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Vol. III. No. 13.

TORONTO, UPPER CANADA, JULY 2, 1866.

POSTAGE FREE.

The Field.

The Streetsville Flax Works.

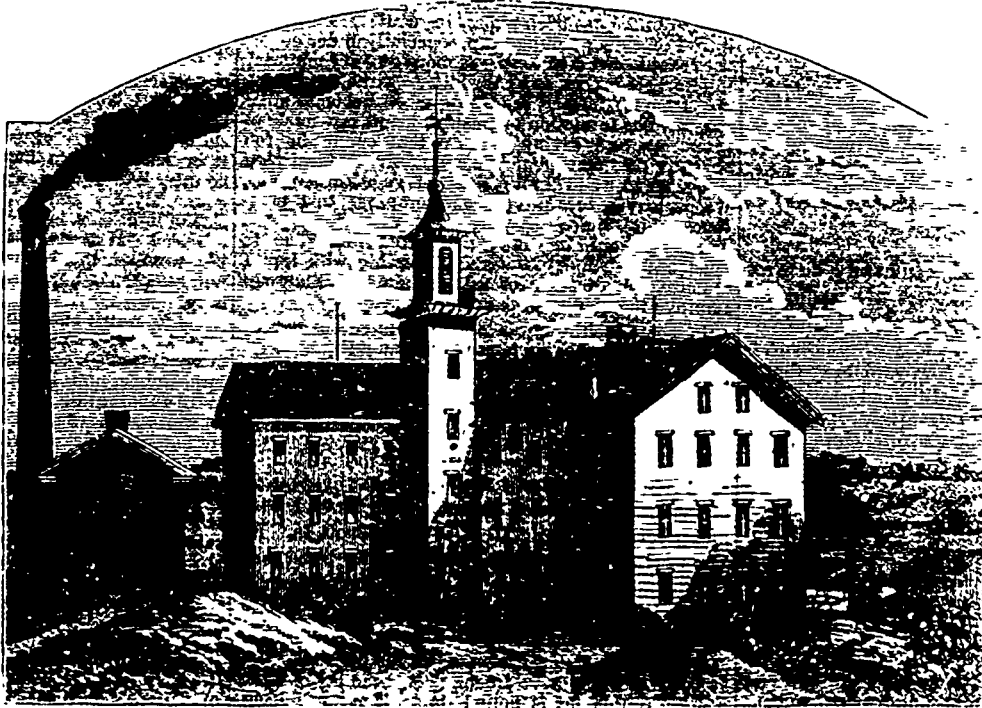
EVERYTHING connected with the progress of the flax industry in this country, will be regarded with interest by all who can lay just claim to the possession of patriotic feeling, and we are sure that all such will gaze with pride and pleasure at the engraving which accompanies this article. It is a faithful picture, drawn by our own artist on the spot, of the Linen Mill recently put into operation by the Streetsville Linen Manufacturing Company. This Company was formed by the junction of two enterprising and well-known firms, Messrs. Gooderham & Worts of Toronto, and W. D. Perine, Brothers of Doon, and other places westward. Though the building which forms the chief object in our engraving presents a most imposing appearance, the principal outlay of capital has been for what is out of sight, viz: the elaborate and costly machinery, with which the interior of the Mill is fitted up. Some idea of the magnitude and importance of this enterprise will be formed when we state that already no less than \$100,000 have been invested in it. The Flax Works consist of a Scutch Mill, on the opposite side of the river from the building which figures so conspicuously in our engraving; connected with which are out-door vats with capacity for retting 25 tons of flax at once; the Linen Mill, consisting of a main building 50x75 feet, and a wing 40x60 feet, both being five stories high; a separate brick building for generating the steam with which the establishment is heated in winter, a rope walk and some smaller offices. From 70 to 100 hands are ordinarily employed about the works, but in spreading time a much larger number is required. All the processes of flax dressing are carried on from the retting of the straw to the preparation of the finest description of fibre. Certain articles of linen manufacture are also produced. About 900 tons of flax were obtained last winter in the immediate vicinity of the mill. Most of this was bought with the seed on, at \$14 per ton. The crop last season

was not a very even one as to amount of yield, varying from 1½ to 3½ tons per acre. In the farming county round Elora, Maryborough, and Peel, the usual average is about 3 tons per acre. Scutching was commenced at these works in November last, and the linen manufacture in March. The quantity of flax obtained in the neighbourhood is only about one-fourth of what is required to carry on the mill. There is, therefore, pretty wide scope yet for increasing the acreage of flax in the adjacent county. The additional material required at the mill has thus far been obtained from Perine Brothers in the shape of "long live fibre" as it is called.

A brief account of the operations carried on at these works will doubtless interest our readers. First there is the retting process, which in favourable

paring "long-line flax." After it leaves his hands, it goes to the spreading machine, then it is subjected to the first and second drawing, next it passes through the roving-frame, then the spinning-frame, when its preparation as warp is completely finished. Tow of various grades is left after hackling. The best quality is first dusted in a kind of cylinder, then sorted, next it goes to the picker, and from him to the lapper who laps it on to laps for the cards; next it goes through the carding-machine from which it passes to the drawing frame which puts it into webs or burls; then it is passed to the speeder which lays it up and puts it on bobbins; next it goes to the spinning frame and from that to the quiler which puts it on to a number of quills, each of which in turn goes into a shuttle, is put into a loom and wove.

At present, the mill is engaged in weaving the double webbed linen out of which seamless bags are made. Each of these is 1½ of a yard in length. The bags are cut off by machinery and hemmed with a sewing-machine after which they are pressed and baled, 100 being put in a bale. Three bales per day are turned out, or from 1500 to 2000 per week. Their wholesale price in the market, varies from \$10 to \$15 per bale. Counter-twine is also manufactured. This passes through all the stages that have been mentioned except weaving. Instead of being woven, it is formed into balls by a very ingenious piece of machinery invented for the purpose. Cordage is also made. This requires a



good quality of tow. The poorer grades of tow are made into rope of various thicknesses. After passing through the processes already described, it is put through the spinning-jenny, the strand former, and the laying machine. Afterwards, it is dressed on the rope-walk and coiled ready for the market. At present, only about 300 lbs. of rope per day is being turned out, but the mill has capacity for making from 600 to 700 lbs. The cordage manufacture is not yet fully under way. When everything is in complete operation, all the material yielded by the flax fibre will be worked up on the premises, except the refuse tow which is sold to the paper makers, and used by them in the manufacture of certain kinds of paper.

weather takes from five to eight days. Next the retted fibre is spread out to dry. This takes from three to ten days, according to the season and state of the weather. The dried fibre is then broken and scutched. For breaking, "Randall's Flax Break" is used, a simple machine in which the ordinary roller breaks are so adjusted as to do the work without risk of catching the hands of the attendants. Revolving scutch-knives are used, and moveable, perpendicular boards, against which the bunches of flax are held while in contact with the knives. Next to the scutching comes the hackling, a sort of combing process which separates all the refuse material and inferior fibre, leaving on an average about 50 or 60 per cent of long fibre. One hackler is constantly busy pro-

Familiar Talks on Agricultural Principles.

MANURE MAKING.

So much has been said in the course of these Talks about the necessity of supplying the soil with plant-food, that we shall take it for granted our readers are convinced that they must, if they would farm profitably and well, provide themselves with a stock of manure. How to do this in sufficient quantity, becomes a question of much interest and of some difficulty. It can only be accomplished by keeping a due proportion of live animals, and by practicing a judicious rotation of crops. Even by these means, the utmost economy and good management will be required, in order to manufacture sufficient manure to supply the wants of the land. But economy and good management are almost unknown qualities as it respects the provision and preparation of manure. An English writer on practical agriculture, says, "our dung-heaps are the opprobrium of British Farming." He justifies this remark by adverting to fact, that while a farmstead contains hovels and sheds for sheltering everything else of value there are none for the muck-heap, and also by showing that no care or pains are taken in the location or due admixture of the materials of the dunghill. If so grave a charge will lie against British farming, assuredly there is far more ground on which to base it in reference to this country.

If the dung of animals were fit for application to land as soon as dropped, and there were always land ready to receive it, there would be little or no need for muck-heaps and dunghills, but although the dung of animals that chew the cud might be safely used forthwith, since it is more thoroughly decomposed than that of others, yet it is obvious that it is only at certain periods manure can be applied to the soil. From the fact that horses do not chew the cud there may often be observed in their droppings particles of hay, straw &c. together with grain seeds in so whole a state as to be quite capable of speedy vegetation. On various accounts, therefore, dung must be stored for a time, and if this is rightly done, its quality will be improved by age, and it will be rendered conveniently available for use when required.

The value of farm-yard dung can hardly be over estimated. While artificial manures are useful for special crops, and for the supply of particular elements of fertility in which a soil may be deficient, it is the peculiar excellence of farm yard dung that it furnishes all the elements of fertility and contains all the material of plant-food. It is always rich in ammonia, phosphates, and potash, which as we have seen are prime elements in fruitful soils. Not only is it of benefit in the way of adding to the richness of the soil, but it acts mechanically upon it loosening clay land and binding land of lighter texture. Moreover by its gradual fermentation it has an effect on the temperature of the soil, while as it decomposes, it exerts various important chemical influences. Such being the natural advantages of good farm yard dung, as compared with any and every other kind of manure, it is the worst policy imaginable to neglect the best means of collecting it, preparing it, and storing it for use.

The idea of roofing in the manure-heap has a look of the ridiculous about it in the view of many. They are incredulous as to its utility and cannot see why it is not just as well to leave dung to be exposed to sun, wind, and rain. A little reflection will suffice to remove their impressions, and to show the wisdom and economy of sheltering the manure pile. In an enumeration of the losses sustained by farmers, Mr. Alderman Mechi cites "the money wasted in the washing, drying, and mangle of their dung heaps," and having justly remarked that to take dung out of the yard after it has been well washed by the rain, then make a heap of it, to be again well washed and dried, and then again to move and cart it out to the

land, is a great waste of time and consequently of money. The manure-house need not be a costly affair, very little more expense than that of the roof boards is necessary. A sort of pit or cellar should be dug, and this covered in will suffice for all practical purposes. The increased value of the dung thus housed will more than pay the cost in a single season. Lord Kinnaird made some experiments with the following results, in regard to the comparative value of covered and uncovered manure. He found that two parts of the same field, dressed with equal quantities, the one manure prepared under cover of a roof, and trodden down by cattle, the other manure from the open fold-yard, gave in

	Covered.	Uncovered.
1851	11 1/2 tons	7 1/2 tons of potatoes
1852	54 bushels	42 bushels of wheat.
1852	215 stone.	156 stone of straw.

Not only is the dung-heap injured in quality by being left wholly unprotected, but it is diminished in quantity to an extent almost beyond belief. From a series of experiments made by Koerte, the loss of weight sustained by the exposure of one hundred loads of manure to the action of sun, wind, and rain was found to be as follows. One hundred loads

In 81 days was reduced to 73.3 loads ; loss 26.7 loads		
" 24 " " " 64.4 " " 35.6 "		
" 34 " " " 62.5 " " 37.5 "		
" 493 " " " 47.2 " " 52.8 "		

If for any reason it is deemed advisable not to dig a pit or cellar, the ground where the manure-heaps is located should be scooped or hollowed out, a few inches lower than the general surface, and it would pay to pave or concrete it to prevent the juices from sinking into the ground. To keep the rain from running into it, a ring of clay or soils may be made around it. If the moisture is superabundant, it should be led off by a small gutter, and conducted to some lower level, where mould, weeds rubbish and any material capable of absorbing and retaining the fertilizing juices has been placed in readiness to take it up. In forming a dung-heap, especially under cover, care should be taken to spread moist and dry material in alternate layers, as by the latter extracting dampness from the former, the whole mass becomes alike moist. The formation of compost-heaps is a mode of preparing and saving manure that cannot be too strongly recommended. To a quantity of farm-yard dung, may be added all manner of vegetable refuse, weeds, leaves, turnip-tops, road-scrappings, turf, peat-muck—in short anything that will decompose. The mass should be lifted and mixed from time to time, and, when dry, watered if possible with liquid manure. A dressing of salt and slacked lime will improve the quality of the compost heap

In some such way as above pointed out, every farmer should provide himself with an adequate supply of "A. No. 1" manure.

Alkali.

This term is constantly used by farmers in speaking of manures. It is well to understand its derivation and precise meaning. It is of Arabic origin. Dr. Dana says that *Kali* is the Arabic word for bitter, and *al* is like our word *super*; we say *fine* and *superfine*; so *kali* is bitter; *alkali*, superlatively bitter, or, truly, *alkali* means the "dregs of bitterness."

Alkali is a general term which includes all those substances which have an action like the ley of wood ashes. If this ley is boiled down, it forms potash. What is chiefly understood by the term *alkalies*, means potash, soda and ammonia. *Potash* is the alkali of land plants; *soda* is the alkali of sea plants; and *ammonia* is the alkali of animal substances.

Potash and soda are fixed; that is not easily raised in vapour by fire. Ammonia always exists as vapor unless fixed by something else.

Lime, fresh slacked, has the alkaline qualities of potash, but weaker,—so has calcined magnesia, but in a less degree than lime. Here are two substances, earthy in their look, having alkaline properties. They are called, therefore, *alkaline earths*. When the tongue is touched with a bit of quick lime, it has a not, burning, bitter taste. These are called alkaline properties. Besides these, they have the power of combining with and taking the sour out of all sour liquids and acids; that is, the acid and the alkali neutralize each other. Were it not for this, there would probably be no such thing as vegetable growth.—*N. England Farmer.*

Bromus Schraderii.

This new forage grass seems to have attracted considerable attention of late among several of the leading botanists and agriculturists of Europe. In the July number, 1865, of the *Journal of Agriculture* (Scottish) there is an elaborate article on this grass, illustrated by drawing. We are not aware that it is known in Canada, or the neighbouring States. As the range of our cultivated grasses is exceedingly limited, the introduction of any thing new, suited to our wants and climate would prove a valuable acquisition. A few words, therefore, in relation to this new candidate for favour, will be acceptable to our readers.

Bromus Schraderii, so named from the German botanist, Schrader, who first described it with accuracy, several years ago, appears to be a native of the American temperate zone, west of the Rocky mountains, but its range in latitude is probably not very extensive. Of its first introduction to Europe there seems to be no very reliable information, Lawson, the great seedsman of Edinburgh, procured some seed from the Botanic Garden of Berlin, twenty years ago, and it soon attracted notice by its rapidity of growth, succulency, and seemingly highly important feeding qualities. He afterwards presented packets of the seed, for purposes of trial, to Vilmoren of Paris, and to various settlers proceeding to the Australian Colonies; the results, both in France and Australia, proved favorable on the whole, as far as they could be ascertained. From that time to within the last two or three years but little was heard of the progress of this grass.

In 1861, M. Alphonse Lavallee submitted an elaborate memoir of the history and properties of the *Bromus Schraderii*. On good new soil, the first cutting yielded at the rate of 50 tons of green grass per imperial acre; and the aggregate of three successive cuttings during the same season, reached a somewhat larger amount. Other instances are adduced, almost as great, but it should be remembered that this very tall succulent grass, yields, when made into hay, only about one-fourth of its weight in a green state. It is also often impracticable to make the later cuttings into hay that will keep, even in a country like France, where the autumn is long and commonly dry and warm. The seed is about the size of light oats, but weighing only from 16 to 20 lbs. a bushel. It is stated that on good soil, with favorable weather, 150 bushels of seed may be obtained, and sometimes more, from two cuttings, per imperial acre.

The nutritious properties of the *B. Schraderii* are of a very high order, but being a broad leaved, strong strawed, corn-like grass, it presents a coarse appearance, both in grass and hay; this, however, is more apparent than real, as it is actually succulent as well as tender; and hence it is greedily devoured by horses, cattle, and sheep, whether it be in a green or dried state, all of which animals thrive and fatten upon it in a remarkable manner. According to the French report, pigs eat it with avidity even when made into hay, in which form cattle and horses are said to prefer it to fresh cut rye-grass. For milch cows it has been found to be highly suitable in increasing the quantity and quality of their milk, as well as improving the butter and cheese made therefrom.

B. Schraderii, cut green and dried, was found by analysis to contain:—

Water.....	16.284.
Fatty matter.....	3.333.
Ashes.....	14.540.
Cellular tissue.....	19.313.
Nitrogenous matter (containing Nitrogen, 4.44).....	23.981.
Starchy matter.....	21.000.
Loss.....	1.549.
	100.000.

The grass when cut perfectly ripe and dried, differed when analysed but little from the above, except that it contained a less amount of fatty matter, and nearly half less of nitrogenous compounds, and more cellular tissue. The ashes contained chlorine, lime, potash, and phosphoric acid.

The *B. Schraderii* is by no means a permanent grass, the plants enduring generally not more than two or three years; but it is easily perpetuated for any length of time by division and transplanting, and will, in some situations, sufficiently renew itself with-

out artificial aid from shaken out seeds, of which it produces great abundance. From its rapid and luxuriant growth it is not adapted for sowing with the ordinary grass seeds, and it is said to be very effective in keeping down weeds, whether sown by itself or with grain crops.

The soils best suited to this grass are such as are rich and dry; on wet clays, it does not succeed at all. In poor sands, after well manuring, it has produced astonishing crops both in France and Australia. Having a large cluster of small roots, and an extensive surface of stems and leaves, it derives a very large portion of its nourishment from the atmosphere, and is not considered to be particularly exhausting to the soil, from the mere surface of which it obtains its inorganic food.

Whether this grass could be relied on so far north as Canada, may, in the absence of experience, be considered doubtful. Trials carefully conducted would soon decide this important point. In northern and central France, where the winters are often severe, with a dry atmosphere similar to what we have in Canada, the plant is seldom injured; but in this moist climate of Scotland the old plants were mostly killed during the unusual degree of cold of the winters of 1861-62; but those from autumn sown seeds were not sensibly injured. In our newer settlements, where sufficient protection is yet afforded by the forest, and snow continues on the ground till spring has fairly set in; in other words where winter wheat is not endangered, the introduction of this species of Brom would probably succeed. As the increase of live stock is now universally acknowledged to be among the principal means of improving our agriculture, a condition implying an increased amount of cattle food, no means should be left untried for accurately testing the suitability and adaptation of new forage plants to our climate and requirements.

Labour Saving Machines.

Numberless as are the machines in use upon our farms, there are yet heavy operations for which no substitutes for human hands have been found out, and the field for invention as applied to agricultural practices has much in it that is still unworked, and that calls for the aid of machinery. Among these want contrivances for loading hay upon the rack when in the field, for loading, unloading and spreading manure, (doing away with the very hard work of shoveling,) for the more perfect pulverization of the soil before seeding, for the better raking of hay with a horse, for the digging and gathering of potatoes, and numerous other occupations. Some of these it is true have been attempted, but are, so far as we are acquainted, rather failures than successes, and show that they need to be improved upon to become of much utility. That they will ultimately succeed we have no doubt.

The remark has often been made that with the great change which has been brought about in the farmer's work by the introduction of machinery, it would seem that they would have more leisure time than they do, but, on the contrary, they appear as busy and as hard at work as ever. This, we think, is only in part true. All farmers have enough to do the year round if they are so disposed, for many of our farms are comparatively new, and there is much to do to clear them up, properly fence them, build good buildings and keep them in order. But aside from this, farmers do have more leisure and get along with much less hard work than formerly. This leisure is being turned to good account, we judge, for farmers are better informed, read more and think more than before the days of machinery. The work of the inventor has not only blessed the farmer by rendering his labour easier, but by enabling him to have an opportunity to store his mind with useful knowledge, thereby taking a higher rank in the scale of humanity. And the next generation will continue to reap the benefits of this introduction of machinery to a still greater degree than the present.—*Maine Farmer.*

Utility of Surface Drains.

DURING a recent ride into the country immediately after the copious rains of May 27 and 28, we were forcibly impressed with the great value of surface drains, and were more strongly convinced of the truth of the views of Mr. Harris, as given in our issue of two weeks ago. It is almost a wonder that this matter has not been thought of before, and that small surface drains have not been employed to carry off that superfluous water which has been allowed to evaporate. We have noticed that upon much land where the water stands in considerable quantities after a heavy rain, farmers are obliged to wait a long time for the water to evaporate and the soil to become in a state of readiness for working, when by a little labour in opening a small drain upon the surface the

water could be carried off in a few hours, and the process of drying greatly hastened. Again, the difficulty which Mr. Harris speaks of, viz: "Liability of washing, and thereby injuring land by the loss of its most valuable portion," can, if the location and direction of the surface drains are studied and well considered, be completely overcome in almost every instance. In a ride of twenty miles we did not see a single instance of water standing in pools upon the surface that could not have been carried off by small open drains, and made to flow over permanent grass, thereby acting beneficially in two ways, preparing the ploughed land to be worked and irrigating the grass land with the finest and best part of the soil washed from the field above. We are satisfied great benefits would result from a well considered system of surface drains and are inclined to believe with Mr. Harris, that "millions of dollars are annually lost by the farmers of the United States, for want of care and attention in this respect. We hope to see the subject practically considered and put in use by our farmers in all situations where it can be productive of the benefits above stated.—*Maine Farmer.*

Ameliorating Effects of Cultivation.

THERE is scarcely a vegetable we at present employ that can be found growing naturally. Buffon asserts that our wheat is a factitious production, raised to its present condition by the art of agriculture. Rice, rye, barley, or even oats, are not to be found wild—that is to say, growing naturally in any part of the earth; but have been altered by the industry of mankind, from plants not now resembling them in such a degree as to enable us to recognize their relations. The acrid and disagreeable *Apium graveolens* has been transformed into the delicious celery; and the Colewort, a plant of scanty leaves, not weighing altogether half an ounce, has been improved into a cabbage whose leaves alone bear many pounds—or into a cauliflower of considerable dimensions, being only the embryo of a few buds, which in their natural state would not have weighed as many grains. The potato, again, whose introduction has added millions to our population, derives its origin from a small and bitter root which grows wild in Chili and Montevideo. If any of our readers are skeptical on the subject of such metamorphoses, let them visit the fairy bowers of horticulture, and they will perceive that the magic wand has not only converted the tough coriaceous covering of the almond into the soft and melting flesh of the peach, but that by her spells the sour sloe has ripened into the delicious plum, and the austere crab of our woods into the golden pippin. That this again has been made to sport in almost endless variety, emulating in beauty of form and color, in exuberance of fertility and richness of flavor, the productions of warmer regions and more propitious climates.—*Dr. Parr on Diet.*

CHEESE FACTORY AT MITCHELL.—The *Mitchell Advertiser* understands that "two gentlemen of large means and long and practical experience in the business, have entered into the necessary arrangements for the establishment of a Cheese factory in the vicinity of Mitchell. The land has been already rented, and the establishment is expected to be in working order immediately after harvest." We hope that the enterprise will prosper, and we have scarcely a doubt but it will prove remunerative to the enterprising gentlemen.

FACTS ABOUT MAPLE SAP.—Sap runs best on a warm day following a frosty night. The best season is usually when the ground is frozen deepest. Sap runs faster when the snow is dug away from the trees. Sap will cease to flow when the wind is to the south. We should like for some of our vegetable physiologists to explain this fact. Sap will flow better before a rain-storm than a snow-storm. Sap is sweeter from old than young trees; from those that have been repeatedly tapped, than from those that have never been.—*Maine Farmer.*

PROFESSOR VOELCKER ON WOOD ASHES.—At a recent meeting of the Royal Agricultural Society of England, in reply to the enquiry of a member respecting the fertilizing properties of wood ashes, Dr. Voelcker is reported to have said that "wood ashes contained many other good things in addition to potash. Amongst these were phosphate of lime in considerable quantities, carbonate of lime, and sulphate of lime. Indeed, the application of wood ashes might be said to amount to a dressing of potash, a dressing of bones, a dressing of gypsum, and a dressing of marl; and this must surely account for the greater benefit which wood ashes produced in comparison with potash alone. He would rather buy wood ashes, therefore than potash, for potash contained only one of these constituents. There was a good deal of potash in wood ashes, and although the ashes might be washed, they still formed silica of potash."

Stock Department.

Lincolnshire Sheep.

In a recent address before the Cirencester Farmers' Club, Mr. J. A. Clarke, of Long Sutton spoke of this famous breed of sheep as follows.—The old Lincoln, such as my grandfather knew were ungainly animals, with carcasses long and thin, razor backs, legs thin and rough, bones large, pelts thick, and though attaining a great weight (mainly 'live weight,' I should fancy!) were very deliberate in laying on flesh—in fact, they were 'regular brutes,' as if they had been bred by some Anti-Bakewell, if you can fancy such a character with a perverse love of clumsiness and slow feeding, and selected generation after generation, not with an eye for early mutton, but with a view to superphosphate and sheepskin, developing the skeleton, and the hide! Their chief merit was their fleece, weighing 8 lbs. to 16 lbs., with a staple 10 to 18 inches in length. This long wool made the breed profitable to the lowland graziers, although covering such an unthrifty coarse-grained carcass of mutton. Now, however, Mr. Clarke observed, the Lincolns were vastly improved, not only with regard to size, but also as to wool; and he went on to say—A farmer, at Liverington, near Wisbeach, grazed 219 Lincoln hoggets and 40 Lincoln shearlings; and the 259 fleeces weighed 117 tons, or an average of 12½ lb. per fleece. Mr. Plover, near Spalding, whose fat sheep I have already referred to as attaining such great weights of mutton, had in that same year the following 'tod bill'—of hogg and wether sheep, 690 'threes,' 376 'twos,' and 2 'ones,' or 2824 fleeces, being about 11 lb. per fleece, and many of them had been shorn in spring off sheep sold to the butcher. Probably, in ordinary breeding flocks, where the proportion of hogg wool is about one-third of the whole, the fleeces average 8½ to 9 lb. each. As to the individual animal, the weight of wool is sometimes very great. In 1862, a two-shear Lincoln ram, clipped by Mr. Bond, of Yarborough, yielded a fleece of 23½ lb.; and though heavy fleeces are too commonly coarse in quality, this was as remarkable for length and fineness of staple as for actual weight. My father's prize lamb at the Lincoln Royal Meeting of 1854 had clipped 51½ lb. of wool in three years, an average of 17½ lb. per fleece. Lincoln wool is in great request, from its peculiar properties of length, strength, and lustre and brightness. It is not requisite that the fibre should be very long—indeed, it need not exceed some six inches in length—to come under the designation of 'lustre wool;' but the longer and stronger it is, providing it be bright, and not coarse, the more valuable it is. At Battersea Show, my father and myself exhibited a hogget fleece on the back of the sheep, the length of staple of which averaged about 17 inches; the age was about 16 months. I have a lock or staple of wool from a ewe hogget which is 24 inches, and another from a ewe, but of more than two years' growth, which is no less than 40 inches in length. You are aware that wool is classed by manufacturers in two general divisions. These are clothing wools and combing wools. The short wools for the most part belong to the clothing, and the long wools to the combing quality. The short wools are pre-eminent for their felting property—that is, the tendency of the fibres to adhere together, owing to the minute serrations (sometimes over 2000 in a lineal inch.) When the wool has been carded, spun, and woven into woollen cloth, and is then put under the strokes of the fulling mill, this process of felting takes place. But long wool, having fewer of the serrations upon its fibres, possesses the felting property in a minor degree, and it is called combing wool, because one of the first operations in manufacturing stuff and worsted goods from it is to pass the wool through heated iron combs, thus rendering the fibres smooth, and more like fibres of silk or cotton, without, however, losing in the natural lustre. One main use for which our lustre wool is sought after is in the manufacture of 'Alpacas,' 'Coburgs,' and various fabrics composed of mixtures of cotton and wool; the gloss given by the wool is so admired as to have become a rage and fashion in materials for both gentleman's paletots and ladies' dresses; and the weaver likes the wool because the microscopic saw-like teeth of the fibres take hold of the cotton in the process of weaving, and bind both together, making a sound and serviceable cloth.

The product in thread or cloth from a fleece of wool is something astonishing. At Norwich, many

years since, 39,200 yards, or 22½ miles of thread, were spun from a single pound of wool, and six years ago a Miss Ives, at Spalding, spun 168,000 yards, or about 95½ miles of woollen thread from a pound of wool, of a Lincoln case. But this seems nothing to the multiplication a fleece now undergoes at Bradford. From the manufacturer who generally buys my 'clip,' I obtained this bit of information. A 20 lb. Lincoln fleece, used as an admixture with cotton in the finest Alpaca fabrics, suffices for upwards of twelve 'pieces,' each piece of 42 yards in length, it might probably be extended to 16 pieces, or a total length of 672 yards, 3 feet in breadth. At 3s. a yard, the sum realized would be £100; and I suppose (though I am not much of a dressmaker) that the crinolines of seventy or eighty ladies are covered with products from a single fleece of wool. When we think of the hundreds of thousands of sheep clipped every season, it is a mystery where all the dresses can go to! I believe that in the production of this valuable lustrous wool, Lincoln sheep have the pre-eminence both in weight and quality. Next in point of merit come the fleeces of the Cotswolds and Leicesters, and the Kent and Romney Marsh wool third.

The Horse.

THE common horse, justly considered as the noblest of quadrupeds, has long been bred in most parts of the earth, for various purposes of war, hunting, parade, the saddle, draught, etc. The mental and physical qualities of the horse, have few equals among the brutes. And among the various breeds there are none who exhibit as much intelligence, quickness of perception, accommodating himself most readily to the exigencies of the moment, avoiding difficulties, and extricating himself from them when encountered, as the thorough-bred. The ability to be vicious or otherwise, may be classed among the moral qualities of a horse, so also honesty, treachery, docility, etc. And whether any, or all of these qualities are developed, depends mostly upon his training, and the men with whom he associates. Physically, in his nature, for every purpose, and in every respect, he is universally recognized as the best of this greatly varying species. In form he excels, as in firmness, and fineness of texture in bone, more tense and elastic in muscle, his frame, and construction in general, more compact. A thorough-bred is descended through a direct line of the English races, from the Arabian, the Barb, and Persian. The English race horse is unrivalled throughout the world for symmetry of form, swiftness of progression, and durability under exertion. Having these qualities, there are others we prize in a carriage horse, or a horse of all work. He is lacking in strength which massive weight gives, and the practical business look desired in a roadster, no less than that we value in a horse for the plough or dray. By blending the blood of the thorough bred with other breeds we obtain an elegance of style and strength—a certain pride of action and beauty of fitness for certain kinds of labour. In breeding it is a general law that the offspring inherit as much or more of the qualities of the sire than of the dam, therefore to develop and refine the good qualities of the dam in the offspring, the more blood the sire has the better. The desirable qualities of a breeding mare are, beauty of form, gentle disposition, and size, together with capacity of barrel and pelvis, also freedom from all sorts of blemishes and defects. Were more attention paid to the selection of sire and dam we should see a more commensurate improvement in our horses, and to affect this result our agricultural societies ought to encourage the use of thorough-bred stallions.—*Rural American.*

Points in Cattle.

THAT eminent agriculturist, Mr. Geo. Hope of Fentobarns, recently read a most able and interesting paper on "Stock Feeding" before the Scottish Farmers' Club. Respecting the "points" of cattle, Mr. Hope is reported to have said:—

"A perfect breeding or feeding animal should have a fine expression of countenance—I could point it out, but it is difficult to put upon paper. It should be mild, serene, and expressive; should be fine in the bone, with clean muzzle, a tail like a rat's, and not ewe-necked; short on the legs. He should have a small well-put-on head, prominent eye, a skin not too thick nor too thin; he should be covered with fine silky hair—to the touch like a lady's glove; he should have a good belly to hold his meat; he should be straight-backed, well ribbed-up, and well ribbed home; his hook bones should not be too wide apart. A wide hooked animal, especially a cow after calving, always has a vacancy between the hook and the tail, and a want of the most valuable part of the carcass. I detest to see hooks too wide apart; they

should correspond with the other proportions of the body. A level line should run from the hook to the tail. Ho should be well set in at the tail, free of patchiness there and all over, with deep thighs, that the butcher may get his second round and prominent brisket deep in the forerib. His outline ought to be such that, if a tape is stretched from the fore-shoulder to the thigh, and from the shoulder along the back to the extremity there, the line should lie close, with no vacancies; and without a void, the line should fill from the hook to the tail. From the shoulder-blade to the head should be well filled up, as we say, good in the neck vein. Thick legs, thick tails, and deep necks, with thick skin and bristly hair, always point to sluggish feeders. In cold weather in the month of May, the old silky coat of the strawyard bullock is of great advantage. If we could get the qualities and proportions I have specified in animals, it would not be difficult to make them fat. It would be difficult only to make them lean when once in condition. A high-standing, want of ribbing up and ribbing home, with the tucked-up flank, always denote a worthless feeder. You must all have observed how difficult it is to bring such cattle into a state for killing. It will take a deal of cake and corn to make them ripe. A great many can never be made more than fresh: it is only a waste of time and money to keep them on."

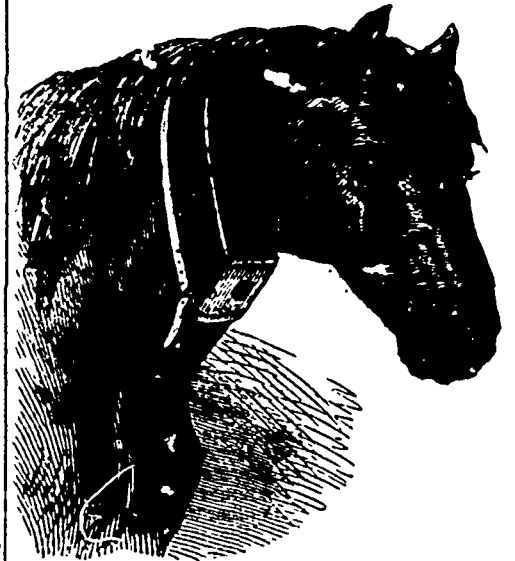
HIGH BRED STOCK—BREEDING.—We find the following suggestive remarks in a recent issue of *Bell's Messenger*.—A correspondent, complaining of the frequent trouble which owners of high bred stock experience in getting their cows to breed, asks—How is it that this difficulty seldom occurs in ordinary dairy cows, or in those with two or three crosses of pure blood? In assuming that ordinary dairy stock, or stock consisting of cows with two or three crosses of pure blood, may be more safely trusted for regularity of breeding than high bred stock, does our correspondent, in the expression *high bred stock*, exclude or suppose the idea of in-and-in admixtures of blood? If he supposes it, the question arises whether such admixtures are favourable or hostile to fertility, and if the answer be that they are hostile, a reason is at once found for the superior fruitfulness of common or comparatively common stock—assuming, of course, their freedom from the fault charged against the others. But if the idea of in-and-in breeding is excluded, that is, if by high bred stock he simply means stock bred from the union of families carefully cultivated, though not cultivated with reference to intermingled affinities, it may properly be a subject of inquiry whether the position which he assumes can be supported by facts. Is it a matter of fact that common cows, or common cows emerging from commonness into *gentility*, are more disposed to regularity in producing offspring than cows of established respectability of lineage? There is another point, too, which would require to be considered, and very carefully considered, in estimating the several conditions involved. At this point we have indirectly hinted. On the assumption that excessive interminglings of affinities are adverse to prolificness, it is possible that a cow with only two or three crosses of pure and high blood (those crosses being derived from sources remarkable for infertility) may inherit a propensity to non-fecundity as surely as a cow whose pedigree, similarly characterized, reaches to remoter eras. So that it would depend, not so much upon the length of time during which the family of an animal had been cultivated, not, in other words, so much upon the number of her crosses, as upon the specific kind of elements cultivated. Though these observations establish no conclusion, nor are intended to establish any, they may perhaps be worth thinking about, and our correspondent will be pleased to accept them as a reply to his communication."

Veterinary Department.

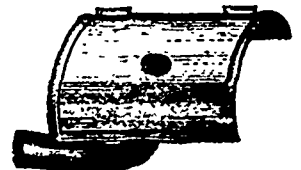
The Operation of Tracheotomy.

TRACHEOTOMY is the term used to describe an operation, of which the object is to admit air into the lungs. It consists in making an artificial opening into the windpipe (trachea) and is one which is often required in veterinary practice. It is, perhaps, the most humane recourse of veterinary surgery, giving instantaneous relief, and thereby allowing an animal to inhale a sufficient supply of diluted oxygen to maintain life. Strangles, influenza, and other diseased conditions of the head of the windpipe (larynx) or enlargements or tumours in that region, by their presence, diminish the calibre of the larynx to such an extent that the quantity of air essential

for the maintenance of life cannot be taken in. In such a case, the only chance of saving the animal is by making an artificial opening into the windpipe (tracheotomy as it is technically called.)



To the practitioner who is conversant with the anatomy of the parts to be cut through, the operation although looking formidable to the casual observer, is easily performed. The part usually chosen for the operation is about the upper third of the windpipe, but some eminent practitioners prefer the opening lower down. An incision should be made through the skin, about two inches in length, exposing the muscles of the inferior part of the neck; then with the finger or scalpel separate two long thin muscles which are merely united by thin cellular tissue, and the windpipe is exposed, which is known by its white appearance and hard to the touch, as it is composed of a series of incomplete cartilaginous rings—in the most of cases, a longitudinal incision will suffice. In other cases, however, it is necessary to excise a circular piece from the cartilages and in so doing, it is advisable to remove the lower half of one ring, and the upper half of the one immediately below it. Care must be taken that the excised part is not drawn into the windpipe by the spasmodic breathing, as such an occurrence would speedily produce death. A tube should be afterwards inserted and secured around the neck by means of a tape or strap. The tube shown in the accompanying illustration



is the one generally used by veterinarians, but it does not always happen that the practitioner has it at his command. The large cut shows the position in which the instrument is inserted in the neck of the animal. If no tube can be had, an opening may be made by excising a piece of cartilage as already described, and a piece of twine or wire passed through the skin on each side of the opening and brought over the neck. By this means the air is allowed to pass in, and temporary relief is afforded.—Generally, the operation is only resorted to with the view of affording temporary relief. In cases of roaring in horses, where from the great wasting of the muscles of the larynx, the animal is perfectly useless, an artificial opening into the windpipe may render him serviceable for years.

The above illustration is taken from a case of enlargement of the parotid glands, occurring in a two year old colt, at present under treatment at the Veterinary Infirmary situated in Temperance street, Toronto. Up to the present time the animal is progressing favourably

Canadian Natural History.

The Raven.

(Corvus carnivorus, Bartram.)

This is the largest and most powerful species of the *corvidæ* or crow family. It has every member fully and strongly developed, and when in full plumage, is a beautiful and almost noble-looking bird. There is, however, a suspicious wariness about the expression



of the Raven, that produces an unfavourable idea, and is in marked contrast to the frank and open daring, seen in the carriage of many raptorial birds. This opinion would seem to have been handed down from antiquity; for long before natural history was reduced to a science; "the evil-boding crow"—"infausta cornix"—found a place in many savage superstitions, or served as the emblem of bad fortune in the tales of the historian, or in the imagery of the poet.

The European Raven (*corvus corax*) bears a close resemblance to the bird we are describing, and by some authorities, the two have been regarded as identical. Audubon looks upon them as the same, while some modern writers consider them distinct. Without presuming to decide so nice a question, we may just remark that the European and American species resemble each other so closely in every particular of size, shape, and disposition, that, not improbably, modern writers on ornithology have drawn a distinction where a difference did not really exist.

The Raven prefers a mountainous range of country, though at the same time, when in pursuit of food, it frequents cultivated districts, and even the vicinity of towns. Generally, it is seen alone or in pairs, but after the breeding season, it may occasionally be observed in small flocks. "The flight is rapid, elevated, and protracted, often soaring for hours at a time, at a great height. On the ground, the gait is grave and dignified, with frequent opening of the wings." Its favourite breeding haunts are precipitous rocks, either on the sea-coast or inland. The nest is formed of an immense mass of sticks, warmly and compactly lined inside with hair or wool, and securely placed on some projecting shelf or ledge; or if, on the face of the cliff, some aged and time-worn tree still remain, and can afford a sufficient resting-place for the heavy fabric, it is sometimes selected. In general, however,

the rock itself is preferred. The Raven is omnivorous but by preference, carnivorous, delighting in the flesh of small animals of every kind, as well as eggs, young birds, carrion, dead fish, mollusks, crustaceans, and insects. Dr. Richardson speaking of its habits in the fur countries says, "The experienced native, when he sees from afar a flock of Ravens wheeling in small circles, knows that a party of his countrymen, well provided with venison, are encamped on the spot, or that a band of wolves are preying on the carcass of some of the larger quadrupeds, and pushes on

briskly, in the certain prospect of having his wants supplied.

When reared from the nest, the Raven becomes extremely familiar, and in a stable or court-yard is of some service in destroying rats. Its instinct, however, does not teach it selection, and accordingly young puppies, or early poultry, are not respected more than vermin. There is little difference between the sexes except in size, the male being slightly larger and having the lanceolate feathers in the head and neck longer, and more marked, in the light of plumage, during the breeding season its clear and dark glossy plumage, with brilliant steel-blue or purple reflections, render it a beautiful object to the naturalist.

The thieving propensities and cunning of the Raven are proverbial; and many authors have related anecdotes of its wonderful intellectual powers. Captain McClure, the well-known Arctic voyager, relates the following. "Two ravens," he says, "once established themselves as friends of the family in Mercer Bay, living mainly by what little scraps the men might have thrown away after meal times. The ship's dog, however, looked upon them as his especial perquisites and exhibited considerable energy in maintaining his rights against the Ravens; who, nevertheless, outwitted him in a way which amused every one. Observing that he appeared quite willing to make a mouthful of their own sable persons, they used to throw themselves intentionally in his way just as the mess-tins were being cleared out on the dust heap outside the ship. The dog would immediately run at them, and they would just fly a few yards; the dog then made another run, and again they would appear to escape him but by an inch, and so on, until they had tempted and provoked him to the shore a considerable distance off. Then the Ravens would make a direct flight for the ship, and had generally done good

execution before the mortified-looking dog detected the impost on that had been practised upon him, and rushed back again."

The Raven is celebrated for its longevity, some instances being on record where the bird has attained the age of one hundred years.

Wild Sheep of Thibet.

Leaving Jadung, we struck off in a northerly direction, still following the course of the small river along whose sides we had ascended into Thibet, and arrived at its source—a dark, copperish-looking pool of about forty square yards in extent, situated in a complete 'cal de sec' of hills. The water in the pool was intensely cold, and seemed of great depth. Along its edges were numerous petrifications, consisting of the skulls and horns of burrel and "Ovis ammon," some of them most perfect in form and shape. The Ovis ammon is a gigantic species of wild sheep, peculiar to Thibet, but not numerous. They are seldom met with lower than fifteen thousand feet, their usual habitat being at a much higher elevation. We were not fortunate enough whilst hunting in this direction to procure a specimen of these extraordinary animals and only saw a few at an immense distance on an open plain, where there was not the least possible chance of being able to get near them, but we fell in with others on another occasion. The native name for them is "nean." In height they are between fourteen and fifteen hands the female being thirteen hands high. They are, of all wild animals, the most shy and keen of sight, and possess great powers of smell. The pursuit of them is attended with more difficulty than that of any other game. On being disturbed they go off at a tremendous speed, gradually subsiding into a walk, but not stopping for miles until quite out of sight. They are supposed to be identical with the Siberian "argall" and the "bighorn" or Rocky Mountain sheep in California. In colour they are of a reddish grey, with patches of white about the neck and breast. Their coats are short, thickly set, and brittle like the burrel; legs long and slender, with large knee-joints. Their horns are of great size, and curved like a ram's; when full grown they average 15in. to 24in. in circumference at the base, and from 44in. to 54in. round the curve. Those of the female are considerably less in size being only 10in. or 12in. in circumference, and from 15in. to 24in. in length. The bunchour or wild yak, the kiang or wild horse, were not to be found in the quarter we were hunting in at this time; but when we were proceeding in a north-easterly course, endeavouring to cross over a pass that had never been attempted by Europeans, before we passed through the district in which they are met with.

The "Ovis polii," another variety of the wild sheep species, supposed to be even larger than the Ovis ammon, is said to exist in the extreme northern parts of Thibet, and is also found in Bokbara, on the elevated plain of Pamir, eastward of Bokbara, where it is called by the natives "Rasse."—ROBIN, in *The Field*.

Peculiar Fish.

"We have," says Sir Charles Bell, a curious instance of the precision of the eye and of the adaption of muscular action, in the beaked chetodon, a fish which inhabits the Indian rivers, and lives on the smaller aquatic flies. When it observes one alighted upon a twig, or flying over (for it can shoot them on the wing), it darts a drop of water with so steady an aim as to bring the fly down into the water, when it falls an easy prey. It will hit a fly at the distance of from three to six feet. Another fish of the same order, the *zeus*, has the power of forming its mouth into a tube, and squirting at flies, so as to encumber their wings, and bring them to the surface of the water. In these instances, a difficult y will readily occur to the reader. How does the fish judge of position, since the rays of light are refracted at the surface of the water? Does instinct enable it to do this, or is it by experience?"

Now, Sir Charles Bell was one of the closest observers and the most trustworthy writers of his time, so that his authority is unquestionable.

The Dairy.

Davis Garret's Dairy Farm.

We paid a visit recently to the above farm in Delaware county, about eight miles from Philadelphia. It is located in the great dairy section, which has given the reputation to Philadelphia butter, abounding in fine pasturage, pure springs of cool water, and a rolling country proverbial for healthiness to man and beast. This was, till recently, a butter farm, but for special reasons, it is now a milk instead of a butter dairy; but the management of the cows and pastures is substantially the same, the object being, in each case, to support without injury to the land the greatest number of cows, and to obtain from them the greatest yield of milk continued for the longest practicable period of the year.

There are some features in Davis Garret's system, which we thought worthy of record. In order to secure the largest quantity of green, succulent food, for the longest period, he depends on orchard grass, rye sown in the fall for early spring cutting, and sown corn fodder. Without these three requisites he thinks he cannot profitably carry on the dairy business for either milk or butter. His practice for several years confirms what we have before urged in this paper, of the value of orchard grass on a dairy farm, its growing through the season, coming forward very early in the spring, and by its quantity of fibrous root, rather improving than exhausting the land, when fed or cut before it gets old, making excellent pasture and hay. D. G. expressed his opinion, while his cows on one occasion, had greatly lost condition when fed on pure timothy hay, or as he expressed to us, would have starved to death, if he had not given them something else. They always thrive and do well on orchard grass hay cut young. He sows 2 bushels to the acre, while walking before the wheat drill in the fall and sowing it broadcast. This larger quantity of seed to the acre than usual, he considers important to prevent its growing into tussocks or bunches. We have never observed finer fall pasture than his orchard grass fields presented. The usual amount of timothy and clover is also sown with the orchard grass, but is latter takes entire possession after the second season.

On the farm of 100 acres, about 3 acres each of rye and corn fodder are sown annually. The cutting of rye, which is hauled in a hay bed to the barn daily, commences about the middle of April, some three to four weeks before time to turn out to pasture, and continues till the middle or last of May. The cows greatly relish it, and a large increase of milk immediately results. There are also two other advantages. Every farmer knows that the sudden change, after a long winter on dry food to fresh pasture, (*ad libitum*), often proves a drawback to stock for two or three weeks, till they become used to it. By giving green food in the stable, the feeding is more under control, and no diarrhoea, or other bad consequences follow. The change is more moderate and gradual, and by the time they are turned out the system is accustomed to the food. 2nd. The pasture fields, instead of being entirely bare, as is often seen in the first few weeks of spring, get a good start, which seems to be retained through the season, the grass becomes firmer and probably more nutritious. Two full cuttings of the rye are obtained.

The use of sown fodder commences generally immediately after oat harvest. It is taken out to the pasture field on a wagon or hay bed, and spread about. It makes an agreeable change of food for the cows, is eaten with avidity, and tells its tale in the increase of milk at that season. They are supplied with it daily till frost, when the balance of fodder is cured and deposited in the barn for winter to be cut and fed with grains or ship-stuff, &c. The ground sown with fodder is ploughed up in time to seed with rye and orchard grass. The usual amount of stock on Davis Garret's farm is thirty cows, seven horses, and a flock of sheep. This is in addition to the fields occupied in the usual rotation of corn, oats, wheat, and potatoes. Without the six acres used as above described, he thinks only half this stock could be profitably kept. It should be mentioned that the home place contains only 10 of the 100 acres, the balance being a mile off, in poor condition, and is used to keep his dry cows on. His crop of corn last season was 400 bushels from 1 1/2 than six acres. One thing mentioned in the management of the cows was new to us—that after the first frost they were invariably stabled at night. D. G. had found that frosty grass eaten by the cows night and morning tended to dry up and decrease the milk. At this season, say the last of September, their food is always given to them in the stables, and they are only allowed the range of the pastures in the middle of the day. By this plan, instead of his cows going dry for three or four months,

to the great loss of profit, he manages to keep them in milk, without exception, till nearly the time of calving. An uninterrupted supply of milk is the essential thing in a milk dairy, and D. Garret, watching closely any increase or diminution, and the cause of it, considers it more profitable to keep a good lot of cows, when once obtained, well up to their milk, than to have them go dry some three or four months, or as is the practice with some, sell to the butcher and buy fresh cows at high prices to keep up a certain supply. At this season about a peck of brewer's grains are given to each cow night and morning, which is increased to double the quantity on the approach of cold weather and through the winter. This is occasionally changed or mixed with bran, middlings or ship-stuff, the whole incorporated with cut hay or corn fodder, and moistened in large open boxes in the entries between the stables. In the cow stables we observed directly behind each cow as she stands in the stall, an open trough, eight or ten inches wide and the same deep, sunk in the ground, and calculated to receive all the droppings. This deposit is hoveled out daily or conducted into the barn-yard; an arrangement which greatly promotes cleanliness of the cow and the stall.

It was also remarked to us by D. G., that the slight protection given to his pasture fields by the refuse sown fodder uncut, which he allows to lay all winter, was always found to be a very great benefit to the early vigorous growth of pasture the following spring.—*Morris' Rural Advertiser*

Dairying in Cornwall, England.

As our readers are aware, Mr. X. A. Willard, the agricultural Editor of the *Utica Weekly Herald*, is at present in England for the purpose of reporting to the New York Dairy-men's Association the methods adopted in the "old country" for the manufacture of cheese and butter. We make the following extract from his last communication, which appears in the *Herald* of the 26th ult.

"Cornwall is extensively engaged in grazing, and there are many butter dairies. These produce large quantities of clotted cream for the market towns about, and both butter and cream are also sent to London. I was particularly interested in knowing how they were made, and we got up to the dairy house in time to see in part the operation. The dairy house is of stone, in connection with the dwelling—stone floor and stone benches for the milk to set, and all well ventilated and scrupulously neat and clean. The milk, at this season of the year, is strained in large deep pans, and put in the dairy house, where it stands from eight to ten hours, when the pans are taken out, and the milk scalded by placing the pan in an iron skillet filled with water and placed upon the range. At the bottom of the skillet there is a grate on which the pan of milk rests, so as to keep it from the bottom and from burning. The milk is here slowly heated, until the cream begins to show a distinctly marked circle around the outer edges, when it must be immediately removed. Some experience is necessary in applying the heat to have it just right, otherwise the cream is spoiled. When properly scalded, the milk is removed to the dairy, where it stands from twelve to twenty-four hours, according to the condition of the weather, when the cream is removed, and is in a thick, compact mass, very much unlike our ordinary cream. It is considered a great delicacy, and is largely used as a dressing with sugar upon pastry, pudding, and especially on gooseberry pie. As it is made an extensive article of commerce at the towns and villages, and is really a delicious article of food, I have been particular in describing its production.

BUTTER MAKING.

There are no cheese dairies in Cornwall, but a superior article of butter is produced. The butter is all made from the clotted cream, by placing it in a small shallow, wooden tub, and stirring with the hand or paddle until butter is formed. At the time of our visit, a quantity of cream, sufficient to make twenty pounds of butter, was placed in the tub, and butter was formed by stirring in about thirty minutes. There remained scarcely two quarts of buttermilk from the mass. The butter is then washed in soft water and placed upon a little circular board held with the left hand and beaten until the buttermilk is all taken out when it is salted, and set away for a few hours, beaten over again and put up in moulds or down in pots. There were a number of earthen crocks holding from eighteen to twenty pounds, which were being filled for parties in London. Whatever may be said of the manner of making butter, it was of excellent quality, and I learned from parties using it in the towns, that it kept for a long period.

Poultry Yard.

About Eggs and other Things.

As I have never had a maid who could poach eggs to please my household, I think some mistress may be pleased to know my plan. For every egg intended to be poached, have ready half a slice of beautifully crisp toast; butter the toast, and have it laid on a dish near the fire. Meanwhile, the water boils, and into it is popped a teaspoonful of salt; break the shell firmly on the edge of the stew-pan, and quickly drop the contents into the boiling water. Three minutes will suffice to cook, and then carefully lift out each egg and place on the lovely buttered toast. Lastly,

Add pepper to taste,
And eat with haste.

Of course, eggs are like ladies, often by their insensible influence finding their way into almost everything. But I am anxious to elevate them (the eggs!) into a more extended sphere of usefulness, and by the aid of my Roman recipes, I anticipate finding both food for my household and *The Farmer*.

Jismal is the prospect to the beef and mutton eater, if the anticipations of future scarcity are to be relied on! but to the dweller in rural manse or farmhouse, even where the dreadful *Rinderpest* has been, there are so many other creature comforts to be had at a trifling expense and no trouble, that only hope predominates when contemplating the future.

An English lady paying us a visit some years ago, was shocked when a reverend guest one day told her "that he and his large household lived entirely on themselves." My lady friend's very pious ejaculations instantly startled the minister into his rather confused explanation—"Oh, I beg your pardon, madam, but in Scotland we have a habit of saying 'we live upon ourselves' when we eat our home-fed pigs, poultry, rabbits, cows, calves, horses, &c. &c.; and as we do all this, to me the phrase has lost its absurdity."

Many of the ploughmen and their wives use expressions that made me long ago stand as much aghast as did my English friend; and I have often heard even educated people say "they had for years enjoyed very bad health," when it was evident they looked upon it as a great calamity.

About the first years of the birth of "Good Words," all the readers of this editor's charming "Reminiscences of a Highland Parish" must have been grateful to him for providing them with such a monthly treat. I was greatly amused by the introduction of a most tempting recipe, given, of course, with the well-known gusto of Dr. McLeod. I must tell it as I remember it, as I find my early numbers of "Good Words" have all been given away. "How to Cook a Stoved Hen.—Place the fowl, with plenty of butter, in a pot with a close-fitting lid. After stewing slowly for some time, cover the fowl completely with potatoes, skinned and cut in halves." I could never attempt to give a true description of the editor's appreciation of a stoved hen after partaking of it, but I can assure my readers that, even without the delicious Highland air to whet the appetite, the dish is worthy of commendation. Thrifty housewives, whose name I hope is legion, may thank me for telling them that an old cock makes a delicious "stoved hen." Merely vary the time of cooking according to the age and sex of the fowl. This can easily be managed by carefully following the directions given by the minister of the Barony, Glasgow. He has the good sense I doubt not, of all really great men, and I am confident that the Rev. Dr. Norman will only be pleased to know he has been useful in ways he never anticipated.—*A Country Minister's Wife in the Farmer* (Scottish.)

Poultry Yard.

WHERE only one pure breed of fowl is kept, mixed with other varieties of pullets for laying, it is an easy matter to form a suitable habitation for them. At a very small cost, a sufficiently good and in every respect fitting poultry-house can be erected. By those whom Providence has favoured with wealth, there need be no restriction to the extent and even elegance of the building; but the very best breeds and the same number of fowls can be reared as successfully by a person of moderate means in a much more humble structure. A wooden shed, if perfectly waterproof, is more advantageous to the health of poultry than a stone and lime house; it is less close, and affords a freer circulation of air. This, and scrupulous cleanliness, are essential to the well-being of all stock. The fowls having perfect liberty, only require a sleeping habitation, and access to it for laying. By all means have a door with lock and key, and a trap for the egress and ingress of the fowls. The trap

should have a sliding panel, which, in winter, can be shut from sunset to sunrise. The only inside fittings required are a few nests raised off the ground, and a moveable perch, not more than three feet high. This is best made of split trees, the bark left on to give the fowls a firm hold. The setting up of a poultry establishment is thus not a serious expense or troublesome matter; but in addition to the general living abode there should be a *sitting-house*, devoted entirely to the setting hens. Here they will be secure from intrusion, and the greatly increased return from the clutches set will soon pay the small outlay expended on the house. The saving of time to the poultry manager is also a consideration. The hens are taken off their nests simultaneously, well fed, allowed access to sand or ashes, and in twenty minutes all should be replaced on their eggs, to sit in peace till the return of another day calls for a similar routine of action. The sitting-house may be fitted up with rows of nests, with folding flaps in front, to confine a careless giddy hen if she shows any inclinations to wander, and on the flap may be marked the date of setting at the same moment. The rearing of poultry is a very pleasant recreation; we know that our gracious sovereign, Queen Victoria, stands first on the now long and fashionable list of poultry fanciers, and in humbler quarters we find the love of animals deeply implanted in the minds of children. To them the care of the *hen-house* forms a useful and instructive lesson—it teaches them regularity, tidiness, and perseverance, and while affording a harmless amusement as well, it may be made a self-supporting if not profitable one. It is essentially a health-giving pleasure, and whatever tends to increase our interest in and love of home must be worth cultivating. — *The Henwife in The Farmer* (Scottish.)

On Preserving Eggs.

At a late meeting of the Farmers' Institute in New York, a note was received from Mr. W. M. Brown, of Indiana, inquiring whether there is any way to pack eggs so as to keep them good for spring until the winter months? Upon this question the following discussion took place. The name of the first speaker is not given:

There are various modes of keeping eggs, none of which are quite successful. Sometimes eggs packed in water saturated with lime keep perfectly well, and sometimes they don't. Some persons say they can keep them in water saturated with salt, others keep them packed in fine dry salt; others in charcoal dust. If packed in sand and kept in a very cool cellar, they will remain through the year. They should always be packed small end up. The best way to preserve eggs is to store them in one of Mr. Nyce's Preservatories.

Prof. Smith, Columbia College, said that the common way of preserving eggs in the North of Europe, and which appeared to be more effectual than any other mode he had ever seen was this: The eggs are placed in a barrel, keg, earthen jar, or any other suitable vessel, and then melted tallow, only just warm enough to flow, is poured in, filling the interstices, and thus hermetically sealing the eggs from the air, which appears to be all that is necessary for their perfect preservation. When wanted for use, they are easily obtained by warming the open end of the vessel to soften the tallow.

Solon Robinson.—I think lard or oil would answer the purpose; it would be more convenient. I have heard molasses recommended, and do not see why it would not answer perfectly.

Mr. Carpenter said he had found no difficulty in preserving eggs in fine dry salt. He packs them endwise, and about once a month reverses the ends of the casks, or rather box, with straight sides, so that a board and cloth or paper fits down and holds the contents in place when reversed.

Prof. Tillman gave it as his opinion that anything which would exclude air would preserve eggs. Recent experiments in France have developed the fact, that varnishing the shell destroys the value of the egg for incubation.

Mr. E. Williams said he had seen eggs perfectly preserved by packing in meal.

THE BRAHMA FOWLS.—Mr John S. Ives, Salem, Mass., writes us thus respecting the above named breed of fowls: "I have kept upwards of 30 different breeds of domestic fowls, but find the Brahma to excel all others as winter layers and for the market. I winter about 60 pure Brahma fowls, keep them but one year 'or one winter' that is, my chickens are hatched in April and kept from laying until November; they are then forced by high feeding, which is continued until the next August or the moulting season. They are then killed for the mar-

ket. The Brahma is the most domestic of all breeds of fowls, they will not fly over a fence four feet high. For the market their flesh is tender, juicy, and fine flavored. I have procured from the same number of fowls one-third more eggs from the Brahmas, during the winter months than from any breed I ever kept. In this vicinity most farmers are keeping no other breed of fowls, as they have proved them to be far superior to any other." — *Rural N. Yorker.*

Entomology.



The May Beetle.

A FRIEND in Cobourg has recently mentioned to us that his strawberries have been very much injured by a large white grub which attacks the roots and thus destroys at once the vitality of the plants. From his description of the marauder, we have no doubt that it is the larva of the common May-beetle, or Cockchafer (*Lachnosterna quercina*, Knoch) which is so abundant just now. In the western part of Cobourg, and, indeed, almost all over the neighbourhood, these beetles may be seen on any fine evening in perfect myriads flying about the trees, the leaves of which they devour in this stage of their existence.

This insect has been long and most unfavourably known as very destructive to vegetation, both in its larval and winged state. In the former, it is commonly called the "White Grub;" it is then a soft white worm with a brownish head, and six legs, becoming when fully grown about as large as one's little finger. It is usually found, partially curled up, near the root of the plant on which it is feeding. Unlike many of our destructive insects, the devastations of each individual are not confined to a single year, but it continues several years in the grub state and finally changes early in the spring into a dark chestnut-brown beetle, nearly an inch long, with rather long legs, and its breast covered with yellowish hairs. It flies about at night with a loud buzzing noise, and in a most clumsy manner, as if it had very little control over its movements, to the great discomfort and perturbation of nervous persons, especially when attracted into houses, as it often is, by the light. Its period of flight is usually limited to the months of May and June, though it is sometimes met with a little later in the season. The grubs are very commonly dug up early in the spring in gardens, in various stages of maturity; the plough, too, brings many more to the light of day—it is hardly necessary, we suppose, to tell our readers that in such cases they should be destroyed at once and without mercy by treading under foot. The perfect insects may be collected and put an end to, by shaking them from the trees they infest into a cloth spread beneath for their reception, and then throwing them into boiling water; the specimens thus choked will be readily eaten by pigs, which in fact root up and devour multitudes of the grubs without waiting for any previous culinary operations. The best time to shake them from the trees is early in the morning, when they become sluggish and stationary, their flight being confined to the hours of darkness.

This insect is so well known to all children as well as grown persons that it is needless to give any further description of it. We shall merely recommend that it be relentlessly destroyed wherever met with. Its ravages have been recorded by many writers, and at considerable length; those who desire fuller information than we have space for, we would refer to Harris' *Treatise on Injurious Insects*, page 30, Fitch's *Third Report on the Noxious Insects of New York*, page 60, and Mr. Walsh's article in the *Practical Entomologist* for April last, p. 60. The last mentioned writer relates that it has proved exceedingly destructive, during the last few years, to the crops of Indian corn in the States of Illinois, Michigan, and Missouri. He appears inclined to attribute their recent increase and consequent destructiveness to the introduction of improved breeds of hogs, in the place of the old,

slab-sided, long-nosed, prairie-rooters, and to the passage of laws compelling people to keep their hogs under fence instead of allowing them to run at large. This is very likely to be the case, but we should certainly prefer trying some other mode of keeping under the ravages of the beetle or its grubs, than the re-introduction of "prairie-rooter" pigs; we only wish that the other grievance, the law compelling hogs to be kept from running at large, were universally in existence in Canada.

Among the natural repressers of this insect, Dr. Fitch mentions the Skunk (two presume most persons would consider the employment of this remedy infinitely "worse than the disease"), the domestic cat, and common barn-door fowls. "But," he states, "of all the destroyers of these insects, no other animal can vie with the crow, which frequently follows the track of the plough to feed upon the grubs of the May beetle which are turned up thereby."

Caterpillars on the White Cedar.

We have been shown some twigs of white cedar from Mr. Leslie's, Toronto Nurseries, that are almost completely destroyed by a minute greenish caterpillar with a black head. Its mode of operation appears to be to begin at the extremity of a twig, and literally to eat its way downwards, consuming all the green pulpy matter of the leaves, and only sparing the hard scale-like skin on each side. The portions thus attacked become brown or whitish, and nearly transparent when held up to the light; this change of colour is valuable, inasmuch as it at once directs attention to the position and work of the depredator.

The name and character of the insect we cannot determine until we have followed it through its changes to its perfect form; but we are inclined to suspect that it will prove to belong to some minute family of Lepidoptera, probably the *Tortricidae* or the *Tineidae*, many of whose members mine the leaves of various trees and shrubs when in their larval state. If any of our readers have observed this insect, and can give us any information respecting its habits, &c., we shall be very glad to hear from them; it is quite new to us.

As we are not yet acquainted with the whole natural history of this little destroyer, we cannot suggest any remedy for its ravages, except cutting off and burning all the twigs that are infested by it. This, we do not doubt, will prove effectual, and certainly cannot inflict more injury upon the shrubs than the insects themselves are trying to accomplish.

The Apiary.

Management of the Apiary for July.

By J. H. THOMAS.

THE management for this month will not vary much from that of June, and especially this season which has been an uncommonly bad one for bees. From all quarters, reports are coming in that bees are doing poorly. In this section, stock that wintered through well have since been unable to obtain sufficient honey to keep them from starving, and in many cases have left their hive to seek supplies in some other hive, leaving their brood to perish. Other stocks have killed off their drones, which will, of course, retard swarming. The consequence is, there will be but few swarms in June. Up to the present time (June 23rd,) there have been no swarms cast in this section except from Italian stocks. Since, however, the white clover harvest has commenced, the weather has been favourable, and the condition of the bees is greatly improved; but at the best, swarming will be late. We speak of this and other sections from which we have heard. If honey boxes have not been put on, they should be at once. As soon as they are filled, and nearly capped, they should be removed. Where moveable comb hives are used, artificial swarming may be commenced at once where stocks are strong. We have already made some swarms. For directions how to make artificial swarms see "*Canadian Bee-Keepers' Guide*." As swarming will be late, it would be well to put second swarms together, and all third and fourth swarms together. Let it be remembered that success in Canada depends much upon keeping strong stocks. It is quite enough for the bee-keeper to double his stocks. Where moveable comb hives are used, and natural swarming is allowed, five or six days after a swarm is put into

a hive, the frames should be removed and examined, if there is any inclination to build crooked it may then be corrected, and there often will be in hives that are not properly constructed, i. e., not scientifically made. It may not be out of place to remark here that moveable comb hives are often brought into disrepute by parties purchasing from those persons who make hives to sell, and yet do not understand what a hive should be. Those who are entirely ignorant of the nature and habits of the bee are quite unfit to make moveable comb hives, which require to be very exact, and the measurements scientifically correct. Others, again, who obtain hives from us, and fancy that some alteration in the hive would be an improvement, carry it out, and fail of success, their fancied improvement actually making the hive worthless. The result is that moveable comb hives are condemned. We know of certain persons who, thinking the frames are too near together, have ordered their hives to be made with frames one inch apart, every hive of that description is worth no more than a common box. Our advice is to all, use moveable comb hives of some description, but be sure that you get those that are correctly made, and then in making keep the measurements exact, allowing those who understand the nature and habits of the bee to be the judges as to how a hive should be constructed. Commence a general warfare on millers and miller's grubs;—dishes of milk or sweetened water, set out at night, will destroy many of them. The bottom board of my hive may be dropped occasionally, and the grubs destroyed. Outside cards of comb, filled with honey, may be removed, and placed in a cool, dark box, and preserved for future use. They may be given to stocks that are found deficient in honey at the close of the honey harvest, or taken for table use when not required for feeding.

Italian Bees.



WORKER.

DRONE.

QUEEN.

We present herewith very accurate cuts of the Pure Italian or Gold Coloured Bees, now so much in request among apirians. Italian Queens vary in colour, being sometimes black or brown, but it is considered very desirable to get the light or gold-coloured stock, as in regard to these, colour is a guarantee of purity. The black or brown queens may be pure, but the gold or light-coloured ones are always pure.

The good qualities of Italian bees have been repeatedly mentioned in our columns, yet it may not be amiss briefly to refer to them again in connection with the above wood cuts. They are more hardy, more prolific, less apt to sting, and more industrious than the common kind. Beside these excellencies, the colonies swarm earlier, and more frequently. These points of superiority have been well-established, and are now regarded as settled characteristics of the Italian bee.

It is easy to Italianize a common stock, provided your bees are kept in a moveable comb-hive. Eight days before introducing an Italian queen, examine your stock and take away the queen. In four or five days cut out all royal cells, of which the bees will have commenced a number, on the eighth day examine again, and if any other queen cells are started, cut them out. Now take the Italian queen, put her in a glass tumbler with four or five of the bees which are always sent with her, tie a piece of wire-cloth over the tumbler, and turn the tumbler over on the top of the frames where the bees can get to her, put on the cover of the hive, and leave her for thirty-six hours. The bees will feed her through the wire cloth, and at the end of that time will receive her, and you may let her loose among them, putting a few drops of honey on her as she runs out of the tumbler. An impregnated Italian queen will never lay but pure Italian Eggs.

By reference to our advertising columns, it will be seen that Messrs. Thomas, of Brooklin, C. W., will shortly be prepared to fill orders for these bees.



Notes of a Tour through Peel, York, Simcoe, and Wellington.

To the Editor of THE CANADA FARMER:

Sir,—Having taken a run for a few days through a large part of Peel, and a little of York, Simcoe, and Wellington. I send you a few remarks, as the result of observations, that may be of interest to some of your numerous readers.

At Weston, I spent a few hours with Mr. Dennis, of Battonwood, and had my attention drawn to some swamp land, recently reclaimed by his son. The result, so far, has been very unsatisfactory, as no kinds of crop has come to full perfection. The land is low and flat, and but a few feet above the bed of the Humber. It has been drained, though, perhaps, not sufficiently deep, as the peat appears to be of considerable thickness, and approaches very nearly to what is designated in the Old Country, a bog. Land of this description cannot be made to produce profitably any of the ordinary farm crops, without, after thorough drainage, a liberal dressing of lime; and this should be done in the form of marl, the clay of which is necessary to give adhesiveness to the soil. Lime, applied in a caustic state, would be exceedingly beneficial in accelerating the decomposition of vegetable matter, and neutralizing injurious acids, which always, more or less, obtain in this description of land. Mr. Henry Dennis has erected a flax-mill on this property, worked by water power, and it will doubtless prove a valuable acquisition to the vicinity.

Flax culture is becoming established in some parts of this district, and promises to supply a valuable alternating crop in the routine of the farm. I heard several complaints of the dirty state of the flax seed imported by Government this season; the parties fearing that new kinds of weeds would thereby be introduced into the country. Undoubtedly, this seed requires to be re-cleaned, before sowing it and the lateness of its arrival rendered that operation somewhat difficult. It is not generally known here that Russian flax seed, when exported, is seldom, if ever, well cleaned;—and this is the case with wheat and other grain from that country; as I was assured, when last in England, by the most respectable seed merchants of Mark Lane. The flax in question, however, may be depended on as genuine *Itiga seed*, and, if the present season prove at all propitious, it will, with proper care, furnish the country next year with an abundance of seed flax of the most valuable description.

I spent an agreeable day or two with J P De la Haye, Esq., of Clairville, who owns a valuable and extensive property here, consisting of some five hundred acres. The soil of this township (Gore of Toronto) is uniformly good, the surface apparently very level, yet in most places, like the rich and adjoining township of Chinguacousy, with portions of Toronto and Albion, sufficiently undulating as readily to admit of good drainage—an object of paramount importance. Throughout this level district, the wheat has suffered severely, from want of a sufficient covering of snow, which came on late, after preceding severe frosts, and went off too early in spring, when probably the greater portion of mischief was done. Large breadths have been ploughed up and sown to spring grain. In travelling over any considerable area of country in the spring, it is interesting and suggestive to observe the more obvious physical conditions that affect the health and appearance of winter wheat. These conditions are a dry and well tilled soil, sheltered from the cold, sweeping winds from north and west, by leaving a sufficient amount of the native forest. Mr. De la Haye pointed out a small field of wheat thus protected, that had a luxuriant appearance, while all around, the greater part of the fields

that were more or less exposed, looked comparatively bare. This indiscriminate distribution of the forest, that is unhappily so common in many of our older districts, is gradually becoming an evil of serious magnitude, and if the practice continues much longer, the climate of this region will increase in severity, and the raising of the more valuable kinds of winter wheat, for which, only a few years ago, Upper Canada was so celebrated, will have to be, as is the case already in some localities, wholly abandoned. In not a few places, the study and application of the principles of forestry, that is the correct manner of planting and grouping trees for shelter, ornament, and economical uses, must engage the serious attention of the next generation of owners and occupiers of land. What will be lost in comfort, beauty, and utility, if these precautions should unhappily continue unheeded, and the wholesale destruction of the forest persevered in, it is impossible to say. The spirit of the beautiful song,

"Woodman spare that tree,"

is as applicable to the arts and results of industry, and the comforts of a people, as it is to poetry and the picturesque. By earnest and timely attention to these matters, no part of the north temperate zone would be in appearance more beautiful, and the variety and economic value of trees greater, than the present settled districts of British America.

In cases of winter wheat looking thin and weakly in the spring, I would suggest a simple treatment commonly practiced in the Old Country, under similar circumstances, with manifest advantage. It consists in giving the surface a shallow harrowing, as soon as the land is sufficiently dry to bear a horse, and immediately applying the roller by way of finishing. This operation pulverizes the hard surface, fills in the cracks, and opens up the pores of the surface soil to the important action of atmospheric air, so necessary at this juncture to impart increased vitality to the action of the young and feeble plant, by enabling it to obtain food more readily, both from the soil and air. Any old short tino harrow will answer the purpose; comparatively few plants will be absolutely torn up, if the work be performed with proper care, and the subsequent operation of rolling will impart the necessary consistency to the surface. The wheat plant is extremely tenacious of life, so that harrowing with judgment actually destroys but few plants, while it imparts an impetus to what remain, so as to enable them to grow freely, extend their roots, and thicken. I have spoken to several farmers in Canada who came from the old country, that have repeatedly tried this practice here, with, in all cases, more or less success.

I am indebted to the kindness of John Lynch, Esq., of Brampton, who for many years has efficiently discharged the duties of Secretary of the county of Peel Agricultural Society, besides obtaining medals and premiums for agricultural reports on that and other counties, for certainly one of the pleasantest rural rides the I ever had in Canada. We drove through the rich and well cultivated township of Chinguacousy, ascended the series of elevations that form the high lands of Caledon, with its limpid streams, picturesque little lakes, limestone rocks, and beautiful and extensive scenery. Ascending the tower of the newly erected stone mansion of Alexander McLaren, Esq., amidst lovely scenery of hill and dale, field and forest, with the Credit meandering in the distance, I could almost imagine that I was in some sequestered spot of the mountain ranges of England or Scotland. This view embraces almost a semi-circle, from the Scarborough heights east of Toronto, to the elevations of Ancaster in the west, with lake Ontario spread out in front, hidden in several places by the gigantic denizens of the forest. It is true that the extended table land of Upper Canada presents few of those charming views which characterize similar areas of the British Islands, or parts of the Old World continent; but it is to this physical characteristic that we have no large tracts destined to perpetual sterility, and that almost every acre of our extensive domain is capable of being rendered fertile.

All that is wanting to render this section of country attractive to tourists are, readier means of access, and a wider knowledge of the salubrity of its atmosphere, and the great diversity and beauty of its scenery. Its picturesque little lakes and crystal streams, running even through the severest droughts of summer, abound in trout, offering to the angler a reliable source of gratification. From its comparatively great elevation, and in many places broken surface, giving rise to the principal rivers of Western Canada, the naturalist, as well as the mere seeker after health and pleasure, will find much to interest and amuse in search of the three great departments of nature. Looking at this district simply in a utilitarian point of view, much of it is well adapted to the purpose of cultivation, and the rest to pasturage while water power is abundant as a means of manufacturing industry; and of both of these two great

sources of wealth, the people are earnestly availing themselves.

Orangeville, which, a very few years ago, was a wilderness, is now a smart little place, pleasantly and healthfully situated, doing an extensive business that is progressively improving. This place bids fair to prosper. Mr Jesse Ketchum, who owns considerable property here, has shown much zeal and good taste in laying out and improving the village. His example in planting trees for shade and ornament, it is hoped, will be appreciated, and followed as the place extends. Mr. Ketchum is reclaiming a large piece of swamp, near the village, through which a branch of the Credit sluggishly finds its way. The beautiful trees and shrubs on the drier portion he intends to leave, and has already opened up a road for a considerable distance, which, when completed, will form an avenue of great beauty and attractiveness, connected, as it is, with a pretty little lake of clear water, of great depth, and abounding in fish. I observed here a practice worth noting. After the swamp had been cut and burnt, and some ditches made, timothy seed was sown among the stumps, and although not harrowed in, much of it vegetated. In this way pasture is afforded to cows, and all weeds, bushes, and second growth prevented, till the final extirpation of the stumps can be conveniently accomplished.

The projection of a railway through this district is occupying deep and deserved attention. Extending through to the counties of Huron and Bruce, it would intersect a tract of country which, for extent and fertility, is unsurpassed in Canada. I observed in several places in the more broken parts of Caledon, where limestone abounds, several excellent specimens of stone fences, that reminded one of some parts of Staffordshire and Derbyshire, and other places in England. These fences are strongly built, nearly six feet high, and appear to be unaffected by frost. The foundation is but slightly below the surface, and during the process of building, a stratum of thin board is introduced about two feet from the bottom, and another about the same distance from the top, which is said to prevent the frost and settlement of the wall throwing it out of the perpendicular. In situations where stone is abundant and wood scarce, this kind of fence is, no doubt, not only the most enduring, but, in the end, by far the most effective and economical.

Although during this trip there was no opportunity of holding public meetings, I had the pleasure of much personal intercourse with farmers and others that was of mutual advantage. I regret not being able to attend a meeting of the Farmers' Club, to discuss the question of root crops, which are largely and skillfully cultivated in most parts of the county. This Club, judging from its published reports, and from what I know of the zeal and intelligence of its chief promoters, is an honor to the farmers of Peel, and it is hoped so worthy an example will be followed by other counties, where this important means of improvement has not yet been adopted. I may add that I had the pleasure of being present at a public concert in the Agricultural Hall at Brampton, on the evening of Her Majesty's birth-day, got up by the directors of the Mechanics' Institution. The building was well filled, some six hundred people being present, and the style and spirit of the performance reflected great credit on the town and neighbourhood. It is pleasing to observe the permanent buildings and grounds which several of our county agricultural societies now possess, devoted to healthful recreations and amusements, social and physical; and the promotion of feelings of loyalty, and a sound enlightened patriotism. The new county buildings at Brampton, now fast drawing to completion, will be a great ornament to the town; which, from its favorable position and rich surrounding country, appears to have before it a long career of prosperity and improvement.

Yours, &c.,

GEO. BUCKLAND.

University College, June 12, 1866.

WHERE PORTLAND CEMENT CAN BE OBTAINED.—"W. & F. P. Currie & Co.," of Montreal, write as follows:—"On looking over your paper of 1st June, I find your correspondent, 'C. C.,' Nelson, wishes to know where Portland Cement can be got. We beg to say that we have always on hand a supply of Pure Portland Cement, and Pure Roman do."

"THE WAR OF BEE-HIVES."—J. H. Thomas writes as follows:—"I did not expect when I wrote my first article to engage in a war of hives, as I took up my pen in reply to certain enquiries submitted for my opinion. But Mr. Henry, thinking that a sword of rivalry was unsheathed for him or his hive, at once prepared himself for action. The result of the contest is before the public, and as no new point of im-

portance has been raised in Mr Henry's last communication I feel inclined to cheerfully comply with your wish by letting the controversy cease."

HORSE POWER CHURN.—"J. L. Barron," of St. Mary's, writes as under:—"In looking over the CANADA FARMER of May 15, I find that 'Robert Blair,' of Grand Bay, Saguenay, requires some information concerning a churn. In answer, I would say that I can manufacture an improved barrel churn capable of churning 100 lbs. of butter at one churning. It could be coupled on to a horse-power with no other machinery but a connecting rod, or it could be driven by a pulley. It gives entire satisfaction to all the farmers who have bought it."

WATERING CELERY.—"W. K.," of Barrie, writes as under:—"Permit me, through the columns of your excellent journal, to ask if Celery, planted out in trenches, should be watered every evening during the continuance of this great heat. As there is a difference of opinion on the subject, I shall be guided in the matter by your reply. Information on the same point respecting Melons and Cucumbers would also be much esteemed."

Ans.—It would be difficult to lay down any arbitrary rule on the subject, in the case of any of the productions named. They all delight in a rich, moist, mellow soil, but so far as watering is concerned, your practice should be guided by the condition of the soil as well as of the atmosphere. We shall be glad, however, to hear the opinion of practical horticulturists on the subject.

VETERINARY SCHOOL.—"J. B.," makes the following enquiry:—"Is there an institution in Canada where Veterinary Surgery is taught? If so, please give me the address of the same in THE FARMER."

Ans.—We had certainly believed, until we received "J. B.'s" communication, that every reader of this journal had heard of the "Upper Canada Veterinary School," established for over three years in this City. Our correspondent will find particulars of the Institution and its Professors at page 106, No. 7, of the current volume of THE CANADA FARMER, and any further information may be obtained by addressing "Toronto Veterinary School," Box 571, Toronto.

The Canada Farmer.

TORONTO, UPPER CANADA, JULY 2, 1866.

The Season.

We have to report a continuance of weather every way favourable to the labours and hopes of the farmer. Frequent, yet not too copious rains, accompanied by a warm growing temperature, have wrought like magic upon crops of all kinds. Even the grass which from the early cold and draught was considered by many to have been injured and retarded beyond recovery, bids fair to be a good, if not abundant crop. Spring-sown grain looks well. Fall wheat is thin and patchy in most of the old-settled parts of the country, owing to the hard winter, but in the newer sections we hear the best accounts of it. On the whole the prospect is bright for a bountiful harvest. So far as we can learn, there is a likelihood of a good fruit yield also. The risk of injury from frost is over, and with ordinarily good weather the rest of the season, there will, we believe, be a fair crop in most sections of the country. Happily, through the interposition of a merciful Providence, our frontier disturbances and alarms are over; so that the pursuits of peaceful industry can be followed again as usual. It is, indeed, a matter of surprise and thankfulness that the trouble has passed by, and the business of the country so little interfered with by it. Much expense and loss of time have been occasioned, but the exhibition of patriotism, the development of a military spirit, and other good results that have been secured, are worth much to us,—perhaps all they have cost.

The International Horticultural Exhibition.

This magnificent display was held in a monster tent in South Kensington, London, and was opened to the public on the 22nd day of May, closing on the last day of the same month. In every respect, the exhibition has been a great success. The first display was unparalleled; the weather was unexceptionally fine; and the attendance of visitors—headed by the Prince and Princess of Wales—was something quite enormous.

With our limited space, it is of course impossible even to give a mere skeleton outline of a show of such gigantic proportions. We rather prefer to gather up the lessons which the International Show is calculated to teach the British public and ourselves. And first and foremost, as the *Gardener's Chronicle* well says, one of the most important, from a horticultural point of view is this—"that one-day great flower-shows must now become thing of the past." The same journal then goes on to argue with great force as follows:—"It has long been evident that financially speaking a longer duration for our shows than that of a single day was essential to success; and it has also been abundantly evident that as far as picturesque effect is concerned, the advantage is all on the side of an extension of time, as this alone can make it worth while to augment the resources of the show with materials that will serve to compose a studied picture; but practically there has hitherto been this difficulty, that many exhibitors set their faces against the notion, presaging all sorts of damage as being certain to befall their plants. The experience of the past few days must, we should think—or we take the exhibitors to be reasonable men—have in great measure dispelled any such notions, for they must have now become thoroughly aware that any slight damage which may have been sustained—and a certain amount of damage is of course unavoidable in some instances, which we need not specify—is rather to be ascribed to the accidents incurred in the transit than to the detention of the plants for a few consecutive days, in a well-constructed exhibition tent."

It seems perfectly clear that at a well-chosen period of the summer, a week's, or even a fortnight's show would be as safe for the plants as a show of a single day. Impressed with this belief our cotemporary goes on to say,—“We venture to hope that not only the Societies to whom we must look to carry on the permanent exhibitions of this country, but the exhibitors themselves, and all parties concerned, will see that their own interests lie in the same direction as those of the public. Of the six or eight so-called 'great' metropolitan flower shows usually held during the summer the public is heartily tired, but if each Society on its own ground, or all the Societies acting in combination, instead of dividing their resources, would concentrate them on a single show really deserving the title of 'great,' and which should be continued over a few days, they would far better please the public, and we believe would also more fully replenish their own finances; for it is a fact well known to those who are experienced in the management of public displays, that the thousands, through whose payments financial success must always be looked for, hear nothing of a one-day's show till it is past, no amount of public announcement being sufficient to gain and fix the public attention at the right moment on attractions that are of so short a duration. For our own part, we do not see why those public bodies who have the convenience of space and plant, should not have a continuous show for several weeks at least in the height of the season; closing and replenishing it from time to time as required. In such a case, advertising might be made to do its work on a pleasure-seeking public.”

We commend the foregoing practical suggestions to the attention of our Provincial horticulturists and their patrons. In a limited degree, we believe the same principles might be reduced to successful practice so far as our Horticultural displays are concerned. Why should we not have a monster yearly exhibition of Flowers, Vegetables, Fruit, &c.—held distinct from the Provincial Fair—at Toronto, Hamilton, London, and Kingston alternately. We think the idea is worth considering.

Agricultural Report of 1865.

The report of the Minister of Agriculture for the calendar year ending 31st December last, has been laid before Parliament. It contains the report of that Minister himself, the report also of Mr. Chapais, in charge of the return of the Colonization Roads for Lower Canada; and a memorial from Mr. Tache, Deputy Minister of Agriculture on Statistics. The voluminous appendix is composed of the annual reports of the two Boards of Agriculture of Upper and Lower Canada, of the two Boards of Arts and Manufactures, of the Superintendent of Colonization Roads in Lower Canada, and of the different colonization agents of the Province; to which is added, as a new feature the blue book for the year 1864. In Mr. McGee's report, mention is made of an enquiry prosecuted at New York, to learn the system of management practiced at the Castle Garden emigration office, on which a large report is presented. In the appendix it is stated that very material changes are about to be made in the Patent and Agricultural Laws, but that it would be manifestly improper to make any changes without applying them to the whole country after Confederation is consummated. The report speaks of the importance of vine cultivation, and refers to the experiments already made by Mr. DeCourtenay at Cooksville, near Toronto, as demonstrating that good ordinary wine can be made from the native grapes of the country, under proper cultivation. He recommends aid to that undertaking. The Dublin Exhibition and the part taken by Canada there, is spoken of as a success, although of course very much inferior to the display at Paris, being in keeping with what is more of a local exhibition. Canada ranked eighth among all the nations represented in Dublin. A fair position certainly. The memorial of Mr. Tache to the Board of Registration and Statistics lays down a plan of statistics which has been adopted by the said Board and acted upon since its adoption on the 18th January, 1865. The report of the Minister of Agriculture speaks of the reformatory labours carried on during the year which are to serve in the making up of the books of Canadian statistics intended for future publication. The Blue Book accompanying the report, gives the name, office, salary, and age of every person in the public service—being, in fact, the administration statistics of the country, as far as the general government is concerned. It is the first time that this will be printed and publicly circulated. Formerly it was destined for the Imperial Government, to whom a copy was sent every year. No reference is made to the measures regarding rinderpest, as these did not come within the year taken up in the report.

Cattle Disease in Maine.

ALL information of a reliable character relative to the fearful cattle plague must be of interest to farmers everywhere. We are happy to observe that from the latest accounts from Europe, the malady still continued to decline, in some places rapidly, both in England and Scotland. In Ireland it is not absolutely certain that the genuine Rinderpest had actually occurred at all, and that the very few cases generally believed to be such, had been effectually disposed off, and nothing new of an alarming character, according to the *Irish Farmer's Gazette* of June 9th has since transpired.

We are favoured by Mr. Goodale, the able Secretary of the Maine Board of Agriculture, with a copy of his report on certain cases of disease, supposed to be Rinderpest, that recently occurred in the county of York, in that state. It is satisfactory to observe that while every practicable precaution should continue to be used in the matter, there is no authentic information that has reached us from any part of the United States or British America, that would excite alarm.

Importation of genuine Peruvian Guano.

We hail with pleasure the announcement, which will be found in our advertising columns, that we are likely to have, ere long, a direct cargo of Peruvian Government Guano. This will come from the Chincha Islands, probably to Toronto direct, and if required, the vessel would no doubt deliver portions of her cargo at different ports on the Lake. In order to secure the disposal of the Guano at the lowest possible price, it is necessary that it should be delivered at once from the vessel to the purchaser. In this way storage will be saved, and the other expenses always incidental to handling. As the consignees are desirous that the Guano should have a thorough and intelligent test, they have arranged with the British Agent for the Peruvian Government to sell it at a price very little over that of England, and should the result of the use of this small cargo be sufficiently encouraging to warrant the importation in larger vessels, the price would probably bear some reduction.

We regard this first direct importation of Guano as an era in the agricultural history of Canada, providing, as it does, a highly concentrated manure at a price which will repay itself many fold to the user, and which can be imported in any quantity. The Guano is put up in bags containing from 175 to 200 lbs. The proportion of Guano to be used per acre naturally depends upon the requirements and condition of the soil. From 2 to 5 cwt. (which amounts would respectively cost \$5.50 and \$14.50) per acre may be used, and if the latter proportion, the benefit to the soil will be reaped for some years after its first application. The admixture of bone dust with Guano, while economising the latter, creates a miraculous effect upon the root crops as the unmixed Guano, and as a top-dressing for grass, it is invaluable.

To show the enormous extent to which Guano is used, we need only state that the quantity imported into Great Britain during the past year was over 133,000 tons, representing a value of upwards of Ten Millions of Dollars.

It might be objected that although quite suitable to the damp climate of England, it might fail in the dry climate of Canada. It is, however, enough to suggest that it would be quite as foolish to apply Guano in a time of extreme dryness, when seeds and plants are thirsting, not for stimulants, but for moisture, as it would be to commence hay-making on a rainy day; and that in our Canadian Spring and Summer, we have times as suitable for the application of Guano as there are in England or elsewhere.

Believing this subject to be of great importance, we trust that this celebrated manure may receive a fair trial in Canada. To this end, we would recommend a trial of the Guano to our different agricultural societies. It would be an easy matter for a few of them to buy up this whole cargo, and distribute it in small or large quantities at a paying price around their several neighbourhoods. If each of them would order 10 or 15 tons, a great proportion of the cargo would be taken up, and the order for its immediate despatch be sent at once, so that it might arrive, at latest, in May next.

The Consignees would no doubt be glad to take orders from individuals as well as from societies, their anxiety being that the Guano may find its way into the best hands, and that the results of a fair trial of the cargo now in contemplation may establish it as the forerunner of much larger importations.

From the source from which this consignment comes, there can be no shadow of doubt as to the genuineness of the article. It comes directly through the agents of the Peruvian Government—one of the leading firms in England—to properly accredited consignees, and will be delivered directly over the ship's side.

HE WILL TELL OF IT.—The editor of the *Farmers' Pearl* (Mo.) in lecturing his patrons for certain shortcomings in their farming practices, gives them the following warning:—"We intend soon to make a trip among the farmers of Missouri, and when we see the house, barn, barnyard, and pig sty all in one yard we shall tell of it. Where we find the gate swinging open for the want of a latch, or leaning against the fence for want of hinges, or the barn door full of rills for want of

a door, or the fence torn down whenever there is a team to be driven out of a lot or field, we shall tell of it. Where we find pigs rooting up the garden, the sheep and rabbits barking the orchard, or the cattle or horses turned in to browse upon it, we shall speak of it. Where we see your farming tools have lain out all winter to rot and rust, and your waggon not run under the shed, we shall speak of it, for such things are not right."

Book Notices.

FOURTH ANNUAL REPORT OF THE SECRETARY OF THE STATE BOARD OF AGRICULTURE, OF THE STATE OF MICHIGAN, FOR THE YEAR 1865.

This volume, which Mr. Sanford Howard, Secretary of the Board, has kindly sent us, contains much valuable information on a large number of subjects relating to agriculture, together with a record of meteorological observations taken at the State Agricultural College of Michigan. It opens with a short account of the season and yield of crops of 1865, from which we learn that the year was chiefly remarkable for a long continued season of drought, which lasted from early in May till late in September, and greatly injured most of the field crops. The yield of wheat, throughout the whole country, was upwards of 12 million bushels less than in the previous year, and at the same time of an inferior quality; barley and hay suffered also to a considerable extent, but potatoes and corn did remarkably well, the latter yielding upwards of 173 million bushels more than in 1865! An account is next given of the advantages of Michigan for the production of fruits, in consequence of its insular position, the quality of its soil, and the protection from winds afforded by its tracts of forest. Some new crops, such as Sorghum, Tobacco, Rhubarb (which some would dignify with the name of "wine-plant") are noticed, and then the writer proceeds to the consideration of such noxious insects as had lately made their appearance in the State, in addition to those commonly observed. The Canker-worm of the apple-tree is described at length, and various remedies and preventives are mentioned, among the most remarkable of which is "Merritt's Patent Tree-Protector" made and sold by a company formed for the purpose in Boston. This invention may be considered, we suppose, the last new "Yankee dodge" for circumventing insects; whether it is really effective or not, we cannot say. It consists of a ring of glass, grooved on the under side, and hung round the trunk of the tree by a tent of cloth. It is claimed for this invention that the hollowed glass presents a perfect bar to the ascent of the wingless females of the moths, and that the tree is thus protected from being injured by fresh broods of their destructive caterpillars.

A large portion of the remainder of the Report is devoted to the subject of Galloway Cattle, Cotswold, South-Down, and Merino Sheep, Horses, the Rinderpest, &c. upon which much valuable information is given. The article on breeding Horses, by the well-known veterinary, W. C. Spooner, taken from the *Journal of the Royal Agricultural Society, England*, and interspersed with notes by Mr. Howard, is particularly worthy of perusal. We would also draw attention to Mr. X. A. Willards' address to the Cheese Manufacturers' Association of the State of New York, on the subject of "American Cheese-Dairying—the means for its improvement and success," to which is appended some exceedingly useful remarks, by Mr. Lowell, on the difference between American and English cheese, and what is necessary to make the former equal to the latter. Both these papers we would recommend to the careful attention of cheese manufacturers in Canada as the same faults there ascribed to American cheeses, are too often characteristics of those made in this country also. A paper or "Some causes of Unproductiveness in Soils" by Dr. A. Voelcker, reprinted from the *Journal of the Royal Agricultural Society*, a Report on the State Agricultural College of Michigan, and the Meteorological reports for the past year, complete the volume. We should add that it is illustrated by several wood-cuts of cattle and sheep; among the latter is a figure of a fine Cotswold ram, bred by Mr. F. W. Stone, of Guelph, C. W., and afterwards owned by Mr. White, of South Framingham, Mass.

Agricultural Intelligence.

WOOL PRODUCTION—We learn from the *Grand River Sachem* that "the flock of Mr. James Young, Township of Seneca, consisting of 57 Leicesters, averaged 7 lbs. of wool per sheep. 16 yearlings averaging 8 lbs. per fleece. We doubt whether many farmers can beat this."

THE CROPS—An experienced farmer who has travelled through Waterloo, Perth and Middlesex, states that the crops look luxuriant everywhere. The spring wheat is especially good, and remarkably strong. The recent rains, followed by the present fine weather have been the cause of a wonderful progress in all kinds of vegetation. As prices seem likely not only to maintain themselves, but to advance, there is reason to believe that, should no untoward event present itself, another year of prosperity for Canada is about to dawn, despite the Fenians.—*Free Press*.

USEFULNESS OF INSECT DESTROYING BIRDS—At a recent meeting of the Acclimatization Society of New Zealand, a sum was voted for the purpose of procuring Australian magpies from Melbourne and Hobart Town, it being considered the cheapest and best bird to introduce for the destruction of caterpillars and insects; as from trials made in the Society's gardens they have been found not to possess the same destructive propensities as their English namesakes, of eating eggs and young chicks. It was also proposed that £50 should be sent to England for the purchase of small birds.

CROP PROSPECTS IN THE STATES—A Rochester paper says there is "a prospect for a fair crop of wheat in Western N. Y. In some localities the fields are very promising, Pittsburg papers think there will be a poor crop of wheat and other grains in Pa. Ohio will have wheat enough for bread and seed, and a few millions of bushels to spare. In some parts of Illinois all the crops are looking well. Exchanges admit an average yield of two-thirds the usual amount of wheat which is a great abundance. Other crops promise their usual amounts. In Wis. an ample harvest of wheat, oats, and potatoes is expected. The prospects of an average wheat crop in Mich. are good. Ind. is set down for only half a wheat crop, but corn, oats and grass never looked better. In Iowa, crops of all kinds have a fine appearance. A large yield of corn and a fair one of wheat is anticipated from Kansas. Agricultural reports from Minnesota are favourable."

SHEEP IMPORTATION—The *Quebec Chronicle* says:—"We had the pleasure, on Monday, of inspecting a magnificent flock of Sheep, arrived in our port per steamer *Achilles*, on the 12th, which left London on the 12th May. The flock is part of a selection of fifteen rams and twenty ewes, from the very best Lincoln and Leicester breed that England can produce. They were selected by Mr. Joseph Kirby, of the firm of Kirby & White, of Milton, County of Halton, C. W. They are still detained at Point Levi, in compliance with an order in Council prohibiting the importation of Sheep. We may add that they appear to be in excellent condition, notwithstanding the long sea-voyage; and that they are pronounced, by some of the best judges of stock in this district, to be the finest lot of Sheep ever brought to this port. As a proof, we need only mention the fact of the live-weight, at fourteen months old, being 250 lbs. At the same age, six of them clipped 10½ lbs. of clean washed wool. We cannot praise too highly the spirit of enterprise which prompted this importation, and we hope it may be imitated by many of our farmers. We may add that a sample of the wool, measuring twenty inches in length, can be seen at our office."

The Household.

Homedale Farm.

THE SWARM OF BEES.

Mr. Perley was of opinion that as far as possible a farmer should have every form of rural industry going on upon his premises. He had therefore early in the spring bought, a hive of bees as a foundation for an apiary. It was an ordinary box hive, and contained a good strong stock, with an ample supply of honey to last until the storing season should arrive. To qualify himself for their management, he bought "Langstroth on the Honey-Bee," and "Quinby's Mysteries of Bee-Keeping Explained." These books and the various articles on bee-keeping which appeared in the *CANADA FARMER*, he read with great

avidity, and became deeply interested in the world of wonders revealed in the habits of these wonderful insects. He found that many ancient modes of procedure with bees were exploded, and the patient researches of Huber and others had thrown floods of light upon the whole subject of bee-keeping. He was interested to learn that by blowing a few puffs of smoke into a hive, the bees could be rendered so tame as to admit of their being handled with impunity. Many other points brought out in the publications above mentioned, struck him very forcibly, and he was especially pleased with the accounts he read of bee-management with moveable-comb hives. He regretted that his own stock was not in a hive of that description, and determined that any future swarms he might obtain should be put into the improved hives. He was glad to find as he pursued his investigations on the subject, that bees could be transferred from the common box hive to the moveable-comb hive. He ascertained that either at or shortly after swarming, was a good time to effect the change. Fearing lest he might not manage it well on the first attempt, and not liking to risk his whole stock, he concluded to postpone the transfer until after the first swarm had come off. Shortly before swarming-time, he took care to be provided with one of Thomas' Moveable-Comb Observing Bee-Hives, and with this on hand, together with a protector and a pair of bee-gloves, he was ready for operations whenever the bees might please to sally forth.

These bee proceedings did not escape the notice of the young folks. The hive was a frequently-observed and carefully-studied object, though prudence dictated keeping a respectable distance from it. As usual in regard to all matters of family interest, the bees were more than once discussed by the home circle. Charles had been watching the hive one day in early spring and noticed the bees returning with their thighs and legs laden with yellow stuff. Very naturally he took this for honey, and duly informed papa, mamma, and the entire family of what he had seen. He had made a slight mistake, however, which his papa corrected. It was not honey but pollen with which the bees were laden. "What is pollen?" asked Charley. "It is the dust of flowers," replied Mr. Perley. "What do the bees collect it for?" enquired Charles. "To feed the young bees with," answered his father. "Many experiments have proved that young brood cannot be reared without it. It forms their principal food." "What makes it stick to their legs," asked Charley. "They are provided," said Mr. Perley, "with a spoon-shaped hollow, or basket on their hind-legs to hold the pollen as they gather it, and they always heap up their little basket and carry as much as they can so that it streams down their legs." Another time, Charles and Lucy had been looking at the hive, and were struck with the industry of the bees, and the haste they made on their errands. They spoke of this in-doors, Lucy remarking, "What a hurry the bees are always in going out and coming back to the hive." "Yes," said Charles, "they move as if somebody was after them to punish them if they ventured to lag a bit." "Bees," remarked Mr. Perley "have always been considered an example of diligence. As such they teach a lesson to us. Lucy can repeat that nice little hymn which speaks of this." So Lucy recited the well-known lines of Dr. Watts:—

"How doth the little busy bee
Improve each shining hour,
And gather honey all the day
From every opening flower.

"How skillfully she builds her cell,
How neat she spreads her wax,
And labours hard to store it well,
With the sweet food she makes.

"In works of labour, or of skill,
I would be busy too,
For Satan finds some mischief still
For idle hands to do.

"In books, or works, or healthful play
Let my first years be past,
That I may give for every day
Some good account at last."

Swarming time came at length, and one fine day toward the end of June there was a great commotion

about the hive. The bees rushed out in great excitement, and commenced whirling round and round in the air above the hive. Before long they began to move away, still flying round and round, and mixing among each other in a most singular manner. Fortunately they did not go very far away, but clustered all in a mass upon a branch of one of the apple-trees on the edge of the orchard. Mr. Perley soon made his preparations for hiving them. Placing a table a short distance away from where the bees were hanging, he put his hive on it, dropped the bottom-board, and laid a goose wing near by. Next he put on his veil and india-rubber gloves to guard against accident, and protect him from being stung. Then taking a basket large enough to hold the bees, he cautiously approached them. The bough hung down with their weight so that he could reach it from the ground. Holding the basket close beneath the cluster of bees with one hand, he gave the bough a sharp shake with the other, so that the living mass fell softly into the basket. He then shook them out of the basket upon the table just behind the hive, and taking the goose-wing began to brush them carefully toward the entrance. Very soon the greater part of them were in the hive, and the rest soon followed, so that in about a quarter of an hour they were all in except a very few stragglers. The hive was then removed to a stand near the old hive, and having shaded the new hive from the sun, Mr. Perley left them to settle down in their new home. The children watched the process at a safe distance, and were not a little pleased when it was well over, for they were somewhat afraid their papa might get stung in spite of his veil and gloves. Charles thought it a very simple operation, and told his papa he thought he could do it. "Well," said Mr. Perley, "I am glad you think so, for perhaps the bees might swarm sometime when I am not at home, and then I shall be very much pleased if you can succeed in hiving them. If such a thing happens and you manage to do the business, I promise that you shall have a nice present of some kind to remember the bees by." Charles inwardly hoped he might get the chance, quite as much for the credit of doing the thing, as for the reward his papa had promised him. Indeed he was quite interested in the bees and had thought he should like to know more about them. The hive into which the new swarm had been put, had glass sides and little doors fastened with buttons, and both he and the rest of the family anticipated much pleasure in watching the bees when they got fairly to work.

(To be continued.)

To Preserve Spring Rhubarb.

PREPARE the rhubarb as follows:—Take 1 lb. of the stalks after they are pared, and cut them into short lengths, and put them into a quarter of a pint of water previously boiled with 6 oz. of loaf sugar and simmer the fruit in it for about ten minutes. It will then form a sort of compote, which is preferable to the undressed rhubarb for spring tarts.

For *rhubarb jam*, to each pound of the young stalks, pared and cut as above, add an equal weight of good sugar in fine powder; mix them well together, and let them remain about a quarter of an hour, then turn them into a preserving jar; heat them gently till tender, then boil them rapidly, stirring them well for about half-an-hour. This jam will be of excellent flavour, and will serve well for open or laid tarts.

Another way is to boil gently together, for three hours, an equal weight of fine sugar and rhubarb stalks, with the juico and grated rind of a lemon to each pound of the fruit. When the true flavour of the fruit is much liked, the lemon-peel should be omitted. A very good jam may be made with 6 oz. less of sugar to the pound, by boiling the rhubarb gently for an hour before it is added.

Rhubarb jelly is a novel supper dish. It may be made as fine as apple jelly, but requires longer boiling before the sugar is added, and a little isinglass may be requisite.

For *rhubarb wine*, to every pound of bruised green stalks put a quart of spring water; let it stand three days, stirring it twice a-day; then press it and strain it through a sieve; and to every gallon of the liquor put 2½ lb. or 3 lb. of good loaf sugar; barrel it, and to every five gallons add a bottle of white brandy; hang a little isinglass in the cask, suspended by a string, and stop it closely; in six months, if the sweetness be sufficiently off, bottle it for use, otherwise let it stand in the cask somewhat longer.

British Cleanings.

The Destruction of Birds.

A CORRESPONDENT of *The Farmer's Magazine* writes the following remonstrance on this cruel and unwise practice to that journal. Many of its observations are as applicable to this country as to Britain. We, therefore, lay it before our readers:—"As the spring advances, I wish you would urge upon your readers the policy of protecting, as far as practicable, the nests of our song birds. It is indeed painful to notice how very much our birds have decreased in number of late years, and not the song-birds only, but with these rare and always interesting specimens. The gun alone has done fearful havoc; the net of the birdcatcher, the use of poisoned grain, and as the last, if the least enemy, the school-boy, have all done much in this way. Are we to sit silent until our isle has lost one of its sweetest charms? How strangely does this neglect to preserve our song-birds contrast itself with our countrymen in our antipodes, where the Englishman in the land of his adoption loves to watch the increase of English birds, and feel a kind of enchantment while he listens to their melody! It is with feelings of pity and regret that we witness day by day in our game shops long strings of larks and other small birds for sale. Surely the appetite of even the epicure will turn from these tiny morsels when he reflects that he himself is accountable for the destruction of one of the sweetest of England's warblers. I have often read with disgust how such and such a lover of the trigger has shot some *rare acis*, as it is truly melancholy to find any man of mind who can rejoice at having destroyed one of the few specimens of some beautiful bird, and, I ask, have we as Englishmen any just right to go on to the end, annihilating every known specimen? I feel it will be said by very many, more particularly those who are game preservers, that they must treat many of these birds as vermin, but let us pause for a moment and ask ourselves if it is not barbarous to go on killing such illustrations of the great Creator's handiwork? as are we not rather bound to hand them down as His heirlooms to future generations?"

Provincialisms.

JUDGING from an article in a late number of the *Cornhill Magazine*, the English peasants still speak a language pregnant with meaning. Living out of doors, their words breathe an out-of-door air. Their images are picturesque and full of life. Thus in the northern districts a starving man is said to be "hunger-poisoned," and people are "bone-tired." Crops, when spoiled by rain are said, in the eastern counties, to be "water-slain," and in Westmorland, when they ripen well are said to "addle well," as if a notion of working and earning were implied. In Leicestershire a peasant will talk of a bee "kicking" him, instead of stinging him. In Derbyshire he will say he "tells a smell," just as in Exodus the Israelites "saw the thunderings" at Mount Sinai. The English peasant likewise christens his flowers after their habits. In the Midland counties the common goat's beard is his "nap-at-noon," and his "go-to-bed-at-noon," and the star of Bethlehem is his "six-o'clock-flower," from their closing their flowers at those times. The scarlet pimpernel, from its susceptibility to the changes of the weather, is his "shepherd's dial." The orchis is his "cuckoo flower," because it blossoms when the cuckoo is first heard, and the arum, whose leaf is seen still earlier, is his "wake-robin." Like Hesiod, he knows the seasons by these signs. He has, too, like his fellow in Germany, jealously preserved all the old religious names of flowers. We cannot any longer appreciate their beauty and their meaning when the maiden's garland is no longer hung in churches, and the marigold strewed on her bier. The saint no longer protects his flower. Yet some faint echo of a religion forever past lingers in such words as lady's thistle, and "lady's fingers," and lady smocks, "all silver white," as Shakespeare sings. He has preserved also the old names by which Shakespeare, and Johnson, and Beaumont and Fletcher, knew the flowers. Such quaint old names as "Love lies a bleeding," "Three faces under a hood," "Dead men's fingers," "Stops in wine," live only in the pages of Elizabethan dramatists and in the mouths of rustics.

HOW TO PURIFY BAD WATER.—Says *The Medical Times and Gazette*:—"We wonder that travellers do not carry with them a little bottle of permanganate of potass, a few drops of which would speedily purify any water. A friend of ours, who has just returned from India, tells us that he has derived the greatest benefit from its employment. In cases where the water was turbid, and tasting and smelling of de-

caying organic matter, the addition of a few drops of the solution of the permanganate made it in a few minutes as clear and sweet as spring water.

CHINESE SHEEP.—*The Farmer* (Scottish) states that much attention has of late been given to the advantages that might accrue from the importation of Chinese sheep into Western Australia, and an encouraging report has been received, which may stir up those colonists who entertain a high opinion of the Chinese breed. These are pronounced to be admirably adapted to the Australian grasses. The people of Victoria have taken the matter in hand, as well as the farmers of New South Wales, and are likely to carry it out with spirit. The sheep are large, and yield a heavy clip. They are said not to be subject to foot rot, and their increase is very great."

THE HEAD OF A HIGHLAND BULLOCK.—The Earlston correspondent of the *Kelso Chronicle* has sent the following paragraph to that journal:—"Mr. Mills, Hyndsides Hill, lately slaughtered a very fine Highland bullock of a cream color, weighing 70 stones. The head of this animal, after having been subjected to the art of the taxidermist, we had an opportunity of seeing last week. The following are some of its dimensions, which are extraordinary enough to merit publication:—The horns at the root measured 11½ inches; a line stretched between the tips of the horns measured 4½ inches. When the line was laid along the horns resting on the top of the head, it measured 60½ inches, and the girth of the head below the horns was 4½ inches.

HOW BONE CAVERNS ARE FORMED.—We learn from *The Farmer* (Scottish) that "a remarkable accumulation of game and other animals was discovered a few days ago by the shepherd of Corriemuckloch, near the top of the Sma' Glen, Perthshire, in a recess of the rock, which apparently had been recently frequented by foxes. The hole or den contained upwards of 100 head of grouse, thirty-five mountain hares, some partridges, four lambs, a young kid, &c. The large store of game and lambs appeared perfectly fresh, and had only been lately captured. The district in which the discovery was made has for some time past been completely overrun by foxes, and the ravages they have committed among both sheep flocks and game are beyond calculation."

THE PRICE OF LABOUR.—*The Builder* says that there have been at work two distinct and powerful causes affecting the rate of daily wages. One is the increased prosperity of the country, which has created a more steady demand for labour of all kinds, and thus has raised its price on the great principle of supply and demand. The other is the increased quantity of gold in the country, which has lowered the purchasing value of money, so that a pound will now no more purchase the same amount of labour that it would in 1849, than it will purchase the same weight of butcher's meat. The first cause tends to make the workmen better off, as compared with those who employ him; the second cause tends to raise his nominal wages, leaving him neither better nor worse off by the change.

THE STREETS OF LONDON.—We learn from the evidence recently given, before a parliamentary committee, by the Commissioners of the Metropolitan and the City Police, that there are in "the City" proper 440 streets, and in only 70 of them is there room for more than two lines of vehicles to pass at a time for the entire length, so that a vehicle may stand still in any part of the street, and not interfere with the progress of one line of traffic. In 111 of the streets only one line of vehicles can pass; 101 have no exit, and are not thoroughfares at all. In the year of 1865, 3958 summonses were taken out by the city police against drivers and conductors of vehicles and others for offences tending to impede the free passage of the public thoroughfares. In the metropolis outside "the city" 616 drivers of vehicles were convicted of furious driving, 140 persons were run over and killed and 1707 maimed or injured.

SUCCESSFUL TREATMENT OF HYDROPHOBIA.—*The Wolverhampton Chronicle* records the successful treatment last week of a case of hydrophobia, by Mr. Pope, surgeon, of that town. It seems that about a month ago a servant girl was tying up a dog which has since shown symptoms of rabies, when the animal bit her on the right thumb. She experienced no serious results until Tuesday week, when her thumb, arm, and chest became considerably swollen, accompanied with great heat, pain, redness, stiffness, and numbness, the arm being so stiff that she was almost unable to move it. Mr. Pope saw the girl on Thursday, and found her evidently suffering from hydrophobia, the result of the bite from the dog. On Friday night, she became very ill, biting and tearing at almost everything near her, and suffering much from convulsions. Mr. Pope determined to cause profuse salivation in the patient with the view of neutralizing the poisonous character

of the saliva of hydrophobia. This is a course of procedure not often pursued, but its beneficial effects were soon apparent. On Sunday, the convulsions and the spasms, from which the poor girl also suffered, had ceased, and there appears to be every prospect of her ultimate recovery.

RYE-GRASS FROM THE MAPLIN SANES.—Says the *Agricultural Gazette*:—"Among the many beautiful objects exhibited in the International Horticultural Show is one of more modest appearance, possessing some agricultural interest. There is a box of Italian Rye-grass, which when brought on Monday was in luxuriant and forward growth, having been sown last February on some of the Maplin sand, and since watered with the sewage as it runs into the Thames at Barking. In perfect health and growth, equal already to a cut of several tons per acre, and sown only three months ago, it is a sufficient testimony to the capability of sewage as a grass-grower upon sand. The experiment on a larger scale at the outfall, where an acre of the Maplin sand has been brought up, is in promising progress. The grass sown only a few weeks ago is coming satisfactorily, and, fed at intervals with dressings of the liquid manure, it will no doubt soon exhibit luxuriance equal to that in the specimen box at the International Show."

TO MAKE A CONCRETE FLOOR.—The following recipe supplied by a famous English authority, is quoted by the *Agricultural Gazette*, and may be useful to some of our readers. Three parts coal ashes (those from the blacksmith's forge to be preferred) and two parts gas lime from gas-works, to be thoroughly mixed, and then made into a mortar with gas-tar. If the gas tar come from gas-works where the ammoniacal liquor is not separated, it will be sufficiently mixed for the purpose, but if the latter be separated and the tar be thick, it will set quicker if about one-fourth part of water be mixed thoroughly with the tar when used. For the floors of cow-sheds, this should be laid about three inches thick in one layer, on an even surface of gravel, or stone broken very small with a sprinkling of gravel over, and rolled down. The mortar may be laid on with a common shovel, and merely patted down flat. In dry, warm weather, if the mortar has been carefully made, the floor will set firm in a few days. For any ordinary out-house, half the thickness will make a permanent floor."

MOST DEPLORABLE IGNORANCE.—A recent issue of the *British Quarterly Review* contains the following astounding—nay, almost incredible—revelations of the ignorance which exists among some sections of the British community:—"In Birmingham, 32 persons, averaging more than 12 years of age, including a young man of 20 and two young women, could not tell the Queen's name. The commonest and simplest objects of nature, such as flowers, birds, fishes, mountains, and the sea, were unknown. Some thought London was a county—one that it was in the Exhibition; a Violet was said to be a pretty bird, a Primrose a red rose, a Lilac also a bird; but whether a robin or an eagle were birds none could say; some knew not what a river meant, or where fishes live, or where snow comes from; and a cow in a picture was pronounced to be a lion. Multitudes of these poor children can never have seen a primrose by the river's brim, or heard the song of a lark."

NOTE BY ED. C. F.—During our British experience we have met with Cockney children who were perfectly astonished to see apples growing on trees; but we were quite unprepared for such a picture as the above.

HOW TO RETAIN THE COLOUR OF FLOWERS.—The following method has been given in a late number of the *Journal of the Society of Arts*. A vessel with a movable cover is provided, and having removed the cover from it, a piece of metallic gauze is fixed over it, and the cover replaced. A quantity of sand is then taken, sufficient to fill the vessel, and passed through a sieve into an iron pot, where it is heated, with the addition of a small quantity of stearine, carefully stirred, so as to thoroughly mix the ingredients. The quantity of stearine to be added is at the rate of half a pound to one hundred pounds of sand. Care must be taken not to add too much, as it would sink to the bottom and injure the flowers. The vessel, with its cover on, and the gauze beneath it, is then turned upside down, and the bottom being removed, the flowers to be operated upon are carefully placed on the gauze and the sand gently poured in, so as to cover the flowers entirely, the leaves being thus prevented from touching each other. The vessel is then put in a hot place, such, for instance, as the top of a baker's oven, where it is left for forty-eight hours. The flowers thus become dried, and they retain their natural colours. The vessel still remaining bottom upwards, the lid is taken off, and the sand runs away through the gauze, leaving the flowers uninjured.

Horticulture.

Jottings from the London Botanical Congress.

During the same period that the International Horticultural Exhibition noticed elsewhere was held, a Botanical Congress, under the able Presidency of Professor de Candolle, daily sat in the Raphael Room, South Kensington. The following are merely outline notices of a few of the papers presented and read:

Mr. JAMES ANDERSON, Meadow Bank, Glasgow: Observations on the temperature of weather, and its effect upon plant cultivation.

Mr. Anderson considers that practical gardeners do not attach sufficient importance to the science of horticulture, but rely too much on routine, especially so with reference to the temperature of the air in plant-houses, and to that of the water supplied to the plants. He advocates the importance of employing water at least as warm as the air, or a little warmer, for watering tropical plants, especially Orchids.

Mr. CARROLL, Glasnevin: On garden drainage.

The author, after alluding to the necessity for, and the advantage to be derived from draining cultivated ground, goes on to state that no adequate provision is made to guard against drains being choked or stopped, and, in many cases, rendered quite useless, and even mischievous, by the intrusion of the roots of plants, and the deposit of oxide of iron, carbonate of lime, &c. The evil in question he proposes to remedy by laying a body of porous material beneath the drainage pipes instead of above them; and this, because he has observed that roots always descend by preference to the bottom of any such porous substratum as they may come in contact with.

Professor DE CANDOLLE, Geneva: On a recent very exact measurement of the diameter of the trunk of one of the gigantic Sequoias of California.

M. De Candolle, in this paper, gave the measurements of one of the huge specimens of Sequoia (Wellingtonia) of California, viz., that known as the Old Maid. This tree has been broken off by a storm at a height of 128 feet, its base cut across now serves as a dancing floor. M. de la Rue has recently measured the diameter of this tree in the following way. A slip of paper was stretched across the diameter of this trunk, the annual rings being marked off with a pencil on the paper, according to the convenient method recently proposed by Augustin Pyramus De Candolle. This paper was exhibited by M. De Candolle, and the following details were given. The diameter at about the height of 6 English feet was 26 feet 5 inches English. The entire height of the tree, before it was broken by the wind, was approximately 350 feet. The number of rings was counted by M. de la Rue and his assistant, one going from the circumference towards the centre, the other in the opposite direction. The one counted 1223 rings, the other 1245, which were marked on the slip exhibited by M. De Candolle. The mean of the observations, which is no doubt nearly correct, gives the tree an age of 1234 years, which is not an extraordinary one for trees, especially conifers; there are, for instance, Yew trees which date back from the Christian Era. The Sequoias grow in a deep and rich soil, and their rate of growth appears to have been very uniform; thus on the slip it may be seen that at the age of 400—500 years, the annual rings were still thick, while in ordinary trees the layers become thin at from 50—120 years, according to the kind of tree and other circumstances. Specimens of the wood were also exhibited.

Mr. W. EARLEY: On the preparatory formation of trained wall fruit trees.

The writer sets forth that the present system of pruning trained trees in the nurseries is objectionable, on the ground that the too free use of the knife injures and often destroys the constitution of the trees when in a young state, and is one cause of wall-trees shrivelling and dying. It is also the cause of a too gross aftergrowth, and consequent unfruitfulness. He advocates, in place of the common system, summer pinching, which attains the end sought in less time, and produces a sounder tree, more favorable to removal.

Mr. S. HUBBARD, London: On the naming of plants.

The importance of botanical nomenclature to science, art, literature.—Classical origin of many of the names of plants.—Names of plants divided into two classes, natural and artificial.—Prevalence of artificial names at the present time; objections to them.—Proposed revision of botanical lists.—Proposed establishment of a board of botanical nomenclature.

M. VAN HULLS, Ghent: Rational method of pruning. The writer assumes that the fruits produced in England are abundant, but small, and usually pro-

duced by trees left to their natural growth, owing to which they are neither so handsome in form nor so productive as might be. Their productiveness in England, such as it is, is due rather to the skill displayed and cost incurred in managing the ground than on the management of the trees. The writer assumes that the English prune their trees to make them grow, without considering any regularity of form or size of fruit.

He recommends pruning to obtain symmetrical trees and large fruit, by recognizing the character of the different branches; as, for instance, whether fruit-bearing or wood-bearing, and treating them accordingly, in opposition to the system of treating all alike, which he calls the old system, and speaks of it rather as "pruning without system." The old plan leaves Nature to form wood or fruit branches at will; he would so control Nature as to form either at pleasure.

Mr. THOMAS LAXTON, Stamford: On the variations effected by crossing on the colour and character of the seeds of Peas.

The specimens exhibited were selected for the purpose of exhibiting the variations produced by crossing, in the colour and character of the seed of Peas, in the second and succeeding generations.

The results of experiments in crossing the Pea tend to show that the colour of the immediate offspring seed or second generation, sometimes follows that of the female parent, is sometimes intermediate between that and the male parent, and sometimes distinct from both; and although at times it partakes of the colour of the male, it has not been ascertained by the experiment ever to follow the exact colour of the male parent. In shape, the seed has frequently an intermediate character, but as often follows that of either parent. In the second generation, in a single pod, the result of a cross of Peas, differing in shape and colour, the seeds therein are sometimes all intermediate, sometimes represent either or both parents in shape or colour, and sometimes both colours and characters with their intermediates appear. The results also appear to show that the third generation, or seed produced from the second generation, or immediate offspring of a cross, frequently varies from its parent in a limited manner—usually in one direction only, but that the fourth generation produces numerous and wider variations; the seed often reverting back partly to the colour and character of its ancestors of the first generation, partly partaking of the various intermediate characters and colours, and partly sporting distinctly from any of its ancestry. These sports appear to become fixed and permanent in the next and succeeding generations; and the tendency to revert and sport thenceforth seems to become checked if not determined.

The experiments also tend to show that the height of the plant is singularly influenced by crossing; a cross between two dwarf Peas commonly producing some dwarf and some tall, but on the other hand a cross between two tall Peas does not exhibit any tendency to diminution in height.

No perceptible difference appears to result from reversing the parents and applying the pollen of the female to the variety previously employed as the male flower.

Summer Treatment of Bulbous Roots.

The following description of a mode of treatment of hyacinth and other bulbous roots during the summer months, in order to ensure a full bloom next spring, by Richard Adie, Esq., Liverpool, was read at a meeting of the Edinburgh Botanical Society, on the 10th ult.:

The treatment I am about to describe was designed in consequence of an observation I made, that after a wet cold summer a large number of hyacinth (*Hyacinthus orientalis*) roots did not flower at all, although for several years previous they had flowered moderately well. The roots, to look at, appeared good, but their vitality was low; they were slow to put out a few roots and leaves to preserve the bulbs from destruction, and this was all they did in their season of active growth.

In the native soil for the hyacinth the bulb is exposed to summer-drought and sun-baked earth during what is technically termed its dead season, so I thought if I could make a summer to them to resemble their native one, I would get the desired vitality next spring. The first trial made wrought such a change on the roots that I hope a short notice of it may prove of value to those interested in the culture of our finest spring flowers.

Hyacinth roots are lifted when the leaves show symptoms of decay, about midsummer day. At this season the forcing pit is not in use, and I thought it would answer my purpose to imitate, in so far as heat and drought are concerned, an eastern summer. I placed the bulbs in the sand which had been used for striking cuttings, and lighted the fire under them

twice or thrice a week, in order to keep the temperature of the sand near 60° F., which was continued for six weeks. The hyacinths were then removed and placed in a dry attic on a wooden floor in one instance; in another they were suspended in a net or bag in a warm inhabited room, where gas burned till midnight.

The effect of this treatment was to make a marked change in the character of the growth next spring; every root, small or large, flowered, and the older roots appeared to make efforts that exhausted them, for they sent up many heads, and thus separated the bulb into parts. In the heating process, moisture is freely thrown off from the plants; this it is desirable to get rid of by active ventilation, for if not so attended to, there is a tendency in the hyacinth bulbs to decay.

The polyanthus narcissus (*N. Tazettas*) I have treated in a similar manner. After heating in the pit, I kept them for the remainder of the summer and autumn in a very dry warm place, so much so that the party in charge of them said that he thought they must be well cooked. Yet they have flowered this spring with us large full heads as can be desired; one variety had just a little too much vitality imparted to it, for in the open air it had a large head above ground in February, which the March frosts destroyed. In them I consider the change wrought by summer heating to be more evident than in the hyacinths, for I have never found our summer to flower the polyanthus narcissus with any degree of vigor like the roots imported from Holland until I treated them as above described, which has brought roots that have been grown for some years in this country to be equal to the imported ones.

For other bulbous roots or plants that remain in their native country in an apparent state of rest, or dead season, as it is styled, while the soil is baked or scorched by a powerful sun, summer heating in a forcing pit will for this climate be found advantageous, and the system may admit of extension, it it be varied to suit the different habits of the plants to be treated. For example, the narcissus bulbs admit of a greater degree of drying than would be good for the hyacinth.

In seeds, a process analogous to the above is, I believe, well known to promote their vitality, and is practiced in malting, where vigorous growth is so much wanted, the plan being as I am informed, to dry the grain by a carefully regulated heat prior to damping and springing.

Plants for Rockeries.

When rockeries come to be properly treated, we shall see numerous interesting plants of tender constitution adorning them by the adoption of the very simple process which I follow of planting out in spring and removing before winter. I flower my large collection of Mesembryanthemums in this way, or rather in a way much more simple than that. In April and May I plant small specimens in suitable places; I leave them to grow and flower as they please; and it is astonishing how they do grow when put out, instead of keeping them in pots. In July or August I take cuttings of all the sorts, pot them four or five in a pot, put them aside in a batch together in a shady place out of doors for a month, and then transfer them to a top shelf in a greenhouse, or a bed of coal ashes in a frame. They grow tremendously all the autumn, and are potted into separate pots when convenient. From this stock the rockery is again furnished the next spring, the plants of the previous year being allowed to perish *in situ*. Probably many of the great tufts will live the winter through. Collections of succulents could be grown by this method to much greater perfection than by pot culture alone, and we might have some wonderful pictures by grouping on suitably built rockeries such things as *Crassulas*, *Portulaccas*, *Mesembryanthemums*, *Sempervivums*, *Echeverrias*, *Rochetas*, perhaps even *Stapeliads* and a few other of those interesting subjects that we occasionally meet with in the dry stove of an amateur who leaves fashion to its ephemera vagaries, and follows for his own joy that which is always true, and which therefore is always good. Let me commend the following as indispensable even in the smallest collection:—*Sempervivum tectorum*, the common house-leek; plant this in rich soil (it may be half cow-dung and half loam), on a surface of brick, tile, or stone, in the full sun, allowing a good peck of soil in a heap for it; one crown to begin with is enough, but better a good patch, as there is nothing like immediate effect both in planting a park and a little rockery. *S. arachnoideum*, the spider's web houseleek, will grow well with positively no soil at all. It is then intensely white with the spidery threads but does not flower so freely as when grown in rather rich soil in pots. *S. flagelliforme* rather scarce, it is extremely beautiful, and flowers freely when established. About a peck of sweepings of a

gravel walk is the sort of soil to suit it if in an elevated position and fully exposed to the sun. *S. quibiferum* is well known, and a great favorite in the cottage gardens. *S. hirtum*, *S. montanum*, and *S. californicum* are much alike in habit, of medium growth, and all well adapted to form great carpet-like masses in the flower-garden, or to be used as edgings auxiliary to the bedding system. *S. pumilum* is a very pretty little species, very susceptible of damp, and therefore requiring to be made secure against the accumulation of stagnant wet anywhere near it in winter time.—*Hibberd's Gardener's Magazine*.

The Barberrry Hedge.

ONE of the wants of the agricultural community at the present time, is a good hedge-plant; one that is reliable under all circumstances and conditions. Nearly every one that has been tried thus far, has exhibited some radical defect, that unfits it for the purpose.

A hedge-plant to become popular, must be perfectly hardy, and easy to propagate. It should also be vigorous enough to grow well in ordinary soils without manure. It should be thorny, to keep cattle from hooking it, and strong enough to keep them from breaking through it. Finally, it should be low enough to require little or no pruning.

The common barberry, (*Berberis vulgaris*) combines these qualities better than any plant that I am acquainted with. The barberry is a native of the northern part of Europe and Asia; but has become thoroughly naturalized, and is now found growing wild in the waste grounds of New England. It is a remarkably hardy plant, thriving well in a great variety of soils, and is said to live for centuries. It has a shrubby habit (growing from six to ten feet in height,) yellowish, thorny wood, leaves in rosettes, yellow flowers on drooping racemes, and scarlet oblong berries, very acid, but making delicious preserves.

We have a barberry-hedge on our grounds at Wallingford, Ct., 25 rods long, and 9 years old, from the seed. Two rows of plants were set, the rows one foot apart, and the plants one foot apart in the row, and set alternately, to break joints. This hedge has been clipped a little, two or three times, to keep it even, and is now six or seven feet high, with a firm, compact base, perfectly impervious to the smaller animals, and stout enough to turn ordinary farm stock, except for a short distance at one end where the soil is quite thin.

On our grounds at Oneida, we have a barberry hedge 50 rods long, and seven years old, from the seed. In this case, but one row was planted, and the plants were set one foot apart. It has been kept clean with the cultivator, and clipped a little, once or twice, and is now five feet high, thick and compact at the base, and already so strong that the fence was taken away last fall, leaving in its place only a slight railing of a single board, six or eight inches wide, as a temporary guard until the hedge can gain another year's growth, it being situated on a highway where cattle are passing daily. An important item in regard to this plant is, its habit of sending up suckers from the bottom, by which, in a few years, it comes to have a base from six to twelve inches in diameter.—*Wallingford Circular*.

The Fruit Garden.

If large fruit is wanted, thinning assists. Strawberries are increased in size by watering in a dry time. Fruit should be allowed to bear only according to their strength. If a transplanted tree grows freely it may bear a few fruits—but bear in mind growth and great fruitfulness are antagonistic processes.

Handsome forms are as desirable in fruit as in ornamental trees. No winter pruning will do this exclusively. It may furnish the skeleton—but it is summer pinching which clothes the bones with beauty. A strong shoot soon draws all its nutriment to itself. Never allow one shoot to grow that wants to be bigger than others. Equality must be insisted upon. Pinch out always as soon as they appear, such as would push too strongly ahead, and keep doing so till the new buds seem no stronger than the others. Thus the food gets equally distributed.

Whether strawberries should have runners cut off depends much on kind and soil. Free growing kinds may grow too freely often in rich soils. Allow them to exhaust themselves and the soil by growing thick together is an advantage. Shyer growing kinds would do no good under such treatment. Most garden soils are rich; but on the whole the most profitable and best plan is the cutting runners off system.

If there be any blackberry really earlier than the Dorchester, it will be well for those who love this fruit to look out in time, and satisfy themselves. They will be in bloom about the end of the month in very early places.—*Gardeners' Monthly*.

BLACK WARTS ON PLUM TREES.—A REMEDY.—It is now 30 years since I set out plum trees in my garden, when they began to blossom black warts began to grow, and in three or four years all were dead. After that I procured ten trees of a nurseryman and set them, and when they began to bear, black warts made their appearance. Having seen an account in the Cultivator, that iron turnings, if applied to the ground round the tree, would stop their growth, I tried them. I procured a quantity from a machine shop, applied about a quart to a tree, hoeing it all round, two feet from the tree; at the same time, (it was spring) I removed the black wart; I did not see any more, except two or three which I supposed escaped my notice at the time of the application, for more than 12 years. The trees after bearing first-rate, have mostly gone to decay, three only remaining. This last autumn I discovered a few warts on one of the remaining trees. The account above alluded to said, if a few nails were driven in the ground would answer the same purpose. D. Fisher, in *Boston Cultivator*.

HOW TO GROW A PEAR ORCHARD.—There is but one way to grow up a good pear orchard. The best of land and the best of cultivation is necessary to success. If it is not a deep, rich loam, or clay and loam, free from subsoil or cold water, it must be made so, or the enterprise will prove a failure. Dwarfs should be budded low on the quince stock, to avoid setting too deep. The roots of the trees require the sun and dews as much as those of corn, without which the trees will grow to suckers, ill-shaped and irregular—the fruit insipid and variable, instead of sweet and delicious, and lead you to wonder why your trees so *wenter bad*; and this arises from the fact that late in autumn, when the sun has penetrated to the subsoil under the roots, a rapid flow of immature sap is forced into the tree, at a time when the sun has passed too far south to elaborate the sap into woody fibre or leafy tissue. The frosts of winter disengage the mechanical organism of the particles, and the first warm, sunny days of spring set it in motion to the detriment or destruction of the tree.

Miscellaneous.

Latin and Labor.

JOHN ADAMS, the second President of the United States, used to relate the following anecdote:

"When I was a boy, I had to study the Latin grammar, but it was dull, and I hated it. My father was anxious to send me to college, and therefore I studied the grammar, till I could bear it no longer, and going to my father I told him I did not like to study, and asked for some other employment. It was opposing his wishes, and he was quick in his answer. Well, John, if Latin grammar does not suit you, you may try ditching; perhaps that will, my meadow yonder needs a ditch, and you may put by Latin and try that."

"This seemed a delightful change, and to the meadow I went. But I soon found ditching harder than Latin, and the first forenoon was the longest I ever experienced. That day I ate the bread of labour, and glad was I when night came on. That night I made some comparison between Latin Grammar and ditching, but said not a word about it. I dug next forenoon, and wanted to return to Latin at dinner; but it was humiliating, and I could not do it. At night, too conquered pride; and though it was one of the severest trials I ever had in my life, I told my father that if he chose I would go back to Latin grammar. He was glad of it; and if I have since gained any distinction, it has been owing to the two days labour in that abominable ditch."

Boys may learn several important lessons from this story. It shows how little they oftentimes appreciate their privileges. Those who are kept at study frequently think it a hardship needlessly imposed on them. But they must do something; and if set to ditching, would they like that any better? The opportunity of pursuing a liberal course of study is what few enjoy; and they are ungrateful who drag themselves to it as an intolerable task. You may also learn from this anecdote how much better your parents are qualified to judge of these things than yourselves. If John Adams had continued his ditching instead of his Latin, his name would not probably have been known to us. But, in following the path marked out by his judicious parent, he rose to the highest honors which the country affords.—*Rural New Yorker*.

TIMBER MEASUREMENT.—The dimensions of round timber are found by girthing the log, and taking one quarter of the girth for the side of the square. Hence the rule. Multiply the square of one-quarter of the circumference by the length of the timber, and you have the contents of the log or tree.

HOW TO DESTROY RATS.—The appended method is said to be an excellent means of destroying rats in a house:—Oil of amber and ox-gall mixed in equal parts, added to thin oat meal and flour sufficient to form a thin paste; divide into little balls, and lay in the middle of the apartment infested. These balls will form an irresistibly attractive bait for the rats, who ravenously eat them, but will immediately be seized with intense thirst. Several vessels of water must be laid close by, at which the rats will drink till they die on the spot.—*Builder*.

FACTS WORTH REMEMBERING.—"Cosmo," in the Philadelphia *Saturday Evening Post*, gives the following facts worth remembering.

It is worth while, for all farmers everywhere, to remember that thorough culture is better than three mortgages on their farm.

That an offensive war against weeds, is five times less expensive than a defensive one.

That good fences always pay better than lawsuits with neighbours.

That hay is a great deal cheaper made in the summer, than purchased in the winter.

That a horse who lays his ears back and looks lightning when any one approaches him, is vicious. Don't buy him.

That scrimping the feed of fattening hogs, is a waste of grain.

That over-fed fowls won't lay eggs.

That educating children is money lent at a hundred per cent.

That one evening spent at home in study, is more profitable than ten lounging about country taverns.

That cows should always be milked regularly and clean.

That it is the duty of every man to take some good, reliable, entertaining paper, and pay for it promptly of course.

SPONGES.—It may surprise the reader to be informed that the quantity of sand he finds in a new sponge has not been inclosed there, by the animal or vegetable during its growth, but is an adulteration practised by the agents and merchants who purchase the sponge from the dealers, in order to increase its weight and their profit. I have seen, in the islands of Symi, Calymo, and Khalki, as well as elsewhere, the recently arrived cargoes of several sponge-boats undergoing the process of adulteration before packing. The sand having been imported from some spot known to yield it of the fineness requisite for the purpose, is mixed with water, in which there is a little gelatine or gum to enable the sponges to take up and retain it the better, and without being detected afterwards; the sponges are then well kneaded into it, so as to fill up their minute pores; they are then dried in the sun, and packed very closely together in goat's hair sacks, of an open texture, the sand, as it becomes detached from the sponges by the motion of their transit, may escape. In this way a hundredweight of sponges in their dry state will be so sanded as to weigh more than a ton before they are packed for exportation to Europe.—*Travels and Researches in Crete*.

Poetry.

Progress.

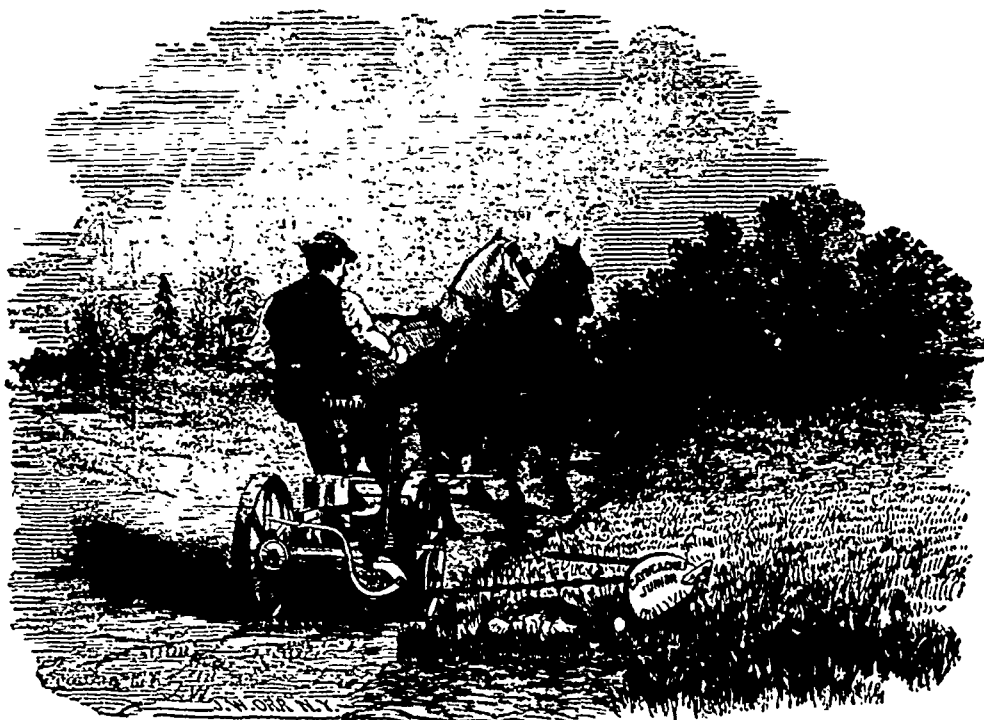
STRADLE, steadily, step by step,
Up the ventu'ous hillers go;
Careful pacing stone on stone,
Thus the loftest temples grow.

Patiently, patiently, day by day,
The artist toils at his task away;
Touching it here and tuning it there,
Giving it ever with infinite care,
A hue more soft, or a hue more fair;
Till little by little the picture grows,
And at last the cold canvas glows
With life and beauty and forms of grace,
That ever more in the world have place.

Thus—with the poet—four after four
He list'ns to catch the fairy chime
That rings in his soul; though with magic power
He weaves their melody into rhymes,
Slowly, carefully, word by word,
Line by line, and thought by thought,
He tastes the golden tissue of Song
As it flows are immortal anthems wrought.

Every well-observer knows,
Every watchful gazer sees,
Noble grandeur, beautiful grace,
Scarcely gradual, slow degrees,
A subtle, but a purpose high,
And fondly the proud result await,
Whence not, as it, hours go by,
That the season is long, the harvest late,
Remember the old orchard, spring and tree,
Mind, and artist, and hands sublime,
Who I led to the past and traced it to you,
Worked an hour, and a weary sometime,
Dark, and cheerless and to their minds,
Yet they patiently at their task begin,
Till lo! thro' the clouds broke the morning light,
Which shines on the soul when success is won!

Reapers, Mowers, Combined Machines, &c.



THE subscribers would respectfully call the attention of the farming community to their REAPING AND MOWING MACHINES, and other Agricultural Implements, which they are prepared to supply at the shortest notice, and with the fullest assurance of satisfaction.

THE CAYUGA CHIEF JUNIOR MOWER.

This Machine, for cheapness, lightness of draught, durability and convenience, has proved itself, after three years' trial, the best Mower yet introduced into the Province. Respecting its merits, we quote from the *Leader* of June 15th, 1866:—

"Of this Machine, we can speak from personal observation, having used one made at these Works (the subscribers) during the summer of 1865, and we have no hesitation in saying that it is superior to any Mowing Machine, the operation of which we have ever witnessed. Its lightness of draught, the rapidity and excellence of its work, the readiness with which it adapts itself to uneven surfaces, and the ease with which it may be adjusted to cut lodged and tangled grass, place it in advance of all other Mowers."

A table for cutting short or lodged barley may be attached to this Mower, at an extra charge of two dollars.

We take pleasure in offering to the public our well-known

OHIO COMBINED MACHINE,

with several important improvements, which render it equally as well adapted to cutting the shortest barley as the heaviest wheat, and make it the most convenient and durable Ohio Machine offered in our markets. These improvements are not known to other manufacturers, being of our own invention; consequently, intending purchasers will find a decided advantage in dealing with us.

We continue largely a manufacturer of the CANADIAN REAPER, which we confidently recommend to the grain-growing farmer. We are also prepared to supply large quantities of STEEL PLOUGHS, GANG PLOUGHS, CULTIVATORS, HORSE HOES, WEEDERS, ROAD SCRAPERS, FAN MILLS, STRAW CUTTERS, &c. &c.

We give special attention to the manufacture of STEEL MOULD BOARD for the Trade. All work warranted. Catalogues sent post-paid to all applicants. For further particulars, apply to
July 1, 1866. v3-13-11

PATTERSON & BRO., Patterson P.O., C. W.

SHEEP MARKS.

THE ATTENTION OF WOOL GROWERS IS INVITED TO A NEW AND IMPROVED METHOD OF MARKING, NUMBERING AND REGISTERING SHEEP, INTRODUCED BY C. H. DANA.



THIS method consists in attaching a label to the sheep's ear, as represented in the cut. These labels are made of iron wire rolled flat, and washed with tin, and stamped with numbers from 1 upward to a 1,000, and with any name ordered. Then they are bent into link shape, and left open, as seen in the cut in ring No. 1. It is attached to the sheep by passing it through a hole punched in the ear, then the long end is to be bent down with the short end as seen in ring No. 2. It is important to punch the hole the length of the label from the edge of the ear, that when the ring is closed it may be filed by the ear, thus preventing it from turning in the ear, or the liability of catching in the bushes.

The label may be put in at the time of punching the hole, and, if properly adjusted, is entirely free from objection, and is superior in every respect to the point mark in general use.

It is more reliable. When applied it will remain permanently—its letters and figures remaining for years as distinct as at the first; while letters and figures applied by means of paint after a brief time become indistinct, and difficult or impossible to read.

It is more convenient. It can be applied at any time, while the point mark must be applied immediately after shearing, thus occupying valuable time.

It is cheaper. It requires to be applied but once, and costs less than the application of paint or tar.

The many flattering testimonials daily received from the thousands who are now using these labels, show that while the name on the label proves to be a great security against the loss of sheep, the numbers in connection with the Sheep Registers (which are got up specially to accompany these labels) furnish a facility never before attained for keeping a record of the flock. The Sheep Registers are arranged with numbers corresponding to those on the labels, and ruled with headings, under which to note the age, pedigree, weight of fleece, and various other items important for one to note who would improve his flock.

The Sheep Registers are arranged to keep the record of a flock of 100 sheep for five years. The sheet Registers, which are sent free to those owners of 100 or more labels, are arranged to keep record of a flock of 100 for one year.

Spring Punches, manufactured for punching the ear, with tube fitted to the shape of the wire, and geared to reach just the right distance upon the ear, for the label, and the handles arranged so as to answer as pinchers to close the label in the ear.

Double Spring Toe Shoes, a superior article for trimming sheep's toes.

PRICES.—Sheep Labels, per hundred, \$3. Spring Punches, each \$1.25. Toe Shoes, \$2. Bound Sheep Registers, each 60c. All orders for less than 50 labels, ten cents additional.

Can stamp whole name, if not more than nine letters. In sending orders, the name should be written with great distinctness, to avoid mistakes.

Money should accompany the orders for each of the above articles, and may be sent by mail at my risk in registered letters.

Agents wanted in every Township to solicit orders, to whom a liberal discount will be made.

See *Canada Farmer* of May 15, 1866, page 150, for editorial recommendation.—Address

ARCHIBALD YOUNG, Jr.,
Manufacturer, SARNIA, C. W.

v3-13-11.

TO AGRICULTURAL SOCIETIES,

AND ALL INTELLIGENT AGRICULTURISTS.

PERUVIAN GOVERNMENT GUANO.

THE undersigned have arranged with the British Agents for the Peruvian Government to receive a consignment of this superior manure direct from the Chincha Islands, provided orders for 300 tons can be obtained.

As it is necessary that the cargo should be arranged for as soon as possible, the undersigned will be glad to receive orders at once. The price will be \$58 per ton over ship's side, or \$60 if required to be stored before taken.

S. C. D. CLARK & Co.,

N. W. corner of King & Church-Sts., TORONTO.

Toronto, July 1, 1866.

v3-13-11

PURE-BRED ITALIAN QUEENS.

SOON after date of July 1st, we shall be prepared to fill orders for ITALIAN QUEEN BERS. Our stock is of the first quality. Price five dollars each, the cash in all cases to accompany the order.

J. H. THOMAS & BROS.,

v3-13-21.

BROOKLYN, C. W.

FOR SALE CHEAP,

A PATENT BRICK MACHINE,

WHICH COST \$400, AND

A TILE MACHINE, WITH DIES & HORSE-POWER,

COST \$460.

The above can be seen on the Farm of J. SMART, Esq., Bowmanville.

J. SMART.

Port Hope, July 1, 1866.

v3-13-11

PRIZES! PRIZES! PRIZES! PRIZES! PRIZES!

CANADA AHEAD, THE WORLD OVER!

THE BEST TOOL IS THE CHEAPEST

A. S. Whiting & Co., Oshawa, C. W.,

Manufacturers of the Celebrated Premium

SCYTHES, FORKS, HOES, &c., &c.

THE superior excellence of these Tools is indicated by their high and unequalled popularity, and their rapid growth. Every article from this establishment is SPECIALLY MADE FOR USE. They have invariably won the HIGHEST HONORS at Exhibitions, and amongst their many prizes are the following:—

First Prizes at Provincial Exhibition in Toronto... in 1858.

First Prizes at Provincial Exhibition in Kingston... in 1859.

First Prizes at Provincial Exhibition in Hamilton... in 1860.

First Prizes at Provincial Exhibition in London... in 1861.

First Prizes at Provincial Exhibition in Toronto... in 1862.

Did not exhibit, there being no competition at the Provincial Exhibition in Kingston... in 1863.

First Prizes at Provincial Exhibition in Hamilton... in 1864.

First Prizes at Provincial Exhibition in London... in 1865.

Medal and Diploma for First Prizes at the Provincial Practical Test Exhibition, or grand special trial of Agricultural Implements at work, held under the direction of the Board of Agriculture on Mr. Logan's Farm, near Montreal, in August, 1859, at which these TOOLS COMPETED VICTORIOUSLY, not only with Canadian makes, but with those from some of the best makers in New York, Vermont, and others of the United States.

The Proprietors have also the honor to state that these Tools obtained the FIRST PRIZE at THE WORLD'S FAIR or Exhibition of all Nations in London, England, in 1862, for which they now hold the Bronze Medal. Also First Prize and Medal at the International Exhibition in Dublin, Ireland, in 1865, at which they were specially commended for "their excellence of manufacture and their moderate price."

Caution to Farmers.—As every tool of this make is thoroughly reliable, purchasers should always be particular in seeing to the stamp, (A. S. Whiting & Co., Oshawa, C. W.,) to make certain of getting the genuine article.

A. S. WHITING, & Co., PROPRIETORS.

v3-13-11.

Oshawa, C. W.

REAPING MACHINES!

THE NEW YORKER!

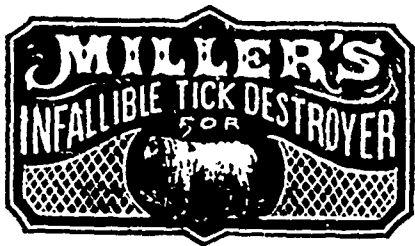
THIS well known Machine is manufactured by Seymour, Morgan & Allen, of Brockport, N. Y.; it is the result of twenty years' careful practical and successful experience; it is a combined self raking reaper and mower. The self rake saves one man in delivering the gavel, and much labor in the binding, by the perfect manner in which it does its work. Price of Machines, \$155, delivered per railroad; extra knives and pieces liable to wear, sent on with the machines, and is warranted in every particular, and to perform well in every capacity. A fair trial is given with all machines, and if they do not perform as represented, they will be removed free of expense to the person ordering them.

All orders and letters promptly attended to by

SAMUEL FOWLIS, Peterboro',

Agent for Canada.

v3-10-51



A CERTAIN cure for Tick, and all skin affections in Sheep. No tick master should be without it.

Prepared only by HUGH MILLER & CO., Chemists, Toronto.

BONES! BONES! BONES!

CASH Paid for any quantity of Bones, delivered in Boston, or at our Bone Flour Manufactory, in N. Y. Address, C. H. GARDNER, AGENT...

Seeds Direct from the Growers.

CHAS. SHARPE & CO., SEED GROWERS AND SEED MERCHANTS, SLEAFORD, ENGLAND. Will be glad to send, on application, special quotations of FARM AND GARDEN SEEDS...

VETERINARY SURGEONS.

VETERINARY SURGEONS practising in Canada, holding Diplomas of any recognized schools, are requested to send their names and addresses, and also the Colleges in which they studied...

FOR SALE,

Lot No. 37 in 8th Con. Nottawasaga,

ADJOINING THE VILLAGE OF NOTTAWA,

Within 1 1/2 Miles of the Town of Collingwood.

A good MILL SITE on this Lot.

WELL WOODED.—LAND EXCELLENT.

TERMS LIBERAL.

Apply to FRANCIS H. HEWARD,

Toronto.

LANDS FOR SALE.

TWENTY THOUSAND ACRES OF LAND, both wild and improved, and at all prices, for sale in various townships through out Upper Canada, cheap and on easy terms.

For lists and particulars, apply to the proprietor,

T. D. LEDYARD, Barrister, &c.,

South-west cor. of King and Yonge sts., Toronto.

Toronto, Oct. 2, 1864.

BLACKSMITH'S TOOLS.

Peterson's Patent Tyre Upsetting Machine. Patent Regulating Blast, Tuyere Iron. Patent Double Geared Tyre Bender. And other Blacksmith's Tools.

FOR SALE BY ARCHIBALD YOUNG, Junior,

General Agent, Sarnia, C. W.

AGENTS WANTED.

County rights for sale. Send for an Illustrated and Descriptive Circular.

REVOLVING CULTIVATOR!

FOR SALE for Cash, or on short Credit to responsible Farmers, a few Revolving Cultivators, which are pronounced by all those who have used them to be a very superior article.

THOS. WEBSTER, Stratford, Co. Middlesex.

Markets.

Toronto Markets.

"CANADA FARMER" Office, July 2, 1866

Flour—Receipts, 7,800 barrels; shipments during the week, 2,000 barrels. In demand during the early part of the past week, considerable quantities were offering, but held too high for buyers.

Wheat—Receipts, 43,079 bushels. Has been sold freely during the week. Car loads spring, sold at from \$1 30 to \$1 40; 3,400 bushels spring at \$1 40 f.o.b., 2,500 bushels and 2,000 bushels at same price.

Oats—Receipts during the week, 7,313 bushels; 1,000 bushels sold at 31 1/2c. f.o.b. The market was dull, with little enquiry and few sales.

Peas—Receipts, 1,311 bushels, with shipments during the week amounting to 34,689 bushels; sales 8,000 bushels on p.t. Few transactions took place, holders asking excessive rates.

Barley—Receipts during the week, 1,493 bushels. No sales. Corn—Receipts 17,510 bushels—all for distillery purposes—could be bought at 60c. in the market.

Wool—Receipts have been light, only a few clips having yet come in. As high as 37c. being freely offered for the best clips, from waggons.

Butter—The market during the week has been dull, and few sales are reported. As high as 15 1/2c to 16c has been paid for the best butter during the week. The general price has been 15c.

Eggs—Receipts are considerably fallen off. Selling at from 10c to 11 1/2c.

Pork—Dull, with very few transactions. Mess was offering at \$24, prime mess at from \$21 50 to \$22 50.

Petroleum—Stock of refined is small, and held firm at 35c to 37 1/2c; Pennsylvania 40c to 42 1/2c. The imposition of an increase tax on imported oil, will, it is thought, raise the prices slightly in our markets.

Flour—Grain to Oswego, by vessel, 2 1/2c. U. S. currency, flour to Montreal, by steamer, 20c gold, to Ogdensburg, 15c gold, to Prescott, 15c gold; to Kingston, 12 1/2c gold; to Halifax, by steamer, 70 to 80c.

Salt—Liverpool coarse salt, 85c per bag; salt on the dock, per barrel, \$1 75; in the cars, \$1 77; carry bag, 16c to 17c each. Hay and straw—Hay sold during the week at from \$10 to \$14. Straw—Little in the market.

The following are the transactions reported to day:—Flour—Receipts 200 bbls., 150 bags; market dull; \$6 40 offered for No. 1 but refused. No. 2 and other coars grades in demand.

Wheat—Receipts 3,850 bus.; sales 2,100 bushels spring at \$1 41 f.o.b. and 2,000 bushels spring at \$1 40 f.o.b. Fall Wheat—very dull, no transactions. Peas—No receipts. Oats—Receipts 750 bushels, sales 600 bushels at 32c f.o.b., 600 bushels at same price.

Corn—Receipts 2,260 bush. l., no transactions. Wool—arriving freely, and selling at 26c in current funds. Pork Stock accumulating, mess offering at \$24. Prime mess offered at \$21 to \$22. Butter—unchanged; selling at 15c to 16c according to quality. Eggs—11c to 12c.

Montreal Markets, June 27.—Laid'aw, Middleton & Co report:—Flour—Receipts 4,400 barrels; market easier; extra nominal. Welland Canal superior, \$6 50 to \$6 80. Canada \$6 50 to \$6 90; good samples Coars grades steady. Wheat no transactions. Peas—sales extra fine 85c to 86 1/2c. Ashes—first pots \$5 42 1/2; inferior, \$5 10. Butter unchanged.

Ottawa Markets, June 29.—Flour—Extra, \$8 25 to \$8 75; No. 1, \$7 50 to \$7 75, No. 2, \$7; Bags—fall per 100 lbs., \$4 to \$4 25, Bags—spring per 100 lbs., \$3 02 1/2 to \$3 87 1/2. Oatmeal—per 20 lbs., \$5 to \$5 50c. Indian Meal—per 200 lbs., \$3 75c. Rye per bushel, 50 lbs., none offering. Barley, per bushel \$3 15, none offering. Fall Wheat, per bushel, 60 lbs., \$1 25 to \$2 00; Spring Wheat, per bushel, 60 lbs., \$1 40 to \$1 50. Corn, per bushel, 56 lbs., 80c to 90c. Peas, per bushel, 60 lbs., 85c to 90c. Oats, per bushel, 31 lbs., 17c to 35c. Beans, per bush. 60 lbs. \$1 25. Pork—Mess—per barrel \$23 50 to \$25; Prime Mess, per do \$21 to \$22. Hogs per 100 lbs \$9 to \$9, Hams 15c to 17c; Beef \$9 to \$10, Mutton, per lb by the qr 6c to 7c; Veal, do 10c to 12c; geese, each 60c to 65c, Turkeys, each 87c to 95c; Fowl, per pair 60c to 65. Butter—choice table 18c to 20c; No. 1 Firkin 12 1/2c to 14c, Eggs 14c to 15c. Vegetables, &c.—Potatoes 20c to 40c; Hay, per ton \$10 to \$12, Wood, per cord \$3 50.

New York Produce Market.—New York, June 29.—Flour—Receipts, 5,911 barrels Flour 5c to 10c better for good sound medium grades. Other kinds rule dull; sales 11,900 bbls at \$6 70 to \$7 45 for superfine State; \$7 40 to \$8 55 for extra S. at \$6 60 to \$10 for choice do.; \$6 30 to \$7 45 for superfine Western, \$7 55 to \$9 65 for common to medium extra western, and \$9 90 to \$10 for common to good shipping brands extra r. u. d. hoop Ohio. Canada Flour 5c to 10c better; sales 450 barrels at \$5 75 to \$10 25 for common, and \$10 0 to \$12 85 for good to choice extra. Receipts—Wheat, 18,189 bushels. Wheat quiet and very firm; small sales; new No. 1 Milwaukee at \$2 25, and white western at \$3 to \$3 05. Rye quiet. Barley dull. Receipts—Corn, 3,456 bushels. Corn opened irregular and closed to 1/2c lower, with more doing, sales 230,000 bushels at \$4c to 86c for unsound new mix'd, and 80 1/2c to 85c for the latter. Oats, dull and lower, at 53c to 55c for new Western.

Latest Markets.—Flour closed dull 5c to 10c better for good sound medium grades. Wheat closed quiet and very firm. Corn closed 1c to 2c lower, and inv. active. Pork closed heavy, new mess \$31 50 cash.

Oswego Markets, June 29.—Flour—Market dull and unchanged; \$11 for brands from No. 1 spring, \$12 50 to \$13 from red winter; and at \$15 50 for double extra from prime white wheat. Grain—The market for wheat continues quiet, holders are asking \$2 5 for No. 1 Milwaukee club, but this is above the views of buyers, sales yesterday p.m., 1,700 bushels at \$2 33 1/2. Corn and other grains also quiet, and quotations nominal. Plaster quoted at \$1 20 per barrel. Canal Freight—Wheat 12 1/2c and corn 11c to New York. Lumber \$3 50 to the Hudson.

Milwaukee Markets, June 30.—Receipts of Wheat—45,000 bushels, No. 1, f.o.b. firm, at \$2 07 1/2, considerable sales at \$2 02 in store, sellers all July; No. 2, f.o.b. \$1 83. Flour—equal to No. 1 Mon. real inspection, \$10. Freight—On wheat to Kingston, 1c.

Chicago Markets, June 30.—Receipts of Wheat—21,000 bushels; No. 1, f.o.b. firm at \$1 10 to \$1 17. Corn—a shade easier at 57c. Receipts, 208,000 bushels.

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