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RURAL NOTES.

AN "International Exhibition of Animals connected with Agriculture" is to be held in Hamburg during the month of July, 1883. It is hardly likely that Canadian breeders will attend it to any extent, unless either the Dominion or Provincial Government, or both, assist in some way, as the distance and expense involved would be so great.

Sundry scoundrels are engaged in the rascally work of adulterating red clover seed with Hungarian grass seed, the mixture selling at from \$5 to \$6 a bushel. Hungarian is worth only about \$1 a bushel, so that the villainous compound is a profitable affair in a money point of view. The scales will quickly detect the fraud, as clover should weigh sixty pounds to the bushel, while Hungarian only goes forty pounds to the bushel.

The largest sale of thoroughbred colts and fillies that has ever taken place on the continent of America was held recently at Gen. W. G. Harding's breeding establishment at Belle Meade, near Nashville, Tennessee. Thirty-seven colts and fillies, sired by Engineer and Great Tom—the stallions at the head of Gen. Harding's stud—realized an aggregate of \$24,105, an average of \$611.48 each. About two thousand persons attended the sale.

The *Guelph Mercury* says:—"The far West doesn't flow with milk and honey for everybody. Mr. George Boulding, of Pilkington, is back again, after a brief experience of the charms of Dakota. He vows that he will stick to Wellington for the balance of his days, as he is convinced that there are worse places in the world than Bethany. He denounces the new country in round terms, and reports that Joseph Betchen, who recently went there, is about to return."

We learn from the *Prairie Farmer* that Jackson Farwell,—brother of the celebrated J. V. Farwell, of Y. M. C. A. and other excellent Chicago fame,—shipped from Glasgow, Scotland, April 20th, fifty-seven head of Polled Angus cattle. Eight are for T. W. Harvey, of Chicago, and the remainder were consigned to J. V. Farwell, for his Iowa farm, and to Anderson & Finlay of Lake Forest, Ill. Verily, there is a "boom" in polled cattle, and ere long horns will be at a discount among bovines.

The action of the Ontario Government in establishing a Bureau of Industries, one of whose main functions will be the collection of crop reports, is worthy of high commendation, and it is to be hoped will meet with hearty co-operation from all who may be asked to aid in making it a success. Timely information as to crop prospects

and results is of great value both to the commercial and farming communities, and will well repay the labour and cost involved in procuring it.

If it had been designed to cast ridicule on the practice of racing, it has been done pretty effectually by a young sprig of French nobility, who has matched himself and horse against a snail. He has wagered that he can ride a horse twenty-five miles before a snail backed by a wealthy man from Burgundy can crawl eight feet on a billiard-table. The snail-man is to have the privilege of "steering and stimulating" his pet with one fresh cabbage leaf sprinkled with powdered sugar. The stake is \$20,000. That will be a valuable snail if he wins, and a dear one if he loses.

An exchange gives the following account of the recent demise of a Shorthorn "Grand Duke":—

"The grand old 23rd Duke of Airdrie (41350) died on the 31st of March, of paralysis, at 'Crystal Spring Farm,' Delaware, Ohio. He was red, calved Nov. 12, 1871, bred by A. J. Alexander, of Woodford, Ky., who sold him, when about one year old, to Mr. Sanborn, of Port Huron, Mich., for the sum of \$3,000. Mr. Sanborn soon after sold him to Messrs. Avery & Murphy, of Detroit, Mich., by whom, at the dispersion of their herd in 1875 at Chicago, he was again purchased by Mr. Sanborn for the sum of \$9,600, and soon after re-sold to Messrs. Avery and Murphy, who have since had him in constant use, until at their final sale, in May, 1881, his late owner purchased him at \$1,050, thinking him a great bargain at that. He leaves ten calves, born and in prospect, begotten since that date."

If you wish to drive away flies, buy an ounce of oil of lavender and pour half of it into a pint bottle of cold water, and shake it up; the mixture is a medicinal one only, if dissolved in alcohol it is a perfect solution; but this becomes more expensive. Scatter your water and oil of lavender on the table-cloth and the flies will go away. Three or four doses suffices to drive away a pest of flies from a country boarding-house table. The time for flies is now nearly upon us, and if our readers will have this simple remedy in readiness it will save them a great deal of trouble.

Turf, Field, and Farm has the following paragraph concerning sales of trotting stock to Canada:

"Mr. A. B. Post, Gosben, N. Y., has made another shipment of trotting-bred stock to Canada. The last sales reported are as follows: Bay stallion Ridgewood, 1871, by Rydyk's Hambletonian, dam the Hoo Mare, by Wilson's Sir Henry; 2nd dam by American Eclipse, 3rd dam by Red Bird (son of Bishop's Hambletonian). Hart's Messenger, bay stallion, by Seneca Chief, dam Lady Jordan by Lattourette's Bellfounder, 2nd dam by Walden Messenger, &c., and a chestnut Kentucky-bred horse, trotter, said to be very fast. The purchaser is Mr. J. H. Dulmage, of Wingham, Canada. No figures quoted, but it is understood that a round sum was realized. A number of finely bred horses have been shipped to the Canadian Provinces within the past few years, the majority of which have been placed in the stud. It remains now to be seen whether the climate is as well adapted to the breeding of trotters as the milder climate of the States whence the progenitors have come. The breeding of thoroughbreds in the Canadian Dominion from stock raised in the United States has so far resulted only in a partial success."

In view of the following advertisement which appears in the *Globe*, we must now keep a sharp

look out for adulterations of Canadian confectionery and honey:—

"Glucose! Glucose! Glucose!—The Edwardsburg Starch Company now offer to the Trade the finest quality of Glucose, equal to any imported. Canada Grape Sugar Works, Cardinal, Ont. Office—Montreal."

Long before there was any need to do so, many of our people hesitated to buy extracted honey lest it might be mixed with glucose. The public should know that it is not at apiaries, but in city factories, that this adulteration is done. Our bee-keepers are alive to the mischief, and will brand their honey so as to guarantee it against vile admixture. Let honey buyers purchase only of known and responsible bee-keepers, and they will be all right.

The lovers of choice flowers weep over the demise of the genial seedsman and florist, James Vick, of Rochester, N. Y. He has departed this life at the age of 68. No man had a wider circle of friends who wished for him a ripe and sweet old age, for his customers, whom he numbered by the million, were all of them his friends. His honourable, kindly way of doing business endeared him to every one who dealt with him. An editorial notice of a visit to his place appeared in No. 2 of the *RURAL CANADIAN*. The following brief particulars of his career will be interesting to our readers:—

"James Vick was born in Portsmouth, England; was a playmate of Dickens, came to this country in 1833, and set type with Groody on the *Knickerbocker*; was a long time secretary of the American Pomological Society, a member of the Royal Horticultural Society of England, and went into the seed business in 1860. He was one of the most charitable of men. It is reported his gifts averaged over \$10,000 a year. During the Kansas grasshopper plague, nine years ago, he sent \$25,000 worth of seeds to the sufferers, and last year he sent \$10,000 or \$15,000 worth to the Michigan sufferers."

PROBABLY as near an approach to a just estimate of ensilage as we are likely to get from so competent an authority, is the following, by the veteran agriculturist George Geddes, which appeared in a recent number of the *N. Y. Tribune*:

"Silos have been introduced with such exaggerations of their good qualities, that many men are going into the extreme of discrediting everything said in their favour. But in the end it will probably be found that they have their uses. Fresh, juicy food is good to feed to cattle in the winter along with the dry fodder usually fed. But all their feed should not be so watery. One meal a day of succulent food is, perhaps, enough. Roots are used just because they are valuable to feed in connection with dry hay, corn stalks, and straw, but they cost too much, and are of too great uncertainty as a crop. May not the plan of preserving green food in silos meet this point? I have no idea that the nutritious value of an acre of corn is any way increased by ensilage. Fifty bushels of corn that will weigh 3,000 pounds when ground into meal (no cobs included) and 4,000 pounds of well-cured stalks will go further in wintering farm stock than any other product of an acre of land, produced at anywhere near the same cost, that I have seen. But cattle love a variety and some change in their food. Once a day some crop that has been preserved in a condition very nearly as it was when first cut, is very much liked by cattle, and cows give milk freely when they have such food mixed with the usual dry fodder. Their object may be secured by the silo, and I venture to suggest that this will be its best use."

FARM AND FIELD.

INSECTS INJURIOUS TO THE POTATO.

Some notice of the insects injurious to the potato come next in order. First of these is the too-well-known Colorado beetle, of which an illustration in its various stages of development is given. (See Fig. 14.) Having its home originally in the Rocky Mountains, it travelled eastward as it found itself within reach of the cultivated potato plant of which it is so greedy a consumer. Mr. Bethune thus describes its arrival in Canada. He says:—

“It kept moving eastward, still increasing in numbers, until it covered the whole of the States west of us. In 1871 I found it very abundant at Chicago, and on the shores of Lake Michigan; it was then unknown in Canada. I wrote some articles in the daily and weekly *Globe* and *Canada Farmer*, calling attention to the insect, and warning the people of this country of the invasion which was about to take place, and proposing that some measures should be taken by the Legislature to ward it off, if such a thing were practicable. Nothing, however, was done, and the following year the insect made its appearance, crossing the River St. Clair.

“We supposed that it would have gradually come eastward, but, to our surprise, it took advantage of the railways and canals, and spread itself with great rapidity, even to the remote parts of the Province. Having once arrived in this country, there was no possible means of repelling the invasion, and the only plan was to keep it under as far as possible.”

At first its appearance created a feeling of some dismay, and a want of acquaintance with any effective means of destroying the pest occasioned serious loss to the potato crop. But public attention having been fully aroused, action was taken, and now the potato bug, as it is called, is not the cause of very much alarm. Mr. Bethune says with regard to its suppression:—

“As the result partly of the experiments of Professor Riley, and partly of those of Mr. Saunders and Mr. Reed, who were appointed a committee by the Department of Agriculture, Paris green was found to be the most effective remedy. The information being communicated to the public by the Department of Agriculture and the newspapers, our farmers at once became informed of the best mode of attacking the insect, and ever since it has been kept in fair check. At first the crop of potatoes was short, and the price raised, but, since the first two or three years, it has not been looked upon as a very serious pest, simply because everybody is on the *qui vive* against it. I am certain, however, that if the community were to relax their efforts, it would soon eat up all our potatoes. There is no doubt that it is now a permanent resident of the country, and that we shall never be entirely free from it.

“It lives upon all the members of the solanaceous family; it will occasionally attack the tomato; it is very fond of the egg-plant, and of the wild members of the family, such as the bitter sweet and the deadly nightshade. “It is a disputed point whether

THE COLORADO BEETLE.—*Doryphora decemlineata*.



Fig. 14.

Shows the Colorado Beetle in its various stages of development.

THREE-LINED LEAF BEETLE—*Lema Trilineata*.



Fig. 15.



Fig. 16.

THE STRIPED BLISTER BEETLE—*Epicauta vittata*.



Fig. 17.

Fig. 15 represents the larva of this insect; and Fig. 16, the beetle.

THE SPHINX QUINQUE-MACULATA.

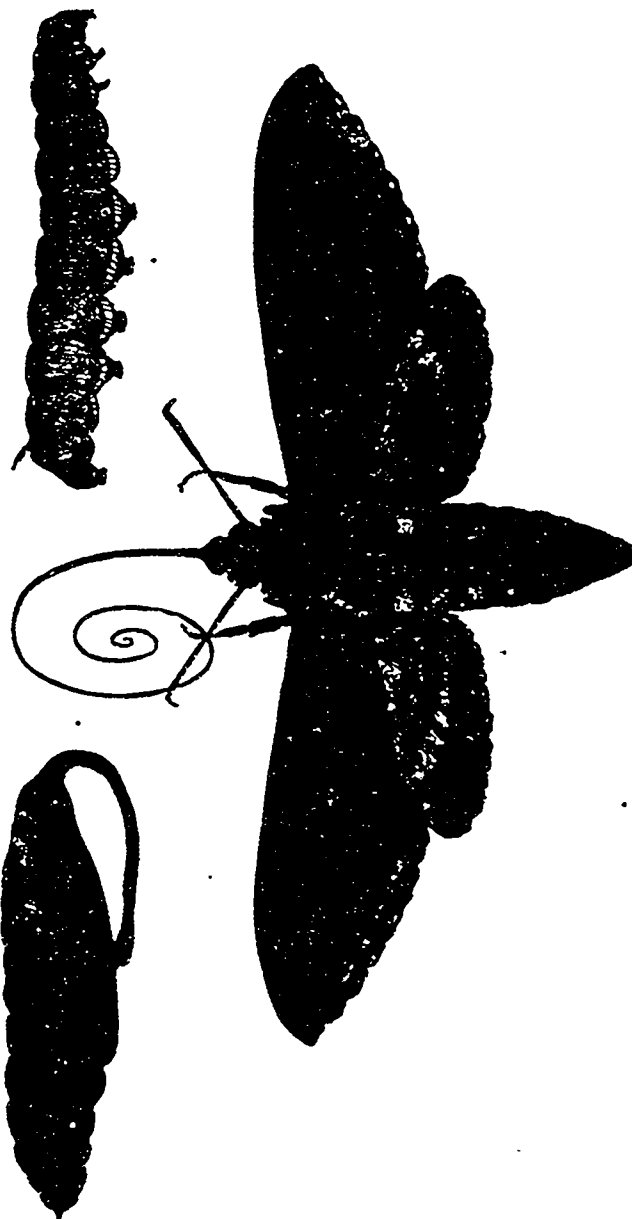


Fig. 18.

Fig. 18 shows the larva partly grown, the perfect moth, and the chrysalis.

Paris green prejudicially affects the potato plant, but there is no evidence, so far as I know, that it does. It is a question whether, if used year after year on the same piece of ground, it would not affect the soil somewhat. I think our farmers are not sufficiently careful in handling it. It is excessively poisonous, and there are every year a number of cases of poisoning arising from its use, which ordinary care would be sufficient to guard against.

There are a number of insect parasites which attack the Colorado beetle, but, of course, the application of Paris green kills these as well as the beetles. If the potato were not grown to such an enormous extent, these parasites would keep the beetle down to the dimensions of an ordinary plague, without artificial remedies.”

London purple is another remedy very similar in its effect to Paris green. In using these powerful poisons where potatoes are grown in large quantities, the best way, says Mr. Bethune, “is to apply the poison dry, mixed with lime, ashes or earth, but wherever there is a danger of its being blown on other vegetables, the better way is to mingle it with water and apply it with a whisk. It can be done just as rapidly in this as in any other way.”

The careful and persevering daily destruction of the eggs, a work in which children can be very well employed, is usually the means of greatly reducing the numbers of this pest.

The three-lined leaf beetle (*Lema trilineata*)—see Figs. 15 and 16—and the striped blister beetle (*Epicauta vittata*)—see Fig. 17—are also enemies of the potato, and may be destroyed, if they become damagingly numerous, by the use of Paris green.

The potato or tomato worm, feeding on both these plants, although preferring the latter, is thus described by Mr. Bethune:—

“When disturbed, it raises its head in a very threatening manner, and altogether looks so ferocious that it is popularly supposed to be very poisonous, which, however, is not the case, its bite being so feeble as not even to penetrate the tender skin of one’s hand or arm. When connected with the *Canada Farmer*, I looked into a number of cases in which the bite or sting of the insect was alleged to have caused poisoning, and found every one of them utterly unfounded, and came to the conclusion that the stories had been caused either by the juices of the tomato plant getting into an open wound, or by the sting of a wasp sometimes found amongst these plants. This worm has been ascertained to be identical with the tobacco-worm, which is so great a pest in the Southern States.”

The Sphinx moth (*Sphinx quinquemaculata*) is the mature insect of the tomato worm. The Sphinx is described as living through the winter in its chrysalis state; the moth, a handsome creature, derives its name from five orange spots on each side of its body. (See Fig. 18.)—From Ontario Agricultural Commission Report.

MANURE AND LABOUR.

The two great problems in American agriculture are in regard to manure and labour. The need of the former is increasing, and the cost of the latter is not diminishing. We are finding to our cost that we cannot forever depend on our "virgin soil," and we have long known to our cost that farm wages are immensely higher here than in foreign countries. And the only way we have borne up under this immense cost of labour has been by drawing on the fertility of centuries stored in our low-priced lands. Plainly hereafter our manure must be carefully saved, used to the best advantage, and handled at the least possible cost. It can be all saved only by having watertight stable floors and manure gutters, as recommended by W. T. S. and F. P. Root. It can be handled at least cost by constructing our stables so that we can drive our waggon or sled through, and load up directly from the manure gutter, and daily in winter drawing it directly to the spot where it is to be used. This saves once or twice extra hauling, and it brings the work in winter, when labour is cheap and teams and men are apt to be idle. It cuts the fields less to draw on snow or frozen ground, and it advances the spring work wonderfully. As soon as the ground is dry enough, it may be ploughed without delay for hauling manure. As to the value of the manure (for clayey soil) when ploughed under unrotted in spring I agree fully with both the writers referred to, in thinking that the soil is more enriched even for the second or autumn crop than if the same manure had been fermented in yard or large heap, and applied fine as a top-dressing. I am convinced by repeated and faithful trials of both methods that this is so. I have uniformly had better results with the wheat and grass seeding in the fall, when the manure has been ploughed under green in the spring and drawn upon by a spring crop, than when it had been rotted in a large pile, even with every precaution against waste, and applied in the fall with the wheat. Mr. Root's explanation is no doubt the true one. The manure, when turned under green in a heavy soil, will, in fermenting, supply ammonia to the soil, instead of to the air; and the decaying manure supplies humus to the soil and helps to loosen it and make it porous. It has in this respect the same beneficial effect as that produced by ploughing under a crop of clover. A shrewd Ohio Dutchman was lately asked why he always ploughed under his stable and yard manure green. His reply was: "Vell, may pe I can't exhlain him till you onterschandt him already, but I exhlain him to onterschandt him mit myself, dish vey. Venefer I slows dot fresh manure under dot furrow, don't you see, vanden dot furrow schmells him all summer, und der roots dey schmells him too." This is almost identical in thought with Mr. Root's more scientific language—"When turned under in a heavy soil, all the solvent (or soluble) and gaseous elements are absorbed by the soil and used by the crops."—W. J. Chamberlain in *Country Gentleman*.

THE INFLUENCE OF LIME ON GERMINATION.

We have lately referred to several investigations upon the influence of the steep water on malting, and it has been conclusively shown that the presence of certain salts, more especially the lime salts and the nitrates, exert a beneficial effect. The fact that lime is essential to germination has been recently fully confirmed by some interesting experiments made by Dr. Liebenberg, and which have recently been published in the journal of the Vienna Academy of Sciences. It appears that the seeds of many plants require the presence of

lime in the soil during the germinating process, or the seedlings die for the want of it. It is shown also that many other plants do not fail to germinate freely and well without the presence of lime in the soil. Dr. Liebenberg also points out that plants which fail to grow through the absence of lime in the soil do not fail in consequence of the injurious effects of any other matters that may be present, but because lime is essential to their healthy growth. These investigations have a practical interest for maltsters, and confirm the opinion of many who consider the quality of the steep water has considerable influence on germination, and therefore on the quality of the resulting malt.—*Breuters' Guardian*.

HARVESTING IN A BAD SEASON.

Quite a number of years ago the Royal Agricultural Society of England, says *The Farmer*, offered a prize for an essay on the best mode of getting in the harvest in a bad season. The prize was won by Mr. Edwin Eddison, who wrote: "My experience began in the wet year 1816, when the blackened straw of the barley looked like smoked stubble in the month of March." He adds, "Any suggestions I make are given not from theory, but practice, and my own observation. My directions will be reduced to the following heads. I am not aware that I ever had a stack on fire or was compelled to pull one to pieces." His directions are—

- 1—Reap early.
- 2—Make small sheaves.
- 3—Use single bands—i.e., one length of straw only.
- 4—Leave sheaves open as long as you can before binding.
- 5—Never allow the sheaves to lie all night on the ground.
- 6—Make small shocks.
- 7—Do not use hoods.
- 8—Rather let the wheat be muck in the shock than muck in the stack.
- 9—Carefully watch it.
- 10—When dry, carefully cart it.

He also adds, that in stacking, he cuts a grip nine or ten inches deep all round the stack bottom, about a foot from it, and takes care at the lowest point to have a clear opening or watercourse, and throws all the cuttings into the middle, so as to make the bottom convex; then puts a layer of straw, as much as would be a very good bedding for a tired horse. Upon that he builds the stack."

SPRING RYE FOR HAY.

Spring rye should be sown as early in spring as the ground can be well worked. It is not well to plough any land while it is too wet, so that the furrows will dry in lumps. From three to four bushels of rye is enough seed for an acre. The fodder should be cut as soon as it is fully grown, but before it comes into bloom. Rye grows hard, tough, and woody very rapidly after it begins to blossom. We cannot recommend it in preference to oats for a hay crop, but it is valuable for filling in the gap between winter rye and oats for green feed. It is a little later than winter rye, and a little earlier than oats.

POTATOES.

An important item in growing potatoes, which some of us do not heed, is the selection of seed. This must be done while digging, taking the seed from hills or vines that produce perfect potatoes, and throwing into separate piles or baskets. In saving Peachblow seeds, save the potato that is like the Peachblow in shape, or, to cut the matter short, a perfect Peachblow, Early Rose, Vermont,

etc., and not from hills or vines that produce its shape, or forty or fifty varying in size from a pea to a hen's egg, which you will get if you throw into heaps, barrels, or waggon, and sort seed from the lot. Try this, and see if it does not improve the quantity and quality of your potatoes, as well as of your corn or any crop where you make a choice of seed.

SOWING GRASS SEED.

A rough wind prevents the regular spreading of seeds, therefore choose a still day for sowing grass seeds. Instead of mixing clover and grass seeds together, the practice is recommended of going twice over the land, sowing the light grass seeds first, passing up and down the furrows, and subsequently crossing the land at right angles with the mixture of clover and other heavy seeds. The brush-harrow should be applied immediately before and after sowing, thereby covering the seeds before the birds or a change of weather can interfere with them. After harrowing, the whole should be carefully rolled.

HOP RAISING.

The poles being set, I commence ploughing between the hills, pulverizing the soil as fine as I can. When the vines are large enough, I go through the yard and tie them to the poles. The tying is somewhat tedious, requiring constant care until they reach the tops of the poles. About the last of June I put cultivators in the yards, giving them a thorough cultivation. Then I hoe them as I do corn. About the 1st of July I plough them again, this time turning the soil towards the hill. Then I hill them, making quite large hills. About July 15 they begin to blossom, and 45 days from blossoming they will be ripe and fit to pick.—*Cor. Rural New Yorker*.

In the purchase of seeds the Royal Agricultural Society of England recommends that purchasers should require a guarantee in accordance with the following standard:—1. That the bulk be true to the species ordered. 2. That it contain not more than five per cent. of seeds other than the species ordered. 3. That the germinating power shall be, for cereals, green crops, clovers, and timothy grass, not less than ninety per cent.; for foxtail not less than twenty per cent., and for other grasses not less than seventy per cent. The Society also recommends that the purchase of prepared mixtures be avoided, and that the different seeds to be sown should be purchased separately.

The Highland Agricultural Society of Scotland has ascertained by experiments that an ounce of red top seed contains 425,000 grass, and of timothy 74,000. Of more practical importance was the fact shown that the greatest number of seeds of timothy germinate at a depth of one-fourth of an inch. "Only one-half of the number sown," says the report, "germinated at a depth of one inch, and none at a depth of two inches. Orchard grass seed failed at 2½ inches. The proper depth was indicated at one-fourth of an inch. The result of the experiments in determining the germinating power of common field grasses corroborates experience and militates against the practice of some farmers, who sow their grass seed with the grain and harrow in. The proper way to sow grass is: After the grain has been harrowed in, cover with a light bush, or by passing over it with a roller, or if left upon a seed bed it will germinate if not bushed at all."

A PATIENT and humble temper gathers blessings that are marred by the peevish and overlooked by the aspiring.

GARDEN AND ORCHARD.

TRANSCENDANTS IN THE NORTH-WEST.

A farmer writes from Meeker County, Minn., to the *Farmers' Union* :—

A vigorous and persistent effort has been made by certain nurserymen to drive this crab from our list of valuable apples. While it is objectionable on account of its being liable to blight, I venture the assertion that no other apple has so much reason to boast over the returns it has made those cultivating it. It is the pioneer apple. It is the earliest and most prolific, and ever since its introduction there has been no other apple to compete with it in our markets, unless it is within the past few years, in the south-eastern part of the States. Last fall I stood for some time watching the market in Minneapolis. There were some Hyslops, and now and then a basket of some other variety, but the great bulk of apples brought to market were Transcendants. And this is especially true of this whole region west of Minneapolis. There are some Hyslops, a few Duchess, and now and then an Early Strawberry, but the Transcendants fill the markets. Of all the varieties set in my grounds ten years ago, the Transcendants have given the earliest and best returns. It is only within the past three years that the Early Strawberry has been profitable, and last year was the first harvest from Minnesota trees set at the same time with the Transcendants.

A few years since one of my neighbours invited me to look at his trees. When we reached his place he led me to the only Transcendant he had, and said: "That is the only tree that is good for anything on my place. It is the only one that grows thriftily and bears apples, and I want you to set me forty more just like it." And I did, and it is a thrifty, fruitful orchard, and has shown no blight yet. And I often find it difficult to persuade men to take any other kind of trees; "they want that kind that grows the best." Often the only trees that give full satisfaction in a bill of trees sold are the Transcendants. I have not been troubled with the blight until last year. Among my orchard trees the Transcendants were affected as little as any other variety. Some of my largest and finest Transcendants were not touched, while I do not think a single Early Strawberry—which is not regarded as subject to blight—escaped untouched. In the nursery rows the Transcendants suffered the most of any, and this I conceive to be the real ground of objection to the Transcendant on the part of nurserymen. But by all means let this apple fill its place as a pioneer, and it will pay for itself many times over before it must give place to others.

HOW TO GROW THE CAULIFLOWER.

I have been successful in raising cauliflower, and as there appears to be a want of success—so far as I am acquainted—I will give you my method of cultivation. I sow my seed in the open air at the same time I do for cabbage. I am not anxious to raise hot-bed plants, or even early plants, for I find they do not do as well in our long hot seasons as later ones. From the 20th to the 30th of May is early enough for our latitude (New York) and our deep, rich sandy soil. On the 10th of June, 1870, I spaded up a bed of the Wilson strawberry, which had just yielded its last picking of fruit, burying the tops deep in the soil, and the same day set out the ground with cauliflower. They did well, forming fine curd-like heads of fair size. Last season I set my plants on the 25th of May, and although the season was one of long and continuous drouth, they did well, nearly all forming handsome heads,

some of which were very large. One head, out short as it could be and closely trimmed, weighed twenty-eight pounds. These plants were set between the rows of early potatoes. The potatoes were dug in June, then they had the ground all to themselves. I set the plants about four feet apart each way, and about one foot below the surface of the ground, in rich soil, with a liberal supply of ashes mixed through it. Stir the ground often, drawing the mellow soil around the plant. If the plants do well they will completely cover the ground. In the heat of summer I mulch with green grass or weeds—never water, but sometimes flood them well with soap-suds. In this way I generally get very fine heads.—*Fruit Recorder*.

A NEGLECTED VINE.

One who has such a vine, and cuts it now, will find it bleeds abundantly, and whether, as some contend, this is of no injury, it is a great nuisance, which it is desirable to avoid. As no one neglected vine will be like any other, we can only give the most general directions. One standing before such a vine will find it to be made up of old and new stems, the new ones distinguished by their smaller size, brighter appearance, and prominent, if not already started buds. One general principle must be borne in mind. The growth—the shoots—that come from these buds, and this only, will bear fruit. When the shoots are but a few inches long, the little clusters of fruit buds may be seen. To treat such a vine one must imagine that wherever a bud is now, there will in a few weeks be shoots several feet long. Every old vine is likely to show vastly more buds than ought to grow. As a general rule, we may say, take every last year's cane and break off all but the lowest two of these buds, and when the leaves of these have expanded, cut away the rest of the cane, no matter how long it may be. These two lower buds on each cane will give all the foliage and fruit—probably more—than will be needed. Do this all over the vine, recollecting that the shoot from each bud will produce by autumn just such a cane as now bears them.

HOW TO GET EARLY SWEET CORN.

Says the *Germantown Telegraph*: Judge Miller, of Missouri, being on a visit some time ago, mentioned to us a fact discovered by himself, in which a full week can be gained in getting sweet corn for boiling. He said it was, that as soon as the ear is formed, break the top down or cut it off, but leave the stalk erect in order that the pollen of the tassel will be sure to dust the silk of the ears, as they may not be fully impregnated should the stalks be topped. He stated that he had experimented for years, and was entirely satisfied that it is uniformly practical and of value. In fact he thinks that the ear becomes more fully developed also. This is a hint easy to adopt, and may be of interest to tuckers as well as for the private garden.

A CURCULIO REMEDY.

The best remedy I have found for driving this destructive enemy from plum trees while the fruit is young and tender, is turpentine either alone or with aromatic substances. Gum camphor dissolved in this mordant alone will produce a very strong odour not relished by any insect, and if any of the essential oils are added, such as peppermint, pennyroyal, sassafras, etc., it becomes intolerable to all insects for quite a distance in proportion to the amount used. Turpentine poured upon the buds of the "balm of Gilead," so called, will also prove effectual in driving insect life away. My mode of applying these remedies

is to saturate cotton twice or three times a week from the time the fruit is formed until it is about half grown, and hang it in the trees; to prevent any dropping upon the limbs, the cotton may be put in old fruit cans. If the trees are large, take a long string, tie a small stone to one end and throw it over one of the upper limbs; with both ends of the string in your hand you can replenish the cotton, and adjust the height at will without the least trouble.—*Fruit Recorder*.

ARTICHOKES.

It is a difficult matter to get the tubers all out of the ground, which fact has led many to fear that if once started on the farm they would take possession, and could not be got rid of. Put them in some out-of-the-way corner, and you will not want to get rid of them. In case you do, make a hog lot of the patch, and mow them in August. Last July or August part of mine were mowed by mistake, my hired man thinking they were weeds. On the quarter of an acre mowed not a sprout has appeared, and I dug to see if there were any tubers, and could find not one. A good way to plant is to have a boy or a man follow the plough and drop the tubers three feet apart in each third furrow, then cultivate as corn. The second year, though to all appearances these artichokes may be rooted out, they will come up thick. When well up, plough rows with cultivator to thin, and cultivate a time or two as before.

WALNUT TREES SHOULD NOT BE TRANSPLANTED.

A correspondent of the *Detroit Free Press*, agent the undertaking of a man in Michigan to reset 1,000 black walnut trees for commercial purposes, says that they cannot be transplanted and retain their vigour. They should be grown from the nuts. He has made experiments by both transplanting and raising from the seed, which has convinced him that the latter is much the preferable way.

One of the best remedies for the currant and gooseberry worm is to sprinkle the bushes with a strong solution of copperas water, using a gallon of water to a quarter of a pound of copperas, and applying it from a watering-pot, a single application killing the worms as "dead as a door nail."

MILAN W. HOPSON, a small market gardener of Fort Atkinson, Wis., saved all his cabbage last year by the use of fine middlings. Sift the middlings on when the plants are damp and wet, so that the middlings will adhere to the leaves. The middlings are not poison, but the worms eating of them are destroyed by indigestion.

It is said that if a cucumber vine is trained to run up a stake on which a few stubs of limbs have been left along its whole length, the crop will be enormous. By this plan the vines not only occupy less space, but are afforded opportunity to follow their natural habit of climbing up, instead of running on the ground.

The *Gardener's Chronicle* says: "Pulverized fresh lime will effectually drive earthworms from lawns. The lime also kills moss, which is so troublesome on old lawns, often destroying large patches of grass, and so sadly interfering with mowing. Mix the lime with twice its bulk of fine soil. Leached wood ashes we have found better than soil for mixing with lime."

GOD ALMIGHTY first planted a garden, and indeed it is the purest of all human pleasures. It is the greatest refreshment of the spirits of man, without which buildings and palaces are but gross handiworks, and man shall ever see that when ages grow to civility and elegance, men come to build stately sooner than to garden finely, as if gardening were the greatest perfection.

THE DAIRY.

ESTABLISHING A BUTTER FACTORY.

A correspondent from Milford, N.H., writes as follows: "Will you please give the probable cost of a factory capable of manufacturing the product of 1,000 cows into butter by improved machinery, and as high as you can approximate to the value of a quart of milk from the average cow for that purpose in your vicinity the past year?"

A butter factory fitted up with all the latest and most approved machinery for taking the milk of 1,000 cows and making butter only, will cost from \$3,000 to \$4,000. No exact sum can be given, as the price will vary according to the plans and style of building and its location. The cost of material and the price for labour will vary in different localities. If the skimmed milk is to be worked up at the factory into cheese, the cost will be somewhat increased. Before erecting a factory it would be advisable to consult some of the dairy supply houses, and get lowest price on a complete outfit of machinery and appliances.

As to the value of a quart of milk for butter making in this vicinity during the past year, exclusive of the skimmed milk, I find that good butter brought in the Little Falls market the following prices: From April 4 to June 6, 1881, on an average at weekly sales, per pound, 25¢; June 6 to Oct. 8, 1881, 26¢; Oct. 8 to Dec. 19, 1881, 31¢; Dec. 19, 1881, to April 3, 1882, 34¢. This would give an average of about 29¢ per pound, providing the quantity made here in summer bore a reasonable proportion to that made during fall and spring. As this section is largely engaged in cheese dairying, very little butter comparatively is made from May to October, the great bulk of the butter product here being produced in spring and fall. If the quantity therefore be taken into account which was sold at this season it would raise the average price probably to 32¢ per pound, but in our estimate we will take the lowest figures, 29¢.

Now, the average quantity of milk required at the butter factories (the milk of common cows) will range from 21½ to 24 pounds of milk for one of butter. A quart of milk weighs 2 pounds and 2½ ounces; or if we take the standard adopted at the creameries of the West, where the standard value of milk is put at 8½ pounds, the butter value of a quart of milk may be readily calculated.

According to this last standard, two and one-half gallons or 10 quarts of milk will weigh 21 9-16 pounds, or 21 pounds 9 ounces, and 11 quarts of milk may be then assumed as a good fair average of the quantity required to make a pound of butter worth say 29¢. This would give the butter value of a quart of milk at a fraction over 2.68 cents, or not quite two and three-quarter cents at last year's prices.

We have also in addition to the above sum the skimmed milk, the value of which will depend upon the use made of it, whether as a food for domestic animals, or as a product to be termed "skim cheese." The value of this last will also depend upon the variety and quality of the goods manufactured.—X. A. Willard, in *Country Gentleman*.

CANON BAGOT ON THE SETTING OF MILK.

"All milk," says the Canon, "coming into the dairy should be strained through a fine wire strainer. The object of setting milk is to get all the cream from it. Undoubtedly the Swedish plan is the best, because the cream is obtained in twelve hours, leaving the milk perfectly sweet. The American Cooley system is much the same, using cold water instead of ice. But in the old-fashioned way, there is a rule in setting milk which it is

well always to bear in mind, namely, the lower the temperature of a dairy, the deeper ought the setting to be, and the higher the temperature, the shallower the setting; so that, following out this rule, milk may be set from eight inches deep in winter to one and a half inches in summer. The careful following out of this rule will do much to counteract the inconvenience often felt from the want of a stove or heating apparatus in a dairy. Milk should always be skimmed before it has turned the least sour. The separator—a machine which mechanically separates cream from milk—is fast coming to the front, and in a year or two, in its improved form, will probably be used in all large dairies. The principle of all separators is that milk revolving at a high speed throws up the cream to the top. Already great improvements have been made, and it has been conclusively proved that the whole of the cream has been separated, leaving none in the milk."

THE KIND OF COWS FOR THE DAIRY.

Hon. Wm. Fowler, of Washington county, Minnesota, says:—

"My dairy is composed of a few natives, which I bought to fill out with; the rest are high grades and thoroughbred Shorthorns of milking strain. Some of my grades have given sixty-five pounds of milk per day; others have made two and a quarter pounds of butter per day! Cows of my own raising are decidedly the most profitable. Out of twenty heifers, I expect to get from sixteen to eighteen No. 1 cows. I don't sell or kill my calves. When our dairymen learn to use a thoroughbred bull and raise the heifer calves, then we shall begin to have cows that will not only be a source of profit to their owners, but will be a great benefit to the State at large."

He says that one of his grade heifers gave fifty pounds of milk per day the second year she had a calf, which made two and a quarter pounds of butter each day. He expects to do better than that this year with some of his young heifers. He thinks that the cows of his own raising are worth double those that he buys. He adds:—

"We are all of us keeping more or less cows at a loss. It does not pay to keep a poor cow, for she will eat up the profits of a good one. Now, when our Minnesota farmers and dairymen learn that in order to build up a herd of dairy cows that shall excel as milkers (and that means being more profitable to the owner), they must begin at the foundation, which, in my judgment, is a thoroughbred bull from an unquestionable milking strain of whatever breed, and raise all the females, and when they come to maturity weed out for beef all that do not come to their standard of what a good cow should be. I hope that all of our dairymen will keep an account of dairy receipts, and be able to show a better herd of twenty-seven cows than I have."

MILK FEVER.

In consequence of the greatly increased introduction and breeding of the Jersey cow, milk fever has become alarmingly prevalent, and much more fatal than formerly. This arises from two causes: first, the extra richness of her milk; and second, forcing her by the consumption of an extra quantity of rich food to an unusual production of milk, besides foolishly vying with each other to see which could obtain the greatest weight of butter per cow during a single week, month, or year, as the case might be. Frequent losses of highly valuable animals from milk fever have been the result of this unpardonable ambition. If taken in time, except in the worst cases, milk fever is easily and simply cured; but the best thing is prevention. This is accomplished

by putting the cow several weeks before calving on upland hay alone of medium quality; or, when there is much danger of sickness, this may be mixed with a greater or less quantity of straw; or if fresh or salt water meadow hay can be had, feed that alone, or at least only add one or two quarts of coarse wheat bran morning and night, for the purpose of keeping the bowels more open. Put a lump of Liverpool rock salt where the cow can lick it at pleasure. If this is not at hand, then give a level tablespoonful of fine salt daily in the bran. Let her drink all the water she desires, morning, noon, and night. If the weather be cold, take the chill off this before given to the cow. Pursue the same course for a week or two after calving. If the bag be very full before calving, partially milk it, and after calving milk her perfectly clean three times a day.—A. B. Allen, in *New York Tribune*.

ADVANTAGES OF TETHERING COWS.

A breeder living in the Island of Jersey writes to the *London Live Stock Journal*:—

The advantages we claim for tethering are:—

(a) Economy of food. Some good judges have put this as high as 50 per cent. They assert that three tethered cows may be kept where otherwise you could only keep two. But no one in Jersey is willing to put it lower than one-third; where three only could find pasture loose, you may increase your stock one-third, and keep your cows if you tether them. The grass is eaten up clean fine and coarse alike; none is left and none spoiled.

(b) The feed is regular and equal; the cow is not pampered one day and starved the next; her appetite is not spoiled, nor her digestion deranged.

(c) It gives perfect command of the food supply. A cow can have much or little, a long tether or a short one; she can be confined to a poor corner or favoured with the fat of the land, as may be necessary or desirable.

(d) It saves fences and economises food that would otherwise be wasted from the impossibility of letting a loose cow in to graze it.

(e) The cow is more gentle; her keeper is her good genius, on whom she is constantly dependent for all her wants. Her docility (and affection even) follows as a matter of course.

(f) It is doubtless to the tether that our Jersey cows are indebted for their exquisite fineness of limb, their airy grace, and general elegance of proportions and appearance.

(g) More butter is obtained. Nothing is so destructive to animal fat—whether on the flesh or in the udder—as motion and exercise. This is so well known as to be proverbial, yet how often is it overlooked. The same farmer who fats his bullocks quietly in a stall may give his cows the run of a large pasture, as if they were in training for a race.

I AM convinced by an experience of near fifty years that it is well to tie the legs of every heifer, no matter how gentle, for a short time, say a week or ten days, as a part of her discipline and training when being learned to milk. She will never forget it when a large, strong cow, and then if her teats get scratched or chapped, so that she must be tied to be milked, she will submit with a very good grace, otherwise she may object as strongly as one of ours did awhile ago. We attempted to tie her legs, she reared up behind, both feet, like a mule, causing one or two of us to make elevated as well as rapid transit.—R. H. Richardson, *Erie Co., Penn.*

THE area of the Dominion, according to a return recently issued by the Department of the Interior, is 3,406,542 square miles.

HORSES AND CATTLE.

BEEF AND BONES.

These expressive pictures tell their own tale. The horns of the "Bones" illustration may seem somewhat exaggerated, but there is an English breed of Longhorns that sports just such head gear as the artist has represented. The pictures are not fancy sketches, but taken from life. It is probable that these immense horns will ere long be known only in history, and that the coming ox will have no horns at all. Unquestionably there is a strong tide of preference in the direction of hornless cattle. The Polled Angus and the Galloway breeds are coming to the front, while the Shorthorns hold their own as unmistakable favourites, one feature strongly recommending them being the smallness of the bony structure as compared with the mass of beef carried by it. Gaunt, bony cattle are everywhere at a discount, and farmers will do well to give them a wide berth. The maximum of meat with the minimum of bone is what should be aimed at in cattle-breeding. Our most prosperous farmers are those who are throwing their utmost intelligence and best business management into the feeding of live stock for the shambles. The grand secret of success is to make as large a proportion of the produce as possible walk to market. "No stock, no manure; no manure, no crops."

CANADIAN HORSES.

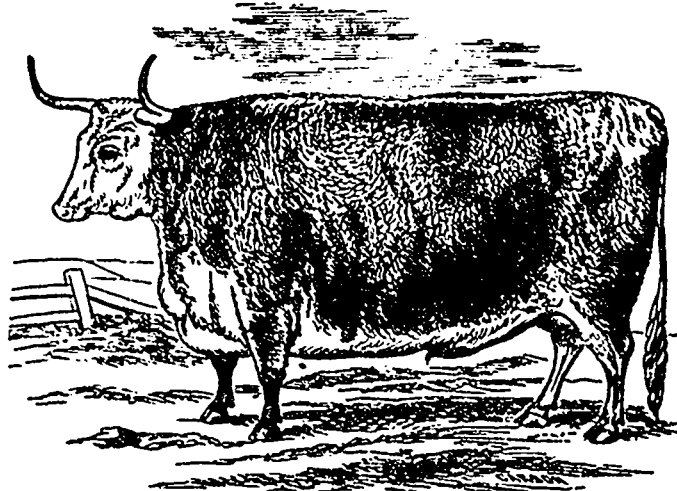
A COMPLIMENT TO CANADIAN BREEDERS.

In 1880, two French army officers, Lieut.-Colonel Baron Taverat de Kerbrech and Captain Henri de la Chere, visited Canada and the United States, commissioned by the French Government to investigate and report upon the nature and qualities of the horses produced on this continent, with a view more particularly to their adaptation to military uses. Their report was published in Paris in February, and the following extract, referring to Canadian horses, is clipped from a translation published in the N. Y. *Spirit of the Times*:

CANADIAN HORSES.

The Canadian horses have the distinguishing quality of all of them being more or less of English blood, and that none of those entirely worthless and shapeless animals are to be found among them that are so frequently to be met with in Europe. The English have continued, from the time of their occupation of the country to the present time, to introduce horses from the mother country. At one time stallions, then thoroughbred mares, or nearly so, were brought over by officers and colonists, and although the sires or dams may not have been so remarkable as those of Kentucky, for instance, yet the local breeds, especially in the west, have been considerably improved thereby. The Province of Ontario is another Normandy, from the richness of its pasturages, and the osseous and muscular development which they give to the foal. A great deal

of the country stock reminds one of the horses of the French Province, but they are more regular in their lines. The types are as varied as the sizes, and the *ensemble* is much like what one sees in England. The head is not always as light and finely shaped as might be wished; but the neck, which is sometimes a little short, is straight and pretty well supported; the chest is deep and comes down well. The windpipe is well indicated. The back is somewhat short, the loins straight, the crupper sufficiently long, the hips are prominent. In a word, whether large or small, the animal shows blood. He is built for the saddle, and made "wedge shape," broader in the hind than in the fore quarters, which makes up for his relative narrowness by his development in height.



BEEF.



BONES.

THE VARIOUS BREEDS.

There is a whole category of horses issued or derived from trotters in Canada West. The former have, of course, their good points and their defects, that is, they are very good when coming from trotters of the right stamp and build, but are mediocre when the produce of the flat, long, thin, and blemished animals so common in the north-east of the United States. But although these latter are a source of mischief in Canada, their influence in this respect is much less, as the "cold blood" species have almost entirely disappeared from the Dominion.

A category of light draught horses, measuring from 15 to 15.1 hands, is also to be seen in Ontario. They are of peculiar build, and not so angular nor straight of line as those which approach the thoroughbred by their shape, but they are well constituted, slender, with enormous muscles in their fore limbs and the buttocks, a little round in their forms, and having too much pitch in their

backs, but very strong, with fine tissues, showing energy and staying power, and are rapid and very active in their movements. Larger ones, from 15.2 to 16.1 hands, are straighter in the neck and shoulders, back and crupper, and are heavier in build, with more of a mass. They show blood, however, and are said to be full of fire and light in their gait. The English make use of them for their artillery.

A certain number of Percheron stallions are made use of in Canada, while crossings between Clydesdales and thoroughbreds, or near thorough, are numerous. The issue of these latter couplings are large and heavy, but a great many have a good build and fine lines, but those issuing from these same Clyde stallions and fat mares are generally enormous and shapeless heaps of meat, having only in their favour the strength and dead-weight which they bring to draughting heavy loads.

THE PONIES, ETC.

Finally, there are some very hardy, low, and heavily-built ponies in Ontario, that are very like those in the neighbourhood of Montreal. As for the saddle horses, of which we have spoken above, the best and the most numerous are those standing from 15 to 15.2 hands. Although this Province is the richest in the number and quality of horses, yet there are very few "park horses" produced. This is the *cheval de luxe*, of remarkable model, having length, substance and high action. This arises from a double tendency on the part of the public, who are too desirous to have the fastest trotters for the light waggon, and the largest animal for draught. Local breeders undergo two influences that are diametrically opposite—on the one hand looking for speed, which tends to "make slender," and increase the height and length to the detriment of strength, staying power, and the limbs themselves; on the other hand, the straining after bulk, the endeavour to increase thickness beyond measure at the expense of constitution, vigour, blood, and gait. These two ways only lead further away from the *cheval de luxe*, and the inevitable crossings of the deriva-

tives of two such dissimilar types can only give products outside the laws of nature—monsters, in a word. It is by placing more importance on the model, the chest, and the lines of the trotter, and asking for less weight, but more regularity, energy, and gait in the draught horse, that we can succeed in gradually lessening the dissimilarity that separates these two extremes, so that from either side the breeder may have his park horse by the simple crossing with a stallion of good pedigree—a Norfolk or a half-breed Anglo-Norman, for instance.

COMPLIMENTARY.

The Agricultural Commission of Ontario, which is composed of men very skilful and well-informed on the equine question, seems to understand the great importance there is for Canada to produce the park horse, which is even rarer than in the United States. In fact, the equine resources of England and France, which are the principal producing countries as well as markets, are becoming

exhausted, and the time is not, perhaps, very far distant when Europe will be glad to find a stock of fine horses in Canada. Some intelligent breeders have obtained such in Canada West. Mr. John Coote showed us, near London, Ont., a magnificent pair of chestnut carriage horses, 16.1 hands, perfectly matched in coat, model, length, and action. The mare especially was perfection itself. It would be impossible to find such a finished type of elegance, proportions, carriage of head and tail, and ease, fire, and lightness of movement. Finally, the Agricultural Commission seems to be willing to come to the system of "approved" stallions. It would give licenses for such horses as it would approve, and prizes for the best. Such a measure would produce the greatest results in Ontario, as the farmer there is always willing to be guided by persons whom he knows to be better informed than himself.

THE CLYDESDALE.

The Clydesdale horse is highly appreciated in America, on account of his ponderous mass, which he often only too faithfully transmits to his offspring. His influence is, however, much more prejudicial, especially in the States, than that of the Percheron. He is weaker in the upper parts than this latter, and lacking in the crupper and lower parts. So, when he is given mares to cover that are themselves overloaded with lymph, he produces those enormous masses of flesh without energy or staying power. These shapeless mastodons carry off prizes at the agricultural fairs, simply and solely because they weigh a ton when two and a half years old.

The Clydesdale is, however, often coupled with mares of muscle and race—in Canada, for instance, where the entire equine race has more or less English blood. In such cases, the qualities of the dam correct, in part, the defects of the sire; and if the get is not always satisfactory, they are, nevertheless, more so than the first-mentioned.

The Clydesdale stallion is distributed in the same States, and in about the same proportion, as the Percheron, except, however, in the Province of Ontario, where he is much more numerously represented than the latter.

A BOVINE EXODUS.

The practice of pasturing live stock on public streets has obvious disadvantages everywhere, especially in populous towns. The authorities of Des Moines, Iowa, were doubtless justified in their recent determination to put a stop to it so far as that city is concerned, and the consequent movement seems to have eclipsed there for the time interest in all national issues. A week's notice had been given; fair warning by means of thousands of handbills, "incorporating the ordinance," posted "on every street corner," and the matter was "discussed in every neighbourhood and in nearly every house." Active hostilities began on a Saturday, and we take from the local *Register* part of the record of the war that followed, which, happily, was bloodless:

"A great number of smart people thought they would risk it Sunday, not believing the officials would enforce the law on that day. By Sunday night thirty cows were in the West Side pound, and the whole force were so busy taking up the cows found near the heart of the city that they were not able to get out more than eight or ten blocks. But yesterday they extended their line to the suburbs, and several gangs of twenty or thirty cows in a bunch were seen being escorted to the pound by two or three mounted policemen. These expeditions of the mounted police advertised the law in a fine way, and the news of it would go through the neighbourhood like wildfire. A reporter saw an illustration of it on Upper Sycamore street,

where two mounted policemen swooped down on a herd of twelve or fifteen cows. It was nearing night, and the cows had no notion of being driven in a direction leading from home. And the policemen had no sooner appeared on the spot than the ground seemed to yield up women and children. Every alley nearly was filled with women and children rushing to the rescue of their bossies. The cows broke from the policemen in all directions, and the women and boys were not slow in encouraging and covering their retreat. Finally the police got started to the pound with three of the cows. In the next fifteen minutes there wasn't a cow within half a mile of the spot that was not hurried into the lot or stable."

This account will bring to mind of many oldest inhabitants recollection of similar scenes in other cities, possibly in New York itself. Such excommunication always marks an era in the development of every town, and the day doubtless approaches when even the four-footed goats of our own metropolis will have to go.—*N. Y. Tribune.*

THE NUMBER OF MARES TO BE SERVED.

The number of mares that a stallion may safely be permitted to serve during a season has long been a subject of discussion among horse breeders. It is generally held that the two-year-old stallion will be all the better for not serving any mares at all, that a three-year-old should be limited to fifteen or twenty services, and that a four-year-old should not go beyond twenty or thirty. There can be no question that the use of the procreative powers by the unmatured horse tends to retard his physical development, and as a general rule it may be stated that there is no horse but what would be the better for absolute continence until he is fully matured. But while this is unquestionably based upon sound physiological law, and is the true theory of perfect physical development in the male, there are advantages attending the earlier use of the stallion, to a moderate extent, that perhaps more than compensate for all the damage that may result from it. It is very desirable, at the earliest possible stage in the life of a stallion, to ascertain what his qualities as a foal getter are likely to be, and with this object mainly in view we consider it wise to let the two-year-old serve a few choice mares; merely enough to show the character of his get.—*Breeder's Gazette.*

FEED FOR A BULL.

A young bull should not be kept tied in the barn and stuffed with meal and oilcake, nor yet turned on the common, night and day, to run with a lot of cows. While he should have to eat and drink what will make him grow vigorously, he should also have plenty of exercise, and not be allowed to serve a cow more than twice, and ordinarily one service will be sufficient. If he can be kept in a pasture in summer, that is his proper place, but at all events he should neither be fed to excess or starved; rightly managed, he will be capable of much valuable service, and return a bounteous interest on any reasonable cost.

WORKING UNSHOD HORSES.

Robert Martin, of Green Farms, Con., says that he works his three horses without shoes, saying: "I find that they work better, are more sure-footed, and far less liable to lameness than when shod, and I am satisfied that horses' feet, as nature made them, are all-sufficient for ordinary work. After my long experience I should now as soon think of going to a farrier myself to be shod as to send my horses. Our roads are rough, hilly, and stony, much more than the average road. To

prevent the hoofs from chipping, the toes should be kept slightly rounded by a coarse file, such as used by shoers, and the feet should always be looked to when the horse is groomed." What surprises us so much in this matter of horses going without shoes is, that if this is really correct, why the thing does not become universal.—*Germantown Telegraph.*

AN "UNUSUAL" ITEM.

Editor RURAL CANADIAN:

SIR,—On Monday, the 3rd of April, 1882, one of my cows slipped her calf, born dead. On Saturday, April 22nd, 1882, she had a bull calf, both doing well. Is not the above a very unusual thing—nearly three weeks between the slip and calving?

Yours respectfully,

W. TURNER OPENSEAW.

Norcott Farm, Port Sydney, Ont., 24th April.

Ans.—Yes, unusual, but not unprecedented.—Ed. R. C.

INDIGESTION AND SCRATCHES IN HORSES.

For indigestion give the following: Blood root, mandrake, gentian, liquorice, ginger, lobelia, each 1 oz.; nitre, 8 oz.; sulphate of iron, 4 oz.; sulphur, 6 oz.; sassafras, 8 oz. Mix and powder. Dose, 1 oz. a day in a pint of flaxseed jelly. For scratches give the above powder and the same amount; then take the water that potatoes are boiled in and wash the limb clean once a day, then apply this ointment: Sulphuric acid, 2 drachms; belladonna, 1 oz.; laudanum, 1 oz.; aloe, 1 oz.; sulphur, 2 oz.; lard, 6 oz. Stir well and apply.—*Detroit Free Press.*

The standard trotter is one that can cover a mile in 2:30. It is said that less than 600 of all the horses raised and trained in the United States have this record. The number that can trot in 2:50 bear the ratio of 1 to 2,383 horses raised. As a business the breeding of fast horses is therefore very much of a lottery; and when we recall the fact that the high prices which the famous colts have brought have rarely been received by the men who raised them, the prizes in breeding and training trotters are few and uncertain.

How deficient most people really are in information of common things! For instance, ask what a horse is, and not over nineteen persons in twenty—counting old and young together—would be able to tell you more, on the spur of the moment, than that a horse is a "hoofed quadruped of the genus *Equus* (*E. caballus*), having one toe to each foot, a mane, and a long flowing tail; is exclusively herbivorous, with six broad grinding teeth on each side of each jaw; and six incisors and two canine teeth both above and below, the mares having the canines rudimentary or entirely wanting. It has all four legs furnished with warts or castors, which distinguishes it from the ass; is supposed to be a native of Central Africa; excels in strength, speed, docility, courage, and nobleness of character, and is used for drawing, carrying, bearing a rider, and such like purposes." What loquacious ignorance! But listen now to the terse and simple statement of "modern physiology": "A horse is a descendant of an extinct perissodactyl mammal belonging to the solidungulate division or equidae family; in scientific nomenclature, *HITTARIUM*." Now you know what a horse is!

Don't set out raspberries, blackberries, currants, gooseberry or grape roots with much wood. Cut it back within two or four eyes of ground, and you will get a strong healthy growth this season.

GOOD PAY TO AGENTS.

Agents wanted in every village, town and township, to make a thorough canvass for the RURAL CANADIAN. Liberal inducements. Work to commence at once. For full particulars address

O. BLACKETT ROBINSON,

5 Jordan Street, Toronto.

Publisher.

LETTERS on business should always be addressed to the PUBLISHER; while communications intended for insertion in the paper, or relating to the Editorial department, to ensure prompt attention, must be addressed to EDITOR RURAL CANADIAN.

The Rural Canadian.

EDITED BY W. F. CLARKE.

TORONTO, JUNE 1st, 1882.

SHORTHORN FUNERAL ORATIONS.

The New York Tribune has been moved to deliver two pathetic funeral orations over the remains of a notable Shorthorn cow. They have the rare merits of brevity and very plain speaking to the friends of the deceased. The first, headed "A Shorthorn Obituary," is as follows:—

"The circular of Mr. John Thornton, summing up the results of the auction sales of this breed in England during 1881, showing rapid decline in prices over some previous years, gives the *Mark Lane Express* opportunity for plain language in the way of obituary notice of the Shorthorn mania. The fictitious value of the animals as fanciers' pets, or for gambling purposes, 'has about gone down to zero'; the fancy is 'dead,' in truth, and rich amateurs who bred the stock on principles which cannot be defended from any practical point of view, have 'burned their fingers.' That, however, is not a matter with which the Editor has 'any concern or sympathy.' This latter fact is emphasized by the tone of the appended reference to the disease in Kentucky last month of Useless, better known as 10th Duchess of Oneida:

"She was a red and white cow, bred by Mr. S. Campbell; was purchased at the great New York Mills sale, in September, 1873, by Mr. Alexander, when five months old, for \$27,000. She leaves no produce, having never bred a calf. She was the last of the Duchesses of Oneida in the United States. It would not grieve us to hear of the death of the last 'Duchess'; the world is almost sick of them, and of 'Danke' bulls too."

"Our contemporary goes on to say that the stock in the hands of the fanciers is not so good for meat, or for milk, or for both, as it was before the craze set in, and it expresses the belief that since the bubble has burst and these deleterious influences are for the most part removed, the breeding of Shorthorns will probably be carried on with vigour and success by a class of men who will make actual merit in the animal their one aim and object, instead of 'fashionable' pedigrees. There is in fact a very healthy demand among all classes of farmers for Shorthorn bulls of good pure breeding and fair merit, to improve the rank and file of their herds, as was recently proved at the Birmingham sale. 'So long as a couple of hundred or so of farmers are to be found every year who will give from \$150 to \$200 each for bulls under fifteen months old, with fair merit and Herd Book qualifications, Shorthorns will be likely to hold their own.'"

After the lapse of a week, the *Tribune* resumed the subject, and said:—

"We gleaned last week from a leading English agricultural journal some obituary observations on the 'Shorthorn mania,' in which occurred such phrases as 'fictitious values,' 'fanciers' pets,' 'gambling purposes,' and 'rich amateurs' who 'burned their fingers' and 'degenerated their animals for meat and milk.' There was also an unsympathetic reference to the Tenth Duchess of Oneida, bought as a five months calf at the 'great' New York Mills sale in 1873 'for \$27,000,' and which recently died in Kentucky without offspring, 'having never bred a calf.'"

However it may be on the other side of the Atlantic, we may remark that so long as \$1,700, \$7,100 and \$9,500 are bid respectively for three Duchesses (only one of which had been bred), as was done the other day at a Shorthorn invasion in Chicago by persons 'gathered about the ring,' 'under the doubtful protection of a somewhat rheumatic old tent,' it is perhaps safe to say that the announcement of the decease of the 'mania' is premature so far as America is concerned. The alleged aggregate for the twenty-four head offered on the above occasion, including 'doubtful breeders and all' (we quote from a journal very friendly to the Shorthorn interest), was 'about an even \$50,000.' The bidding was 'spirited and somewhat exciting.' Which we can readily believe. Tenth Duchess of Airdrie, fourteen years old, who 'slipped her calf at seven months and has not been bred since,' was 'knocked off' for \$1,350. Which was cruel, considering her sex, age and condition.

"Champions and defenders of competing breeds will probably find double reason for congratulating Mr. Cochran on the result of this sale. They will maintain that his large offering of Duchess bloods was wise; that the skill and tact with which he has managed his business heretofore has not deserted him now that he seems to be gradually, if not rapidly, crowding out the old 'fashionable' Shorthorns with Hereford and Polled Angus cattle. There may be some who will even dare to cast a shadow upon the statistics, there always are persons of a doubtful mind who claim to be willing to believe that figures can be made to

lie; who lament in mournful numbers that 'all things are not what they seem.' But that is none of our funeral.

"Meanwhile, if one know just what it cost Mr. Alexander to move the Tenth Duchess of Oneida from York Mills to blue-grass pastures, and what the expense was of her nine years' keep, one might add this to the amount of interest on the \$27,000 paid for her, deduct the value of advertising benefit received, and the money worth of the satisfaction afforded by such ownership, and then strike a balance, which would show how much Mr. Alexander, for example, is short on one Shorthorn."

The allusion to Mr. Cochran in the article just quoted is hardly fair to that gentleman, since he distinctly declared, at the recent sale of his cattle in Chicago, that he was not there to unload Shorthorns, but intended to keep and breed them so long as he owned a hoof. He is not "crowding them out" with Hereford and Polled Angus cattle; but having gone into the ranching business on a large scale, has added these breeds to his former and present favourites. He will probably pay increased attention to what are known as the "plainer" strains of Shorthorns. These are more suitable for the purposes of extensive ranchers and ordinary farmers. We have no idea that the Shorthorn is going to be superseded by any of its rivals, but there are other breeds, notably the Hereford, which have not received their due measure of attention in the past, which are now coming to the front. The Hereford is, in most if not all respects, the peer of the Shorthorn. One of our most prominent Ontario breeders, Mr. F. W. Stone, of Guelph, has always maintained this, and when the Hereford was at a discount, gave it equal attention with the Shorthorn. He is now reaping his reward. This breed is in great demand now, especially among the ranchmen of the great West and North-west. Pure but not fancy-bred animals of the three breeds above named are likely to command ready sale at good prices for a long time to come, as the foundation of numerous herds that will be needed to supply the enormous demand of the export trade in beef.

HORTICULTURE IN MICHIGAN.

Secretary Charles W. Garfield has laid on our table the last report of the Michigan State Horticultural Society, a goodly volume of nearly 400 pages. It is rich in facts regarding horticulture in general, and particularly its condition and prospects in Michigan. The proceedings of the State Society are interesting, and show that the spirit of improvement is wide awake in that part of the world. A paper by the Secretary, entitled "A Glimpse at Michigan Horticulture," is well fitted to arouse emulation in adjacent States and Provinces. We could wish that the glimpse on this side the border were as pleasant and promising, and hope that, ere long, it will be. But it must be owned that in energetic tree planting, fruit culture, and outdoor æsthetics, our neighbours to the westward are in advance of us. We could wish that a section of this report, on "Ornamenting School Grounds," were issued in pamphlet form, and widely disseminated throughout Canada. The vigorous action in this direction has made nearly every school-house in Michigan a college of horticulture. The *New York Tribune* well summarizes a number of leading points in this report as follows:—

"In a discussion at a largely attended meeting on the Lake Shore, the great fruit belt of the State, the unanimous decision was to spare the birds. This deserved tribute to our winged friends came from men who live by raising fruit. Paris green and London purple are powerless to destroy the rose-bug or rose-chaffer; at South Haven they employ young folks to gather these pests. A boy will pick as many as four quarts a day. Although Captain Jack, Crescent, Jucunda and Sharpless are raised along the Lake Shore, at least nineteen-twentieths of the product of strawberries for market are Wilsons. If there is danger from mice or rabbits exposed trees may be protected by wrapping with tarred paper. Wounds should be covered in spring with grafting wax. Michigan has an easily enforced law which at the option of any locality precludes all stock from running in the road. Trees may be set at ten feet from the highway. Each year it is made obligatory upon the Governor to appoint a special day for tree-planting and to

call public attention to this duty. The society has not only accomplished this much, but has incited to an innovation of the old stereotyped plan of all one kind of trees equidistant in uniform straight rows. It is found that grouping with a variety adds materially to the effect. If trees are to be planted in rows, thirty feet is thought to be near enough. Some of the apples that find high favour are Red Astrachan, Duchess of Oldenburg, Shilawassoe Beauty, Maiden's Blush, Baldwin, Red Canada, Jonathan, Wagener and King. Through influence of the society, standard sizes of fruit packages are alone lawful in Michigan. There is a very efficient law in reference to peach yellows. It works through the stamping-out process. Affected trees are cut and burned at the very outset of the disease. The *Tribune* has already called attention to the successful effort to secure the ornamentation of school grounds. The book gives the method in full. It is very interesting reading."

A WELL-EARNED TRIBUTE OF RESPECT.

The following circular tells its own story of eminent and highly-appreciated service to the dairy interests of Canada and the United States. Hon. X. A. Willard, the late Harvey Farrington, and Prof. Arnold may be said to have been the apostles of dairying in this country. Mr. Willard's part has been that of lecturer at our Dairy Conventions. He was at Ingersoll when our Dairy Association was organized fifteen years ago, and has been an annually welcome visitor ever since. Mr. Farrington was our pioneer dairyman in Norwich, and went to his grave full of honour and deeply mourned by his brother dairymen in Ontario. Mr. Arnold has not only done valuable work at our Conventions, but has been a practical teacher of dairy manipulation and management at a large number of our factories. Many of our best dairymen are pupils of his. That now, amid the success of dairying in this country, they should remember their teacher and benefactor with gratitude, and wish to pay him a substantial token of their esteem, is eminently proper. It is creditable alike to Mr. Arnold and those who feel that they have profited by his instructions. We have much pleasure in giving publicity to this appeal in the columns of the RURAL CANADIAN, and earnestly hope it may meet with the hearty response it so richly deserves:—

ARNOLD TESTIMONIAL FUND.

Dear Sir,—At the last annual meeting of the Dairymen's Association of Western Ontario, held at Woodstock, Feb. 1-3, 1882, the following resolution was unanimously adopted:—

"Resolved, That in recognition of the great benefits which have accrued to the dairymen of this continent from the researches, experiments, and lectures of Prof. L. B. Arnold, this Association would recommend that dairymen and all interested in dairy pursuits in Canada and the United States do acknowledge these valuable services in some tangible and worthy manner."

In the cordial and harmonious discussion that preceded the passage of this resolution, it was agreed that as Prof. Arnold's labours in the cause of dairying had been so disinterested that, now with old age just upon him, he is in straitened circumstances, the testimonial could not take a more acceptable shape than that of money. General concurrence was also manifested in the proposal that every person interested in dairying should contribute at least one dollar. While larger sums will be highly acceptable, this trifling amount from all who might reasonably be expected to subscribe will make a fund not unworthy of presentation.

A Committee was appointed by the Association to conduct this movement to an issue, and at a meeting of said Committee the undersigned was appointed Secretary-Treasurer, with instructions to lay the matter before the Dairymen's Association of Eastern Ontario, to correspond with the Secretary of the American Dairymen's Association, and ultimately issue a circular inviting contributions.

The matter was duly submitted to the Eastern Association, and though no formal resolution was passed by it, encouraging assurances of co-operation were given by leading members of that body. T. D. Curtis, Esq., Secretary of the American Dairymen's Association, replied to a letter informing him of the project, with the following, among other hearty expressions of approval:

"I like the idea of a memorial to Arnold, and think a circular setting forth the object in view would meet with a cordial response. I shall be glad to do what my situation will permit to aid the movement."

The *Farmer and Dairymen* for April contained the following Editorial:

"ARNOLD MEMORIAL FUND.—The Canadians, in view of the eminent services of Prof. L. B. Arnold to the dairy interests of the world, have started a memorial fund for his benefit. The compliment is a handsome one, and deserved. Every dairymen should feel like contributing to it. All who desire to do so should address W. F. Clarke, Secretary-Treasurer, Lustowel, Ontario, Canada. A contribution of one dollar each will make a nice fund."

I feel assured that a simple statement of the case, as above, is all that is necessary to commend this matter to those who know what Prof. Arnold has done for the dairy interests of Canada and the United States. Such will feel that whatever amount may be raised in this way, will be but a small instalment of the debt we owe to this eminent and unselfish teacher of scientific and practical dairying. All amounts contributed will be duly acknowledged. So far, the following sums have been subscribed and paid:

W. Weld, London.....\$20 00
 Wm. F. Clarke, Listowel..... 20 00
 H. S. Losee, Norwich..... 5 00

Hoping that I may soon have the pleasure of receiving a remittance from you in response to this appeal,

I am, dear Sir,
 Yours truly,

Wm. F. CLARKE,
 Secretary-Treasurer,
 Arnold Testimonial Fund.

Listowel, Ont., May 10th, 1882.

THE *Richmond Times* volunteers this statement: "There is no exchange that we receive to which we can give so hearty a recommendation to farmers, as a journal which should be invaluable to them, as the *RURAL CANADIAN*, published in Toronto."

THE *Lindsay Post* refers to this journal in these flattering terms:

"Although we have already noticed the *RURAL CANADIAN*, we cannot avoid again urging it on the attention of farmers. The number before us is in every respect equal, if not superior, to the best American publications, as far as the Canadian farmer is concerned, and with the lower price taken into consideration it should receive, as it deserves, extensive support. Written for the farmers of this country it contains just what they want, and as it is edited by a well-known and experienced agricultural author and practical farmer, W. F. Clarke, it can be depended on. We advise our friends in the country to send for specimen copies."

We shall be glad to send specimen copies to any address: THE *RURAL CANADIAN* for twelve months, and a copy of the Ontario Agricultural Commission Report, bound in full cloth, for \$1.50. The book alone is worth more than the money.

OATMEAL FOOD.

The appetite often craves food which the stomach rejects; but a long period of forcing enables it to receive it under protest. Nor is it the quantity of food that is nourishing, but the quality. A pound of choice meat at twenty cents is worth as much nutriment as two pounds of inferior meat at ten cents. An egg is one of the best and most nutritious articles of diet that can be put on the table, and the less it is cooked the more valuable its digestive and assimilating properties. Since oatmeal has become a delicacy, retailing all the way from four to twenty-five cents a pound, according to localities, people of wealth add it to their *cuisine* as a valuable breakfast dish. Carlyle says of Lord Macaulay, "Well, anyone can see that you are an honest sort of fellow made out of oatmeal." There is a story told of a shrewd Scotch woman, who used to tell her fine, healthy bairns, "the one that eats the mast parritch will get the mast meat." And when the meat came there was no room for it.

The apologist for a national dish says. If oatmeal can make such men as Sir Walter Scott, Dr. Chalmers, and Lord Macaulay, we may heap high the porridge dish and bribe our children to eat it. One thing we do know. It is far better for the blood and brain than cake, confectionery, and the score of delicacies on which many pale children are fed by their foolish mothers."

A few days ago, says the *Orillia Packet*, we mentioned that a Berkshire sow belonging to Mr. John Rutherford, Rugby, had a litter of eleven fine young pigs. Since then, another sow, of the same breed, owned by this gentleman, has produced fourteen pigs, which are all living. This is profitable breeding.

SKETCHES OF CANADIAN WILD BIRDS.

BY W. L. KELLS, LISTOWEL, ONT.

THE WAX-WINGS.

This is a very interesting but not numerous group of birds. Only two species—the cherry bird and the chatterer—are known to visit Canada. They feed chiefly on small fruit and seeds. This genus receives its distinction from the oval-shaped spot, resembling sealing-wax, which adorns the wings of some of the species.

THE CHERRY BIRD.

This beautiful and widely-diffused species is, as its name implies, very partial to ripe cherries and other small fruit, and it is therefore no friend to the agricultural community. In its nesting habits it resembles the king bird, but it exhibits none of the warlike propensities that characterise that species, but, on the contrary, is one of the most peaceful and innocent creatures. It frequents most of the temperate regions of North America, being found from Mexico to the northern regions of Ontario. The cherry bird is seven inches in length; its general colour is reddish-olive, or dusty-brown; the chin, frontlets, and a line above the eye are black; the lower parts are yellow; and the wings and tail are dusky-grey. It is noted for the silky softness and beautiful shading of its plumage, gentleness of disposition, innocence of character, extreme sociability, love of freedom, and constant desire of wandering. Its flight is easy, and it moves in flocks or companies of from four to eight, and makes several turnings before it alights. Both sexes are alike in colour, the head of each being ornamented with a crest. This bird is migratory, and does not arrive in this country until the beginning of summer. Though it feeds largely on ripe fruit of various kinds, yet it also destroys great numbers of caterpillars which infest fruit trees, thus in a measure making compensation for the mischief that it commits among the small fruits of the gardener. After feeding, they sit for some time dressing their plumage in little clusters, and this social disposition is taken advantage of by wanton sportsmen, who, by shooting at these innocent and beautiful creatures when thus engaged, make great havoc among them. During their sojourn in Canada they frequent orchards, gardens, beaver-meadows, and the margins of the woods in the old-settled districts, but they seldom penetrate into the backwoods. Their nest is placed in the fork of an apple or other low tree, and is composed of wool, bramble, fine dry weeds, and small roots; the eggs are five or six in number, and of an inky-white colour, dotted with black spots.

THE WESTERN CHATTERER.

This bird is not found in Canada in the summer season, but in the fall and sometimes in severe winters it visits Ontario in small flocks, and then in quest of food. It approaches the habitations of man, and feeds upon the berries of the mountain ash, and may be caught in traps like the snow bird. Its native home appears to be the pine regions of British Columbia and other north-western countries, where it feeds on the cones of the pines and on small fruit. Its disposition is sociable, and it generally moves in small companies. Its general colour is ashy-brown; head and throat marked with black; the tail has a yellow band; the wings are marked with white and red; length, seven and one-half inches.

Mr. P. M. CONROY, Downie, has a ewe that gave birth to a lamb about the 8th of April, and gave birth to twins on the 6th of May. One of the other ewes in the flock has taken the first lamb, leaving her with the pair of twins.

CREAM.

FORTUNE is said to knock once at every man's door. Not only that, but Fortune seems to climb into the windows of some folks and stay with them.

AN old gentleman, having been invited by an acquaintance to go out and see his country seat, went, and found it to be a stump in a large meadow.

THE fact that people are going around buying up old rubber shoes leads us to suspect that there must be a new kind of bologna sausage in the market.

A MAN gathering mushrooms was told that they were poisonous. "Thank you," he replied; "I am not going to eat them myself; I sell them at the hotel."

"CONFOUND it, you've shot the dog! I thought you told me you could hold a gun." Pat—"Sure and so I can, your honour; it's the shot, sorr, I couldn't howld!"

It is said that sharks will not bite a swimmer who keeps his legs in motion. If you can keep kicking longer than the shark can keep waiting you are all right.

"GRANDPA, the sun is brighter in summer than in winter, is it not?" "Yes, and it's warmer, and enjoys better health." "Why does it enjoy better health?" "Because it gets up earlier."

AN old couple were walking down the street the other day reading signs, when they ran across one which the old man read thus: "Johnson's Shirt Store." "Well, I declare!" exclaimed the old lady, "I wonder how he tore it?"

A HOUSEHOLD journal says tough beef can be made palatable by stewing gently for two hours, taking out about half a pint of liquor when half done, and let the rest boil into the meat. A better and less troublesome plan would be to kill the cow when she is a calf.

"SEE here," said a fault-finding husband to his wife, "we must have things arranged in this house so we shall know just where everything is kept." "With all my heart," she sweetly answered; "and let us begin with your late hours, my love; I should dearly like to know where they are kept." He let things run on as usual.

THE FARMER'S HYMN.

O Painter of the fruits and flowers,
 We own Thy wise design,
 Whereby these human hands of ours
 May share the work of Thine.

Our toil is sweet with thankfulness,
 Our burden is our boon;
 The curse of earth's gray morning is
 The blessing of its noon.

And still with reverent hands we call
 Thy gifts, each year renewed;
 The good is always beautiful,
 The beautiful is good.

IN Washington they hatch chickens by steam, and it is said that when a restaurant keeper there has an order for broiled chicken he goes to the hatching establishment, picks out an egg that shows some signs of animation, cracks the shell, assists the little orphan into the world, and immediately hurries back to put him on the broiler. For the capacious repast so prepared the moderate charge is made of 40 cents for a half, or 80 cents for the whole bird.

A TEUTON was recently talking about forecasts in the smoking room of a Cunard steamer. "Look here," said he, "I dell you vat it is, you petter don't dake no stock in dem wender bredictions. Dose beoble don't know noding. They can't tell no petter as I can." "But, my dear sir," said a person present, "they foretold the storm which we have just encountered." "Vell, dot ish zo," replied the German, contemptively; "but I dell you vat it is, dat shtorm would have come yust de same if it had not been bredicted."

SHEEP AND SWINE.

PASTURE FOR HOGS.

Farmers in the great hog-producing sections of this country are paying more attention to pasture for hogs now than heretofore. One who has given the subject no little study, and tried various experiments in that behalf, says that there is no question about green oats and peas being a most appropriate food for pigs, and that it comes at the very season when pasture is apt to be short. Corn being the almost universal fattening food for hogs in the West after cold weather arrives, it is very important the summer food of pigs should be more nitrogenous and better adapted to the development of muscle and bone than corn. The pea is very rich in muscle and bone-building elements, and oats are also superior to corn in this respect. The oats also assist in holding up the pea vine, so as to prevent early lodging, and thus cause it to retain its succulence longer. The crop should be sown in the proportion of two bushels of peas and one of oats per acre, and well covered. The drill puts them in best. The united crop should produce from forty to fifty bushels of grain to the acre. Now, the grain is only part of the crop. The succulent pea vine is admirable food for pigs, and they should be turned in when the pea is just passing out of the milk. They will then devour the whole plant, and it contains as much nutriment as when fully ripe. The succulent stalk contains from forty to fifty per cent. as much nutriment as the grain. A good crop ought to produce a growth in live weight on hogs of 500 to 700 pounds per acre.

SHEEP EXPERIMENTS AT THE MODEL FARM.

The following extract from the last report of the Ontario Agricultural College gives a large amount of useful information on various points of sheep husbandry, which cannot well be compressed into less space. This chapter of history—for such it is—will repay careful study, and the results arrived at by the experiments made will be of great service in guiding the practical farmer to the best mode of managing his flock. The section of the report here quoted is headed, "The Comparative Size, Weight, and Value of Various Grades of Fat Shearling Wethers:"

"After all, the great question with the average farmer is, not so much what can be got for particular pure breeds of sheep, as which of them will improve his common stock so as to secure the greatest weight and best quality of wool and flesh in the shortest time.

"I should hope most of our farmers are now well aware of the important fact that, under the best management, there is always most money in getting rid of fat sheep as shearlings in place of holding them on for another year. It pays best in (1) earlier returns, in (2) greater weight proportionately to time, (3) in quality of flesh, and (4) in quality of wool. I shall not therefore labour this chapter with any details regarding the conduct of two-shear wethers, except to note that on an average of kinds the increase to weight during the second year is only at the rate of one-fifth pound per head per day—that is, the average shearling of 183 lbs. would not exceed 250 lbs. twelve months afterwards.

"We are not able to present the Shropshire Down and Merino so reliably as the others, but will next year, when, from our own breeding and management, more figures should be on hand.

"During the last five years we have regularly bred and fattened the first crosses resulting from pure-bred Leicester, Cotswold, Oxford Down, and Southdown rams upon ordinary Canadian

ewes; and as all the management and food has been identical in every detail, the results may be relied upon as valuable for comparison.

"Lambs are usually dropped about the middle of March and weaned 1st July, getting some grain at all times, and such other management as was fully shown in our 1880 report on 'Fattening of Young Sheep.'

"Under such treatment we have had, on an average, the following sizes:—

Grade	Heart girth		Flank girth		Length
	ft.	in.	ft.	in.	ft. in.
Cotswold grade	4	3	4	0½	4 2
Leicester grade	4	1	4	1	4 0
Oxford Down grade	4	0½	3	11	4 0
Southdown grade	3	11½	3	11½	3 10
Merino grade	—	—	—	—	—
Shropshire Down grade	—	—	—	—	—
Averages	4	1	4	0	4 0

"The two first measurements will be easily understood; the third is the length of the animal as it stands, taken from the drop of the tail to the mouth, when the head, or face proper, is held in a horizontal position, and the tape line tightened from point to point. By this method we get the nearest test of a well-made animal, as all the measurements should practically agree—as they do in these examples.

"The Leicester leads in flank girth, and the so-called small Southdown gives nearly as much as the others, and is but little second to the Oxford Down in heart girth also. Some will expect to find a proportionately better heart girth in the Leicester grade, but then they are the most even all through—that is, of the most perfect form—by having the three things agreeing, the Cotswold being the least so.

WEIGHT OF FAT SHEARLING WETHERS.

Grade	150 lbs.
Cotswold grade	199 "
Leicester grade	198 "
Oxford Down grade	177 "
Southdown grade	157 "
Merino grade	145 "
Shropshire Down grade	165 "
Mean	170 "

"So, practically, the two long-wools are equal in weight as shearlings, and even to ourselves this result has been somewhat surprising, because we have been accustomed to look upon the Cotswold as a slower and more irregular fattener. That they are so in the latter respect we have already seen, and while they do not want in weight, they certainly do not give it proportionately to size of bone or length or height of frame. The two Downs are, relatively to weight, very much greater in girth than either of the long-wools; for example, were girth to be regulated by the standard of 4 1" to 198 lbs., then the Oxford Down should heart girth only 3' 8", and the Southdown 3' 3", in place of 4' 0½" and 3' 11½" respectively.

COST.

"In this it will simplify to state generally that, inclusive of all food, proportion of ewe's keep during nursing, dipping, washing, clipping, proportion of squire's service, management and casualties, an average shearling wether runs up a debit of \$7, presuming that as many are kept as will wholly engage one shepherd's time. Taking this as data, the following is the respective cost of the several grades:—

Grade	\$5 00
Cotswold grade	9 30
Leicester grade	8 10
Oxford Down grade	7 40
Southdown grade	6 00
Merino grade	5 50
Shropshire Down grade	7 00
Mean	\$6 90

"It is a point, subject to no dispute, that the

great roomy, raw Cotswold will eat one-half more than the hardy, compact Southdown, and the others very much in proportion to their size.

WOOL WEIGHT AND VALUE.

Grade	5 lbs. at 25c.	\$1 25
Cotswold grade	9 "	28c. 9 52
Leicester grade	8 "	28c. 2 24
Oxford Down grade	8 "	35c. 2 80
Southdown grade	6 "	40c. 2 40
Merino grade	7 "	42c. 2 94
Shropshire Down grade	9 "	38c. 8 42
Mean		\$2 51

FLESH VALUE.

"While over most parts of this country, as yet, 'mutton is mutton,' of whatever weight, quality, or size, there is nevertheless a decidedly growing recognition of the value of certain kinds over others as regards the mixing of fat and lean. The rough patchy stamp is certainly not in favour, even with our export shippers, and so we have now to record a very different value in flesh for these grades:

Grade	160 lbs. at 5c.	\$7 50
Cotswold grade	299 "	5c. 9 95
Leicester grade	198 "	5c. 9 90
Oxford Down grade	177 "	6c. 10 62
Southdown grade	157 "	6½c. 10 20
Merino grade	145 "	5c. 7 25
Shropshire Down grade	165 "	6c. 9 90
Mean		\$8 05

"In conclusion, gather up the items, and make a balance sheet, thus:—

Grade	Carcass.	Wool.	Cost.	Balance.
	\$ c.	\$ c.	\$ c.	\$ c.
Southdown grade	10 20	2 40	6 00	6 60
Shropshire Down grade	9 90	3 42	7 00	6 32
Oxford Down grade	10 62	2 80	7 40	6 02
Merino grade	7 25	2 94	5 50	4 69
Leicester grade	9 90	2 24	8 10	4 04
Grade	7 50	1 25	5 00	3 75
Cotswold grade	9 95	2 52	9 80	3 17
Mean				4 95

"From which we obtain very striking evidence in favour of short and medium-wooled sheep—such figures that, in view of the present export trade, no one need hesitate, even supposing they are fifty per cent. in error."

THE CHESTER WHITE STANDARD.

The Swine Breeders' Convention agreed upon the following as a description of their characteristics:—"Head short, and broad between the eyes; ears thin, projecting forward, and lap at the point; neck short and thick; jaw large; body lengthy and deep, broad on the back; hams full and deep; legs short and well set under for bearing the weight; coating thinnish, white, straight, and if a little wavy not objectionable; small tail, and no bristles." Since the foregoing was adopted, the tendency has steadily been towards reducing somewhat the coarseness of their bone and shortening their heads and ears; and the improvement has been so marked that fair specimens of the breed are nearly models in form. The large, lopped ears, coarse heads, long, coarse tails and hair, and coarse, spongy bones, are not, as in times past, characteristics of the breed; and the enormous weights to which they were formerly fed are now not considered most desirable or profitable.

Mix a little sulphur with salt, and feed occasionally to sheep. It will effectually destroy sheep ticks. The same remedy applied to cattle troubled with lice will soon rid them of vermin. The use of sulphur with salt well repays the trouble of keeping a supply for cattle and sheep. If a mixture of one part of sulphur with seven of salt be freely applied there will be no trouble with vermin.

BEES AND POULTRY.

GLEANINGS FOR BEEKEEPERS.

British beekeepers have just decided on a *standard frame*. I shall look with interest to see if it is generally adopted. The proverbial conservatism of the English may make that possible there which could hardly be hoped for with us. The size of the frame is 14 x 8½ inches. In our country the Langstroth men would say, Too deep and short; the American and Gallup men would say, Too long and shallow. Still our beekeeping interest would be subserved could all the frames of the country be made alike without expense to any beekeeper, no matter what form of frame should be adopted.

Mr. Jones found decided advantage in using the *perforated zinc division board* between the frames on which the queen was lying and the frames containing sections for comb honey and the combs where the brood was hatching. The latter combs were removed from the front, where the queen was confined by the perforated zinc, to the back part of the hive as soon as they were filled with eggs. This plan is receiving high commendation in Germany, Austria and England.

My old pupil and friend, W. L. Porter, is making *beekeeping a success in Colorado*, where he finds continuous pasturage from spring to fall. The plants there are about the same as here, except that they have the Rocky Mountain bee plant (*Cleome intergrifolia*), which I have found does well in Michigan, and furnishes much very excellent honey. Mr. Porter moved to Colorado in winter, and so his bees suffered very much. In the spring of 1880 he had but nine swarms, and they weak from the cause mentioned, and yet he increased during the season to fifty-three colonies, and got 1,800 pounds of surplus honey, 197 pounds of which was comb. Surely Colorado has other resources than her mines.

Some views of F. R. Cheshire, one of the ablest and most candid of British apiarists, in reference to having *queens nursed in small colonies*, or in nuclei hives, are well worthy of consideration. He makes four points against this practice, all of which are well taken: 1, the queens are apt to be inferior, if not deformed and imperfect; 2, the bees are apt to swarm when the young queen goes forth to mate; 3, unless very carefully watched, starvation is likely to occur; 4, there is great danger of robbing, if such small colonies are fed in spring.

All know what disagreeable work it is to *render wax*. It sticks persistently to everything it touches. Every beekeeper should either keep a Swiss wax extractor, or else, if the wax is rendered in cloth bags, keep vessels especially for the purpose. No housewife should be asked to clean up after work of this kind. A. Pettigrew, of England, says very nice wax can be secured by simply washing the pollen from the comb before melting. It is a suggestion worth heeding.

There is quite a discussion in the bee journals in reference to the "*dollar queen*" business. It will not do to say that it has fraud for a foundation. Yet I have always felt that the cheap queen traffic is in the way of the most progressive bee culture. Great improvement in any stock comes from great pains, great labour, great study. Such elements demand and should receive rich remuneration. The present system precludes all hope of such adequate recompense. What we ought to have, and what I would like to see, is such a public spirit as would induce the utmost caution and painstaking; the same spirit that prevails among our cattle, horse and sheep breeders. There is no such improvement among bees as we note among other animals. Why is it? "*Dollar queens*" furnish the answer.

A large number of Mrs. Lizzie Cotton's patrons complain publicly of very aggravated cheating, and often of an entire failure to fulfil her promised obligations. She again promises in her advertisement what every beekeeper of knowledge and experience knows cannot and will not be secured; what she must certainly know will sadly mislead and disappoint. Her book, too, though it boasts of a new system, has no valuable feature that was not recommended before she was known to beekeepers at all. Her emphasis of the importance of *stimulative feeding* is excellent, and worthy in my opinion of attention by all beekeepers. Yet her claim that this idea is original with her is not true, and so not to be respected. Her book is illustrated but very little, and many of the most important features in modern apiculture are not even referred to. In view of the size of the book and the lack of illustration, and most of all its failure to describe many of the important points of modern apiculture, the price, \$1, seems very great as compared with the other American beebooks, which, though they cost little if any more, are fully illustrated, and fully up with the times. Mrs. Cotton's claim that she is persecuted because she has invented a hive is not satisfactory, as we hear no word against Shuck. Still more strange is the assertion that she is defamed because she is a woman. Every American apiarist honours Mrs. Dunham, who has given us one of the most valuable inventions of the apiary. Neither is it her system that brings the discredit that has befallen her, though the claim, in large print, to a system which is in no wise hers, may have helped to spread the unsavoury reports. Personally I know nothing of Mrs. Cotton, and have written the foregoing—upon request for a frank statement of my opinion—as a caution to credulous readers of advertisements offering great promise of reward to those who will purchase advice, ware or stock.—*Professor A. J. Cook, Michigan Agricultural College.*

DUCKS.

Ducks are greedy feeders, and, to secure that measure of profit from them which they are capable of giving, they must be fed liberally from the start. The first food should consist of stale bread moistened in fresh milk, or of "cottage cheese," to be supplemented, in a short time, with occasional feeds of the shreds of well cooked beef, cheap pieces being bought at the butcher's for the purpose. Until the birds are a few weeks old, little corn meal should be fed, for it has caused the death of hundreds and thousands of young chicks and ducklings at the tender age when such strong, heating food is sure to have a pernicious effect. It is desirable to have the corn meal either scalded or boiled before being fed, to make it more easily digested. Soon the ducklings will eat grains of wheat and cracked corn in connection with the other food. They should have during the good weather, when the grass is dry, plenty of exercise, and especially on a grass plat where the grass is short and fine, for they are very fond of the tender blades of grass, in the absence of which, salad, cabbage, etc., can be supplied. Regularity and frequency in the feeding are very desirable, and the time for feeding, until they are nearly half grown, should be at morning, noon, and evening, with other feeds in the middle of the forenoon and the middle of the afternoon, making five daily feeds. After this time two or three feeds daily is enough, with one or two for the matured and laying birds, if they have their liberty, for they can then secure a large part of their food in the fields.

For profitable market purposes, where it is desirable to have a pure-bred flock, I have invari-

ably found the true-bred Aylesbury to return the greatest measure of profit. They are hardy, prolific, good layers, very domestic, and make heavy weights when hatched early, and fed liberally and regularly from the start. Drakes of this breed do well to cross with a flock of common ducks, as also do the Rouen, producing half-bloods, which return a satisfactory measure of profit.

A STANDARD FRAME.

Mr. G. W. Demaree, in the *American Bee-Keeper*, remarks as follows: "While watching the drift and current of the bee literature of the past, I have noticed that the subject of beehives and 'frames' has periodically come up for discussion. There is about the Langstroth frame a history the most remarkable of anything connected with the inventions of the past, so far as they have come under my observation. The Langstroth frame ushered in the great modern system of bee-keeping, and has lived through the stormy period of the past twenty years, defying the inventive genius of the American people. Thousands of efforts have been made to supersede it with something better—with a better frame for all purposes. But not even a large minority of bee-keepers have at any time been induced to accept of anything as being superior to the old 'L. frame.' I do not say that the Langstroth frame will never be superseded by an improved one. I have much confidence in the inventive genius of the American people. I set no limit to what may be done. The chief objection urged against the Langstroth frame is that it is too shallow and too long to winter bees to the best advantage. There is perhaps some truth in this, but it is an argument similar to that used by Mr. A. I. Root in favour of his 'simplicity beehive,' viz., that they stack or pile up so nicely, etc. Well, I have no use for a hive to pile or stack up; neither do I have any use for a frame that is good for nothing but to winter bees on. What we want is a frame that answers all purposes."

SCURVY LEGS.

The rough, scurvy, or scaly legs on fowls are caused by a minute insect that burrows under the scales. This disease is contagious, and when the mother hens are afflicted the chicks are almost sure to catch it. Look to the mother hens, and if you notice any unnatural roughness on the legs and feet, attend to it at once. There are several remedies that are good, but the one thing that is safe, cheap, easily applied, always at hand, and a sure cure, is coal oil. Bathe the feet and legs thoroughly, taking care that the oil penetrates beneath the scales, and repeat the operation every other day until the scales begin to drop off, then rub on lard or sweet oil.

GAPES.

Concerning this disease, Stoddard says: "The earliest treatment, and it is sure, is to put some carbolic acid into a spoon, or metal saucer, and hold it over a lamp; dense white fumes will arise. Hold the chicken's head over this until nearly suffocated, or shut the chickens up in a box and fumigate all together, watching closely lest they be suffocated." The above remedy will cure when the chick is apparently at its last gasp. The fumes of the acid kill the worms, and they are coughed up.

The *Poultry World* warns poultry fanciers against allowing any lime in the dust provided for fowls, as it is sure to bleach the legs of the fowls.

HOME CIRCLE.

LONGFELLOW.—A REQUIEM.

"There is a reaper whose name is Death,
And with his sickle keen
He reaps the bearded grain at a breath."

And thou hast claimed the loving heart that beat alone
For others' good, and moved outside of self away;
Or if within, but to respond to chords vibrating
In souls his own strains had awakened from out deep
slumber.

Why are ye thus so sore dismayed? the poet's power
Hath but the deeper struck into a nation's heart;
And death, forsooth, hath sealed the gentle lips in vain.
For far o'er land and sea, where'er heart beats to heart
In countless homes these sweet songs aye are household
words,

Well known and loved of all who yield unto their fellows
The grace and courtesy of life in kindly meed.
Hath he not taught the speech wherein friend speaks to
friend,

With truest measure, touching now the inmost recess
Of hearts, that chance long chilled and 'stranged, revive
once more

With sudden glow as tender thoughts are stirred again?
And brought the little children nearer to great minds
Throughout all time, by winning words of simple truth,
And heart so large that many a crevice opened wide
For them to steal within, and therein be ensnared,
Leading the fainting soul to rest in nature's halls,
And from her temple pointing upward to her God;
Thus adding steps unto the scale by which we climb
From out earth's dim shadows to tread the "fields of
light,"

"Breathing songs at night" when life's most fitful fever
Throbs wearily in restless pulse and swelling vein
Unchecked, until thy music falls with soothing power.
Then lay with reverential hand thy snowy wreaths
Upon the breast of him who, with unceasing love,
First sowed the seeds of thought that long hath bloomed
unfading—

That, through the endless ages of eternity,
Shall shed undying perfume for the saints who rest.

Toronto.

EMILY A. STIKES.

MISS ESTHER'S OPPORTUNITY.

BY MRS. C. E. K. DAVIS.

"If one only knew what to do, and the wise way to do it! One can see with half an eye that there is work enough, but I am puzzled to know how and where to begin," and Miss Esther Craydock, who had been standing by the window and gazing out upon the narrow busy street for the past ten minutes, now crossed the room and sat down in front of the fire.

"Yes, there is enough to do," said Miss Esther's mother, smiling placidly over her knitting. "It isn't work but workers that are wanted in the Lord's harvest field."

"I know, I know," rejoined Miss Esther, almost impatiently; "and I believe I am ready to do what I can there; the question that vexes me is, what can I do? Answer me that, mother dear, if you please."

"Saint Paul asked that question of the Lord Himself," said Mrs. Craydock. Miss Esther sat looking into the fire. She, too, had asked the Lord every day since they left their quiet country home for this busy, closely settled town, but as yet the answer had seemed withholden.

"One knew just what to do in Brookside," she said presently.

"There was the church and our regular church work, Sunday-school and district visiting, with dear Mr. Ellersley to direct it all, but here—"

"Here is regular church work, too," interrupted Mrs. Craydock.

Miss Esther shook her head. "There are a great many who are doing it," she said; "the church is rich and full, but there are hundreds outside of it, and no one cares for their souls. It breaks my heart to see them staggering along under their burdens of sin and shame, and hard toil, while I sit here by the fire, warm and comfortable. I want to do something for the neglected ones."

"Keep your eyes and ears open, and watch your opportunity." This was Mrs. Craydock's advice, as she smiled over her knitting.

Just then, Betty, the maid of all work, came up stairs to say that there was an old woman at the door, who insisted on seeing the mistress, "and all I could do, she wouldn't take herself away, till I'd brought you word, and there she sits under the stoop, a trotting of her feet, and a-shaking her head, and a-mumbling over words as I can't understand nor make sense of, and a-twirling of her thumbs."

Miss Esther rose with alacrity, and was half way down stairs before Betty had finished her tale.

Under the porch she found the feeble old woman, waiting with bowed head. At the sound of the light step on the stair she lifted her face—a poor, pinched face, full of sorrow and of years—and rising, dropped a curtsey.

"Is it the mistress?" she asked, and Miss Esther answered gently:

"Yes: what can I do for you?"

"Is it the mistress that put a flower into the hand of my little lass next Saturday four weeks, and bade her love the Lord?"

Miss Esther pondered a moment. It had been such a very small act of kindness that the memory of it had quite escaped her, until it was thus recalled.

"It was on the steps of your own door," continued the woman, eagerly, "and my little lass was passing by; do you mind her, mistress, with blue eyes, and hair like threads of gold, and a smile like the dawning of the day?"

Miss Esther nodded.

"Then, for the good Lord's sake, that you bade her love, come with me, mistress, for my lass is dying, and she begged old granny to fetch you."

Miss Esther waited to ask no questions, but slipping on her shawl and bonnet, quietly followed the feeble but rapid steps of her guide. It was a long and dreary walk from No. 15 Hawthorn street to the small house at the end of Slater court, and but few words passed between them until they reached the door. Then the poor grandame paused, and laid her trembling old hand on her heart. "Go ye in first, mistress," she gasped; "go ye in first, for if the change hasn't come a-ready to my little lass, she'll grieve to see granny so out of breath: she's wonderful pitiful, is my little Em'ly!"

Miss Esther stepped across the bare creaking boards of the entry, and pushed open the door that stood ajar. The bit of a room within was darkened by an old quilt pinned up at the window, but in one corner Miss Esther spied the bed on which lay the little lass so white and still, that for an instant she thought the change dreaded by the old grandmother had indeed come. Another old woman, left to watch, had fallen asleep, and sat at the bed's head with her chin dropped upon her breast, breathing heavily. As Miss Esther drew near, little Emily opened her eyes with a glad smile of recognition.

"I thought granny'd find you," she said in a very weak, piteous voice. "I told her the street, and just how the house looked, and just how you looked, and I knew you'd come!"

"I was glad you sent for me," said Miss Esther, kneeling beside the bed, and tenderly smoothing the child's bright hair. "What can I do for you?"

"You said for me to love the Lord, and you gave me a posy," answered little Emily, "and every time I looked at the posy, I thought I must love the Lord. So then I told granny how was I to do it? and granny said He made me, and I must be good, and I tried real hard, but one day I got sick, and I kept growing sicker, and I've got to die, and be put into a box and buried up in the ground, and old Vickey says I'll go back to dust. But will I, Miss? What did the Lord make me for, if He was going to send me back into dust again, when I'm such a little girl? Please tell me about the Lord. Won't He take care of me?"

"That's the way she runs on, Miss," said old Vickey, rousing herself at the sound of voices; "out of her head more'n half the time, you see." But Miss Esther knew better. She bent over the bed, and in simple, loving words, told of the Lord Christ, the Saviour of sinners; the friend of all suffering souls, the resurrection and the life, the old, old story, that has brought peace, and comfort, and light to millions of burdened hearts.

Little Emily listened, and the troubled look on her face passed away, the brow smoothed, the blue eyes brightened, and a "smile like the dawning of the day," parted her lips.

"Now, I'm not afraid any more," she said, folding her hands across her breast. "Vickey, do you mind what I tell you? I'm not afraid any more, and don't you be, either, Vickey. You and granny must love the Lord, and then when you die He will take you home to heaven. Did you hear what the mistress said, granny?"

Every word, my little lass," sobbed the old woman, as she tottered into the room, with the corner of her shawl at her eyes.

"Then you'll let me go, grammy, and you won't cry, either. I wish you were going, too; you'll be so cold and hungry and lonesome this winter!"

The poor old creature sank down upon the side of the bed, and lifted her tearful eyes to Miss Esther's face.

"I've got to lose her," she cried; "I've got to lose little Em'ly, and in all the wide world, mistress, there isn't another soul that'll care for me. But it's no use for me to think of going where she's going, mistress. Those words you spoke are only for innocent lambs like my little lass; they aren't for old white-headed sinners like me."

"Oh, yes, they are, grammy!" and little Emily took the wrinkled old hands between her own, and held them fast. She said, "Whosoever would might come to the Lord, and whosoever means you as much as anybody. You will come—won't you, grammy?"

"Oh, little lass! Oh, little Em'ly!"

"Love the Lord, grammy."

"Oh, little Em'ly!"

"Promise, grammy—promise, grammy!"

"Anybody? Anybody—even such as me," repeated the old woman, as if striving to grasp the truth that she could not understand.

"Whosoever will," said Miss Esther, gently.

"Though your sins be as scarlet they shall be as white as snow; though they be red like crimson they shall be as wool."

"That seems like me. Oh, little Em'ly, if He would only leave you a bit longer, you'd show me how to believe it!"

"I want to go" said the child, wearily. "I'm wanting to see the Lord, and when I see Him the first thing I'll ask Him will be to fetch you, too, grammy. I'll tell Him all about how poor you are, and how 'fraid you are, and I'm sure He will fetch you before it is very cold."

"If He's got a mite of a corner, Em'ly," said the old woman, humbly, and rubbing her shawl into her eyes again; "just a bit of a corner somewheres out of the way, behind the door, may be, where I could just peep through the cracks once in a while and see you shining and happy among the angels, my little lass. You might tell Him that I'd keep very still, and not harm anybody, and I'd be that grateful for the chance, as I can't find words to tell."

Little Em'ly nodded her head. She was too much exhausted to speak aloud. The shadows of evening were gathering in the dingy room, and Miss Esther had her long way to make home before night should fall.

"I will come again to-morrow," she said in answer to the pleading looks of grammy and her little lass.

"You may look for me early in the morning," and so she went away, thanking God for the opportunity of pointing these two souls to the Lamb of God that taketh away the sin of the world, and offering the silent prayer that the Holy Spirit would enlighten the understanding of poor old grammy.

Early in the morning Miss Esther returned, laden with flowers to brighten little Emily's bedside, but the angels had been there before her, and borne the child away to the garden of the Lord.

A TRUE LADY.

Wildness is a thing which girls cannot afford. Delicacy is a thing which cannot be lost or found. No art can restore to the grape its bloom. Familiarity without confidence, without regard, is destructive to all that makes woman exalting and ennobling. It is the first duty of a woman to be a lady. Good breeding is good sense. Bad manners in a woman is immorality. Awkwardness may be ineradicable. Bashfulness is constitutional. Ignorance of etiquette is the result of circumstances. All can be condoned, and not banish men or women from the amenities of their kind. But self-possessed, unshrinking, and aggressive coarseness of demeanour may be reckoned as a States' prison offence, and certainly merits that mild form of restraint called imprisonment for life. It is a shame for women to be lectured on their manners. It is a bitter shame that they need it. Do not be restrained. Do not have impulses that need restraint. Do not wish to dance with the prince unsought; feel differently. Be sure you confer honour. Carry yourself so loftily that men will look up to you for reward, not at you in rebuke. The natural sentiment of man toward woman is reverence. He loses a large means of grace when he is obliged to count her a being to be trained in propriety. A man's ideal is not wounded when a woman fails in worldly wisdom; but if in grace, in tact, in sentiment, in delicacy, in kindness she would be found wanting, he receives an inward hurt.—Gail Hamilton.

DON'T MARRY A DRUNKARD.

DEAR GIRLS—I want to tell you a true story: "Susie," said a dear friend to her niece, "I wish you wouldn't encourage Harry Brown. I fear his principles are not such as would make a pleasant husband."

"But, auntie, there is nothing very bad about him, and he is more entertaining than any young man I know."

"He smokes, you know, Susie, and takes an occasional glass; and your uncle says that away from the presence of ladies his language is very impure."

"But you know I quite enjoy a good cigar, and Harry's are always the best, and he only drinks when treated, and has half promised to give that up; and I'll risk his so far forgetting himself as to annoy ladies with bad language."

Despite frequent warnings, Susie became engaged to Harry Brown a few months later, and when they were married nothing dimmed the brightness of their future save the one cloud, the occasional glass. We need not trace the downward course; but look at them now! A friend told me that while calling a few months ago at Mr. Brown's, the father of Harry, there appeared a procession comical, though pitiful, to the last degree. First came Harry in a battered hat and torn suit, his face scratched in a drunken broil, and a black clay pipe between his teeth, pouring forth a stream of vile curses against the landlord who had just ejected him because unable to pay the rent. Next came his wife, carrying a tiny babe, and behind her seven small children, some of them bareheaded, all barefooted, and clothed in dirt and tatters. Having no place of shelter, Harry had brought his family home to his father's.

During this entire winter they had lived in a large old house where even the sash had been taken from nearly all the windows, and hardly a pane of glass is left; where few doors remain on their hinges, and the stairs are rotted away and the floors decayed and sunken. There in a recent illness the miserable wife—whom no one would recognize as the pretty Susie of a dozen years ago—would have perished from cold and hunger if the neighbours had not been kinder than the man who promised to protect her.

Is this not a wretched picture? Yet hundreds of maidens are preparing for themselves a future as bad. There can be placed no dependence on the manliness of the man who drinks, or on his kindness or good nature. Remember the old axiom, "when wine is in, wit is out." If there is anything on earth that will make a man lower than the beasts, it is drunkenness. Just think of it, girls. Any young man who takes an occasional glass is liable to become as low as the most degraded drunkard you know; decide whether you shall become his wife.

Don't say he promises to give it up after marriage, or your influence over him is so great that he will give up drinking if you require it. Some may succeed, but there are a score of failures for one success, and the chances are too strongly against it for you to be sanguine.

The safe way is to keep aloof from all who have not firm abstinence principles; but if, under any circumstances, your affections are given to one who drinks, apud them at once, and suffer a life-long headache rather than life-long trouble and disgrace. If the young man begs to be reinstated in your favour, and makes fair promises, marry him only after years of probation have tested the sincerity of his vows. It is not safe to do otherwise. In one instance a man signed with his own blood a pledge to abstain from all intoxicants, and his affianced married him at once, thinking he would not break a pledge so sacred; but before the honeymoon was over he staggered home half drunk, and met her with curses instead of the expected tenderness.

Give your influence against vice and drunkenness in all its phases, and as much as in you lies help the erring back to virtue; but be sure you do not marry a man to reform him. If you do, your fate will probably be like that of a spinster of excellent morals, who in this way undertook the reformation of a friend. She failed, as so many do fail, and after a few years he looked at her tearful face and said with maudlin tenderness: "Why, Sally, you knew I drank before you married me!" She saw he spoke the truth, and remembered it was against her friend's wishes she became his wife, and realized that only her own stubborn will was to be blamed for the misery she endured. — *Aunt Olivia, in Country Gentleman.*

HOW SPONGES ARE CAUGHT.

A correspondent of an exchange tells how they fish for sponges in the Bahamas. When a vessel arrives at the fishing-ground, it is anchored; and the men, in small boats, proceed to look for sponges in the water below. The water is a beautiful light blue colour, and so clear that a sixpence can easily be seen on the white sandy bottom in thirty-five to forty feet of water. Of course, when there is no wind, and the surface of the water is still, the sponges are easily seen; but when a gentle breeze is blowing, a "sea-glass" is used. A sea-glass consists of a square pine box about twenty inches in length, a pane of glass about ten by twelve inches placed in one end, water-tight. To use it, the glass end is thrust into the water, and the face of the operator is placed close to the other. By this means the wave-motion of the water is overcome, and the bottom readily seen. Sponges when seen on the bottom attached to rocks, look like a big black bunch. They are pulled off their natural beds by forked hooks, which are run down under the sponge, which is formed like the head of a cabbage, and the roots pulled from the rocks. When brought to the surface it is a mass of soft glutinous stuff, which to the touch feels like soap or thick jelly. When a small boat-load is obtained, they are taken to the shore, where a crawl is built in which they are placed to die, so that the jelly substance will easily separate from the firm fibre of the sponge. These crawls are built by sticking pieces of brush into the sand, out of the water, large enough to contain the catch. It takes from five to six days for the insect to die, when the sponges are beaten with small sticks, and the black, glutinous substance falls off, leaving the sponge, after a thorough washing, ready for market. To the fishermen generally, the occupation is not a lucrative one. I am told the wages will hardly

average three dollars per week, besides board. There is but little diving for sponges, except for a particularly fine bunch which cannot be secured by the hook.

SUNSET WITH CLOUDS.

The earth grows dark about me,
But heaven shines clear above,
As daylight slowly melts away
With the crimson light I love;
And clouds, like floating shadows
Of every form and hue,
Hover around his dying couch,
And blush a bright adieu.

Like fiery forms of angels,
They throng around the sun—
Courtiers that on their monarch wait,
Until his course is run;
From him they take their glory;
His honour they uphold;
And trail their flowing garments forth,
Of purple, green, and gold.

O bliss to gaze upon them,
From this commanding hill,
And drink the spirit of the hour,
While all around is still;
While distant skies are opening
And stretching far away,
A shadowy landscape dip'd in gold,
Where happier spirits stray.

I feel myself immortal,
As in yon robe of light
The glorious hills and vales of heaven
Are dawning on the sight;
I seem to hear the murmur
Of some celestial stream,
And catch the glimmer of its course
Beneath the sacred beam.

And such, methinks, with rapture,
Is my eternal home—
More lovely than this passing glimpse—
To which my footsteps roam;
There's something yet more glorious
Succeeds this life of pain;
And, strengthened with a mightier hope,
I face the world again.

—*Temple Bar.*

THROUGH LIFE.

We slight the gifts that every season bears,
And let them fall unheeded from our grasp,
In our great eagerness to reach and clasp
The promised treasure of our coming years;

Or else we mourn some great good passed,
And, in the shadow of our grief shut in,
Refuse the lesser good we yet may win,
The offered peace and gladness of to-day.

So through the chambers of our life we pass,
And leave them one by one, and never stay;
Not knowing how much pleasantness there was
In each, until the closing of the door
Has sounded through the house, and died away,
And in our hearts we sigh, "For ever more."

—*Chambers's Journal.*

ANCIENT CHINESE COFFINS.

A recent number of the "Celestial Empire," referring to a discovery of some ancient graves near Shanghai, gives, says "Nature," an interesting account of Chinese burial in former times. A man of means purchased his coffin when he reached the age of forty. He would then have it painted three times every year with a species of varnish, mixed with pulverized porcelain—a composition which resembled a silicate paint or enamel. The process by which this varnish was made has now been lost to the Chinese. Each coating of this paint was of some thickness, and when dried had a metallic firmness resembling enamel. Frequent coats of this, if the owner lived long, caused the coffin to assume the appearance of a sarcophagus, with a foot or more in thickness of this hard, stone-like shell. After death the veins and the cavities of the stomach were filled with quicksilver for the purpose of preserving the body. A piece of jade would then be placed in each nostril and ear, and in one hand, while a piece of bar silver would be placed in the other hand. The body thus prepared was placed on a layer of mercury within the coffin; the latter was sealed, and the whole then committed to its last resting place. When some of these sarcophagi were opened after the lapse of centuries, the bodies were found in a wonderful state of preservation; but they crumbled to dust on exposure to the air. The writer well observes that the employment of mercury by the Chinese of past dynasties for the purpose of preserving bodies ought to form an interesting subject for consideration and discussion in connection with the history of embalming and "mummy making."

LOOK TO YOUR CELLARS.

One of the most fruitful sources of disease in the household is a dirty cellar. We have had occasion, within the last few years, to record many instances in which desolating sickness has entered families through this cause, carrying off one after another, by diphtheria or some other deadly disease. The cause was not suspected until it was too late to avoid the consequences. An apparently slight exhalation from standing water or from a damp cellar, where water can-

not be found, especially if there should happen to be any decaying vegetable matter in it, may affect a whole family. There have been blocks of splendid new brown-stone houses in this city that have become uninhabitable owing to the closing of the general sewer, perhaps at the end of the block, thus preventing the free passing away of the natural dampness of the soil or the accumulation of water, and compelling it by a law of nature to pass upward through the house. The presence of this malarial atmosphere in the house is not detected until fever or some other disease breaks out. Even those who are aware of the existence of dampness and of their exposure to malarial influences do not always take immediate measures to correct the evil, but live on in security or in hope until sickness awakens them to their danger. In the country there is often as great, if not greater, indifference to the prolific causes of disease. Many a farmer occupied with spring work leaves his cellar to take care of itself, and his family to take care of themselves, when the remnants of the vegetables that were stored up in the fall begin to decay and breed a pestilence in the house. One of the first duties of the farmer in the spring is to make a thorough overhauling and cleansing of his cellar, removing everything that has a tendency to decay, and using disinfectants where there is the least danger from decaying matter. A single leaf of cabbage left until spring may infect a cellar. A few roots that have been stored up during the winter may produce an offensive odour, or, still more dangerous, because unsuspected, bane to health. Now is the time for this work to be done, and it ought to be thoroughly done.—*New York Paper.*

KISSES ON INTEREST.

A father talking to his careless daughter said: "I want to speak to you of your mother. It may be that you have noticed a careworn look upon her face lately. Of course it has not been brought there by any act of yours, still it is your duty to chase it away. I want you to get up to-morrow morning and get breakfast, and when your mother begins to express her surprise, go right up and kiss her on the mouth. You can't imagine how it would brighten her dear face. Besides, you owe her a kiss or two. Away back when you were a little girl she kissed you when no one else was tempted by your fever-tainted breath and swollen face. You were not as attractive then as you are now. And through those years of childish sunshine and shadows she was always ready to cure, by the magic of a mother's kiss, the little chubby hands whenever they were injured in those first skirmishes with this rough old world. And then the first-night kiss with which she routed so many bad dreams as she leaned over your restless pillow, have all been on interest these long, long years. Of course she is not so pretty and kissable as you are, but if you had done your share of the work during the last ten years the contrast would not be so marked. Her face has more wrinkles than yours, far more, and yet if you were sick that face would appear more beautiful than an angel's as it hovered over you, watching every opportunity to minister to your comfort, and every one of those wrinkles would seem to be bright wavelets of sunshine chasing each other over the dear face. She will leave you some of these days. These burdens, if not lifted from her shoulders, will break her down. Those rough, hard hands that have done so many unnecessary things for you will be crossed upon her lifeless breast. Those neglected lips that gave you your first baby kiss will be forever closed, and those sad, tired eyes will have opened in eternity, and then you will appreciate your mother, but it will be too late."

INSECT ANNOYANCE IN BRAZIL.

Mr. Ernest Morris, the young traveller and naturalist, who has just returned from Brazil, repeats the general observation of explorers that the exuberance of insect life is the principal obstacle to the enjoyment of a sojourn in that part of the world. Cockroaches swarm in every house despite the inroads of an army of spiders which sally forth from every chink to prey upon them; scorpions are intrusive and dangerous; a small red insect called the "mecum" is an intolerable annoyance; at certain hours of the day the air is black with flies and mosquitoes; and ants are a universal plague. To baffle these last named foes of peace, Mr. Morris was obliged to keep his entire collections on hanging shelves, the cords of which were soaked in the oil of copaiba. "The most destructive ant in Brazil," says Mr. Morris, "is the sanba. It will strip trees of their foliage in a single night, and in many places orange trees cannot be grown for this reason. The tocandeira is a very large ant, the bite of which is poisonous and makes a painful sore. I was once rendered unable to work for a week from a bite received from one of these ants. Some species travel in large bodies, marching in straight line and never turning to the right nor to the left. If a house lies in the track of one of these marching bodies, unless they are completely exterminated, they will pass through. Nothing will be injured, but every crack and cranny will be explored, and not a spider or cockroach will survive the visitation. They are therefore regarded as friends, and their advent is always welcomed. Go where you will in Brazil, you will meet ants. You live, sleep, and eat with them—and eat them, too."

THE coronation of the Czar of Russia is fixed for September 6th.

TOKIO, Japan, has a company formed for introducing the electric light.

GLASS shingles are to be manufactured by a Pittsburgh firm that has the patent.

THE Bill repressing crime in Ireland passed in the House of Commons by 353 to 45.

THE Prince of Wales' wedding present to Prince Leopold was a magnificent piano, valued at \$25,000.

THE new Eddystone lighthouse, off the Cornish coast, in the English Channel, was opened recently by the Duke of Edinburgh.

YOUNG CANADA.

"I WOULD IF I COULD."

"I would if I could,"
Though much it's in use,
Is but a mistaken
And flimsy excuse;
And many a person
Who could if he would,
Is often heard saying,
"I would if I could."

"Come, John," said a schoolboy,
"I wish you would try
To do this hard problem,
And don't you dory."
But John at that moment
Was not in the mood,
And yawningly answered,
"I would if I could."

At the door of a mansion,
In tattered rags clad,
Stood a poor woman begging
A morsel of bread;
The rich man scarce heeded,
While trembling she stood,
And answered her coldly,
"I would if I could."

The scholar receiving
His teacher's advice;
The swearer admonished
To shun such a vice;
The child when requested
To try and be good—
Of give the same answer,
"I would if I could."

But if we may credit
What good people say,
That "who's a strong will is
There's always a way,"
And whatever ought to be
Can be and should
Whoever need utter
"I would if I could."

—S. S. Visitor.

SUSIE'S LITTLE SISTER.

"Mamma, if the baby cries so much and won't let us have any good times, I should think you would give her away."

"Give away your little sister, Elsie!"

"Yes, I'm just tired of her noise."

"But if you and I don't love the poor sick baby well enough to take care of her, I don't think anybody would."

"I'd love her if she didn't cry so much."

"Didn't you cry when you hurt your finger yesterday?"

"Yes."

"And when you fell down, and when your tooth ached?"

"Yes, I couldn't help it, mamma."

"Poor little Elsie has the toothache, and she can't help crying, either."

"Well, I want a baby to play with, but I don't want Elsie," and Susie Gage walked out of the room with the doll Elsie had broken and the picture book she had torn.

In half an hour she came back to the sitting-room.

"Is Elsie in the crib?" she asked.

"Come and see," her mother said, smiling.

Susie broke into a great cry when she saw a strange baby lying there in her little sister's place.

"Oh! mamma, where's Elsie?" she exclaimed.

"This is a nice little boy," her mother said. "He is well, and he doesn't cry very often, and—"

"I want little Elsie, mamma! Where is Elsie? You haven't given her away, have you?" And Susie cried harder than she had done for a month.

"Mrs. O'Hara brought the clean clothes a

little while ago," Mrs. Gage said, "and I asked her to give me her little boy. Don't you like him?"

"No, no, I don't," Susie sobbed, with her head in her mother's lap. "If you'll only get Elsie back again, I won't strike her when she cries, or pull my playthings away from her, or—anything."

Just then Mrs. O'Hara came back from her errand in the next block.

"You can take Teddy home with you," Mrs. Gage said. "Susie finds that she likes her little sister best, after all, if she is troublesome sometimes."

Mrs. Gage went upstairs and brought the baby down. When Susie saw her she danced with joy, though Elsie was crying again, and Teddy was as still as a mouse.

"I like her forty times the best," she said over and over again, "because she's my own little sister. Teddy isn't. Don't you ever give her away, mamma, if she cries forty times harder." And perhaps it is needless to say that mamma never did.—*Zion's Herald.*

THE CHILD'S GARDEN.

Resting under a tree, the poor little girl knew not what to do next. The sun was high, the day was getting hotter, and she was tired—tired. She almost wished she had not pleaded so hard for leave to make a garden in that waste corner of the ground, where the grass walk ended and the fir wood began.

It lay close by a pond for water-flowers, and a rock-work for plants that did not require much earth. Among the wild weeds that grew in it there was one tall crimson fox-glove, and lilac orchis as sweet as musk. These would do well among the flowers, she had thought; and then there were heath and ferns all the way back into the wood.

But it seemed now as if the hoe and rake were never to make way. When she began, it looked only like a few hours' work, and yet this was the third morning of her labour. Why? There was a great stone under the soil, and the tools struck upon it. Cover it as she would with spadefuls of red earth; do her best to stick roots in the softer places; water it again and again, the bare, ugly stone was always coming through; and the very first shower showed her that all her work was useless.

The gardener smiled when he was brought; but when he came again, with his iron pick, he set cruelly to work. No advice would he take from the little worker,—no entreaty would he listen to. Down he struck, deep into the soil.

How the ground shook as the split rock gave way! How it heaved, as roots and shallow earth were cast into the air,—her garden spoiled for altogether, now, she thought!

Nor could she have believed, had she not stood by and seen it, how well an old, kind hand works, and how quickly. He let her help him to smooth all down again into the flat bed, and plant the roots, too, where they now could grow; and he promised to bring her more plants, some all in flower, and to come and see how she got on; and she tried

to do what a child may—to watch and weed a little plot, to dress and to keep it.

What does the Bible mean when it says, "I will take the stony heart out of your flesh?" It means that there is in your heart something that makes it as hard for you to be good as that great stone in that little piece of ground made it hard to turn it into a garden where flowers would grow. Did your heart ever give you as much trouble as that?

POWER OF A CROCODILE'S JAW.

Some unique experiments have lately been made in France, on the strength of the masseter muscles of the crocodile (a muscle passing from the cheek bone to the lower jaw). M. Paul Bert received ten gigantic crocodiles (*Crocodylus galeatus*) from Saigon, which were transported alive to France in enormous cages weighing over 3,000 kilogrammes. Some of these crocodiles measured ten feet, and weighed about 154 pounds.

The reader can easily understand how difficult it must be to manage such ferocious animals in a laboratory; and it was only by the assistance of the managers of the Zoological Gardens that this dangerous task was accomplished.

In order to measure the strength of the masseter muscle of the crocodile's jaw, the animal was firmly fastened to a table attached to the floor; the lower jaw was fixed immovably by cords to the table; the upper jaw was then attached to a cord, fastened by a screw ring to a beam in the roof. There was a dynamometer placed on this cord, so that when the animal was irritated or given an electric shock, the upper jaw pulled on the cord, and registered the force of its movement on the dynamometer.

With a crocodile weighing 120 pounds the force obtained was about 308 pounds avoirdupois. This does not equal the actual strength, for as the dynamometer is necessarily placed at the end of the snout, it is really at the end of a long lever, and must be measured by finding the distance between the jaw muscle and the end of the jaw, to show the real force of the jaw muscles, which equals 1,540 pounds. As this experiment was performed on a crocodile already weakened by cold and fatigue, its force when in its natural condition must be enormous.

This power of 308 pounds represents a power applied over the whole surface of the crocodile's mouth. In reality it is first used by the enormous teeth that overlay the others in the front of the jaw, and by a simple calculation the pressure of these teeth is estimated to be equal to the pressure of 400 atmospheres.—*Nature.*

A LITTLE girl six years old was a short time ago called home to God. About a year before her death she had a small writing desk given her. After her death her mother unlocked it and found this writing: "The minute I wake up in the morning I will think of God. I will mind my father and mother always. I will try to have my lessons perfect. I will try to be kind, and not get cross. I want to behave like God's child."

TORONTO WHOLESALE MARKETS.

OFFICE RURAL CANADIAN, Toronto, May 31st, 1892.

Since our last report breadstuffs have been weak and declining, provisions quiet and steady

PROVISIONS—Hog products firm, without any special feature. Increased supplies of butter have still further weakened the market for that article, and sales have been made at from 12c to 13c. Cheese continues steady at say 11 1/2c. to 12c. for the usual jobbing trade. There has been considerable activity in bacon, which is now worth, in case or ton lots, 12 1/2c. for long clear, and 11 1/2c. for Cumberland; car loads would find purchasers at 1/2c. less. Stocks here are remarkably light for the season of the year, and the cost of importations would be considerably higher than the above figures. Lard is firm but in limited demand, the low price of butter tending to diminish consumption. Tierces we quote 14c. to 14 1/2c., tubs and tins 15c., and small pails 15 1/2c. Eggs have been in good demand at 15c. to 15 1/2c. There are no dressed hogs now coming in, but as high as \$10 was paid some days ago. There is a fair demand for Hops, for a good article, 24c. would be paid, but holders look for 25c.

FLOUR.—Inactivity characterizes the market; stocks of Flour are small, as is usual at this season. Can hear of no transactions, this week, and our quotations of \$5.85 for superior extra and 5.75 for extra are purely nominal. Stocks in store, 2,627 bush, as compared with 4,755 bush. last week, and 5,740 bush. at a like time in 1881. Optimal. —None offering, and demand moderate; we quote \$4.90 to \$5 in car lots. Cornmeal steady at \$4 per bbl., and say \$4.15 to \$4.25 for single brls. Bran is easier; we quote \$14 per ton, and as the grass begins to grow it is likely to go lower.

GRAIN.—The market is quiet, and without much firmness in any article but barley. Western markets for wheat are 1c. easier today, and Liverpool advices show corn and wheat down 3d. each. Total stocks in store at this port are 284,048 bush. as compared with 317,495 bush. last week and 272,172 bush. at a like time in 1881. No transactions in wheat on Monday or Tuesday last; sales of fall were at \$1.31 and \$1.31 1/2 for No. 2 last week. The stock of fall is meantime reduced to 170,658 bush. as compared with 195,332 last week and 77,229 bush. on a like date last year. Wheat.—Spring.—Stocks in store 71,720 bush. against 80,641 bush. last week and 95,524 bush. at a like time last year. Sales since our last at \$1.35 and \$1.35 1/2 for No. 2, but no transactions last week up to Queen's Birthday. Oats.—The market is quiet and steady; sales were made at 50c. last week for No. 1, but on Tuesday there were sales at 49c. Stocks in store, 9,413 bush. as compared with 10,513 bush last week and 7,691 bush. at a like time in 1881. Barley.—The stock was perhaps never so low as now, and the trifle that is held here belongs to malsters. Prices are firm at 90c. for No. 1 down to 82c. for No. 3. Stocks in store 7,313 bush. against 12,001 bush. last week and 39,555 bush. at a like time in 1881. Peas.—Stocks in store 13,234 bush. as compared with 7,616 bush. last week and 52,173 bush. at a like time in 1881. Market weaker. Quotations nominal at 85c. for No. 1 and 83c. to 84c. for No. 2. Rye and Corn are both nominal.

WOOL.—While the market for foreign wool is firm, and a good movement continues of pulled, both super and extra, Canada fleeces is unsalable. The position, as far as regards this article, is pretty well summed up in the following from the Boston Commercial and Shipping List of Saturday last: "The new clip of Canada combing is about to come out, and there is considerable of the old crop still on hand. There is no price for this article here, as it is not wanted by manufacturers, and it is doubtful what it would bring if forced, not over 36c. or 37c. per lb. Canada will have to consume her wool at home, for there appears to be no outlet for it except at very low prices." We quote prices here as follows: Southdown, English domestic super and lambs 28c. to 33c. according to quality. Cape wools 18 1/2c. to 21c. Australian and New Zealand, both greasy, 21c. to 24c. Persian 22c. to 23c.; Spanish greasy 15c. to 18c.; East Indian 17c. to 22c. Scotch cheviot 30c. Canadian pulled lamb and super 27c. to 28c.; pulled extra 33c. to 34c.; fleece clothing (fine downs or cross breeds) 32c. to 38c.; pulled combings 20c. to 21c.; fleece combing 20c. to 23c.

HIDES AND SKINS.—A fair demand exists for Hides; there is no accumulation of stock. The market continues strong, though with no decided upward tendency. For lambskins 25c. is paid.

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