that the motion of the railway cannot churn the milk *in transitu*. The cans are then placed in covered waggons, and in summer are wrapped in cloths, which are watered from time to time so as to promote coolness by evaporation. The result of this care, which costs but little, is that the milk supply of Paris is proverbially excellent.

MILKING MACHINES.—A correspondent of the *N. H. Mirror and Farmer* gives his experience with one of these machines. He saw them advertised, and bought one, paying \$7 for it and \$5 for the right to use it. He says: "I tried it on an easy milker, and after a good deal of effort succeeded in getting it adjusted on the cow's teats, and by working it could draw some milk, but by the time the cow was half milked the teats would not fill the cups, and the machine would drop off, there being no suction. I wrote to the agent, stating the difficulty, and asking to be referred to some one who had one in successful operation. The agent replied, giving no reference, probably for the all-sufficient reason that there was nobody to refer to, but saying that I must persevere, for it required a good deal of practice to learn to use one. I and my hired man tried until we supposed that we had exhausted all our mechanical talent, but without success, and laid the machine by, which the agent can have at a very large discount."

NEW CHEESE HOOP.—At a late meeting of the Herkimer County Farmers' Club, Mr. E. Ellis exhibited a new cheese hoop which had been recently invented and patented. Mr. Ellis said there was great complaint among dairymen in regard to removing the cheese from ordinary hoops, and Mr. Purdy, who had been with him for some time manufacturing the common wooden hoops, had turned his attention to the subject in order to obviate the difficulty. As a result, he had brought out a new hoop, which had been patented, and he thought it an improvement. The hoop shown was of galvanized iron, arranged with an ingeniously constructed clasp, so as to be in a moment unlocked, when the hoop opens and the cheese can be taken out. This seems to be a very desirable article. It is very simple in its arrangement, being readily locked or unlocked in a moment.

Stock Department.

The Circulation of the Blood.

UNDER this head the course of the circulation was described in the last issue. It is now proposed to resume and complete the brief notice of the subject in the present article. The division of the heart into four chambers, the purpose of the arrangement, the contractions of this muscular organ, and the valvular apparatus by which the blood is propelled in one particular course, have been already explained: two phenomena, however, connected with the heart's action remain to be noticed, viz., the impulse or beating of the heart, and the sounds that attend or immediately follow the action. The first of these is familiar to every one, is sometimes visible to the eye, and can be readily felt by the hand, applied to the left side, particularly over the fifth and sixth ribs, where a slight but distinct stroke is felt against the walls of the chest. This beat or impulse is caused principally by the contraction of the spiral fibres of the ventricles, a movement which, at the same time that it shortens the heart, tilts up its point, and causes it to strike against the side. This contraction of the ventricles gives rise to a dull sound, which can be detected by the ear applied to the chest; and this first sound is almost immediately followed by another, somewhat sharper and quicker, which is due to the sudden closing of the semilunar valves of the arteries described in the last article. These sounds become modified and altered in disease of the heart, and afford important aid in detecting the existence and discriminating the nature of the morbid conditions of that organ.

From the heart the blood is poured into tubes called blood-vessels, which as they spread repeatedly divide into branches, till at their extreme ramifications they form a very fine network of minute tubes, so small that some of them will only permit one blood corpuscle to pass at a time, and so close together that the point of a needle cannot be inserted without puncturing one of these vessels and allowing the blood to escape. It requires a microscope to render these ultimate divisions of the blood-vessels and their contents visible to the eye. It is worthy of note that, whenever an artery or vein divides into two branches, each of these branches is smaller than the tube from which they bifurcated, but their joint capacity is greater. Hence it follows that the total capacity of the extreme and minutest vessels, called the capillaries, is considerably greater than that of the main trunks. As the result of this increased area, the motion of the blood in the last named vessels is slower than in the larger trunks; just as the current of a river becomes slower as its channel widens. This is, no doubt, a provision for the due performance of those vital functions in which the blood is the prime agent, and which take place during its slackened course through the capillaries.

There are certain very marked peculiarities in the vessels which first receive the blood from the heart, and which are called arteries. Like that of all the blood-vessels, their internal coat, or lining membrane, is very fine and smooth, so as to oppose the least possible friction to the passage of the blood through them; but they differ materially from the veins in having their principal coat composed of a very elastic tissue; so that when distended by the influx of blood, which increases momentarily both their diameter and length, they naturally recoil and recover their ordinary dimensions. Each gush of blood into the arteries thus distending and lengthening them by a motion propagated throughout their length in a sort of wave, tends to make them bulge out and straighten their curves. This action produces the pulse, of which we shall speak presently. But first let us notice an immediate and important effect of this distension and recoil; which is, that the

shock of each fresh gush of blood is gradually overcome, and by the time the stream reaches the capillaries, the motion is no longer in jerks, but perfectly continuous and smooth, and passes in the same even current into the veins, which return the blood to the heart. That the flow of this important fluid should thus become not only slower, as we have seen, but quiet and smooth in those delicate and minute tubes where the vital functions are carried on, is no doubt the principal object of this simple, yet beautiful mechanism. There is a consequence rather than design of the elasticity of the arterial coat that should be noticed in this place; namely, that if one of these vessels be punctured or cut, the opening dilates and presents a gaping and somewhat circular aperture, with no disposition to collapse, as in the more flaccid walls of the veins. Hence a wound of an artery produces a much more dangerous escape of blood, and much more difficult to check, than a wound of a vein. Indeed, the only effectual means of arresting hæmorrhage in arteries of any considerable size is to tie the vessel.

Let us now return to consider briefly the pulse. This beat, which in certain situations is perceptible to the eye or the touch, is caused by the momentary distension and straightening of an artery in consequence of a fresh wave of blood, propelled into it from the heart. Hence the pulse affords a most important index of the heart's action, showing the frequency, strength, and other characteristics of its central pulsations. The pulse of the remote arteries is not exactly simultaneous with the beat of the heart, but follows very quickly after; that at the wrist in man being about the seventh of a second behind the contraction of the heart. The contractions of this organ, producing corresponding changes in the pulse, are increased in rapidity and force by a variety of circumstances, such as violent exercise, mental emotion or excitement, and by a condition of fever or inflammation. It is, therefore, useful for any one to know what should be the regular and healthy frequency of the pulse. Its rapidity is greater in young animals than in the old, and varies considerably in different animals. Taking the adult average, the healthy pulse is in man about 70 in a minute; in the horse from about 34 to 44; in the ass a little faster; in the ox from 35 to 42; in the sheep, 70 to 80; about the same in the goat; and in the dog from 90 to 100 in a minute. The situations where the pulse can most conveniently be felt vary somewhat in different animals. In man it is frequently visible on the temples of thin or aged persons, and can readily be felt at the wrist. In the horse it can be felt on the inner and under side of the lower jaw, just in front of a conspicuous tuberosity or prominence on its surface. In the ox the situation for examining it is nearly the same, but a little more forward. In sheep the carotid arteries of the neck, or the metacarpal arteries of the fore-leg, or those at the root of the tail, afford the most perceptible pulsations; and in the dog the pulse may be felt at the fore part of the root of the ear. In judging, then, whether inflammation or fever be present in any case, it is important to remember that the pulse is much quicker in young animals than in the adult; in colts, for instance, than in older horses. We must also bear in mind that it is temporarily quickened by fear or any nervous excitement. This is particularly the case in the horse, an animal of highly excitable, nervous temperament. It is necessary, therefore, in making our examination, to be very quiet and gentle in our proceedings; and it is well to repeat the investigation at intervals, to ascertain whether the acceleration, when present, is persistent, or merely the result of temporary excitement.

We must now pass on to notice very briefly the remaining vessels concerned in the circulation, namely, the capillaries and the veins. The capillaries form the ultimate ramifications of the circulatory

system. They are distributed in a fine network over every vascular part of the body. By the aid of a good microscope these minute vessels and the course of the blood through them can be beautifully seen in some transparent living structures. The web of a frog's foot, and the tail of the salamander, an animal common in pools of water at this season of the year, afford excellent illustrations. These vessels have very delicate walls or coats, which are easily ruptured, but have no pores or openings. Their membranous walls are, however, perfectly pervious to air or gases, as we shall notice in another place, when we come to consider the function of breathing.

From the capillaries the blood, propelled by the action of the heart, flows into the veins, the branches of which gradually unite into larger trunks till the great vein of the system is reached, which pours the blood into the heart. The only peculiarity of the veins that we shall here mention, is that of the valves, with which the larger vessels especially are numerously furnished, and which resemble in structure the semilunar valves of the main arteries, consisting, however, of only two pouches in one place, instead of three. Their office is to prevent the return of the blood in a backward direction when they are pressed upon by the contraction of the muscles along which they pass. It was the examination of the valvular apparatus of the heart, arteries, and veins, all tending to admit the passage of fluid in one direction only, that led Dr. William Harvey to the discovery of the circulation, and entirely exploded the old notion that the arteries, as their name would indicate, contained air. We now know that the admission of air into the blood-vessels is instantly fatal. This accident sometimes happens in wounds of the chest, or root of the neck, or those situations where the veins are bound to bony or other rigid structures by fascia. It is an accident of extremely rare occurrence, as the continuous stream of blood occupies the tubes to their full capacity. The effect of introducing air into blood-vessels is, however, sometimes used as a merciful means of instantaneously and painlessly putting an end to life. When a horse, for instance, has become superannuated, or hopelessly injured, and it becomes an act of necessity or mercy to kill the animal, this may be quickly done without inflicting pain by blowing air into a vein, say of the neck, through a quill.

To prevent or arrest a dangerous escape of blood from the vessels, nature has made many effective provisions, among which we can only mention the chief. Thus, the larger vessels, especially the arteries, are usually deeply seated, and lie in a course where they are well protected by adjacent parts; while the flow of blood from the smaller veins and capillaries, unless very extensive or under peculiar conditions of disease, is seldom dangerous. The natural mode of stopping hæmorrhage is this: the blood, when it has escaped from any vessel, and especially if it comes into contact with the air, tends very quickly to congeal and form a clot, which acts as a plug, and puts a stop to any further bleeding. As a practical lesson, we should learn from this not to be too officious in washing away the flowing blood from a wound and thus preventing the coagulation which would naturally take place. Lint or other similar materials, such as the pile of a hat, cobwebs, &c., entangle the blood and facilitate its coagulation. Pressure properly applied brings together the walls of the wounded vessel, or closes the opening. But in applying it, we should bear in mind the course of the circulation (from the heart in the arteries, towards the heart in the veins), and apply it behind the wound of a vein, that is, more distant from the heart, rather than in front of it, which in the case of a vein would only increase the escape of blood. When a surgeon opens a vein in the arm for the purpose of bleeding, he applies a ligature above the wound; when he wishes to stop this flow of blood he applies the ligature below it. When any considerable artery is wounded, no time should be lost in sending for a surgeon. A pulsating stream of bright red blood flowing in jets is a sure indication of a wounded artery. The first thing to be done in such a case is to press firmly with the finger or thumb over the artery, especially, if it can be done, against a bone, remembering in this case also the course of the circulation, and applying the pressure accordingly. In the case of a wounded artery in a limb, a temporary tourniquet can be applied by a handkerchief surrounding the limb, twisted into a knot over the wound, or between it and the heart; or some hard substance, such as a piece of cork, or even a stone, may be placed in this situation under the bandage, which should be tightened and firmly held by a piece of stick, twisting the ligature thereby as much as may be necessary. A little coolness and presence of mind in these emergencies may often save life.

Experiment in Feeding Leicester and Merino Sheep

A RECENT number of the *Country Gentleman* gives an interesting account of an experiment made by Mr. Julian Winne, in the neighborhood of Albany, N.Y., to ascertain for his own satisfaction whether the claim on behalf of the Merinos that if they weigh less than English sheep they also consume less food, and are equally profitable to fat for the market, is well-founded or a mistake. The whole number of sheep fattened by this gentleman the past winter was 301, of which 180 were Merinos. The aggregate amount realized for the whole has been \$12,012.15 net, that is, above all freight and expenses in New York—an average of \$13.37 per head, which, on so large a number, is extraordinarily good. By way of experiment, two lots were set apart, consisting respectively of 60 Canada Leicesters and 61 Merinos; they were weighed Feb. 10th; a careful account was kept of all the food they consumed during the continuance of the experiment, 46 days, to March 28, when they were again weighed and sent to market. These numbers were thought to represent fairly the whole, and were taken as avoiding the trouble and additional risk of error, which would have been incurred by large numbers. The experiment began after both lots had been got in good progress—the previous and subsequent treatment of both having been precisely alike. The Merinos were an extra good lot, the 180 having been selected out of 600—and no complaint could exist against them, as we know by personal examination, on the ground of being below the best merits of their kind.

The following are the figures as regards weight, &c.:

Feb. 10—60 Coarse Wools weighed	8,570 lbs.
March 28—do do	9,578 lbs.
Gain in 46 days	1,008 lbs.
Total cost of feed (hay, grain, oil-meal, roots, &c.) for the 46 days	\$174.43
Feb. 10—61 Fine Wools weighed	9,909 lbs.
March 28—do do	7,339 lbs.
Gain in 46 days	480 lbs.
Total cost of feed as above	\$144.78

When both lots were sold, March 31st, the former realized 10½ cents per lb., and the latter 10½ cents. A calculation in simple proportion will show that if the coarse wools gained 1008 lbs. at a cost of \$174.43 for feed, the gain of the fine wools at the same rate upon an expense of \$144.78 should have been 836 lbs., whereas it was only 480 lbs., or a little more than one-half a proportionate amount as compared with cost. As compared with live weight, Feb. 10th, the coarse wools gained 11½ per cent. in the forty-six days—the fine wools not quite 7 per cent.

How to Fit Collars to Horses' Shoulders.

It is very important to have a collar fit nicely and snugly to the shoulders of the horse. It enables him to work with a great deal more ease and to apply a great deal more strength. It prevents galling and wounding, as the friction is avoided. Collars are so made, or should be so made, as to throw the chief force on the lower part of the shoulder. The horse can apply but little strength on the upper part, and for this reason breast collars are coming greatly into vogue—as the strength is exerted on the lower part of the shoulder. But we started out to tell our readers how to make a new collar fit the shoulder of the horse. The collar should be purchased of the proper size; just before putting it on, the first time, immerse it in water, letting it remain about a minute, and immediately put it on the horse, being careful to have the hames so adjusted at top and bottom as to fit the shoulder, and then put the horse to work. The collar, by being wet, will adapt itself to the shoulder, and should dry on the horse. When taken off it should be left in the same shape it occupied on the horse, and ever after you will have a snug fitting collar and no wounds.—*Valley Farmer.*

THE BEST KIND OF HOGS.—A correspondent of the *Prairie Farmer*, after experimenting ten years with nearly every breed, has come to the decided opinion that "the Suffolk will furnish the most pork for the least money, and with the least trouble, over any other kind of hogs." He considers them "the easiest kept, and perfectly harmless; they make the least oil, and are ready at any time for the butcher."

Cattle Soiling in the United States.

A good authority states it as his experience, that "one and a half square rods" will yield an ample supply of green food for each head of cattle for one day. To adjust the cropping for this, "the length of time it will take the article sown to come to maturity, so as to be fit to be cut, and the length of time it will afterwards continue succulent, are to be considered." The following notes by the authority above quoted, will give a few hints as to the system:—

1. As early in April as the state of the land will permit, which is usually between the 5th and the 11th, on properly prepared land, oats, at the rate of four bushels to the acre.
2. About the 20th of the same month, sow either oats or barley at the same rate per acre, in like quantity and proportions.
3. Early in May, sow in like manner, either of the above grains.
4. Between the 10th and 15th of May, sow Indian corn, the flat southern being the best, in drills, three bushels to the acre, in like quantity and proportions.
5. About the 25th of May, sow corn in like quantity and proportions.
6. About the 6th of June, repeat the sowing of corn.
7. After the last mentioned sowing, barley should be sown in the above mentioned quantity and proportions in succession; on the 15th and 25th of June, on the 1st of, or early in, July, barley being the best qualified to resist the early frosts.

The results of the above sowing, in succulent food, may be expected to be as follows, seasons of extraordinary drought excepted:—

The oats sown early in April will be ready to cut for "soiling" between the 1st and 5th of July, and will usually remain succulent until the 12th or 15th of this month.

Those sown about the 20th of April will be ready to cut between the 15th and 20th of July, and will last nearly or quite till the 1st of August.

Those sown early in May will be ready to succeed the preceding, and last till about the 10th of this month.

The corn sown on the 10th and 25th of May and early in June, will supply in succession succulent food of the best quality until early in September.

The barley sown in July will continue a sufficient supply until early in November, at which time, and often before, the tops of roots, carrots, beets, or turnips are a never-failing resource.—*Ec.*

Stable Floors of Gravel, Stone, and Coal Tar.

AMONG the materials of late recommended for stable floors, are a mixture of coal tar with gravel and stone. The manner in which the work is done is to take small stones and put them in a pile, pouring over the same the gas tar, and then mixing with a shovel until the stones are coated. These stones are now laid upon the floor and raked off level, and a sufficient quantity used to make the floor about three inches deep. Upon this floor coarse gravel, mixed in the same way with tar, is placed. The mixture is effected by putting the gravel in piles and making a hole in the top, pouring in the tar and mixing with a shovel. It is then spread over the stones two inches thick.

No more tar should be used than just sufficient to coat the stones and gravel, as it will be longer in drying. The stones and gravel being laid as above, a heavy roller weighing 400 or 500 pounds is passed over the floor until it is perfectly compact, and any places not touched by the roller are beaten down with a heavy maul. While the rolling and mauling is going on, the surface should be strewn over with fine gravel or sand, to take up the surplus tar, and should be continued until the surface is dry enough to walk upon and not stick to one's shoes. The floor is rat-proof and water-proof, and becomes hard and durable, making, it is said, the best floor that can be put in stables: the only objection being the smell of the tar, which, however, is healthy, and in time passes off. We find the substance of the above in the *Vermont Record*, without any names being given of persons who had tried it. We should presume that a good substantial floor could be laid in this way, and it has the merit of being cheap, and what every farmer and his workmen can readily do, without employing more expensive labour. It looks practical, and is well worth trying.—*Utica Weekly Herald.*

Veterinary Department.

Teeth and Teething in Horses.

To the Editor of THE CANADA FARMER:

SIR,—As the following is a matter of some interest to all who are in the habit of raising horses, and, indeed, to all who are in the habit of keeping horses under five years of age, I have been anxious for some time past to have an answer from the CANADA FARMER to a few queries on the subject.

1st. Should the milk teeth of a colt rising three, four, or five years old, be taken out as soon as they are loose?

2nd. Are Wolf Teeth injurious to the sight, or will they cause the appearance of heaviness in the eyes?

3rd. Do colts begin to shed their back teeth at the same time they commence shedding their front ones?

4th. Can anything be done for Lampas that would be equal to or better than letting alone? During the last ten years I have owned upwards of a dozen colts which were losing and getting teeth while in my possession, and like my children (when undergoing the latter process especially), their gums have been swollen and sore; but I have never been able to believe that burning the roof of the mouth with a red hot iron and then scratching it with a horse nail would better matters much, either with colts or children.

I have only got what were called Wolf Teeth knocked off the upper jaw of one colt, which at the time was twenty-two months old; and being advised to do so by a person who ought to understand such matters, it did not occur to me then, but it has often occurred to me since, that if colts begin to shed their back teeth at the same time they begin to shed their front ones, it could not have been Wolf Teeth at all that I got knocked off.

An answer to the foregoing queries will be thankfully received by the writer, and ought to be read with interest by many more. J. L.

ANSWERS. In answer to query No. 1, we consider it advisable to remove the temporary teeth when they become loose and are likely to interfere with the growth of the permanent ones.

No. 2. It is a common opinion held by many people that wolf teeth are injurious to the eyesight; we believe such to be a mistaken opinion altogether.

No. 3. Colts shed the molar teeth from the third to fourth year; the first, second and third in the jaw are temporary, and the first and second are usually displaced by permanent ones about the third year, whilst the third permanent appears about the fourth year. The colt has only twelve temporary molars or back teeth, whilst he has twenty-four permanent, and the first permanent appears when the colt is about one year old, and is the fourth in the jaw. The second appears when the animal is from eighteen to twenty-one months old, and is the fifth. The sixth makes its appearance about the same time that the third temporary one is being shed; so at four years old the colt has a full mouth of back teeth.

No. 4. Occasionally the gum behind the incisor or front teeth are swollen and tender whilst dentition is taking place, and this is known as Lampas. When very much swollen and tender, two or three scarifications with a knife will frequently relieve the inflamed part, but on no account should the hot iron be applied.

What is known as a Wolf Tooth is a small super-numerary tooth in front of the first back tooth. Such a tooth sometimes sets up considerable irritation and interferes with the process of mastication. A wolf tooth is very easily removed.

Do not accustom your horses to the blanket unless you cover them under all circumstances after being driven in cold weather. The blanket is of great benefit if properly used.

Contagious Diseases.

Drawn the progress of certain disorders, there are given off from the sick body specific organic particles which possess a wonderful power of self-multiplication, and which, if they come into contact with living animals, are apt to develop the same disease from which they originated.

The unsuspected movement of such living organisms throughout the atmosphere is not so difficult to understand when we remember that the small seeds of mushrooms, mosses, and other such plants, are often conveyed in this way for considerable distances.

When the contagious virus gains access to the living body, a period of quiescence or incubation occurs, which varies in duration with each virus, and even with the same virus under different circumstances.

So soon as the special symptoms of any contagious disorders are developed, the rapidly-produced germs of the virus are ready again to be given off, and to commence in other healthy bodies their career of destruction.

pox from the vaccine pustules; in hydrophobia from the mucus about the mouth. In Influenza, catarrhal disorders, and probably also in pleuro-pneumonia, the specific morbid matters appear to be given off chiefly in the breath.

As the more familiar organic poisons, such as strychnia, prussic acid, hemlock, or ergot of rye, differ in their rapidity of effect, their potency, and their modus operandi, so likewise do these organized viri or contagions. This cattle plague poison, possibly from its greater diffusibility or tenacity of life, is more virulent than the virus of the mouth-and-foot disease.

"Hooks."—John Howie, of Forrester's Falls, in the County of Renfrew, makes the following inquiry: "I wish information from you about a disease, or supposed disease, called the Hooks, consisting of a piece of white gristle that grows upon the lower part of the horse's eye, which some people in our neighborhood contend should be cut off, or it will blind them in course of time.

Ans.—"Hooks" are an imaginary affection. The membrana nictitans, or haw, an appendage of the eye that has the power to a great extent of protecting the eye-ball from injury, and also tends to remove any foreign substance that may become lodged in the eye, is often mistaken for an abnormal growth, and is in consequence sometimes rudely removed.

Poultry Yard.

Standard of Excellence in Exhibition Poultry.

BANTAMS.

GAME BANTAMS.

GENERAL SHAPE AND COLOR.

The same as in the corresponding varieties of Game Fowls.

POINTS IN GAME BANTAMS.

Table with 2 columns: Point Name and Score. Points include Smallness of size (2), Color (3), Shape of head and neck (3), body and wings (2), tall (2), thighs, legs, and toes (2), and Condition (2).

DISQUALIFICATIONS.

Cocks above 24 oz. or hens above 20 oz.; adult cocks undubbed, color of legs not uniform in the pen, birds not matching in the pen.

EBRIGHT BANTAMS.

GENERAL SHAPE—COCK.

Comb—Double, square in front, sitting close and straight on the head, the top covered with small points, with a peak behind turning slightly upwards.

Wattles—Broad, rounded on the lower edge. Deaf ear—Flat. Neck—Neat and taper, quite free from hackle feathers.

GENERAL SHAPE—HENS.

Very similar to the cock. The comb and wattles much smaller, and the head neater.

COLD LACED SEBRIGHT BANTAMS.

COLOR.

Head, Face, and Wattles—Rich red. Deaf ear—White. Plumage—Rich golden yellow, every feather laced with rich black, that is, having a narrow, even, well-defined rich black edge all round the feathers; the two colors distinct, and not shading into each other.

SILVER-LACED SEBRIGHT BANTAMS.

COLOR.

Similar to the golden, substituting silvery white for the golden yellow ground color.

POINTS IN SEBRIGHTS.

Table with 2 columns: Point Name and Score. Points include Plumage most evenly and distinctly laced throughout (4), Purity of ground color in silver, and richness and clearness of ground color in golden (2), Comb (2), Tail (2), Smallness (2), Symmetry (2), and Condition and general appearance (2).

DISQUALIFICATIONS.

Cocks weighing more than 20 oz., and hens more than 18 oz. Cocks having either hackle, middle, or sickle feathers. Legs of any color except slate blue.

BLACK AND WHITE BANTAMS.

GENERAL SHAPE—COCK.

Comb—Double, square in front, close and straight on the head, the top covered with small points, with a peak behind, turning slightly upwards. Head—Small, round, and carried well back towards the tail.

GENERAL SHAPE—HENS.

Comb—Same shape as that of cock, but very much smaller. Head—Small, round and neat. Neck—Short. Eye—Full and quick. Deaf ear—Flat, and even on the surface.

BLACK BANTAMS.

COLOR.

Comb, Face and Wattles—Rich bright red. Beak—Dark horn color, or black. Deaf ear—Pure white. Plumage—Rich black throughout. Legs—Black, or very dark leaden blue.

WHITE BANTAMS.

COLOR.

Comb, Face and Wattles—Rich scarlet red. Beak—White. Deaf ear—Pure white. Plumage—Pure white, as free from yellow tinge as possible. Legs—White, with a slight pink tinge on the back, and below the scales.

POINTS IN BLACK OR WHITE BANTAMS.

Table with 2 columns: Point Name and Score. Points include Purity of white or richness of black (2), Smallness (2), Symmetry (2), Comb (2), Deaf ear (2), and Condition and general appearance (2).

DISQUALIFICATIONS.

Cocks more than 20 ounces, or hens more than 18 ounces. Legs of black bantams not black or dark leaden blue. Legs of white bantams of any other color except white.

Do Poultry Pay?

This is a question concerning which much may be said on both sides. It is not often, however, that it is answered by the indisputable logic of facts and figures. Usually it is met by vague impressions. These sometimes array themselves on one side and sometimes on the other. We have met with people who were quite certain poultry are profitable, and others equally certain that they were a losing concern—neither of whom ever dreamt of keeping a balance-sheet. That enthusiastic agriculturist, Mr. J. J. Mechi, under date of Feb., 1868, gives the following interesting statement on this subject, which is very decisive in favour of poultry-keeping:—

"Having a conviction that poultry, like animals, consume according to their weight, I tested it by giving to a healthy, fine hen, weighing 6 lb., as much barley as she would eat. In seven days she consumed five half-pints. The very finest barley weighs 56 lb. per bushel; at that rate half a pint weighs 7 oz., so that the hen consumed 35 oz., or a trifle over 2 lb. in a week, having no other food. This is a third of her own weight weekly. A pig weighing 60 lb. (live weight), or ten times the weight of the fowl, would certainly consume quite 20 lb. of barley per week—or ten times as much as the hen; but see how great is the difference in value of the two for sale:—Pig, 4d. per lb. live weight; fowl, 9d. to 1s. per lb. live weight—wholesale price. But when the poultry are at large they consume many worms and insects, and therefore are produced at a smaller consumption of food than I have named. Altogether the advantage is so great, that the whole question of producing more poultry is a national and important one. If by a much larger supply the price were reduced one-half, they would still pay as well or better than sheep, bullocks, or pigs. Of course the same principle applies for poultry as for other farm animals. There must be good breeds, and no breeding in and in after the first cross. We import 500,000,000 of foreign eggs annually—to our disgrace be it said. It is a commonly received axiom that 56 lb. of barley will make 8 lb. of pork net dead weight, or 6 lb. will make 1 lb. live weight. Therefore 5 lb. of barley at 1d. per lb. (or average 40s per quarter) will make 1 lb. live weight of poultry, worth 9d. per lb."

Care of Young Turkeys.

The first diet offered to turkey chicks should consist of eggs, boiled hard, and finely mixed, or curd with bread crumbs and the green part of onions, parsley, &c., chopped very small and mixed together so as to form a loose, crumbly paste; oat meal with a little water may also be given. They will require water; but this should be put into a very shallow vessel, so as to insure against the danger of the chicks getting wet. Both the turkey hen and her chickens should be housed for a few days; they may then, if the weather be fine, be allowed a few hours' liberty during the day; but should a shower threaten, they must be put immediately under shelter. This system must be persevered in from three to four weeks. By this time they will have acquired considerable strength, and will know how to take care of themselves. As they get older, meal and grain may be given more freely. They now begin to search for insects, and to dust their growing plumage in the sand. At the age of about two months, or perhaps a little more, the males and females begin to develop their distinctive characteristics.

In the young males, the carunculated skin of the neck and throat, and the horn-like contractile comb on the forehead, assume a marked character. This is a critical period. The system requires a good supply of nutriment, and good housing at night is essential. Some recommend that a few grains of cayenne pepper, or a little bruised hemp seed be mixed with their food. The time of danger is over, and they become independent, and every day stronger and more hardy. They now fare as the rest of the flock, on good and sufficient food.

With respect to the diseases of the turkey, with them as with all other poultry, prevention is better than cure. The most important rules are: let the chicks never get wet, and encourage them to eat heartily by giving a good variety of food; yet to beware of injuring the appetite by too much paupering. Taking a pride in them is the great secret of success in the rearing of domestic poultry.—Ez.



County and Township Grants.

To the Editor of THE CANADA FARMER:

Sir,—In a recent number of your journal you gave some explanations of the New Agricultural Bill, in answer to the queries of a Secretary; perhaps you would be kind enough to explain a difficulty in the Act that occurs to a Treasurer. In section 48, subsection 1st, it is provided (among other things) that no Township or Horticultural Society shall receive more than one-fifth of the entire grant to any Electoral Division Society. Now the case is this: Township A deposits \$200, B \$168, and C \$66, and to divide the grant (\$700) in proportion to the amount deposited. A ought to receive \$221.05; B \$142.84, and C \$56.11; but as one-fifth of the grant is \$140, no more than that sum can be paid to any Township Society.

Now, the question is, how are such balances to be disposed of? In the above case \$63.88 would be left in hand, for which, as far as I see, there is no provision for dividing it according to Statute. Is it to be paid to the other Township Society till its share comes up to \$140, or is the Electoral Division Society to retain and use it, or will it be a "casual advantage" for the benefit of the

TREASURER:

NOTE BY ED. C. F.—The distribution of the three-fifths of any Electoral Division Society's grant to the townships in such division, is to be, to each, in proportion to the amount subscribed by its members, as compared with the amounts subscribed by the other townships in the Division, and as shown by affidavits of their respective Treasurers.

The provision objected to by "Treasurer" will not, in the case he cites, injuriously affect townships B and C; for, with the one-fifth limitation B will receive within \$2.81, and C the full amount, of what they would have received if townships A and B had not been subject to such limitation, but had received the whole amount that, in the absence of the one-fifth limitation, each would have been entitled to, viz.: \$221.05 and \$142.84.

The Electoral Division Society, however, owing to the limitation to which townships A and B are subject, will reap the "casual advantage" of the unappropriated sums of \$63.88 and \$2.81, which townships A and B would have otherwise received. We do not suppose that in framing the provisions this result was contemplated, the intention of the limitation being to prevent one or two Township Societies obtaining a larger share of the grant than the County Society. When there are more than three Township Societies in any Electoral Division, the probability is that the whole of the three-fifths share of the grant will be appropriated by them.

Grass in Orchards.

To the Editor of THE CANADA FARMER:

Sir,—It is only by discussion that truth can be arrived at; and there is a communication in a late number of the CANADA FARMER which seems to call for some remarks, as it is quite at variance with the doctrines held by the majority of Canadian Orchardists. I refer to the article headed "Orchard Culture." Now, s'r, it is almost an axiom among us that grass is bad for fruit trees, and that the more an orchard is cultivated the better the returns will be. This opinion has been arrived at by years of patient experiment, and by a careful noting of the experience of our American brethren, than whom there are no better orchardists in the world.

In a note to the writer lately, the leading fruit

culturist perhaps in the Dominion said: "If you plant plums you must cultivate your orchard." Surely, what is good for plums cannot be bad for apples, and when we hear advice from such a quarter we cannot but think it safe to follow it. A conversation with an old and experienced horticulturist sustained this opinion, he taking strong ground against grass in orchards, while an actual experiment of a large orchard producing nothing while in grass, and giving liberal returns when broken up (which experiment I saw made), would go far to convince the most sceptical. But, although I state some of the arguments against the plan proposed, I should be far from wishing to dogmatize. I should like to have the subject thoroughly discussed, and the facts and arguments on both sides fully set forth. If we can seed down our orchards as soon as we plant them, and while getting a crop of hay each year, have our trees grow and produce better than by cultivation, by all means let us know it; or, if we can, by letting all the grass rot or be consumed on the orchard, produce equal returns, he will be a public benefactor who will establish the fact.

May 18, 1868.

IIURON.

P. S.—Is there any good pea-cutting machine? How has Collard's done the past season? If any of those who have used it would communicate the results of its use through the CANADA FARMER they would oblige.

Thorn Tree for Hedges

To the Editor of THE CANADA FARMER:

Sir,—I have seen so many charges preferred against my old friend the hawthorn, that I feel inclined to say a word or two in its behalf. But first let me say that when I left England to come here I was forty-six years of age, and twenty-five of those forty-six years I spent very much among the hedges. I have planted, plashed and trimmed hedges as much, perhaps, as any man in Canada, so that if I do not know a little about the business I must be a slow farmer indeed. The last three charges that I have seen against the thorn are by your correspondent, "R. W. S.," Woodstock. They are the following: First, the mice eat them; second, they are infected with wood-lice; and, thirdly, they do not grow thick at the bottom. Now, nearly one of the first things I wanted when I came to the farm on which I am now living was a thorn hedge. Having seen many young sprigs of Quick or Hawthorn in the bush, and having observed that they had plenty of prickles on them, and also that they were natives of this country, I could see no reason why they should not make a good hedge. So I gathered as much out of the bush as planted a hedge on each side of my garden. This is seven or eight years since. Now for the objections of "R. W. S." The mice during that time, I think, have eaten about six, that is all; but I rather think not even so many as that, and the few that were eaten shot out a number of young branches below the part where they were eaten; so that objection is not a very serious one. Perhaps about the same number have been infected with lice, but they were so little injured by them that I do not know now which they were. The last objection would be a great one if it were true; but as far as my hedge is concerned there is no force in it at all. For the benefit of your readers I will explain my plan of making hedges grow thick at the bottom. When you plant the hedge, set three roots in a foot, not further apart than that; cover the roots with good soil; let them grow two years or summers. The third spring cut it off, say the last week in April, to about an inch from the ground. Cut it off with a sharp knife, with an upward cut. Be careful in so doing not to loosen the root. In the Fall, after this, trim it down a little, not too much; take all the longer branches off, whether they be grown upwards or sideways; make it look snug and straight. But be sure you mind one thing; begin from this first trimming to form it into the shape of the letter A, sharp at top like a wedge; keep it in that form till you get it to the height you want it. One thing more; keep it clean of weeds, and you will have a hedge thick enough at the bottom. If any one doubts the truth of what I say, they can have an ocular demonstration if they will visit my farm.

STEPHEN NICHOLSON
Sylvan.

Mowers and Reapers.

To the Editor of THE CANADA FARMER:

SIR,—As the period is fast approaching when manual labour will be called into full requisition by the husbandman in securing the abundant growing crop, and it is to be feared that in some localities it will be inadequate to the task, it is important to utilize machinery as far as practicable. All admit, that were it not for the ingenuity and enterprise that has been employed in adapting machinery to the most laborious part of field labour, the agriculture of Canada would have been far below its present condition. Twenty years ago, in our palmiest days of wheat-growing, many farmers (the writer among the rest) would have grown it more extensively but for the difficulties of harvesting it. The "Canadian Reaper" has removed those difficulties, and makes what was before the severest labour almost a pleasure. There is still an effort being made to improve on these old and well-tried machines, by the addition of a self-raking apparatus. I would suggest to my brother farmers to see them tested before purchasing. The loss of valuable time in the middle of harvest with imperfect machinery is a serious drawback. With regard to Mowing Machines, they are no less useful, though not as yet come into such general use. Various unsuccessful attempts were made in the construction of this machine, and even after the cutting principle was brought to a tolerably good state, their prodigious weight and side draught made them a horse-killing implement to work, and prejudiced the mind against them. Perseverance has overcome the difficulty, and some of the Mowing Machines now manufactured might, I think, be termed almost perfect; and among that class you may number the "Cayuga Chief Junior," manufactured by Patterson & Bro., of Richmond Hill. This machine, for its adaptability to cutting all kinds of grass on the most rough and uneven surfaces, for strength, lightness of draught, and absence of side draught, surpasses all others that I have ever used or seen used, and I have been a close observer and anxious enquirer after truth in these matters. The old-fashioned "Canadian Reaper," and the "Cayuga Chief Junior Mower," furnish the farmer with two first-class machines, on which he may safely depend. Such is my opinion, based upon experience, and if of any advantage to my fellow agriculturists, I cheerfully tender it.

JNO. P. BULL.

York Township, June 5th, 1868.

WEEVIL.—A Communication from "A. J. B.," with a specimen of clay and insects, has been received, but too late for insertion in the present issue. It will appear in the next number, with remarks on the specimens, after we have examined them under the microscope.

AN OLD MAN'S HINTS.—A correspondent from Athol, who informs us that, though he has lived more than three-score years and ten, he now ventures to write with a view to publication for the first time, sends us the following hints:

THE THISTLE PLAGUE.—I have fought them for nearly fifty years, and am fully persuaded that all thistles cut when in full blossom, or rather just past bloom, are killed, and ploughing for the purpose of destroying them should be done at the same time. No seed, no thistle: three years without seed, and they would be exterminated.

THE USE OR ABUSE OF SALT.—I have seen a piece going the rounds headed, "Brine a Poison," and a French author quoted to prove it. Many of my neighbours also endorse the statement, saying that old brine should never be used. Now, my experience is that salt or brine may be used with safety under the exercise of proper judgment; but that it will kill anything that lives, whether man or beast, tree, shrub or plant, if improperly used. My father killed the first cow that I can remember with pickles saved in salt. A neighbour took a pail of brine, and gave his cattle a little sup; a large steer, being too greedy,

got too much and died. Two others gave it to their sheep, and two to their pigs, with the same result, and so on to the end of the chapter. It is only the immoderate and injudicious use of brine or pickling salt that need be avoided. I use my old brine or pickle thus: Any spare brine in winter, I put on coarse fodder in summer; on nettles, thistles, elder-bushes, or anything I want to kill, and let the sheep grub them off. My best brine I boil, skim, and cool, then put on new pork, with the best results.

BLACK KNOT IN THE PLUM TREE.—A correspondent from Richmond Hill writes: "I am told that leached ashes are a certain cure for black knot. Mr. Welsh, of Thornhill, first observed that all his plum trees were affected with black knot, except one, around which some leached ashes had accidentally been thrown. Taking a hint from this, he placed leached ashes around the roots of all the trees, which are now smooth and healthy. As this is a time when thrifty housewives will be making soap, or will have just made it, I thought this a timely item for your invaluable paper."

WELLS.—A correspondent from Colborne enquires if we know any more economical way of obtaining water from below the ground than the old-fashioned way of digging and walling. "I have heard," he says, "of iron tubes being driven in the ground till water is obtained, but have never seen them in use." Can any of our readers give information to the point? We have seen accounts of the plan referred to in American papers, and have known the method adopted in the soft and uniform soil of the Western prairies, but have never heard of its introduction into Canada.

The Canada Farmer.

TORONTO, CANADA, JUNE 15, 1868.

The Provincial Exhibition.

THE prize list for the approaching exhibition at Hamilton, in the week commencing Monday, the 21st of September, has been prepared for circulation, and is now ready to be issued. The arrangements, as far as the Board of Agriculture are concerned, are well advanced, but a good deal yet remains in the hands of the local committee of what will properly fall to their share. There is plenty of time still remaining to arrange matters, and doubtless the City of Hamilton will do itself honour by making the most thorough preparations for the interesting occasion which is in prospect. The prize list, as amended this year, differs in few material points from that of 1867. The rules and regulations have been altered, and the programme changed, to adapt the latter to the year and the former to the new agricultural statute. An important variation, necessitated by the change in the law, is that entailed by the recognition of the Mechanics' Institutes and Fruit Growers' Associations, each of which will now hold its annual meeting during the exhibition week. The Fruit Growers' meeting has been arranged for Tuesday evening, the Mechanics' Institute meeting for Wednesday evening, and the annual meeting of the Association for Thursday evening of the week.

No changes have been made in the prize list for horses, but in cattle the prizes for all descriptions have advanced in the following ratio:—Cows from \$20 the first prize, \$12 second, and \$8 third, to \$24 first, \$16 second, and \$12 third; three year olds from \$16, \$10 and \$6, to \$20, \$14 and \$10; two year olds from \$12, \$8 and \$5, to \$16, \$12 and \$8; yearlings from \$10, \$6 and \$4, to \$12, \$8 and \$6; heifer calves from \$6, \$4, and \$2 to \$10, \$6 and \$4. These respectable additions will, if begetting no more competition, prove a healthy stimulus to an important branch of agriculture.

The Prince of Wales prize is given this year to the best herd of cattle, consisting of one bull and five female animals, all thorough-bred. The Fergus Cup, formerly presented by the late Hon. A. J. Ferguson Blair, has been discontinued.

In sheep classes an increase of \$55 in all has been made, \$9 being added to the prizes for shearing ewes and ewe lambs, and \$2 to the ram lamb classes.

In the Horticultural Department some details are changed, but altogether the amounts remain much as they were last year.

Some additions are made in the implement class, among them a land presser, horse pitch-fork, ditching machine, machine for sowing grass seed and for pulping roots, for all of which prizes are offered.

The Canada Company's prize for wheat is continued, the Association offering \$40 as a second, and \$20 as a third prize.

In the Arts and Manufactures department no changes of any note are made, and in the majority of instances the arrangement is continued.

The arrangement in the Fine Arts, though made last year, is not yet sufficiently known to make it unworthy of reference. For some time previous the classification of amateurs and professionals together was a matter of constant complaint. Amateurs alleged that they had no chance beside professional artists, and that if any encouragement was to be given the art of painting, and any inducement offered worth competing for, a distinction should be made. In accordance with these wishes, the Board of Arts last year separated the competitors into two classes, at the same time making sections in each for professional list, oil originals; amateur list, originals and copies; professional or amateur figure subjects; and the same in water colours. The separation proved acceptable last year, and will, we hope to see, make large additions to the exhibition under the same arrangements this year.

Judges in some of the classes of animals have been selected from the United States; the remainder will be named by the Committee of Societies.

Railway Gardens.

THE Grand Trunk Railway Station Master at Guelph, G. A. Oxnard, Esq., has set an example the present spring which we should like to see imitated all along that and the other lines of railway in the Dominion of Canada, having laid out and tastefully planted, at his own expense, a beautiful little garden adjacent to the Passenger Depot. It is astonishing what a change this has made in the whole contour and influence of the place. Whereas before the scene had only an air of business and was purely utilitarian in all its belongings and surroundings, there is now an air of refinement and an appearance of beauty and elegance, whose influence is felt by all observers. The stone station-house and brown sheds have assumed a look of enhanced respectability, being affected by the garden very much as a man is, who already dressed in a good, substantial suit, gives himself the finishing touch by putting on a good hat and a nicely fitting pair of boots. Passengers who are waiting for belated trains beguile the weary moments by admiring the shrubs and flowers, and travellers beginning or pursuing a journey, get a glimpse of rural loveliness which reminds them of home. The town artisan beholds with pleasure the little enclosure, and thinks how easy it would be to get up such a scene of beauty in front of his own cottage door. Giles from the country, where grass and trees are abundant, reflects how readily he could make a pleasure garden on a far larger scale, and beat the little railway parterre hollow by a spacious lawn, an extensive shrubbery and spreading flower-beds on his own farm. Wives and daughters besiege husbands and fathers for leave and help to do something equally pretty where they live. The little railway

garden is thus not only a source of pleasure, but an educator. Railroads have educated us into promptitude, punctuality, and push; they have exerted mighty moulding influences on business; it is possible for them to give that dull scholar, the public, some lessons in æsthetics, and be an educator in the direction of rural improvement and home adornment. The question, will it pay? by which all railroad affairs are mainly settled, may, we think, be proved to be entitled to receive an affirmative answer without resorting to any very far-fetched argument. If people catch the contagion of taste and refinement, they will build better houses, import articles of adornment, freight shade, ornamental, and fruit trees, and travel more under the influence of a desire to see the far-off loveliness of nature and art.

If these improvements are made, it must be, we understand, at the cost of the station-masters. Being subject at all times to promotion and removal, the encouragement to engage in this sort of thing is not great. Might not Railway Companies apply a stimulus in some way, either by affording inducements and facilities in this direction, or by giving a prize annually for the best laid-out and neatest-kept garden along their lines? At water stations it would be easy for companies to apply what would be the most striking feature in a railway garden, namely, a fountain. This could be fed from the tank and the flow carried back to the well or reservoir, so that there would only be the pumping to provide for—a comparatively small item.

Railway gardens are very common in England. Some of them are extremely pretty, and fix themselves in the recollection of the transient traveller. We have very distinct and pleasant memories of some we saw during a tour in England nearly seven years ago. Railway gardens are also becoming numerous in the United States. There are some very handsome ones in the vicinity of New York. On the line of the Erie Railroad, also on the Lake Shore Railroad between Cleveland, Ohio, and Erie, Pennsylvania, there are many tasteful depôts. An American exchange, referring to this subject, but more especially urging a better style of depôt building, remarks: "It is not to be supposed that all railroads can immediately rush into such landscape and architectural exercises; for it is a prime principle with them to make everything pay. But we submit whether pretty depôts, surrounded by nice lawns and gardens, do not go far toward making a road popular; and if popular, of course it pays."

There are very few railway gardens in Canada, but we hope the station-masters may have a run of horticultural fever, and then there will soon be more. Kingston and Brampton are the only places on the line of the Grand Trunk Railway where we remember to have noticed gardens. The Great Western Railway at Hamilton is beautifully ornamented in this way, and some time ago there was a very pretty little garden at Harrisburg, but the station-master during whose reign it flourished seems to have had a Gothic successor, who officiates

"Near yonder spot, where once the garden smiled,
And still where many a garden flower grows wild."

We hope more attention will be given to this matter by railway people.

New York Agricultural Exhibition.

It is now officially announced that the next exhibition of the New York State Agricultural Society will be held at Rochester, commencing on Sept. 19th, and open till Oct. 2nd, inclusive.

We commend the regulation referred to in the subjoined notice extracted from the *Journal of the N. Y. Ag. Soc.* A rule that shall render it imperative to close all entries some time previous to the opening of the exhibition is essential to the orderly arrangement of the specimens, and a timely adjudication of the prizes without hurry or confusion. The place appointed is eminently suitable and convenient of

access, and the time will in no way clash with our own Provincial exhibition, which will be held during the week previous. The notice to which we allude is as follows:

"Attention is directed to the new regulation regarding entries. The entry books will be closed on Monday, September 14th (two weeks before the opening of the Fair), and no entries will be received after that day.

"This regulation is intended to insure the orderly arrangement of the exhibition, and to prevent the confusion and delay at the opening of the Fairs, which resulted from the reception of entries up to, and sometimes even after the time of opening. It is hoped that, under the new rule, the exhibition will be in order, and that the judges will be able to make their examinations and awards, in great part, on the first day, so that visitors on the second day may know what animals and articles have gained the premiums, and exhibitors may receive the benefit of their awards—heretofore frequently not announced until near the close of the Fair,

"Entries may be made at any time until September 14th (the earlier the better), by letter addressed to the Secretary of the New York State Agricultural Society, Albany, N. Y., or personally at the Agricultural Rooms.

"The Premium List has been much enlarged, and the regulations (to which the attention of intending exhibitors is particularly directed), have been revised, and, in some other respects, amended.

"Copies of the Premium List and Regulations will be sent by mail on application to the Secretary as above, and may be had at the Rooms."

Report of the Secretary of the Michigan Board of Agriculture.

We have received a copy of his Report for the year 1867 from Mr. Sanford Howard, the Secretary of the Michigan Board of Agriculture. It is a thick octavo volume of nearly 500 pages, and is full of most valuable and interesting information, as a brief summary of its contents will at once indicate. The first fifty pages give an account of the State Agricultural College and its various operations during the past year. The condition and progress of this valuable institution are most satisfactory. Among the investigations conducted in connection with the College were a series of experiments on sheep-feeding, and also some trials with various fertilizers, the results of which, however, were defeated by an inroad of swine, showing the utter disregard of these unworthy republicans for authority or science. The Report next gives a statement of the characteristics of the past season in Michigan; the yield of crops, with a special record of certain new crops, viz., sorghum, hops and peppermint. The injurious insects that work such havoc in the farmers' fields, the Potato-Bug and Canker-Worm particularly, receive their share of notice. A very full report is given of the climate and general characteristics of that newly opened portion of the State, known as the Grand Traverse Country. The important subject of cheese factories, and the progress of the associated system of dairying in the State, are duly considered. Reports from Agricultural Societies occupy a large portion of the volume; and besides these various subjects of comparatively local interest, there are in the work some valuable papers that will be acceptable to agricultural readers everywhere. Among those may be mentioned the following: Agricultural Societies, their proper objects and right management; Irrigation; Cross-breeding of Sheep, by Wm. Spooner; Principles of Hay-making, by Dr. Voelcker; The Dew of Heaven—Influence of Forests, by Cuthbert W. Johnson; Food, by J. B. Lawes and J. H. Gilbert; and a most valuable dissertation on the Diseases of Cattle, by Professor Gamgee. The whole forms a noteworthy contribution to the agricultural literature of the day, and should be on the shelves of every well-furnished library in that department.

DEVON HERD BOOK.—Mr. H. M. Sessions, South Wilbraham, Mass., announces the early publication of the second volume of the American Devon Herd Book, containing over 600 pedigrees.

The Season.

We have still to chronicle favourable weather, and the promise of good crops. Much rain has fallen since our last issue, too much, indeed, for low-lying and undrained land, but none too much for land that is high or properly drained. Any excess either in the direction of wet or drought proves the importance of drainage. Drained land endures the want of rain much better than undrained, while it soon recovers from the effect of superabundant moisture. In some quarters we hear complaints of the wire-worm as very destructive in wheat-fields, but with this exception the wheat report is most encouraging. Hay is now sure to be a good crop. Pasturage is abundant. Nature smiles with verdure, and is purpled with flowers. The land flows with milk and honey. Grain, grass, fruit, beef, mutton, and all farm products, bid fair to be abundant.

Wool.

THE market is at present in a very dull state, and the prospect for dealers seems anything but encouraging. Stocks everywhere are large, and since the imposition of the heavy duties there is no outlet for our surplus supplies. The depressed condition of the manufacturing interests precludes the possibility of there being much demand at home, and therefore prices are expected to rule low. From 23cts to 25cts are the prices now paid by dealers for wool, and it is not expected that these rates will advance. Dealers will only pay the above prices for clean, good wool—indeed, it is now difficult to find a buyer at any price for dirty wool, or wool only partially cleaned. At any rate, much lower prices have to be accepted for any fleeces not properly cleaned.

Officers of Agricultural Societies for 1868

PAKENHAM BRANCH.—President, Andrew Dickson; Vice-President, Young Scott; Sec. & Treasurer, Alex. Fowler. Directors:—Samuel Dickson, Charles Dunlop, James Woods, William Dickson, Junr., John J. Browne, John A. Gommill, Robert Elles, Thomas Bowes, James Elles.

PRESENTATION.—The members of the County Agricultural Society of South Ontario presented to their President, John Shier, Esq., on the 25th of May, a very handsome and valuable gold watch, as a mark of their respect and esteem.

TREATMENT OF EMIGRANTS.—We were very sorry to read in the *Globe* of June 10th a letter signed "Emigrant," complaining of the treatment which the writer and fellow-travellers had received on board ship and on their arrival in this country, treatment which the writer averred induced a number of his companions to change their destination from Canada to the United States. We hope and believe there must have been some misunderstanding in the case; for we cannot suppose that the chief authorities could be aware of the circumstances. Subordinates sometimes, in every department, give themselves fearful airs, and recklessly sacrifice their employers' interests to their own selfish whims or personal advantage. Such a statement as that to which we refer is calculated to damage the country in the estimation of neighbours, and of those especially who are contemplating a removal from the fatherland to this. Every possible kindness and assistance should be rendered to emigrants arriving here; railway officials, emigration agents, and all authorities concerned, should be especially careful to mitigate the unavoidable hardships and perplexities of the new comers, and to show them that they are welcome amongst us. We hope the letter referred to will receive some attention, and call forth a satisfactory exculpation of the chief authorities concerned.

Agricultural Intelligence.

Emigration from the East End.

THE London Times of the 22nd ult., says: The Committee of the East-end Emigration and Relief Fund are prosecuting their work of emigration to Canada as a means of relief for the distress at the east of London with some vigour. It will be recollected that on the 16th of April last they sent 163 emigrants to Canada in the St. Lawrence, the first steamer leaving the Thames for that port this season, and this was yesterday followed up by the despatch of another party of 167 souls, in the steamship Thames, to the same destination. These people have all been selected with great care from among the unemployed who have been thrown out of work in consequence of the slackness in the iron ship-building trade on the Thames, by a committee of gentlemen in Poplar, and in all cases attention has been paid to the selected candidates for emigration fulfilling the following requirements—that they shall have been long resident in the district; that their characters bore strict investigation; that they were not in the receipt of parochial relief; and that they had not refused work or been on strike. In all cases in which any doubts arose, personal application was made to the last employer of the candidate, and the characters of many among them have been certified by the recommendations of Messrs. Green, Samuda Brothers, Blyth, and other large employers of labour. Mr. Dixon, the Canadian Government agent, expressed his high approval of the appearance and bearing of the men, all of whom may be said to be in the prime of life, and stated his opinion that, provided they were steady, they could not fail to obtain employment in Canada, and do well there. It is particularly satisfactory that the younger members of these poor families (for all the emigrants are in families) have some prospect in life open for them. This seemed the great hope of the mothers. One poor woman was heard to say, "It's the boys I'm thinking of; I was afraid they would be disgracing me by idleness in Poplar." For the girls, too, there is much hope; all above 14 are sure to meet with immediate employment on arrival in the Dominion. The arrangements were satisfactory. After mustering the passengers and ship's company, and before reaching Gravesend, dinner was served to the emigrants, a fact they appeared to appreciate. The Canadian mail in the morning had brought letters from Mr. L. Stafford, the chief emigration agent at Quebec, announcing the arrival of the St. Lawrence on the 7th inst., and reporting the disposal of the emigrants, whom he describes as a "well-behaved and healthy-looking lot of people," and respecting whom he promises a full report when they are finally settled.

Preserving Meat.—The Gamgee Process.

PROFESSOR GAMGEE, the distinguished Veterinary Surgeon, whose name has been so prominent before the British public and the world in connection with the ravages of the Rinderpest, and who is also the author of one of the best modern works on veterinary science, has recently visited the United States in order to introduce his newly invented method of preserving meat fresh, with a view of procuring from Texas and other parts of the continent an increased supply of fresh meats at moderate prices for the population of Great Britain. The *American Agriculturist* thus speaks in reference to the matter:—

"The process by which the meat is cured is patented in this country, and consists of causing the animal to inhale carbonic oxide gas until it loses consciousness, when it is killed and bled. The carcass is then quickly dressed, and while still warm, exposed a short time in a chamber to an atmosphere of the same gas, mingled with a little sulphurous acid gas. These gases, especially the former, combine with all the oxygen in the system, and take away all that enters the meat through the absorption of air. This very important discovery, which is the result of years of study, may be of incalculable advantage to the people of this country and of the old world. If Texas beef can be placed in our market at five or even ten cents per pound, both the raiser there and the consumer of beef here will be greatly benefited. It seems almost as if the time might soon come when beefs, and sheep, and hogs, will no longer be packed in close cars, transported for days and nights in suffocating heat or piercing cold, driven through our

crowded cities, feverish and excited, starved and famishing for drink, to be thus slaughtered; but killed within sight of their own pastures, and their flesh, preserved by this process, transported like any other merchandise, to be sold and used at any time within six or eight months. Experiments will soon be made of transporting "Gamgeed" beef and mutton from some of our Western States and from Texas, and our readers shall have reports of the success. These experiments or tests are taken in hand with great zeal by several gentlemen of large means and entire responsibility, so that we may hope for speedy and accurate results. It is but fair to add that this interesting discovery of the action of carbonic oxide on fresh meat was made in pursuing investigations having for an object the furnishing of healthy meat, at a cheap rate, to the population of Great Britain.

Goderich Salt Mills.

A correspondent of the London Advertiser says, within the past two weeks two salt wells have been completed. A stratum of fine salt, 15 or 20 feet thick, has been pierced at the depth of 1,000 feet. The first of these, called the Huron Well, was commenced on New Year's day, and finished in four months and about six days. The contractor, Mr. Morrison, having pushed on the work with vigour, was enabled to perform the work in one-half the time taken by him last year at the Ontario Well. The second, which is called the Victoria Well, owned by Captain Daney, Messrs. Butler, Sheppard and Strachan—all citizens of Goderich—was completed in exactly four months. Taking into consideration that they have superintended the work themselves, at the same time being inexperienced drillers, this is decidedly the best time yet made in boring for salt. A third well—the Dominion—is now at the depth of 1,000 feet, and it is expected that a week or ten days will suffice to reach the salt rock. The contractors, Messrs. Olin & Bigelow, commenced the well on the 6th or 7th of February—a month later than either of the others—drilled a 5 inch hole for 500 feet, and a 4½ inch hole for the rest, and should nothing hinder them, they will finish the well in shorter time than was taken at any of the others. There is yet a fourth well sinking within the corporation of the town, the Tecumseh. The contractor was unfortunate at the commencement, getting the tools fast, and after spending two or three months in endeavouring to extricate them, he had to abandon the task and start a new hole. He is now getting on fairly, but it will take him a long time to complete the well. Across the river are two wells in course of being sunk, one of which will be completed soon. This makes eight wells in all; a number quite sufficient to supply the demand for salt in Canada for many years. The necessary buildings and furnaces for the manufacture of this article are rapidly proceeding, and will be in operation within three months.

The Latest Improvement in Horse-Training.

For the last four days, Dr. H. S. Rary, the celebrated American horseman, has been giving his lectures and conversations at the Magor House, and in all candour we must admit that his mode of handling wild horses is wonderful. Although his method of shoeing and treating lameness is new, it is in accordance with common sense and commends itself by the best of all tests, experience. A young horse of our own badly affected by clicking or striking the front feet with the hind ones, was entirely relieved by the Dr. A horse owned by Mr. Harkness, lame from gravel, was enabled to move off glibly, by being shod with one of the Dr.'s new gravel shoes. A mare, lame from corns and knee sprung, owned by Mr. J. Griffith, was relieved in a few hours. His new theory respecting the bots was clearly illustrated on Thursday by the stomach of a horse, where the bots could be seen in their natural state as an organ of the stomach. The Doctor appears to be governed by nature's laws in all his dealings with the horse. After seeing him operate, and hearing his illustrations, we can readily appreciate the advice of a Montreal contemporary, to go and learn a lesson from nature by attending the Doctor's exhibition. A very wild colt belonging to J. G. Robertson, Esq., after a short training, followed the Doctor up three flight of stairs to the Town Hall, without difficulty.

Mr. Rary will be at Compton on Saturday; at Coalbrook on Monday and Tuesday; and at Stanstead the remainder of the week.

We advise all interested in the raising of horses, or who have horses difficult to manage, to attend his lectures.—*Sherbrooke Gazette*.

The hop plantations in Kent, England, have never been known to present so forward an appearance at this season of the year.

The wheat crop in the south of England is looking very promising. It is estimated that it will yield three sacks an acre more than last year's crop.

The weather reports from the agricultural districts of France continue to be favorable.

X. A. Willard says, in the *Country Gentleman*, that more wheat was sown last Fall and this Spring in the dairy region in New York than for many years before. He thinks this approach to mixed husbandry desirable. So do we.

WHEAT CULTURE IN NOVA SCOTIA.—The *Nova Scotia Journal of Agriculture* says: We have had a remarkably severe winter, and the springtime has been a cold, wet, backward season. Our farmers all hope that they may never see its like again. Early in April, however, a good deal of wheat was sown on fall-ploughed land. More wheat has been sown this season than for many years. The Board of Agriculture has distributed, at cost price, 360 bushels of the finest Fife wheat that could be obtained in Western Canada. Last year a large quantity was distributed all over the country in the same way. It turned out so well that nearly all of it was kept for seed. In addition to these sources of extra seed, we know that several merchants imported seed wheat this season, and that the demands upon the Board of Agriculture were far from being met by the supply on hand. It is evident from all this, that a decided attempt is being made to regain our lost ground as a wheat-growing country.

FREE GRANTS.—The *Peterborough Review* says that the free grant system is to be at once extended to the entire "back country." Portions of the Townships of Cardiff and Monmouth are to be thrown open to settlement, and as soon as lists of the lands can be prepared, and other arrangements completed, the vacant lands in other townships, both on the Burleigh and Bobcaygeon roads, are to be placed under similar regulations. The Burleigh road is to be completed as far as the Monck road this season; besides that, the unpatented lands in the old townships, if not settled for, are to be forfeited, and resold by public auction. We hope it is true that the free grant system is to be extended to the "back country" of the County of Peterborough, though we have not as yet seen any advertisement whatever of the lands mentioned by our cotemporary.

DRAINAGE.—We observe that a project for draining some of the swamp lands in the County of Lambton is under consideration. It is said, on the authority of an engineer, that the well-known Brooke swamp can be drained in such a way as to render fit for cultivation some 30,000 acres of deep, rich, loamy, alluvial soil, now utterly useless for agricultural purposes. If that is true, the profit of draining the swamp will be very considerable. The effect will be to create a property worth, at the present value of good wild land in that part of the country, not less than a quarter of a million of dollars. There are other localities in the Province where large tracts of swamp land might be reclaimed by a little draining, and in nearly every case such land, when it is made fit for cultivation, proves of the best quality.

SHORT HORN BULL, "DUKE OF SOLWAY."—We learn that Mr. John Snell, of Edmonton, has sold to Mr. Archibald McNece, V. S., of Perth, Co. Lanark, for \$200, the Short-horn Bull, "Duke of Solway," eighteen months old. "Duke of Solway" is said to be a young animal of rare merits, and combines the blood of some of the best stock in the country, being sired by "Duke of Bourbon," the winner of the sweep-stake prize at the last Provincial Exhibition at Kingston. His dam, "Mary Grey," by imported "Baron Solway," is one of Mr. Snell's choicest cows; she was winner of the second prize as a yearling at the last Provincial Fair at Hamilton. The "Duke," if the people of Lanark avail themselves of his services, will be sure to make his mark in the improvement of the stock of the county.

Mr. Snell, in a recent communication, says that "he feels that he owes to the advertisement in the CANADA FARMER the best sale of this bull, as well as other sales that he has recently made."



Fruit Growers' Association of Ontario.

A MEETING of the Directors of the Fruit Growers' Association was held at Hamilton on the 20th May, in the County Council Chambers. The President, W. H. Mills, Esq., was in the chair.

It was resolved that the next meeting of the Association be held at Toronto, at the call of the Secretary, who should communicate with the member for Toronto regarding the time of meeting.

Resolved, that the following persons be nominated for judges of fruit at the Provincial Exhibition in September next, viz., W. Holton, R. N. Ball, Rev. R. Burnet, Charles Arnold, George Leslie, D. W. Beadle.

Resolved, that the Association respectfully suggest to the Board of Agriculture that, in view of the probable large exhibition of fruit, not less than six judges be appointed in the fruit department, three of whom shall be assigned to the amateur list, and three to the professional list.

Resolved, that the Annual Meeting of the Association shall be held in the City of Hamilton, on Tuesday, the 22nd day of September, at 7 o'clock, p. m., at the Court House, Prince's Square.

Resolved, that the Secretary cause one thousand copies of the Constitution and By-Laws to be printed for the use of the Association, provided the expense do not exceed \$15.00.

Resolved, that an honorary medal be awarded to the originator of any new fruit, which shall have been tested according to the regulations prescribed for ascertaining the merits of such fruit.

Resolved, that any person competing for the honorary medal, shall place at the disposal of the Directors one dozen plants, or, in the case of apples or pears, one dozen scions, of the variety to be tested, which shall be placed under their direction in different localities, with the understanding that the parties so receiving them shall not disseminate the new variety.

Resolved, that any member wishing to exhibit a new fruit on his own grounds, shall notify the Secretary of his desire, in time to enable the Directors, in their discretion, to appoint a committee to visit his grounds, and examine and report thereon in writing to the Directors, and that any person desiring to receive such visit shall, in his request to the Secretary, state the kind of fruit he wishes to have examined, its origin, and the points of excellence.

Resolved, that the Association hereby offer a discretionary prize of forty dollars for the best essay on the apple and its cultivation, as applicable to the Province of Ontario. The essay is not to exceed eight printed pages, octavo, to be forwarded to the Secretary of the Association, D. W. Beadle, St. Catharines, on or before the first of September next, the essay to bear a motto, accompanied with a sealed note containing the name of the author, upon which note the same motto shall be endorsed.

Resolved, that the Committee appointed to examine new fruits, shall, in their report thereon, set forth the particular excellence of any of the fruit, and specially its quality as to hardiness, productiveness, flavor, and market value.

Resolved, that all persons having fruits which they wish to have examined by the Association, are requested to bring them in person to any of the regular meetings, and place them upon the exhibition tables; and all such fruits as shall be found to be of superior excellence, shall receive honourable mention in the Reports of the Association, and through the CANADA FARMER.

Resolved, that one hundred copies of the Declaration be printed, to be used in obtaining members.

Resolved, that the Association hold themselves at the disposal of the Board of Agriculture to assist them with a Committee of arrangement and classifica-

tion of fruit during the ensuing exhibition at Hamilton.

Resolved, that the following names be added to the Fruit Committee, viz., James Dougall, nurseries, Windsor; — Adams, Sarnia; W. S. Stripp, Gladstone, Ontario; Archibald McKellar, Chatham; G. W. Scribner, Chatham; A. P. Farrell, Cayuga; Dr. R. R. Smith, Komoka; Wm. Saunders, London; — Partridge (lawyer), London; A. W. Dedman, Delaware; James Grey, Woodstock; Geo. Ferguson, Port Stanley; Luke Bishop, St. Thomas; J. B. Gordon, Goderich; A. B. Bennett, Brantford; W. A. Smith, Paris Road; A. Morse, Smithville; W. F. Murray, Clinton; James Young, Georgetown; Moses Kraft, Waterloo; Dr. Bulby, Berlin; George Murton, Guelph; A. F. Scott, Brampton; David Allan, Guelph; Norman Hamilton, Paris; Jeremiah Hagerman, Oakville; Thomas Chisholm, Milton; Oliver Springer, Wellington Square; Dr. Dixie, Credit P.O.; W. F. Clarke, Guelph; Peter Trout, Meaford P. O.; Dr. Luther Cross, St. Catharines; Nathan H. Pawling, Port Dalhousie; Gage Miller, Virgil, Niagara; M. Y. Keating, Jordan, Ont.; S. J. J. Brown, Niagara; Zenus Lewis, Clifton; W. A. Johnston, Ameliasburgh; J. D. Humphreys, Toronto; — Racy, Mohawk; Rev. R. Robinson, Owen Sound; D. Resor, Markham; J. M. DeCourtenay, Amherstburgh; R. N. Ball, Niagara.

Resolved, that Messrs. Miller, Burnet, and Beadle, be a committee to examine and report upon Mr. Arnold's raspberries.

Resolved, that the President be authorized in his discretion to appoint a committee to examine and report upon such other fruits as may be called for before the next meeting of the Board of Directors.

The Board adjourned to meet at call of the President.

Oil as a Remedy against Insects.

MANY years ago we were interested in some experiments made by some medical students on the destruction of insect life by oil. The slightest drop of sweet oil, put on the back of a hornet, beetle, bee or similar thing, caused its instant destruction. We were told the breathing pores were closed by the oil, and life was literally smothered out. In after life greasy water was always a favorite mode with us of destroying insects, and we have repeatedly urged it upon the readers of this journal. Yet we are astonished to find how little the hint has been acted on. Almost every day we meet people who ask how to destroy this insect or that, and our drawer is filled with similar inquiries; and to all the idea of grease or oil seems as new a one as if we had kept the matter a profound secret.

Of the millions of people in the United States, how few are there who would not "give anything," as they say, to know how to keep away the cabbage fly from their seed beds; yet about a tablespoonful of coal oil put in a common garden water-pot of water, sprinkled over the seed bed, when the little jumping beetle is noticed as having appeared, will instantly destroy the whole brood.

A correspondent of this journal recently gave us an article on the virtues of coal oil in killing scale insects. We have repeated the experiment on some Daphnes with entire success.

In short, we have no doubt that coal oil, well diluted with water, is death to all kinds of insects, and there is no reason why it should not be in as general use as tobacco is for killing aphides—more valuable, in fact, because it can be applied in so many cases where smoke cannot.

One great point in favour of coal oil is that it acts as a manure to vegetation, while dealing out death to insects. We have seen cabbage beds nearly destroyed by the cabbage fly, have the whole crop of beetles destroyed almost instantaneously; while in a few days afterwards the plants, as if by magic, would cover the bed with luxuriant leaves.

We do not believe that the undiluted oil would prove injurious to the leaves, but such extravagance is unnecessary, as the small quantity we have given is effectual.

No doubt the egg-plant fly, and all insects that can be reached by the oil, can be destroyed.

There is scarcely one of our readers to whom we are sure this hint alone will not be worth many annual subscriptions!

We may add that any oil is as good as coal oil, but that being likely to be more easily obtained when wanted, is recommended; also, care must be used to keep the water in the pot stirred when used, so that a portion of the oil gets out as the water runs, otherwise the oil floating on the top of the water will stay there till all the water goes out and only the oil be left for the last. For this reason a syringe, in many cases, will be preferable to the water-pot, as the oil and water will have a better chance of getting out.—*Gardeners' Monthly.*

Currants and the Currant Worm.

VERY few growers of the currant have escaped the ravages of that vile pest, the currant worm or caterpillar. There are a few localities which the insect has not reached, portions of Center county, (Penn.) being among the number. The currant bushes in the neighbourhood of the Pennsylvania Agricultural College, have, as yet, completely escaped. There are, doubtless, other localities equally favoured, and it has occurred to us that in such places, the growing of both the fruit and the young plants might be a profitable business. Where the leaves are not injured the wood ripens more thoroughly, and is more healthy, and plants raised under such circumstances would, doubtless, be more valuable.

The currant worm is easily kept under by the use of hellebore, but to those who dislike the trouble of even this remedy, we would suggest the black currant, which we think deserves a more general introduction than it has yet obtained. Some persons object to its strong odor. To such the variety known as Black Naples might prove more acceptable. As a fruit for preserving, the black currant has few equals. Jam made from it is unrivalled in cases of slight sore throat, and we have seen the black currant, fresh from the bushes, used in dumplings or plum puddings instead of raisins, and with very little deterioration in the quality of the article produced. When cooked, the black currant loses somewhat its offensive odor.

We have no faith in wine made from any fruit except the grape; but to those who live in high latitudes, and whose thoughts have been turned towards "wine plants," we would say that the black currant makes a—shall we say wine?—almost equal to some varieties of port—better than a good many samples of that article, and far superior to the stuff made from rhubarb, elderberries, raisins.—*Country Gentleman.*

Every man who plants a shade tree in Worcester, Mass., is paid one dollar by the municipality.

Fuchsias should be shaded from the mid-day sun. It is a good time now to make cuttings and propagate,

Herbaceous plants, as soon as they have done flowering, may be easily propagated by cuttings. These should be planted in a cold frame in a mixture of sand and loam, and kept shaded until roots have formed.

Tomatoes will bear more abundantly, and occasion the least trouble, if the ends of the shoots, just beyond the fruit, are pinched off. A surface mulch of rotten manure, and if a dry time, frequent watering, will repay in increased size and abundance of fruit.

NEW-MOWN GRASS FOR MULCHING.—Nothing that I have ever used equals new-mown grass for mulching newly planted trees or for placing among strawberry vines. It keeps its place, is clean and neat, leaves no seeds, and creates no fungi, as is often the case with old tan bark or rotten wood.—*Horticulturist.*

DWARF APPLE STOCKS.—Some of our nursery-men advertise dwarf apple trees "on Paradise stocks." These, Dougall of Windsor, in the "Fruit Culturist," says, are "unsuitable for this climate," and "comparatively worthless." We should like to have the opinion of other experienced fruit-growers on this point. Our own little experience inclines us to think the above condemnation too sweeping. There is nothing in our garden we admire more than the diminutive apple bushes, grown on Paradise stocks. They look very pretty, bear wondrously, and so far, appear quite as healthy as the half-standards on Doucin stocks.

Entomology.

The Plum Curculio.

(*Gnotrachelus nenuphar*, Herbst.)

THE havoc committed by this terribly destructive little insect among the fruit of not only the finest varieties of Plums, but also of Cherries, Peaches, and even Apricots and Apples, must be only too well known by the majority of our readers; the origin of the evil, however, is not so often seen as the widespread ravages that he commits would lead one to expect. We purpose, therefore, to give a short account of the "Little Turk," as he is often styled from the crescent-shaped mark he makes on fruit.

The Curculios, or Snout-beetles, differ from almost all other beetles in the peculiar prolongation of their heads in the form of a snout; sometimes this appendage is as fine as a hair, at others as broad as the rest of the head; sometimes again it is as long as the whole body, at others it is quite short and inconspicuous; in some species it has the appearance of an elephant's trunk. On this snout, which is really a part of the head, and not a separate organ like the beak or sucker of a bug, or the proboscis of a house-fly, are situated the antennae, and at the top of it the eyes, the end terminating in the organs of the mouth. Our foe, the Plum Curculio, differs from all other Canadian Curculios in having a narrow, black, shining hump on the middle of each wing-cover, and behind these humps a yellowish spot, which is sometimes enlarged into a band across the wing-covers. It is about one-fifth of an inch long, exclusive of the snout, which is about a quarter the length of the body. Its general color is ashen black.

As soon as the young fruit becomes fairly developed, the Curculio begins its work. Our seasons, of course, vary considerably from year to year, but we may as a rule begin to look out for this insect about the first week in June, when it commences to infest the trees, and deserts its winter hiding-places. This year we found some specimens under rhubarb-leaves that had been left a few days on the ground near the plants from which they had been taken, on the 26th of May; some years ago we found one in an old gall on a hickory tree as early as April 20th. Various American writers relate their having found them in November and March, and Dr. Trimble says that he found some specimens under the shingles of a roof late in the fall, and in the chinks of stone walls and under a scale of bark in early spring. Hence we may infer that they pass the winter in their perfect state, remaining torpid like a large number of other insects, until the warm weather bids them wako up and perform their allotted work. The female it is that makes the crescent mark on the fruit, an operation which is thus described by Dr. Trimble in his elaborate work on the Curculio and Apple Codling Moth:—"The semi-circle or crescent-shaped mark is made by the end of the proboscis, and merely goes through the skin. This part of the process, while the fruit is young and tender, is soon finished, sometimes not taking more than two or three minutes. From the centre of the concave part of the crescent, the proboscis is next introduced under this cut skin, and there it slowly works, cutting its way until it can reach no further. The end of this cell or cavity is now dug out or enlarged, to make it a suitable receptacle for the destined egg. The insect has an instinct which teaches her that the surroundings of this cavity must be so deadened that no subsequent growth of the fruit at this part shall press upon that delicate egg and crush it. The preparation of this cell is much the most tedious part of the process, usually taking about fifteen minutes, though sometimes half-an-hour. During most of this time, the Curculio will be found in a pitching position, and with her proboscis entirely buried; looking as the

woodcock does when boring for food in the soft ground. This cavity finished, she turns round and deposits an egg at its orifice; then assuming the former position, very quietly pushes that egg with her proboscis to its destined place. Next the crescent-shaped cut is plastered up with a gummy substance that holds the cut edges together for the time being; probably an instinctive precaution against the weather or insect enemies, that might endanger the safety of the egg." This process is repeated on one plum after another till the whole stock of eggs is exhausted. After a few days, the egg hatches out and produces a little white grub without legs, that bores into the flesh of the fruit, and causes its final destruction. After some weeks the injured fruit falls to the ground, and then the grub, being full-grown, works its way out, and enters the ground, there to complete its changes into the pupa and perfect states. The beetles emerge from the ground in August and September, sometimes even a little earlier. The only fruit that does not fall to the ground when thus attacked appears to be the cherry.

Such is a short life-history of this very destructive insect; and now let us consider what remedy there is for it. We need not dwell long upon this, as a correspondent, "Fruit-Grower," in our last issue, gave an account of the very best remedy there is, viz., jarring the trees and destroying all that fall. For full particulars we refer our readers to his excellent and timely letter. We may add that all fallen fruit should be gathered regularly, and not left for any length of time on the ground, and then be either burnt or fed to pigs. By employing these two methods, and persevering in them, a very large proportion of one's fruit can be saved, even though one's neighbours do not look after theirs, but cultivate fresh crops of Curculios for the annoyance of the more thrifty. If all fruit-growers would unite in employing these simple methods, the Curculio would speedily be banished from our midst, or at any rate be reduced to very insignificant numbers. May we beg that all our readers will this year give the plan a fair trial, save their fruit, and let us know the result?

A Strawberry Bug.

For an entomologist to lay claim to infallibility would be absurd in the extreme, since he has to deal with a race of animals which is said to embrace many times as many species as all the rest of the animal creation put together. While, then, we endeavor to be as accurate and correct in our statements as possible, we, of course, do make mistakes sometimes; one of these has lately been very kindly pointed out to us by Mr. Riley, the State Entomologist of Missouri, whom we have the pleasure of numbering among our correspondents.

In the CANADA FARMER for Aug. 1, 1867, (vol. iv, page 235), we gave an account of what we took to be a small beetle infesting Mr. Arnold's strawberry plants at Paris, Ont.; this insect turns out not to be a beetle, but a bug, though it is uncommonly like a beetle. What we took to be the connate wing-cases, covering, to our surprise, wings for flight, turn out, on more minute inspection, to be the immensely developed scutellum (the triangular piece that separates the wings on the back) of a singular family of bugs, called from this peculiarity *Scutelleridae*. We have never devoted ourselves to the study of the order *Hemiptera* (true bugs) so much as to that of some of the other orders of insects, and therefore have but little acquaintance with its classification; nor do we know of any work which treats upon the American species of the order in particular; we are unable, then, to say whether our species is the same as that sent to Mr. Riley by his correspondent, viz., *Crimelana lateralis*, Fabr., though we have little doubt that it belongs to the same genus. If Mr. Arnold should find any more of these insects upon his strawberry-plants this year, we beg that he will favor us with a good supply of specimens, that we may be able to send some to our correspondents and have the matter set at rest.

Insects on Plum Trees.

"J. J., Campbellford, Ont.," writes as follows:—"Please inform me what it is that causes the fruit of the common wild plum to swell up almost immediately after blossoming, while the tame ones invariably escape? The first time I noticed this disease was about four years ago: I enclose a few specimens of the injured fruit. You will also confer a favour by giving a description of the Curculio; it has not made its appearance here as yet, to my knowledge, unless these curious-looking little creatures which I enclose are specimens of it,—I took them off a plum tree to-day. Please let me know what they are."

We have frequently noticed the disease referred to in wild plums, but do not know its nature or origin. Whether it is the work of an insect or not we cannot say, but we shall endeavor to find out this season. The request for information about the Curculio has been anticipated by the foregoing article, which we prepared as appropriate to the season. The insects enclosed, together with the plums, were crushed "as flat as a pancake" in their transit through the mail-bags. We must again impress upon our correspondents the necessity of enclosing specimens sent by mail in something that will resist a good deal of pressure—stiff pasteboard or tin boxes, for instance—else they are apt to reach us in a perfectly unrecognizable condition. "J. J.'s" specimens, however, are old friends, whom we should think it unpardonable not to recognize; we speak advisedly, they are our friends, but deadly foes to plant-lice. They belong to the family of Ladybirds (*Ladybugs* some people call them—a combination of names that ought to be abhorrent to everyone possessing a spark of gallantry), and are of a deep shining black colour, with a roundish blood-red spot on each wing-cover, whence they derive their name, the Twice-wounded Lady-bird (*Chilocorus bifulvulus*, Muls.). These little insects, as well as all the other Lady-birds, should never be killed, for we owe to them in a great measure that all vegetation is not destroyed by plant-lice.

THE GRAPE-VINE FLEA BEETLE: (*Graptolepta chalybea*).—Now is the time for grape-growers to be on the look-out for this very destructive insect; it is quite abundant in some localities at the present moment. The best remedies for it are hand-picking, which we consider the most effectual, and syringing with strong soap-suds. For a description and figure of the insect, see the CANADA FARMER for 1867, vol. iv, page 327.

CURRENT-BUSH INSECTS.—The numerous foes of the currant-bush are now hard at work at leaf and stem. We have already found nearly full-grown larvae of the Saw-fly, and small specimens of those of the well-known Moth. A highly recommended remedy for these insects is a mixture of White Hellebore and Alum in water; it is affirmed to be effectual by many persons in Toronto upon whose statements we can rely. We are about to give the receipt a thorough trial ourselves, and shall acquaint our readers with the result. The larva of the moth that bores into the stalks is now causing much injury also; all dead or dying stalks should be cut off and burnt at once.

FLEAS IN SOUTHERN INDIA.—Observing in the "Zoologist" a note remarking on the decrease of fleas of late years, it may interest the writer and others to hear that in this neighborhood, on the contrary, they were never, to my knowledge, so numerous as at the period referred to; I remember to have heard great complaints. I am not aware whether fleas breed and multiply on our shores, though in the South of India I have found them among the sand-hillocks skirting the sea in countless numbers; for instance, on one occasion, when passing a few days (in the year 1832) at a bungalow on the shores of the Gulf of Manar, I could not stroll on the beach of an evening without being covered with fleas from head to foot, so that my white dress was completely dotted and spotted with them. Fortunately, being of a sluggish kind, they could be brushed off by hundreds; however, I was eventually driven back to my head-quarters at Ramnad, finding the flea-plague even worse than the plague of mosquitoes, on the scorching sandy plains around the fort.—Henry Haldred; Ventnor, Isle of White, in the *Zoologist*.

The Apiary.

Dividing Swarms.

No certain rule can be given as to the right time for dividing colonies, as seasons are so different and localities so unlike with respect to the putting out of blossoms. As a rule, I find that when fruit blossoms early, and good weather prevails during its blossoming, it is safe to expect early swarms. No new colonies can safely be made before drones appear, as on them depends the impregnation of the young queens.

It is always best to choose a time when the nights are warm, or the young brood may suffer after so much surplus population is taken from the hive.

Those who have used moveable frame hives for any length of time will have become familiar with various ways in which colonies may be divided; such need no aid in the matter, but a word or two of caution may be "in order." Never expect to benefit a colony that is not doing well by making two of it; unless a hive is very strong in numbers and in all ways prospering, do not divide it. Generally, such colonies may best be made vigorous by taking away their queen and replacing her by a young one.

Never divide when honey is not very abundant.

In making the division, whatever way you practise, be sure to have the main part of the worker force of the colony with the queen, leaving the hatching brood with few old bees in the old hive. To do this easiest, it is well to have the queen in a new hive on the old stand, while the old one is removed some distance away.

It always pays to rear queen cells eight or ten days in advance of swarming time, so as to give the part of the colony left queenless a queen cell nearly mature, thus saving them much time.

If the greatest yield of surplus honey is the object, it may best be secured by making no more than one new colony from each one in a season; where little fall pasturage is found, it is generally best to be contented with securing one new colony from two old ones, thus:

Take three frames of comb, containing brood and stores, from a good colony, replacing them by empty frames; put them in an empty hive and set it where the one from which the frames were taken stood; then move another strong colony a rod away, and put the one from which you took the frames where that one stood. In the new hive you have brood and stores and a good colony of bees; in the one from which you took the frames, there is still left brood and stores, and by setting it where a good hive was, you secure to it plenty of bees; one of these hives will contain a queen, it matters not which, for both are alike well provided with materials for producing another. The hive that you move a rod away will lose nearly as many bees as if it swarmed, but it keeps its queen and all of its brood, and will soon be strong again, much more so than if it had lost its queen as in natural swarming.

There are many whose bees are still in box hives, who wish to transfer them with the least possible loss to moveable comb hives. Such will find swarming season the best time to do it. The matter is very simple. In the middle of a warm, pleasant day smoke the hive that you wish to drive, in order to alarm the bees and induce them to fill their honey sacs; wait five or ten minutes, and then take the hive and carry it a few yards away; turn it over and put on top of it a box or cap as near the same size as possible. With sticks now drum smartly on the lone hive, making a continued jar, and the bees will mount rapidly into the upper box, and soon be found hanging to it like a swarm. Take it off, then, carefully, and set in the shade. Carry the hive from which you drove the bees, to a location two or three yards behind where it stood before; it will keep bees enough to rear a queen and do well. Put your new moveable comb hive on the old stand, spread a sheet before it, and then empty the bees from the box upon the sheet, and they will run up into the hive, and go to work there like a swarm. It is well, if you have any good pieces of comb, to fasten them in the frames, as it gives the bees what all like—"a start in life." If you wish to transfer combs and all from the old hive, it can best be done just three weeks after the swarm is thus taken from it. At that time there will be little or no brood in the combs, and they can be easily handled; they will have a young queen, but she will not have deposited many eggs. Full directions for transferring combs are given in any standard work on bee-keeping. The operation is very simple.—*Mrs. E. S. Tupper.*

The Household.

The Household Lamp.

When suns decline, and crickets sing,
And wandering mists from seaward roam,
When nights no heavenly beacons bring,
Then brightest shines the star of home!

When the brown brooks, with music low,
Watch summers die and autumns come,
When stately golden rods must bow,
What cheer is in that light of home!

When winter strips the shuddering trees,
And chills the wavellet's wanton foam,
When in the world's cold grasp we freeze,
How blest is then that star of home!

Allantic Monthly.

Emergencies.

PRESENCE of mind, under sudden alarm, is a species of moral courage that is rarer than might at first be supposed, and it requires the test of actual danger, or some stirring emergency to establish any one's claim to the possession of this valuable quality. Many persons are very brave or very wise when danger and embarrassment are at a distance, who entirely lose their self-possession when the time of trial comes unexpectedly upon them. This common deficiency of character is humorously described by Mr. Dickens in the "Pickwick Papers." Who does not remember the scene in which Mr. Pickwick, whilst enjoying with a merry company the exhilarating exercise of sliding on the ice, suddenly falls through with a crash and disappears? The gentlemen of the party, we are told, turned pale; the ladies fainted; Mr. Snodgrass and Mr. Winkle grasped each other by the hand, and gazed at the spot where their leader had gone down; while Mr. Tupman started off at the top of his speed across the country, calling "fire!" and it was not until the features and spectacles, followed by the shoulders of the old gentleman, emerged from the surface of the treacherous ice, and it was also announced that the pond was nowhere more than five feet deep, that the major part of the company recovered their senses, and were ready to perform prodigies of valor in the rescue. We have heard also of the lady whose first thought on learning that her house was on fire, was to save her best china, which she forthwith hastily collected and pitched out of the window. The actual experience or recollection of most readers will, doubtless, suggest similar instances of the want of presence of mind.

There are many cases, however, where the embarrassment arises less from a deficiency of this rare quality than from ignorance of what is best to be done under the circumstances. When people are left to their own resources, and neighbourly help is not always accessible, it is especially important that they should be prepared, by a little simple knowledge as well as common sense, for emergencies that may happen at any time. We remember seeing, many years ago in England, a very useful printed sheet, headed "Hints for Emergencies," in which were given plain and sensible directions for the course of action to be immediately adopted in the event of a variety of accidents in which any one might be suddenly called upon to render aid, such as fire, drowning, poisoning, &c., &c. We do not know whether this useful guide could be obtained now; but any one might, with a little pains, put together a similar compendium of useful hints for his own use, and the time might come when, if memory failed at the moment of need, a reference to such a written memorandum might be of immense value. To aid those of our readers especially whose lot may be cast in the back settlements of the country, we propose occasionally to give a few simple instructions as to the best course of action in the more common emergencies. We will begin with just one or two accidents to the person.

Not long since we gave an extract from one of our exchanges, under the heading "How to act when the clothes take fire." We would again refer to the directions there given for guidance in this emergency, merely reminding the reader that the chief things to do promptly are, to throw over the flames, so as to smother them out, a rug, blanket, or anything of the kind that most readily comes to hand, and to lay the person whose clothes are on fire flat on the ground. When a burn is superficial and affects only a small space, immersion of the part in cold water will generally give great relief. Dredging flour over the burnt part, so as completely to exclude the air, is also one of the best applications in the first instance, and will sometimes be all that is necessary.

Next, let us take the case of *Fainting*. A person suddenly turns pale, and falls, losing his consciousness. Friends are alarmed, and sometimes not knowing what else to do, will raise the person into a sitting posture. Now, this is just about the worst thing that could be done. The pallor of the face should teach us that the heart is acting feebly, and does not send the blood into the head in the ordinary manner. Every facility should be given to let the blood flow towards the brain, and for this purpose a horizontal position, with the head even lower than the rest of the body, is the most desirable. Fresh air is a most important auxiliary; cold water, or even occasionally a little brandy, may be serviceable; but the horizontal position, or, in plain words, lying down, will generally bring about a speedy recovery.

Not to extend this article to a tedious length, we will notice at present only one case more, namely, the accidental taking of poison. In these cases it is not always easy or possible to ascertain what special poison has been taken. The only safe rule, then, applicable to all cases, is the instant administration of some efficient emetic. The best, such as sulphate of zinc or ipecacuanha, may not be at hand; though it is well, by-the-by, for persons living in lonely situations to have a few common remedies in the house. If either of these is procurable, then the proper dose of sulphate of zinc about a scruple, or half a small teaspoonful, given in lukewarm water. The dose of powdered ipecacuanha is nearly double that quantity—that is, half a drachm, or nearly a teaspoonful. If the first dose of either does not answer the desired end in about a quarter of an hour, it should be repeated. When neither of these remedies is at hand, common table mustard may be used, and is a tolerably good emetic. From a teaspoonful to a tablespoonful, given in warm water, is the proper quantity. In addition to this, drinking freely of milk, or the white of an egg, is in the case of certain poisons a most valuable antidote, and in others often useful.

Perhaps the most common poisons that are taken accidentally are arsenic, corrosive sublimate, and oxalic acid. If it can be ascertained that any one of these has been swallowed, the appropriate antidote should be administered as speedily as possible. For arsenic the best antidote is sesquioxide of iron—a large teaspoonful for a dose. White of egg and milk are also useful. For corrosive sublimate white of egg is the very best corrective; for the poisonous salt unites with the albumen and forms an insoluble compound. For oxalic acid, lime is the proper antidote. This is best administered in the form of chalk.

These few hints may be useful, and worth remembering. In some future article we hope to notice and give directions for the proper course of proceeding in some other emergencies.

WHAT A YOUNG WOMAN DID.—I have an acquaintance in the middle class of society, the income of whose business was a comfortable support for his wife and three daughters. The eldest of the girls found much of her time unoccupied, except with unproductive fancy work, and she said to her mother: "Why should we all be dependent upon father for support? If he should die how helpless we should

be. And even if he lives, and is able to work for a long time to come, we might relieve him from much care and anxiety by our exertions, and we might greatly increase our own opportunities for improvement." She followed out her ideas by fitting herself to be a book-keeper. Not satisfied with a small salary, she diligently applied her spare hours to acquiring a thorough knowledge of French and Spanish; and having an object in view, she learned rapidly. When she was able to write commercial letters in these languages, she soon commanded a salary of fifteen hundred dollars. Every morning she walked into the city with her father, where they parted to go to their separate places of business and met to return home in the afternoon. Most fashionable women had probably taken up as much time spending money during the day, as she had spent in earning it. Her example stimulated a younger sister, whom she aided in the development of her artistic talent, till she became a teacher of drawing in a large educational establishment.—*Ex.*

Useful Receipts.

A BAKED APPLE PUDDING.—Boil six apples well; take out the cores, put in half a pint of milk thickened with three eggs, a little lemon-peel, and sugar to the taste; put puff-paste round the dish, bake the pudding in a slow oven, grate sugar over it, and serve it hot.

CAROLINA WAY OF BOILING RICE.—Pick the rice carefully, and wash it through two or three cold waters till it is quite clean. Then (having drained off all the water through a colander) put the rice into a pot of boiling water, with a very little salt, allowing as much as a quart of water to half a pint of rice; boil it twenty minutes or more. Then pour off the water, draining the rice as dry as possible. Lastly, set it on hot coals with the lid off, that the steam may not condense upon it and render the rice watery. Keep it dry thus for a quarter of an hour. Put it into a deep dish, and loosen and toss it up from the bottom with two forks, one in each hand, so that the grains may appear to stand alone.

ARROW-ROOT PUDDING.—Simmer a pint of milk with a few whole allspice, coriander-seed, and half a stick of cinnamon for ten minutes or a quarter of an hour; then sweeten it with sugar, and strain it through a hair-sieve into a basin to one ounce and a half of arrow-root (about a tablespoonful and a half) previously mixed with a little cold milk, stirring it all the time. When cold, or as soon as the scalding heat is gone, add three large or four small eggs, well beaten, and stir well until the whole is perfectly blended. It may then be boiled in a well-buttered mould or basin, or baked in a dish with a puff-paste crust round the edge, and grated nutmeg on the top. From half to three-quarters of an hour will be sufficient to boil or bake it. When boiled, serve it with sauce. The flavour of the pudding may be occasionally varied by using a few blanched and finely-pounded or chopped sweet and bitter almonds—about one ounce of sweet, and half an ounce of bitter—or with orange-flower water, or vanilla.

PICKLED CABBAGE.—A correspondent of the *Country Gentleman* says: "In response to the enquiry, 'how to pickle cabbage?' I send the following, which my folks have tried several years, and I know to be good, and is liked by those who have eaten it. It keeps well a year, and how much longer it would keep I am unable to say. If one is not over nice in regard to the form in which it is served, I think it will suit the palate of any who are fond of the like pickle. Take any quantity of well-formed cabbage-heads, and thick-meated squash, or bell-peppers, and chop them fine and mix. Use about one-third pepper, and two-thirds or more of cabbage after being chopped; for each gallon take one heaping teaspoonful of ground cloves, about half the quantity of ground cinnamon, half a tea-cupful of whole mustard seeds, and two tablespoonfuls of fine salt; mix thoroughly and place it in a stone jar, and pour over it scalding hot cider vinegar; cover and set in the store room, where it will keep cool and not freeze. It will answer to use after 24 hours. Small green tomatoes or other vegetables may be added, if desired, and pickled whole. One who does not like to be at the trouble of stuffing peppers will here find an excellent substitute. The vinegar should not rise above the cabbage, only well saturate the mass."

Poetry.

The Grass

The grass, the grass, the beautiful grass,
That brightens this land of ours,
Oh, why do we rudely let it pass,
And only praise the flowers?
The blossoms of spring, small joys would bring,
And the summer-bloom look sad,
Were the earth not green, and the distant scene
In its emerald robe not clad.
Then sing the grass, the beautiful grass,
That brightens this land of ours;
For there is not a blade by nature made
Less perfect than the flowers.
The grass, the grass, the feathery grass,
That waves in the summer wind,
That stays when the flowers all fade and pass
Like a dear old friend, behind;
That clothes the hills and the valley fills,
When the trees are stripped and bare;
Oh, the land would be like a wintry sea,
Did the grass not linger there.
Then sing the grass, the bonny green grass,
That to all such a charm can lend;
For 'tis staunch and true the whole year through,
And to all a faithful friend.
The grass, the grass, the bountiful grass,
Oh, well may the gift endure,
That never was meant for creed or class,
But grows for both rich and poor.
Long may the land be rich and grand
Where the emerald turf is spread;
May the bright green grass, which from earth we pass,
Lie lightly o'er each head.
Then sing the grass, the bountiful grass,
That stays like a dear old friend;
For whatever our fate, it kindly waits,
And it serves us to the end.

Miscellaneous.

Respectability of Farming.

The cities are full of young men—many of them from the country—who are out of employment and are glad to work for enough to pay their board. They could save enough money by working on a farm for a few years to buy one for themselves. But they think it more respectable to sell pigs and measure tape. For my own part, I respect any man who is striving to make an honest living by any kind of manual or mental labour. But I give the preference to agriculture, because it is in itself the main foundation of our national prosperity, and because it calls into exercise the best faculties of our nature. A clergyman can be a farmer without soiling his cloth. As I was coming home to-day a city man asked me to give him a ride. "Do you live on your farm now?" he asked, "and how do you like it?" "Pretty well," I replied. After a few remarks as to the scarcity of water, what good sleighing we had had, and how warm it was to-day, &c., he remarked, "I wonder why you would not be a good man to keep tavern." It seems that he and a few others had built a tavern somewhere, and wanted some one to take charge of it. "If you had a few hundred dollars to buy furniture," he said, "you would get rich out of it." I told him I did not know enough to keep a hotel, and that I liked farming. "Dr." said he, "you could have a farm there, though I have known a good many farmers who went to keeping tavern that soon run the thing into the ground!" Now, all this was intended to be very complimentary. In his eyes a tavern-keeper was considerable of a man, and in return for giving him a ride, he wished me to go home with the comforting assurance that there was one man at least who thought I was fitted for something better than a farmer. It is to be feared that I did not thank him with that degree of warmth such kind intentions deserved. He will doubtless conclude that "these farmers are a boorish set; they don't know enough to be polite."—*Harris's Walks and Talks.*

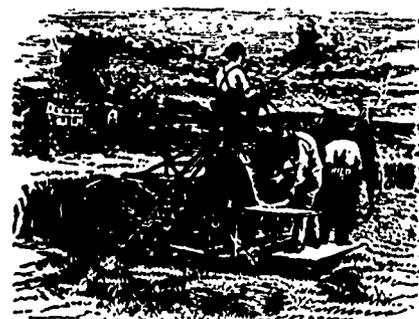
FEMALE FARMERS.—When a young lady offers to hem a cambric handkerchief for a rich bachelor, she means to sow in order that she may reap.

An ugly young lady is always anxious to marry, and young gentlemen are seldom anxious to marry her. This is a result of two mechanical powers—the inclined plain and leave her.

ALL THE SAME.—An Irishman had to give the password at the battle of Fontenoy at the time the great Saxe was marshal. "The pass-word is Saxe; now don't forget it, Pat," says the colonel. "Saxe! faith, and I won't; wasn't my father a miller?" "Who goes there?" said the sentinel, after he had arrived at the pass. Pat whispered confidentially, "Baas, your honor."

Advertisements.

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WARRANTY.

We warrant the Marsh Harvester to be well made, of good material, and when properly used, not liable to get out of repair; to be a good grain-cutting machine upon which two experienced binders can bind in average grain, on suitable ground, from eight to twelve acres in twelve hours; and that it will work on as rough ground as any other Reeper

PAXTON, TATE & CO.

Port Perry, March 23, 1868.

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J. H. THOMAS'

FIRST PRIZE BEE-HIVES!

THE FIRST PRIZE has been awarded these Hives at the Provincial Fairs, and many County Fairs, for the last four years. They also obtained the first prize at the Michigan State Fair, held at Detroit last year. In fact they have always been awarded the first prize wherever they have been entered. During the last four years they have acquired a reputation unequalled by any hive heretofore offered to the public. They are now manufactured by steam-power, which will enable me to supply the increasing demand at the following rates, which include a right to make and use both double and single boarded Hives:

Single-boarded Hive.....	\$3.00
Single-boarded Observing Hive—Glass in two sides.....	7.00
Double-boarded Hive.....	6.00
Double-boarded Observing Hive—Glass in one side.....	7.00
Single-boarded Observing Hive—Glass in one side.....	6.00
Double-boarded Observing Hive—Glass in two sides.....	8.00

All persons purchasing a Hive at the above rates, (which always includes the right to make), and preferring to order Hives of me, rather than make, will be supplied at the following prices—*D. B.* \$3.50; *S. B.* \$2.50; or if ordered in lots of three to one address, *D. B.* \$3.25, *S. B.* \$2.25, in lots of six, *D. B.* \$3; *S. B.* \$2. Hives sent safely as freight by rail to any part of Canada. Three Hives to one address for the same freight as one Hive. Bee-keepers would do well to form clubs and order three or more Hives sent to one address, and thereby save freight.

ITALIAN QUEENS AND BEES!

Having secured the services of H. M. Thomas, one of the best practical apiarists in Canada, to assist me in breeding Italian queens, I shall be able to furnish any number at the proper season, bred from the very latest importations. *PRIZE* \$5 each. I will also furnish a limited number of Italian Stocks in the fall, at the following prices:—In the *D. B.* hive, \$20; in the *S. B.* hive, \$18; sent by express at the expense and risk of purchaser. The Canadian Bee Keeper's Guide sent to any address post paid for 25 cents, five copies for \$1. The trade supplied at a liberal discount.

Persons desirous of purchasing territorial rights for my Hives, would do well to apply at once, as I will sell for the next two months, Townships at from \$20 to \$30, and Counties from \$30 to \$150.

J. H. THOMAS,

Brooklin, Ontario.

N.B.—Parties residing in the Counties of Carleton, Russell, Clarks, Pontiac, Renfrew, Lanark, Leeds, Dundas, Stormont, Glen garry and Prescott, and desiring to purchase my Hives, must in all cases address their orders to
JOHN HENT ERSON,
v5-6 11
New Edinburgh, Ont.

Duncan's Improved Hay Elevator.

PATENTED April 12th, 1867.

THE cheapest and simplest constructed Fork in use in the Dominion of Canada. Copy or Township Rights for the manufacture of the above Fork may be obtained from the undersigned.
JAMES W. MANN,
v4-20 11
Port Dover, Ont.



Price Reduced to 58 Dollars.

It sets up its own work, knits all sizes, narrows and widens, knits the heel into the stocking, and narrows off the toe complete—producing all varieties of knit goods. It is portable, easily operated, and guaranteed to succeed in the hands of every purchaser. Send Stamp for Circular and sample stocking.

JAMES D. ORNE, Gen. Agent.

176 State Street, Rochester, N. Y.

SMALL CHEESE VATS!

H. PEDLAR, Manufacturer, will send to any Railway Station in the Province of Ontario, (free of charges,) a first class Cheese Vat, all complete, in running order, suitable for twenty to thirty Cows, on receipt of \$20.

All work warranted to give satisfaction.

H. PEDLAR, Address

Box 100, Oshawa, Ont.

JONES & FAULKNER,

(Late J. Jones & Co.)

Dairymen's Furnishing Store!

DEALERS IN BUTTER AND CHEESE, No. 111 Genesee Street, Utica, N. Y.

DAIRY necessities of every description always on hand, particularly Pure Annatto, an article in much request among dairymen.

No Duty on Annatto purchased in the United States.

Special attention given to Canadian orders.

TO FLAX GROWERS.

The undersigned will have, the present season, a supply of FLAX-PULLING MACHINES, which we can guarantee to do good work, having been fully tested last season. New improvements added this year. Send for cut of Machine and Price List.

OSWOLD & PATERSON,

Woodstock Iron Works

1st May, 1868.

v5-9-6t.

MILLER'S

INFALLIBLE



TICK DESTROYER FOR SHEEP!

DESTROYS the TICKS, cleanses the skin, strengthens and promotes the growth of the wool, and improves the condition of the animal.

It is put up in boxes at 50c, 70c, and \$1, with full directions on each package. A small box will clean twenty sheep.

HUGH MILLER & Co.,

Medical Hall, Toronto

167 King-street East

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LOOK OUT FOR YOUR CURRANT BUSHES & C.

THE CHINESE

GARDEN POWDER!

DESTROYS ALL KINDS OF

Insects, Grubs, and Caterpillars,

On Currant Bushes, Plants and Shrubs. You will save money, labour and disappointment.

Prepared only by

HUGH MILLER & CO.,

Medical Hall,

167 King Street East, Toronto.

GEO. A. DEITZ,

The Great Seed Wheat Grower,

CHAMBER-BURG Pa. sends free a Descriptive List of the best seed wheats in the world.

FOR SALE,

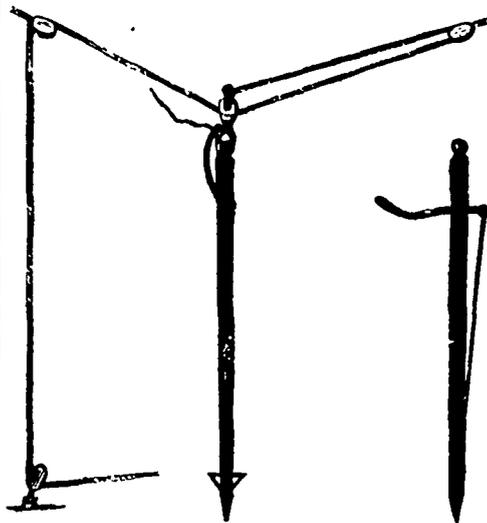
THREE yearling Durham Bulls—two red and one roan Apply to

GEO. MILLER,

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M. L. ROBERTS' PATENT

HAY ELEVATOR



MANUFACTURED BY

T. WRONG & CO.,

No. 70 BAY STREET,

TORONTO.

PRICE \$10. WITH PULLEYS AND ROPE.

AGENTS WANTED.

v5-12-1t.

Markets.

Toronto Markets.

"CANADA FARMER" Office, June 11th, 1868.

The market has recovered from the decline mentioned in our last review, and prices are now advancing slowly, and have reached a point considerably higher than our quotations of last number.

Flour—The market has improved during the week, and a considerable advance over last quotations has been established. No. 1 Super now sells without much difficulty at \$6. Several lots changed hands at that price yesterday and to-day; in the higher grades there has been nothing doing, and prices are entirely nominal.

Oatmeal—There has been nothing doing in this article during the week. Quotations are nominal.

Cornmeal—The market is dull and nominal. Nothing doing.

Wheat—In sympathy with markets east and west, the market here has improved. An advance of from 5c to 7c over last week's quotation has been established. Fall is now in fair demand at from \$1.45 to \$1.50 several car lots have changed hands at these prices. Spring wheat has also advanced; lots have been bought at from \$1.40 to \$1.42, these prices ruling to day on a change. The demand has considerably improved, but there is still not much doing.

Oats—The market is dull, several sales of car lots were made during the week at 62c.

Rye—The demand has become very light. For a few car lots \$1.05 would still be paid.

Peas—The market has been very dull during the week. No sales were reported; quotations are, therefore, nominal.

Pork—The market is dull and only a retail trade doing, nominally unchanged, worth \$23.

Bacon—Slow of sale at from 10c to 11c for Cumberland.

Cut Meats—Trade is confined to retail lots. We quote hams—smoked, 12c to 12 1/2c; canvassed, 13 1/2c.

Butter—The market has been steadily declining, and prices may now be quoted at from 12c to 13c. The recent fine weather is having a depressing effect upon the market, increasing the supplies largely and bringing down prices.

Eggs—Market firm and higher. There is a shipping demand for New York. Worth from 10c to 11c for shipping.

Cheese—Very little in the market. Only a retail trade doing—worth about 11c.

Lard—Nominal, none in the market.

Potatoes—There is a fair supply. The current rates are 65c to 70c per bush by the load, and 50 to \$1 per bush by the bag.

Apples—The market is firm; choice samples bring as high as \$3. Dried, dull; worth \$1.25 to \$1.50.

Plaster—The market is fairly active; selling prices \$1.05 to \$1.10 on the wharf.

Water Lime—Selling at \$1.60.

Hay—As high as \$22 was paid for a few loads to-day, prices ranged from \$11 to \$21.

Straw—Prices range from \$12 to \$16.

New York Markets, June 10—Flour—Dull, receipts 5,000 bbls., sales 5,000 bbls at \$7.50 to \$8.10 for super state and western, \$3.50 to \$3.30 for common to choice extra state, \$5.25 to \$10 for common to choice extra western. Wheat—Quiet and weak, receipts, \$6,000 bbls., sales 15,000 bushels at \$2.19 for No. 2 spring; and \$2.27 for No. 1 do. Rye quiet; receipts, 750 bushels, sales 400 bushels Southern at \$2.02. Corn lower, receipts, 100,000 bushels, sales 79,000 bushels at \$1.08 1/2 to \$1.09 for new mixed Western wheat; and \$1.15 for white Western. Barley quiet. Oats easier; receipts, 25,000 bushels; sales 47,000 bushels at 56c for western wheat. Pork dull and lower at \$23.25 to \$28.57 for mess. Lard steady and quiet at 18 1/2c for old do. and 17 1/2c to 18 1/2c for keto rendered.

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