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Toronto, August 15th, 1882.

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RURAL NOTES.

The *N.Y. Tribune* exclaims: "Hoe! ye dyspeptics."

The army worm is doing damage in Suffolk County, N.Y.

The *American Bee Journal* is advocating the establishment of a Professorship of Agriculture in the Illinois University.

Strong soap-suds with one part of kerosene oil to ten of the suds, also strong tobacco-water, will kill cabbage and other plant lice. So says the *N. Y. Tribune*.

FALLOWING is based on the erroneous theory that idleness improves land. Busy growth, and the conversion of the vegetation produced into fertilizing material, are the true means of soil enrichment.

The Southdowns were prominent at the recent Royal Agricultural Show. Lord Walsingham was the leading prize-winner; the Prince of Wales, Duke of Richmond and Gordon, Mr. W. Rigden and others following suit.

To destroy lice on cattle, the *Live Stock Journal* recommends melting an ounce of tar with a pound of lard, stirring while cooling. Rub a little on parts most affected, and if a little be applied lightly over the whole skin, there will be no injury done the animal.

The eminent and venerable pomologist, Charles Downing, does not consider it safe to give a decided opinion on any new strawberry or raspberry short of five years' trial. If all were similarly cautious, much money would be saved in the purchase of untested novelties.

ONE of the attendants at the recent nursery-men's meeting in Rochester, N.Y., "particularly noticed" that the "great mass" of strawberries for sale at the fruit stands, and in use at the hotels, were Wilsons. Somehow this old standby holds its own wonderfully against all comers.

GAS-TAR is recommended as an insecticide. It is suggested to keep a barrel with a few gallons of it in the garden; pour water on the tar, and have it ready for use as needed. When insects appear, they can be dosed from a water-pot. This gas-tar water is said to be "sure death" to melon bugs, cabbage worms, and even the Colorado potato beetle.

SIXTY years is said to be the average age of apple trees in the best fruit districts of the State of New York. Some Illinois orchardists put the

life-time of an apple tree in their State at twenty, and one as low as fifteen years. Now, there must be something wrong about the treatment of these trees, to abbreviate their term of existence to this extent. What is it?

A new style of barbed fencing has been introduced, called "The Buckthorn." It is not wire, but a solid strip of steel, rolled, not drawn; with short, stubby points, one inch apart. The barbs are short and lance-shaped, so that they cannot injure stock. The surface of the strand is broad, and can be readily seen by stock. These features remove some of the worst objections to barbed fencing.

A DOCTOR, complaining that practice was dull, found consolation in the thought that "the time of the deadly cucumber draweth nigh." It is the opinion of many horticulturists that the bad reputation of this vegetable in connection with summer complaints comes of eating them when stale, and that, if fresh, they hurt nobody. Nevertheless, it will be well to eat them sparingly, if we wish to keep out of the physician's clutches.

THE Jersey fever continues to rage. Advertisements trumpet forth their lovely colours, wonderful points, and big yields of milk. The bull "Scituate" serves a limited number of cows at \$200 apiece. At a recent auction sale in Philadelphia, sixty cows brought an average of \$457.58 each, the highest price being \$1,350 for a two-year-old "Coomassie" heifer. The premium two-months-old calf brought \$700.

Just now, the usual summer intimations of fruit scarcity are in the air, the design being, doubtless, to bull the market for early apples and peaches. But, from all accounts, we judge that there will be a fair though not a full crop of these fruits. In Maryland, one of the largest contributors to the peach supply, the crop is reported to be larger than ever known; in Michigan it is fair to good. The yield of apples is partial, and very variable; plums only seem likely to be a conspicuous failure.

Those who keep bees need to look out sharply for toads. Go among the hives in the "gloamin'" and ten to one you will see a solemn toad beside each of them, with face upturned heavenward, as though praying. So he is, phonetically speaking; but phonography, with all its advantages, fails here, for you must spell that word with an "e." He is praying on your bees, and if you watch him closely you will see him, every now and then, dart out his long, slimy tongue, and gather them in with a celerity and gusto perfectly marvellous. Toads are valuable in a garden, but destructive in an apiary.

A CORRESPONDENT of the *Country Gentleman* recommends the use of salt in liberal quantities to destroy grubs in grass and potato lands. He says that the error of those who have had recourse to salt for the extinction of grubs has been a too scanty application of it. Grass or potatoes, he affirms, will grow luxuriantly under an application of a ton and a half per acre. This quantity will kill all manner of grubs and worms, preserve potatoes from scab and other excrescences, and prevent rot. He would apply one-half this quantity in the fall, and the rest in the spring. Half this dose, or even two or three barrels, though not as effectual, will accomplish much; but the man who is contented with the use of two or three bushels per acre only makes a fool of himself. Do something or nothing.

THE Messrs. Geary, of London, Ont., have made large importations of Polled Angus and Hereford cattle, also of Lincoln and Shropshire sheep. Concerning their cattle purchases, the *Liverpool Drivers' Journal* says: "In the matter of neat cattle, Mr. Geary was largely aided by the ripe judgment and great experience of Mr. Hugh Nelson, of Liverpool. In company with this gentleman, nearly all the famous herds of the three kingdoms were visited, and purchases made of Hereford bulls and heifers. The cattle are splendid in quality, possessing all the characteristic points that have made their breed so celebrated. The Polled Angus cattle particularly are among the best to be had in Scotland, and their 'black but comely' figures would delight the most fastidious connoisseur. Taken altogether, this shipment, in point of excellence and usefulness, is quite remarkable, and will be a distinct and valued addition to the district they go to."

ON the 2nd inst., the steamship *Buenos Ayreas* landed 110 Clydesdales, Cleveland Bay horses, and Shetland ponies at the port of Quebec. They were selected from the studs of the principal breeders in Scotland and England by Messrs. Banks & Harding, of Indiana, and Messrs. Power Bros. of Pennsylvania; Galbraith Bros. of Janesville, Wisconsin; Mr. Taylor, of Ontario, and other dealers who had smaller lots. They are all intended for breeding purposes, and part are to be exhibited at fairs in Canada and the United States. Prince George of Wales, of the batch, is a noted prize Clydesdale; weight, 2,100 lbs. He was sired by Drew's Prince of Wales, also a prize. A two-year-old named Music, one of the champion two-year-old fillies of Scotland this season, weighs 1,785 lbs. These two are owned by Messrs. Galbraith Bros. Messrs. Banks & Harding have a mare purchased from Beattie, of Annan, accompanied by a yearling out of her, got by Prince of Wales.

FARM AND FIELD.

MISTAKES.

An exchange speaks of the departure of an old settler for Dakota, where he will take up a quarter section of land and start again in life at the age of seventy. The man had a nice farm near a splendid town, where he had lived and brought up a family. He got tired of farming, sold the farm for \$8,000, moved to town and went into the livery business, and in three years went through everything except a team and a lumber waggon, and now he has packed up and gone to Dakota, with a heart heavier than his pocket-book, and he will die out there. The number of farmers that decide to go to town to live, every year, and go into business, is appalling. Every town has them, and nine out of ten become poor. They get an idea that town business men are the happiest people on earth and have an easy time, and they get to brooding over their hard life, and they think anybody can run a store, a grocery, or a livery stable, and they sell out the farm and go into business in town. The most of them go into the grocery business, because it seems so easy to weigh out sugar and tea. They can always find a grocery man who will sell out the remains of a sick stock of groceries for ready cash, and when the farmer first sees his name over the door of a grocery he feels as though he was made, and puts his thumbs in the armpits of his vest. The farmer's girls and boys soon realize that they are merchant's sons and daughters, instead of farmer's, and they have to keep up with the procession. There has to be lots of things bought as merchants that would never be thought of as farmers. The farm-house furniture is not good enough, the democratic waggon gives place to a carriage, the old mares give place to high steppers, and the girls dress better and do not work. The family lives out of the grocery, the boys play baseball, and the girls go to big parties. The farmer is a good fellow, and trusts many other good fellows who can't pay, and in some cases he gets to drinking. Bills begin to come in, and he can't collect enough money to pay rent. Friends that would help him out with money when he had a farm will now tell him money is mighty scarce, and he will have to get a chattel mortgage on the stock. The stock runs down until there's nothing but a red tin can of mustard, with a bull's head on it, some canned peaches and cove oysters on the shelves, a few boxes of wooden clothes-pins, six waggon-loads of barrels with a little sugar in the bottom, a couple of dozen washboards, a box of codfish of the vintage of 1860, which smells like a glue factory, a show-case full of three cent wooden pocket combs and blueing, hair pins and shaving soap, some empty cigar boxes that the boys had smoked the cigars out of, and a few such things that do not bring enough at an auction to pay for printing the auction bills. Then the farmer breaks up and goes West, leaving a lot of bills in the hands of a lawyer for collection, who manages to collect enough to pay his commission; and the family that was so happy on the farm, and so independent, becomes demoralized, the girls marry helpers in livery stables rather than go West, the boys go to driving hacks or working on a threshing machine, or tending bar, and refuse to go West, and the old folks go to Dakota alone and wish they were dead, and will be, quick enough. This is the history of thousands of farmers who get tired of the old farm. If they would but realize that they are better fixed than nine-tenths of the merchants in towns, and that they cannot become successful merchants any more than merchants can become successful farmers, they would be learning something that would be valuable to them.—*Peck's Sun.*

IN HARVEST DAY.

Through Farmer Gale's wide fields I passed
Just yester-eve;
My week of holiday was spent,
And idly on the stilo I loant,
Taking my leave.

Of all the fair and smiling plain,
Wood, vale and hill,
And all the homely household band,
The warm grasp of each kindly hand
Bides with me still.

And I was sad. The stricken grain
Around me lay;
I could but think of silent glade—
Of buds and blossoms lowly laid
The harvest day.

"And this is all!" I sadly said,
"These withered leaves—
This gathered grain; spring's hour of bliss
And summer's glory turn to this—
Some yellow sheaves!"

Then Farmer Gale—that good old man,
So simply wise—
Who overheard and quickly turned,
Said, while a spark of anger burned
In his grey eyes:

"Lad, thou art town-bred, knowing naught
Whereof thou pratest!
For, be the sower as fair as May,
The fruit it yields in harvest day
Is still the greatest!"

And thou—thy spring shall quickly pass;
Fast fall the leaves
From life's frail tree. In harvest day
See that before the Lord thou lay
Some yellow sheaves!"

He went his way; I mine. And now
I hear the flow
Of busy life in crowded street—
Of eager voices, hurrying feet,
That come and go.

Yet e'en when flashing factory looms,
My hands engage,
I see the far-off upland plain,
Its long, low rows of gathered grain,
Its rustic sage.

And hear them say, "Let pleasure fair,
And passion vain,
And youthful follies, fade and die;
But all good deeds, pure thoughts and high
Like golden grain,"

"Be gathered still." Blest harvest store!
That surely grows
In hearts by noble dreams inspired;
In hearts to generous action fired
By others' woes.

Lord! when Thou callest; when this world
My spirit leaves,
Then to Thy feet, oh, let me come,
Bringing, in joyful harvest home,
Some yellow sheaves!

—Anonymous.

WHEAT AND CHEAT.

Enclosed please find one head of wheat with cheat growing in same head. It was brought to me this morning by Mr. Warren Thompson, who found it in the field of Mr. Heaton, near this village. It is the first thing of the kind I have ever seen, so I thought I would send it to you for examination.

F. J. W.

MANCHESTER, ILL., June 17.

The head of wheat sent had enclosed between caps of the grains of wheat a section of a head of cheat, so nicely that the two could not be known to be disunited by the most careful superficial observation. It was sent to our botanical editor, who, under the microscope, found it to be a section of a head of chess entangled between the rows of grain in the head of wheat, and so reported.

The representative of the *Prairie Farmer*, who attended the late meeting of the Michigan Horticultural Society, at Pentwater, Michigan, took the head there as a curiosity. On the way home, some of the members asked that it be sent to Prof. W. J. Beal, of the Michigan Agricultural College, one of the most accomplished and painstaking botanists in the country. We have stated more than once that no case is on record showing conclusively that the grains of chess will grow in

a head of wheat, or that wheat will turn to chess. On the contrary, the evidence is entirely the other way. As we have previously expressed it, it is a botanical impossibility. Prof. Beal, in returning the ear of wheat, writes as follows:

"The specimen of wheat and cheat has been subjected to a careful microscopic examination, and the result was the same as has been obtained from the examination of several other similar specimens which have been brought to my notice. The cheat is not permanently connected with the head of wheat—that is, it *did not grow there*—but is only accidental.

"The probabilities are that the wheat and cheat were growing near each other, and the wind blew the panicles of cheat across the head of wheat, and one of the spikelets of the cheat was drawn between the kernels of wheat and was broken off, thereby giving it the appearance of having grown there. By carefully pulling the parts open, one can see the end of the stem of cheat where it was broken off. This is an excellent illustration of the proofs brought forward by the advocates of 'wheat turning to chess.' Conclusions should not be drawn too hastily."—*Prairie Farmer.*

CARE OF TREES.

There are some seasons when to neglect a newly set tree for a single week will prove fatal. Persons of limited experience think if a tree be well set, and leaves out, they have nothing more to do but to enjoy its growth. This is a mistake. Many trees die the first season they are set, after they are well leaved out, and perhaps made several inches growth.

The sun in our latitude is so hot during the summer months that very large quantities of water are thrown off by the leaves of the trees, and unless the roots are numerous enough, and are surrounded with sufficient moisture to supply the water as fast as it evaporates through the foliage, the leaves will lose their natural colour, begin to wilt, and finally die.

A newly-set tree has but a limited quantity of roots, and none of them penetrate the soil very deep. For this reason, as soon as the leaves begin to grow, the draught on the roots for water is such that the limited space they occupy is soon drained of all moisture. To guard against this, it is necessary to resort to artificial means to apply water in sufficient quantities to keep the earth around the roots continually moist. The more a tree grows, the more water will the roots be obliged to absorb to keep up the waste by the evaporation. In addition to the amount of water taken up by the tree, and evaporated through the leaves, there are always large quantities lost by evaporation directly from the soil. To prevent this, the soil, two feet beyond where the roots extend and up to within a few inches of the trunk, should be kept heavily mulched until the tree is well established.

When a tree is to be watered, it should not be done by pouring a few quarts of water within a few inches of the trunk of the tree, but the ground should be well wet in a circle around the tree larger than the space occupied by the roots. If water be applied in this way, it is not necessary to water every day. Once a week is often enough, unless it be very dry.—*Massachusetts Ploughman.*

MANAGEMENT OF RANK GRASS.

A vast amount of time and useless labour are spent on most farms every season in cutting lodged grass and clover. It is very difficult to cut them with a machine, and the machine is likely to be broken in the operation. The hay made from lodged grass and clover is hard to

cure, and of very poor quality when it is made. Most kinds of stock will reject much of it if they are not driven to eat it by hunger. The sod on which lodged grass and clover rest is always insured by being covered by a substance that acts like a mulch. Grass and clover are sometimes blown down by a violent wind, or beaten down by storms. When such is the case, it is necessary to cut and cure them as best one can. In many cases, however, the farmer can see, by the condition of the plants, that they will lodge unless they are cut very early. The stalks are so tall, and the foliage is so heavy, that it is difficult for the plants to sustain themselves. When this is the case, no time should be lost in putting in the mower or scythe. By cutting early, lodging will be prevented and the hay will be of good quality. This practice involves the necessity of cutting the grass or clover a second time, but it is much easier to harvest two crops that stand upright, than one that is stretched out on the surface of the ground. With the present means for harvesting the hay crop, the labour of cutting and curing is slight, when there is no delay in consequence of obstructions. Heavy grass and clover should be cut early, in order to prevent the stalks from becoming large and coarse. By cutting twice a large amount of hay can be obtained, and it will be of the best quality. That obtained by the last cutting will be of special value for young stock.—*Exchange.*

A VALUABLE TABLE.

The following table gives the quantity of seed and number of plants requisite to crop an acre of land, and will prove valuable to farmers and gardeners, and to families generally who may have only a small garden. It can always be referred to, to set one right in any matter of doubt connected with the subjects involved:

Asparagus in 12-inch drills, 16 quarts.
Asparagus plants 4 by 1½ feet, 8,000.
Barley, 2½ bushels.
Beans, bush, in drills 2½ feet, 1½ bushels.
Beans, pole, Lima, 4 by 4 feet, 20 quarts.
Beans, Carolina, prolific, etc., 4 by 3, 10 quarts.
Beets, mangolds, drills, 2½ feet, 9 pounds.
Broom corn in drills, 12 pounds.
Cabbage, outside, for transplanting, 12 ounces.
Cabbage sown in frames, 4 ounces.
Carrot in drills, 2½ feet, 4 pounds.
Celery, seed, 8 ounces.
Celery, plant, 4 by ½ feet, 25,000.
Clover, white Dutch, 13 pounds.
Clover, Lucerne, 10 pounds.
Clover, Alsike, 6 pounds.
Clover, large red with timothy, 12 pounds.
Clover, large red without timothy, 16 pounds.
Corn, sugar, 10 quarts.
Corn, field, 8 quarts.
Corn, salad, drill ten inches, 25 pounds.
Cucumber, in hills, 3 quarts.
Cucumber, in drills, 4 quarts.
Egg-plant, plants, 3 by 2 feet, 4 ounces.
Endive, in drills, 2½ feet, 3 pounds.
Flax, broadcast, 20 quarts.
Grass, timothy, with clover, 6 quarts.
Grass, timothy, without clover, 10 quarts.
Grass, orchard, 25 quarts.
Grass, red top or herds, 20 quarts.
Grass, blue, 28 quarts.
Grass, rye, 20 quarts.
Grass, millet, 32 quarts.
Hemp, broadcast, ½ bushel.
Kale, German greens, 8 pounds.
Lettuce, in rows, 2½ feet, 8 pounds.
Leek, 4 pounds.
Lawn grass, 85 pounds.
Melons, water, in hills 8 by 8 feet, 8 pounds.
Melons, citrons, in hills 4 by 4 feet, 2 pounds.

Oats, 2 bushels.
Okra, in drills, 2½ by ½ feet, 20 pounds.
Onion, in beds for sets, 50 pounds.
Onion, in rows for large bulbs, 7 pounds.
Parsnip, in drills, 2½ feet, 5 pounds.
Pepper, plants, 2½ by 1 foot, 17,500.
Pumpkin, in hills 8 by 8 feet, 2 quarts.
Parsley, in drills 2 feet, 4 pounds.
Peas, in drills, short varieties, 2 bushels.
Peas, in drills, tall varieties, 1 to 1½ bushels.
Peas, broadcast, 8 bushels.
Potatoes, 8 bushels.
Radish, in drills 2 feet, 10 pounds.
Rye, broadcast, 1½ bushels.
Rye, drilled, 1½ bushels.
Salsify, in drills, 2½ feet, 10 pounds.
Spinach, broadcast, 80 pounds.
Squash, bush, in hills 4 by 4 feet, 3 pounds.
Squash, running, 8 by 8 feet, 8 pounds.
Sorghum, 4 quarts.
Turnips, in drills 2 feet, 8 pounds.
Turnips, broadcast, 8 pounds.
Tomatoes, in frames, 3 ounces.
Tomatoes, seed in hills 3 by 8 feet, 8 ounces.
Tomatoes, plants, 8,800.
Wheat, in drills, 1½ bushels.
Wheat, broadcast, 2 bushels.

RECUPERATING PASTURES.

In England the pastures of the great county of Cheshire became so exhausted as to cease to be valuable for the purposes for which they had before been considered. With the other sections of England, bone dust was introduced and used particularly as a *top dressing* upon their grass lands, and the old pastures have increased in feeding stock from thirty to fifty per cent.; and we believe that in this country equally beneficial results are being experienced by the same means, and wherever it has been tried the farmer will be induced to extend the plan in the future. It not only gives the pasture a fresh start, but it is a dressing that will last quite a number of years; besides, the properties of bone enter the grass, thus giving the cattle in a natural way what they very much need, and saves giving them bone meal in their feed. A dressing of 250 to 400 pounds per acre would last a number of years. The bone dust should be sown broadcast, as early as possible in the spring, when the young grass is starting. Hen manure can be used with good success by compositing with ground bone, ashes or lime. Cover with loam or muck two or three weeks until it heats, then work it over and mix it well with loam or muck to reduce to the proper strength, and apply in the hills. It is one of our best fertilizers.

SHRINKAGE OF GRAIN.

Farmers rarely gain by holding on to their grain after it is fit for market, when the shrinkage is taken into account. Wheat from the time it is threshed will shrink two quarts to the bushel, or six per cent. in six months, in the most favourable circumstances. Hence ninety-four cents a bushel for wheat when first threshed in August, is as good, taking into account the shrinkage alone, as one dollar in the following February.

Corn shrinks much more from the time it is husked. One hundred bushels of ears, as they come from the field in November, will be reduced to not far from eighty; so that forty cents a bushel for corn in the ear, as it comes from the field, is as good as fifty cents in March, shrinkage only being taken into account.

In the case of potatoes—taking those that rot and are otherwise lost, together with the shrinkage—there is but little doubt that between

October and June the loss to the owner is not less than thirty-three per cent.

This estimate is taken on the basis of interest at seven per cent., and takes no account of loss by vermin.—*Exchange.*

SMALL THINGS.

It is a small matter to take horses across the field for their water; it seems to cost nothing, yet if a farmer's time or that of his hired man is worth anything, it costs a great deal in the course of a year. It is a small matter to chop each day's wood upon the day it is used, and thus have it all fresh; but fifteen minutes in harvest-time is worth more than in January; besides, there are vastly more economical methods of making firewood than with an axe. It is a very little matter to tighten a loose nut, but it sometimes costs life and limb not to do it. A pear tree here, and a peach tree there, cost so little that one is inclined to think they are of no account, but when the fruit is ripe they are appreciated. A single step from one room to another is "only one step," but the thought of a stairway made of these steps during a lifetime is enough to almost make a woman's back ache. Look well to the details, that the little things are right, for it pays in the end.—*American Agriculturist.*

PASTURE GRASS.

The yield of grass in most pastures might be doubled by keeping the weeds out of them, and by not allowing the grass to be cropped too short. A large amount of the fertilizing material in land is allowed to be absorbed by worthless weeds and thistles. Grass should take the place of these, and would if they were kept weeded out. On a late visit to Kentucky we found most luxuriant pastures with scarcely a weed in them. This was soon accounted for as we seen gangs of men pulling out the weeds. Where they are very thick, as they are in most pastures, the mowing machine should be freely used, allowing none of the weeds to go to seed.—*N. J. Coleman, in Rural World.*

THE CLOVER CROP.

I cut when the heads begin to show about one-half brown. If the weather is clear, and I have one day of sunshine, I haul in the next day, commencing as soon as the dew is off. When the clover is extra heavy, in order to hasten the curing, I have it scattered. I cut no more one day than I can save the next. I have had but little experience in stacking clover, or anything else, as I always put everything in my barn. In mowing away clover I put in compactly, using about one peck of salt to the ton. If properly cured, I have never suffered any loss, mow-burning or moulding, and have good, bright, sweet food.—*Cor. Homestead.*

ORCHARD grass is one of the earliest to ripen, coming into flower with the June or Kentucky blue grass. For seeding and early mowing, two bushels orchard grass, one bushel June grass, and ten pounds common red clover make a desirable proportion. Orchard grass is too tender to bear very late fall seeding, but after the first year it is as hardy as other growers. Orchard grass should be cultivated on the best grass land, or such as may be expected, under high manuring, to produce heavy rowen crops every season. Fields sown early in the spring on rich land have given three heavy cuttings the same year. Dry lands, however, like sandy plains or gravelly knolls, are unsuited to it; so are level meadows, which are liable to overflow in winter and to coatings of ice.

GARDEN AND ORCHARD.

INSECTS INJURIOUS TO THE APPLE.

The root plant louse (see Fig. 31) affects the apple tree by laying its eggs on the roots, the young lice hatch, and their punctures produce irritation and cause the formation of galls, as shown in the illustration. The tree becomes unhealthy in consequence. The only artificial remedy suggested is to uncover the roots and pour boiling water upon them, but this is clearly not a convenient operation, especially where the trees affected are numerous. A parasite is here our best friend.

The borers assail the trunk of the tree. The striped variety (see Fig. 32) is scarce, but the Buprestis is only too common (see Fig. 33). It is described by Mr. Saunders as follows:

"The other borer, the Buprestis, is unfortunately very abundant throughout the Province. The one species may be distinguished from the other by the difference in form, both in the larval and perfect state. The Buprestis beetle is much smaller than the other, and of that coppery metallic hue which Mr. Bethune has described as peculiar to the family of Buprestidae. The larva of the striped borer is nearly cylindrical, with a large brown head and strong jaws, while that of the Buprestis resembles a tadpole in form, the anterior segments of the body being much enlarged, and the hinder one correspondingly small. The parent insects deposit their eggs on the bark of the tree, the striped borer generally about the collar, or base of the trunk, and the Buprestis sometimes there, but sometimes higher up on the trunk, or even above the first branches. The eggs are soon hatched, and the young larva bore in as far as the sapwood, and live there until they grow large enough and strong enough to bore into the harder wood of the trunk."

As a remedy for this pest Mr. Saunders suggests the following:—

"Their presence may be detected by the smooth, somewhat shrivelled appearance of the bark of the tree over the spot where they are at work, or by the castings of the wood which the larva throws out as it increases in size. If, on thrusting the point of a knife into the collar or base of the tree, a cavity is found, that fact will indicate the presence of a larva, which should at once be searched out and destroyed. Another remedy, a preventive measure, is the application of an alkaline solution made by mixing a gallon of soft soap with about half a gallon of water in which has been dissolved as much washing soda as it will take up. This is applied to the trunk of the tree from the base upwards to the forks, and about the larger branches. The liquid, which will be about the consistence of paint, should be applied with an ordinary paint brush on a fine day, when the heat of the sun will dry the solution readily, and during the early part of June, before the time when the insects deposit their eggs. This treatment will coat the tree with a sort of alkaline varnish not easily affected by rain, and seems to exempt it from attack to a great extent. I have had some 5,000 trees under my care for eight or nine years, and I have rarely found a borer in any of them under this treatment."

"The Buprestis deposits its eggs earlier in the season than the Saperda, but both lay them during the month of June and July, and the solution should be applied during the first week in June, and repeated, if necessary from the wetness of the

weather, in the beginning of July. Generally speaking, however, one application will be found sufficient."

The application, it is remarked, is also useful against Aphidæ, and other insects resorting to the tree as a hiding-place.

The oyster-shell bark louse (*Aspidiotus conchiformis*) attacks the branches (see Fig. 34). Its habits are described as follows by Mr. Saunders:

"The worst insect we have affecting the bark of the tree is the oyster-shell bark louse (*Aspidiotus conchiformis*), which is a very minute creature and a very troublesome one. The form in which we generally detect it is in the shape of a small scale, somewhat resembling an oyster shell, which,

A strong alkaline solution applied to the bark is the most efficacious remedy.

The apple-tree plant louse (*Aphis mali*), "attacks the terminal growing shoots." It is similar to the plant lice already described, and may be destroyed in the same manner, by a strong solution of alkali or tobacco water. If once washed from the twig the insects are helpless, and consequently die.

POTTED STRAWBERRY PLANTS.

At length we have an Ontario fruit-grower, Mr. T. C. Robinson, of Owen Sound, who has faith enough to make a specialty of raising pot-grown strawberry plants for the market. This method has so many advantages to the purchaser, that it ought to become popular. Mr. Robinson has issued a circular, which will be sent free to all applicants, from which we make the following extracts explanatory of the system, and the proper culture of the plants:

WHAT IS A POTTED PLANT?

During early June, in ordinary seasons, good hill plants send out vigorous runners from ten to twenty inches long, according to the variety and its vigour of growth. The tips of these runners are layered in three-inch pots filled with moist earth and sunk in the ground about as far from the old plants as the runners will reach. In about two weeks, if the soil in the pots is kept constantly moist, the runner tips develop into young plants, the roots of which completely fill and surround the earth in the pots so as to form such a compact mass of root-fibre and soil as to surprise one not acquainted with the habits of pot-plants. If these plants are "tilted out" out of the pots at this exact stage of growth (without waiting till they become hide-bound), wrapped with suitable paper around the ball of earth and roots, and then packed in a box with damp moss, they may be sent by express in beautiful condition for hundreds of miles—the earth adhering to the roots firmly.

TREATMENT ON ARRIVAL.

Take the plants out of the paper and moss, and plant in moist earth where you want them to grow, covering them for a few days with old strawberry boxes inverted, paper, or something else that will shield them from the hot sun and admit air to the leaves. If the soil is not moist from rains, they must be watered when set out. Usually setting out in moist earth will do without further watering, and without even covering, unless it is very dry; but if it is very dry, water once or twice. They must not will

SOIL AND CULTURE.

Any soil that will raise good corn and potatoes will raise good strawberries, provided water does not stand on the surface in fall or spring; but some varieties—like Crescent, and Windsor Chief—give the best satisfaction on light land; others, of the Prouty and Jucunda strain—prefer heavy loam; while some varieties, like Miner and Golden Defiance, will do well on either light or heavy land. In treating of each variety, any peculiar adaptation to a particular soil will be noted.

Thorough success with strawberries depends mainly on attention to four points:—

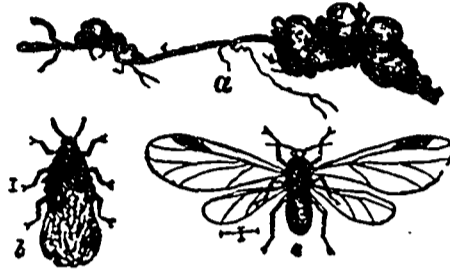
THE ROOT PLANT LOUSE—*Eriosoma pyri*.

Fig. 31.

In Fig. 31 a represents the galls, a specimen of the work of this insect, b and c the perfect winged insects magnified, the hair lines at the sides give the correct size.

THE STRIPED BORER—*Saperda candida*.

Fig. 32.

Fig. 32—a the larva or grub, b the chrysalis, and c the perfect beetle.

BUPRESTIS APPLE TREE BORER—*Chrysobothris femorata*.

Fig. 33.

Fig. 33—a shows the larva, b the chrysalis, and c the perfect insect.

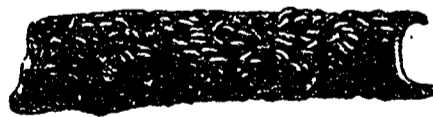
LARVÆ OF OYSTER SHELL BARK LOUSE—*Aspidiotus conchiformis*.

Fig. 34.

Fig. 34 represents a small piece of the bark of an apple tree covered by larvae.

if lifted up in August or September, will disclose a large number of minute eggs underneath. These eggs remain protected under this scale during the winter, and early in the following summer, as soon as the weather gets warm—sometimes in the latter part of May, sometimes a few days later—the young are hatched out. They wait for a warm day before leaving their shelter, and then they scatter themselves over the twigs of the tree, and when they find a suitable spot they fix themselves upon the tender growing bark, insert their beaks, and become permanently located, never moving afterwards. They go on sucking the juices of the tree until towards the latter end of August or September, when they attain their full size, and gradually form this scaly shell, within which the eggs are deposited, and the female louse subsequently shrivels up and dies."

a leaf! With ordinary care not one plant in a hundred will fail to grow. Success depends largely on pressing moist earth firmly around the roots in planting.

- 1st—Suitable varieties.
- 2nd—Plenty of well-rotted manure.
- 3rd—Clean cultivation.
- 4th—Prompt removal of runners.

If land is rich with former applications of green manure, it will do without any just before planting. Cow manure is best for light land; horse manure for clay. If green horse manure is applied to heavy clay some months before planting, so as to rot in the ground, it will loosen up the soil chemically, and fit it beautifully for strawberries.

Be sure to mulch before fruiting; that is, cover the surface around the plants about an inch deep with straw, or better still, strawy manure—to keep the berries clean. If well-rotted manure can be spared for this purpose it will be best of all, as it contains few weed seeds or none.

ROOTING ROSE-CUTTINGS.

European horticulturists have lately adopted a way of making rose cuttings root with more certainty, by bending the shoot, and inserting both ends into the ground, leaving a single bud uncovered at the middle and on the surface of the ground. The cuttings are about ten inches long, and are bent over a stick laid flat on the ground, holes being dug on each side of the stick for the reception of the ends of the shoot. The roots form only at the lower end of the shoot, but the other end being buried, prevents evaporation and drying up. A correspondent of the *London Garden* states that he has tried this along with the old mode, and that while the weaker cuttings of the latter have shown symptoms of drying and failure, all the former have grown vigorously.

COAL ASHES FOR CURRANTS.

Common coal ashes, well distributed about roots of currants, is one of their best promoters. This should be done by loosening the soil about their roots, and placing the ashes near them, cover firmly with earth above, and the bushes will bear such clusters as will speak the beneficial effects of this application of material too commonly thrown aside as of no use. Cherry trees also gratefully accept this renovator; and if carefully bedded about the roots with coal ashes in the fall, the yield of fruit the following year will surprise the cultivator. Especially is this effect produced in the black loam of Illinois. We have in our mind one fruit garden there where all the small fruit was treated in this way, and have never seen their yield excelled.—*National Farmer*.

APPLE-TREE BORERS.

There is no surer way to destroy the borers than to dig for them with a pointed knife and kill them when found. If they are high up, they may be crushed with a wire pushed up into the holes. Coal ashes spread around the trees are beneficial. The wounded parts may be covered with a mixture of fresh cow-dung and clay.—*Amer. Garden*.

CLEAN AROUND YOUR APPLE TREE.

The soil for some distance from the stems of orchard trees should be clean and pulverized previous to the snows of winter; otherwise, in many localities, much injury may be done by mice eating the bark. These animals find a comfortable shelter and cover for their depredations in the rough and decaying stems of weeds, and they are rarely troublesome where the ground is made clean and smooth.

TURPENTINE FOR CURCULIO.

A correspondent of the *Fruit Recorder* says that cotton soaked in turpentine and hung among the branches of plum trees just as the blossoms

are falling, and frequently renewed until the plums are half grown, will effectually protect the fruit from the depredations of the curculio. If gum camphor or any of the essential oils, such as peppermint, pennyroyal, sassafras, etc., are dissolved in the turpentine it produces an odour so strong that it becomes intolerable to all insects.

LAWNS.

More care is required to make fine, velvety lawns than is usually supposed. It is necessary to have plenty of rich loam, sufficient well-rotted manure or good fertilizer, and the best of seed. If the subsoil be sandy or gravelly, a greater depth of loam is needed, or the bottom must be partially puddled with either clay or peat. If not, any manure or top-dressing of any description soaks away and disappears entirely.

DEAFENBAUGH'S IDEA.

Mr. Beecher, in his book on "Fruits, Flowers and Farming," tells a good story of an old German farmer out in Indiana who was always successful. A neighbour had great trouble in raising good corn on his land; the soil was very wet, and water persisted in gathering in the furrows. One day he saw his German friend ploughing, and the following conversation ensued:

"Deafenbaugh, how is it that you always have good corn when no one else gets half a crop?"

"Well," said he, "when it is wet I plough till it is dry, and when it is dry I plough till it is wet."

Mr. Beecher, in commenting on the story, says: "Now, the principle is good. Our Dutch friend would not, we suppose, plough a stiff clay soil in a wet condition, unless, possibly, to strike a channel through the middle between the rows. But the gist of the story lies in this—constant cultivation. Stir, stir, stir the ground."

BLACKBERRIES are plenty round about Frankfort, Ky. Listen to the *Yeoman*: "The whole face of the earth is covered with blackberries. Such an immense crop was never known before."

A FEW plants or seeds of watercresses planted at a spring brook will in a few years fill the stream. They are wholesome, and are said to be especially good for liver complaint. They may be dressed with oil and vinegar, or eaten only with salt.

CABBAGE plants set out in July should make good winter heads. They should be well cultivated. No plants respond better to the hoe—not even corn. Soot or lime will aid in killing the fly. The best varieties are the flat Dutch and the drumhead.

I HEAR some people relate how many thousand plants they have "set out in one day." I should rather hear how many they succeeded in making live and thrive. I will not permit my men to hurry the planting, but urge them to take time to do the work well.—*Charles A. Green*.

It must not be forgotten that clean culture and a mellow surface are absolutely essential for the strawberry bed through August and September, so that the fall rains and cool temperature may nourish no rival weeds, to rob or crowd out the strawberry plants at their chief season of growth and preparation for the next June yield.

It is quite an easy matter to make currants profitable if the ground is well treated with manure. The bushes should be from four to five feet apart, and this will admit the planting of a crop of potatoes the first year between the rows, which can be followed by beans or peas the second. The third year the bushes can be given all the space, and will begin to pay for themselves.

CREAM.

HERE is a new (or rather a neat) version of "Gray's Ploughman":

The weary ploughman plods his homeward way,
His homeward way the weary ploughman plods;
The weary ploughman homeward plods his way,
His way the weary ploughman homeward plods;
The ploughman, homeward, plods his weary way,
His way, the ploughman, homeward, weary plods;
Weary, the ploughman homeward plods his way,
Homeward, his way the weary ploughman plods;
Homeward, his weary way the ploughman plods,
His weary way the ploughman homeward plods;
Homeward the ploughman plods his weary way,
Homeward the weary ploughman plods his way;
The ploughman plods his homeward weary way,
Weary his homeward way the ploughman plods.

If the ploughman isn't weary by this time, he ought to be. So we will drop the subject.

CAST forth thy act, thy word, into the ever-living, ever-working universe; it is a seed-grain that cannot die.—*Carlyle*.

"WHAT is this man charged with?" asked the judge. "With whiskey, yer honour," replied the sententious policeman.

A LITTLE girl, on being told that an older sister was only a half sister, mournfully asked: "When will she be my whole sister?"

COWARDICE asks, Is it safe? Expediency asks, Is it politic? Vanity asks, Is it popular? But Conscience asks, Is it right?

SUMMER trousers are so attenuated in style that when a young man of this period sits down in them he will wish that he had stood up and saved rent.

As frost, raised to its utmost intensity, produces the sensation of fire, so any good quality, overwrought and pushed to excess, turns into its own contrary.—*William Matthews*.

A MAN intruded into an Irishman's shanty the other day. "What do you want?" asked Pat. "Nothing," was the visitor's reply. "Then you'll find it in the jug where the whiskey was."

BOTH wit and understanding are trifles without integrity. The ignorant peasant without fault is greater than the philosopher with many. What is genius or courage without a heart?—*Oliver Goldsmith*.

"THE bees are swarming, and there's no end to them," said farmer Jones, coming into the house. His little boy George came in a second afterward and said there was an end to one of 'em, anyhow, and it was red-hot, too.

A MILLER fell asleep in his mill, and bent forward till his hair got caught in some machinery, and almost a handful was pulled out. Of course it awakened him, and his first bewildered exclamation was—"Hang it, wife, what's the matter now?"

A DUTCHMAN was relating his marvellous escape from drowning when thirteen of his companions were lost by the upsetting of a boat, and he alone was saved. "And how did you escape their fate?" asked one of his hearers. "I did not go in to pote," was the Dutchman's placid answer.

SHEEP-RAISERS in Utah are very much assisted by eagles. One man who has had two hundred lambs raised by them this season to the topmost cliffs finds, however, that familiarity with the national bird breeds contempt, and declares that though they perform the raising very neatly, he prefers the old method.

A QUAKER married a woman of the Church of England. After the ceremony, the vicar asked for his fees, which he said were a crown. The Quaker, astounded at the demand, said if he would show him any text in the Scriptures which proved his fees were a crown, he would give it to him; upon which the vicar directly turned to Prov. xii 4, where it said: "A virtuous woman is a crown to her husband."

HORSES AND CATTLE.

FEEDING HORSES.

We don't suppose that any accurate rules can be laid down as to the proper mode of feeding horses, inasmuch as the amount of food required by one horse may not answer for another, and the extent of labour required of one horse may not, by one-half, be exacted from another. In feeding, a great deal depends on the amount of labour required. Many persons never feed beyond hay or grass when a horse stands idle, and on this principle the animal should be fed in proportion to the labour performed. We should think there is good sense in this, but it is by no means generally followed, though this is the result more of negligence than of system.

Then as to the character of the food. Horses that are used in the hardest work—say in team-hauling of every kind, street cars, express waggons, ploughing, and so on—differ greatly in their food requirements, but more in the character of the food than the quantity. Some persons never feed a grain of oats, their principal reliance being corn, bran and hay; others use a smaller quantity of corn and more bran, but the latter mixed with straw cut an inch in length and moistened with water, sometimes using the water warm, but mostly cold. Hard-worked horses like nothing better. They also seem to prefer the corn on the cob to shelled and cracked. Other persons, again, if they use corn, have it cracked, and the hay cut, others feed no corn, supplying its place with oats, bruised, bran mixed with the oats, and moistened with warm water, but feeding it only when cold. An old and experienced livery stable man informed us some time ago that he fed partly corn and partly oats, all whole and the corn on the ear, sufficient bran to keep the animal in good health, and good hay (timothy) mixed with about one-half or one-third clover. He never could see any advantage in crushing grain or cutting hay, and thought that horses did better when the food was given in its natural state, and the cost was less.

Horses have a small stomach, and they should be fed often; that is to say, at least three times in the twenty-four hours, which will admit of a division in the time of eight hours. They should never be driven fast on a full stomach, and at all times not out of a walk for the first quarter of a mile, for reasons that every horseman ought to understand. The stomach can be overloaded with hay, as easily and as badly as with any other food, and swollen with water. Drink three times a day is enough in the warmest weather, and if oftener the quantity should be reduced. Sponging out the mouth in hot weather is very good, but to avoid catching disease carry with you your own sponge.

At times horses are habitually over-fed, and their system becomes so disordered by it that their health suffers, and the powers of digestion failing, they lose flesh instead of gaining it, and will recover their condition only by diminishing from one-fourth to one-half the quantity of their allowance of food. Frequently old horses become thin, no matter how heavily they may be fed, on account of their teeth wearing unevenly, so that it is not in their power to masticate their food. In such cases a farrier should be employed to file them; or the owner of the animal, if he possesses the particular kind of file used, can file them himself. In this case much less food will soon restore the horse to a proper condition. As a rule, a horse will eat generally as much as he can get. When in a pasture-field he never ceases eating, and continues at it nearly throughout the whole of a moonlight night. The quantity of their food must therefore be regulated according

to their necessities, which an attendant will soon be able to discover. Rock-salt should, of course, be ever present in the manger, as a horse was never known to take too much of it.—*Germantown Telegraph.*

HYGIENE FOR HORSES.

Dr. C. E. Page gives *The Medical and Surgical Journal* some suggestions on keeping horses in health, which are not only in agreement with the best teaching, but sustained by his own and others' experience:

"The custom of working or exercising horses directly after eating; or feeding after hard work, and before they are thoroughly rested; baiting at noon, when both these violations of a natural law are committed,—these are the predisposing causes of pinkeye, and of most diseases that affect our horses. Keep the horse quiet, dry, warm, and in a pure atmosphere, the nearer out-door air the better, and stop his feed entirely at the first symptom of disease, and he will speedily recover. It has been demonstrated in tens of thousands of cases in family life that two meals are not only ample for the hardest and most exhausting labours, physical or mental, but altogether best. The same thing has been fully proved in hundreds of instances with horses, and has never in a single instance failed, after a fair trial, to work the best results. An hour's rest at noon is vastly more restoring to a tired animal, whether horse or man, than a meal of any sort, although the latter may prove more stimulating.

"The morning meal given, if possible, early enough for partial stomach digestion before the muscular and nervous systems are called into active play; the night meal offered long enough after work to insure a rested condition of the body; a diet liberal enough, but never excessive; this is the law and gospel of hygienic diet for either man or beast. I have never tried to fatten my horses, for I long ago learned that fat is disease; but I have always found that if a horse does solid work enough he will be fairly plump if he has two sufficient meals. Muscle is the product of work and food; fat may be laid on by food alone. But for perfect health and immunity from disease, restriction of exercise must be met by restriction in diet. Horses require more food in cold than in warm weather, if performing the same labour. In case of a warm spell in winter I reduce their feed, more or less, according to circumstances, as surely as I do the amount of fuel consumed. I also adopt the same principle in my own diet. The result is that neither my animals nor myself are ever for one moment sick."

DRY EARTH FOR STABLES.

If anyone will observe where the cows lie down in the barnyard or pasture, it will be seen that they choose the bare ground, rather than the sod or bedding of straw. The same is true of sheep. I have taken this hint, says a Western farmer, and furnished the cow-stables with dry earth bedding. Leaves and straw are poor absorbents in comparison. In the pig-pens dry earth has no equal. In very cold weather we add straw or leaves, but until the weather is very cold the animals will be more comfortable with a bed of fresh soil, or of sod changed once a fortnight or week.

In the chicken-house we have learned its great value as a deodorizer. Our roosts arc over a sloping floor, on which we occasionally scatter dry earth. The droppings roll down into a pile of dry earth. This is turned over with a shovel each week or oftener, and we can say the chicken house is free from any offensive odour, and bright combs and glossy feathers tell of the health of the fowls. Dry earth is a good preventive, too, of

vermin on cattle, pigs and poultry. It not only promotes neatness and health, but saves the very elements of the manures which make them most valuable, and most of which would evaporate if not absorbed by the dry earth.

We do not like it as a bedding in the horse-stables, but it should be found in every stable, to sprinkle the floor with as soon as the bedding is removed in the morning. When removed from the stables, styes or coops, it should be kept under cover until used, and is excellent for drilling with all kinds of grain. These observations are pertinent just now, because the fall is the time for securing the dry earth, which should be stored in a dry place to use during the winter.

HOOF ROT IN CATTLE.

To get the better of hoof rot in cattle, the part affected must be thoroughly cleansed. There are many sores on cattle which, if kept constantly washed clean with cold water, and kept free from dirt, would heal of themselves. A Maryland practice of curing hoof rot is to thoroughly cleanse the affected parts with warm water and soap, and then apply warm tar between the hoofs. In very bad cases there will be a very large core come out—remove it carefully with the thumb and finger; cleanse the cavity as above with soap and water, and then fill it with warm tar. Keep the parts thoroughly tarred, even if necessary to use a bandage. Keep the animal in a clean, dry pasture. It is no more liable to affect the whole system than any other ulcer. When once cured, there is no danger of its appearing again unless from the same cause.

SAVE THE HAY.

Corn will be scarce and high next winter. That will send up the price of pork and beef to high figures. The only way to take the proper advantage of that condition of things is to save all the hay possible, to help make up the deficiency. Scarcity of corn will make high prices for all kinds of feeding stuffs, including hay. Therefore, whether or not one has a home demand for hay, for feeding, he should cut all the grass that Nature gives him this year. It is too often the case with Western farmers that they save only the cream of the grass crop, leaving that which is more scant to fall down and go to waste. Every farmer this year should cut clean the thick and thin grass alike, cure it as well as the season will allow, and store in stack or barn for winter use or sale. Saving the products usually wasted, means the difference between large and small profits.

WATERING FARM HORSES.

Farmers should bear in mind the fact that their horses can suffer from thirst, as well as they. It is simply cruel to work a team from sunrise, perhaps, till noon, before the plough or mower, without allowing them to drink a drop, even though their mouths be dry and hot and the heat oppressive. It takes a little time, of course, to unhitch from the plough or mower and drive to a neighbouring creek, spring, or watering-tub, or to bring a pailful to the thirsty beasts during the forenoon or afternoon; but, if the driver wishes to quench his thirst, a half-hour's time is often taken to procure a cooling draught, and it is not time "lost." Moreover, if horses are not allowed to drink until they come to the stables, at noon or at night, they are apt to overdrink, unless carefully watched, burying their heads almost up to the eyes sometimes, in their eagerness to allay their thirst. Water in proper quantity is quite as necessary as food, and we, the horses' keepers, should be wise enough to know when they need it.

SHEEP AND SWINE.

LARGE ENGLISH WHITE BREED OF HOGS.

The accompanying cut represents what has long been known in this country by the somewhat indefinite name prefixed to this article. It is probably a mix of several distinct races of swine, and has never attained such a fixedness of type as to stamp it with the characteristics of a breed, properly so called. It is more compact, hairy, and muscular than the Large Yorkshires; roomier, coarser, and hardier than the Suffolks; and differs from the Berkshires and Essex in being pure white as to colour. It is less disposed to extreme fatness than most of the other English breeds, and gives that well-marbled quality of meat which is sought for in the pork market. Visitors at our Exhibitions will be familiar with these Large English Whites, which have long been shown in a class by themselves. They are, however, less numerous than they were, which we deem a misfortune, for they have excellences rendering them worthy of preservation and multiplication. Farmers who desire a white, well-haired, hardy, medium-sized pig, able to forage for itself, and not needing much petting, will find these and other virtues in the class of porkers illustrated herewith.

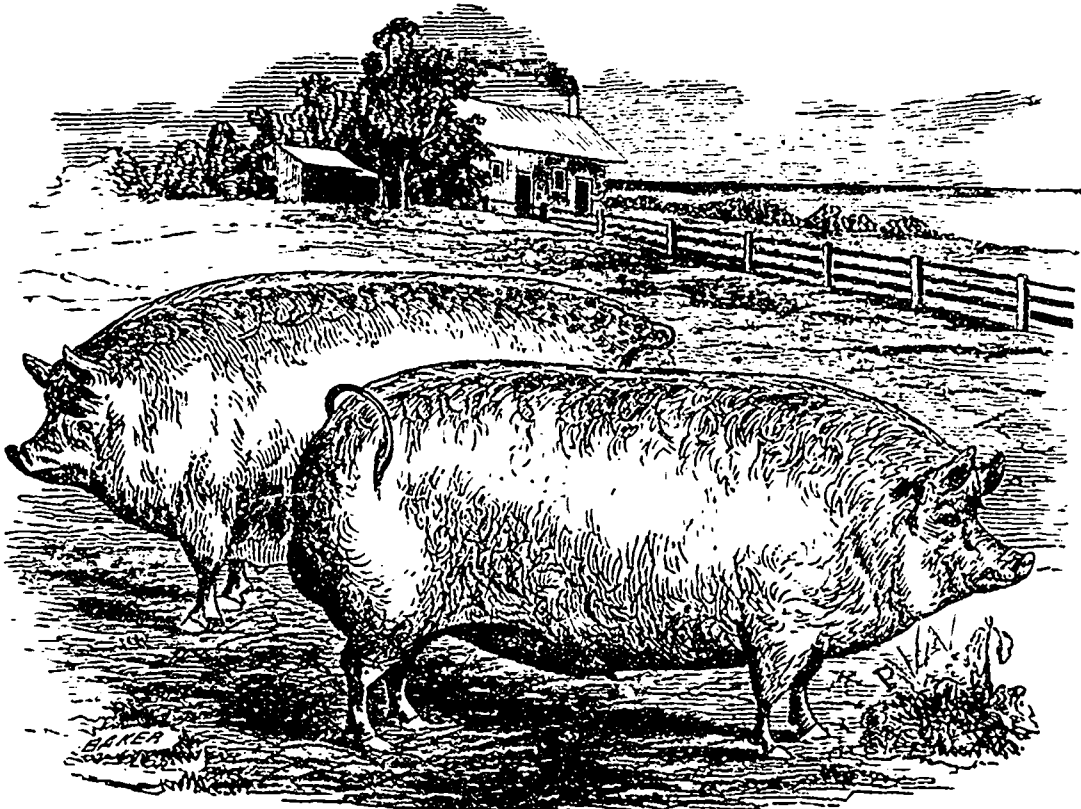
PIG PASTURE.

Recently I urged the importance of a pig pasture, which experience had taught me was a necessity, and now, by the same teacher, a second pig pasture is also made important. In order to carry on pig breeding with the least trouble and in the most successful manner, two pastures are required. It is also almost as necessary where pigs are raised for fattening. There is no cheaper way by which pigs can be kept through the summer, or any more healthful, than to run in a pasture. They will grow all the time if there is plenty of grass. They like a short, fresh growth, but they will eat clover greedily when it is full grown, so long as it remains green, preferring the blossoms. It is better to turn into clover before it is fully grown and the stems become tough and woody, and then the pigs will eat it all up. Orchard grass is the next best pasture, and I am not sure but it is preferable, as it will grow up rapidly whenever eaten off, and will really furnish more food during a season than clover.

Of course if the pigs are fed a little extra feed they will grow faster, and with young ones this is a necessity. Pigs which have been wintered over will thrive on grass alone, and young pigs will do much better if allowed to run on the grass, of which they will eat considerable. It seems to have a good effect upon their stomachs, as we rarely see them get sick when they can get grass to eat, whereas when confined in pens they often have scours, which are caused by derangement of the stomach. The second pig pasture need not be of so permanent a character as the first, al-

though at Kirby Homestead it will be made equally as permanent. A sidehill orchard seeded with orchard grass will be inclosed with a fence, two boards at the bottom, and above that barbed wire. This orchard has a living spring in it, and on this account is well suited for a pig pasture. The trees need the enriching which the pigs would afford, and the sidehill is not adapted to culture.

It seems queer that this has not been thought of before. For the lack of such an inclosure the male hogs have been kept in the pens and fed, while they might have been out on grass waiting on themselves, and so saved a great deal of trouble. The fence where such animals are confined must be substantial. The old pig pasture is suited to them, as it is surrounded by a stone wall four feet high and a strong board fence. The breeding sows and the animals designed for fattening can be divided between the pastures according to circumstances, and a much more satisfactory management of them had, with a place for each, rather than for them all to run together. It is quite a happy thought to turn the sidehill orchard into a pig pasture, because it had been a problem



LARGE ENGLISH WHITE BREED.

not easy to solve, how to effectually manure its steep sides. A year or two feeding and fattening the hogs in it will so enrich the soil that the labour of hauling manure will be unnecessary.

What to do with young pigs which were weaned in order that the mothers might have another litter has put the notion of hurdles in my head, and now it seems as though I could not get along without them. By hurdles is meant panels or sections of a fence, nailed or framed together, so that they can be moved about or set up anywhere. The convenience of these hurdles for yarding young pigs or calves on the green sod is apparent. Before the ground becomes too much eaten off or foul, they should be moved to a fresh spot. Stables in summer, reeking, as they are very apt to be, with more or less filth and foul smells, are no comparison to a fresh green spot in the open air, such as can be furnished so easily with a few hurdles. By having boards sawed into strips two inches wide, two boards will make one hurdle. These strips should be nailed on to pieces, using wrought nails, one piece at each end and one in the middle. The hurdles may be fastened together with malleable wire, and if the inclosure is not too large, two or three men can move the whole of it without its

being taken apart. A wet day, if the material is on hand, will furnish the time to make the hurdles.—*F. D. Curtis, in N. Y. Tribune.*

A GOOD SHEEP DOG.

The large, rough, tailless sheep dog is more often met with in the southern counties than in the north, and for bullock driving they are excellent, being very active, and, for a drove of bullocks on a sandy road in summer-time, they have a way of just giving the poor beast a gentle grip on the heel and quietly slipping away, thus imparting a little more vigour into the slow pace the tired beasts had got into. My favourite old dog Bob was a strong, muscular fellow, and many a feat of strength has he been the hero of—holding a sheep down by the ear, and tackling a rough calf that would not go the way Bob wanted him to do. The district in which we lived was bounded on one side by the park of a noble lord, and, as is often the case, the fallow deer would occasionally slip out of the small gate left partly open by foot-people. On one occasion, in the

spring of the year, two deer were out hiding on the common in the furze and heath; the keepers were out trying to get them in by driving. Bob and his master were passing over the common at the time, and the keepers set Bob to run after a buck that they had just started from his hiding-place. Bob, ready for the race, was off like a rocket, his curly wide behind looking like a fleecce of wool shooting along. They ran and coursed, and were lost sight of, and when we came round a bend in the road, there they were: Bob had fixed the buck on the side of the neck, close behind the ear, and held him fast and firm till the keepers secured him.—*Correspondent, London Field.*

THE GOOD SHEPHERD.

Henry Stewart, in the *N. Y. Times*, says: "Certain it is, however, that the successful sheep feeder is always on the best of terms with his flock, and a mutual regard, if not affection, always exists between them. He never forgets to feed them; he watches over their comfort, provides them with abundant fresh water, and would feel wretchedly to see them sipping filthy manure water to slake their thirst. This care pays; without it the flock fails to thrive, and daily becomes poorer, until disease comes in and makes short work of it. 'The good shepherd loves his sheep,' and the sheep seem to reciprocate the feeling, and to devote themselves assiduously to making flesh and fat and profit to their owner."

French farmers are urged to domesticate the *Cabiai* of South America, as ranking next to the pig and sheep. It is commonly known as the water pig, and resembles the squirrel in point of cleanliness and food. In three years it becomes as large as an ordinary pig; it eats little and sleeps much. The head is large, the ears small, it has two terrible cutting teeth, but no tail.

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

G. 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, AUGUST 16th, 1882.

THE LODGING OF GRAIN.

A large amount of grain has lodged the present season, and various reasons are given for this. When it is thrown down by high winds and heavy rains, the result is easily accounted for, but there are many cases that do not admit of so ready an explanation. M. Joulio gives some very sensible explanations respecting the lodging of grain. It is popularly but erroneously believed that the lodging of wheat, etc., is due to a deficiency of silica in the stem; analysis, however, has shown that this is not so, there being no perceptible difference between the laid and the stalwart stems. It lodges because the stem or the foot is weak, and this weakness is the consequence of moist, warm weather, and the absence of sun-light; the latter prevents the elaboration of carbonic acid, to enable the plant to form cellulose, or sinew, which imparts solidity. The stem becomes not ligneous, but herbaceous and etiolated; it breaks at the base, from want of regular nutrition; it has "rickets;" it is unable to support the upper part and ears, consequently the crop falls and is destroyed. This is not the same with grain thrown down by wind and heavy rain, which is often by no means deficient in vegetable sinew.

More important than any theory of the cause for this lodgment is the question how best to cut the grain when thus prostrated. We were surprised to learn from a good practical farmer, the other day, that in even bad cases a couple of men preceding the reaper with hand-rakes can so far straighten up the fallen grain that the machine will cut it with considerable evenness, avoiding almost wholly the clipping off of the heads which usually takes place to so large an extent in the case of grain that is lodged. Such a plan is well worth trying, as a means of avoiding serious waste and loss.

TOO MUCH PLOUGHING.

"Speed the plough" is a time-honoured maxim, with which we are somewhat inclined to quarrel. We are decidedly of the opinion that farmers, for the most part, plough too much. Nature is a pretty fair husbandman, or husbandwoman, but she never ploughs. She loosens the soil by the action of frost, makes it soft with showers, and keeps it from surface-packing by mulch, but never turns it topsy-turvy except when an earthquake takes place, and that is not exactly a process of husbandry. Wherever meddling man does not interfere with her arrangements, she covers the surface with a layer of black mould or humus, the best of all seed-beds. With that, her seeds never fail, and with it they often do. Man buries this light, friable, rich top-soil, and frequently substitutes a hungry sub-soil in place of it.

We do not advocate abolition of the plough by any means, but a more sparing use of it. For

example, it is undeniable that our grass lands are broken up too frequently. In British agriculture a good sod is cherished, while we hardly allow it to form. The old country farmer well knows that it takes about a quarter of a century for a real good meadow or pasture to be formed. About six years is the extreme life-time of a piece of sod in this western world. If half the labour and expense of ploughing were devoted to top-dressing, we should have better grass and more of it. Let us scrape muck out of our swamps, meantime ditching and draining them, compost our scanty manure supply with this substance, and spread it on our grass lands, and plough less.

Of all wasted plough labour, that expended on summer fallows is the most absurd. What a ceaseless toil it is to get a field ready for fall wheat on the fallowing system! Often half a dozen ploughings are given, when, with proper management, only one would do quite as well, if not better. The same amount of work that is done on ten acres might suffice for fifty or sixty. If the virtues of clover were only understood, it would take the place of fallowing. Sow clover alone on the field that old style farming would summer fallow. Mow it before thistles and other weeds blossom. The second growth of clover will smother most of the weeds. Mow again in the fall. Next season mow twice as before; or if the soil be heavy, plough down the second growth for a crop of fall wheat. Is not this better than fallowing? The toil is far less. A crop is got off the land—not perhaps a heavy one the first year, but it will be good the second. And, on this plan, the soil will receive a degree of enrichment such as no fallowing, however thorough, ever gave it.

It has been clearly demonstrated that a condition of nakedness is injurious to soil, especially light soil. For the destruction of weeds just before putting in a crop, stirring the soil by means of a cultivator or harrow, is often preferable to turning it over. In fact, the best way of destroying weeds is before they show themselves above ground. Teasing the tender young germs and rootlets, and leaving them on the surface to die, is the true method of weed extermination, alike in the garden and on the farm. Experienced horticulturists are using the rake for this purpose far more than the hoe. In like manner, the advanced farmer and the farmer of the future will make larger use of the cultivator and harrow for this purpose than of the plough. We look for a time when it will become customary for stubbles to be harrowed and some growth like oats or buckwheat that winter will kill get in, to be followed next spring with the harrowing in of clover, or, if the soil be light, sowing it without harrowing, the plough being chiefly used to turn under two-year-old clover sods, and to work in manure. There is no grain that does not flourish on a clover ley, and between clovering and manuring, all the arable land may be kept in a state of increasing fertility. Let us have a good breadth of grass, cattle enough to keep up the manure supply for top-dressing the grass, and rotation dunging, clover playing its due part, and while we may plough less, we shall reap more.

THE HESSIAN FLY.

We cheerfully make room for the following letter, from which it appears that there is danger of the above-named insect gaining ground in the wheat fields of Ontario. That a farmer who keeps his land in first-class condition should suffer a loss of 20 per cent of his wheat crop from this cause, justifies alarm, and suggests the importance of precautionary measures. One of

these is well suggested by the *Globe* as follows:—
"Farmers who find their wheat-straw infested with the flax-seed-like objects described by Mr. Saunders should at once thresh out the crop, in field if possible, and burn the straw and the stubble. It would no doubt be profitable for these farmers to grow as little wheat as possible next season." While the matter is up, it may be well to mention other precautions. The Hessian fly is always most destructive on poor land—land not really fit for the growth of wheat. So much has this been the case, that there are those who look upon this insect as a benefactor to agriculture, compelling better farming. Liberal manuring and thorough preparation of the soil, are among the best means of warding off the attacks of this insect. Late sowing is another preventive of injury from this source. Along with the practice of sowing fall wheat on land not really fit for that crop, there has come needless haste in sowing. That is to say, the haste would be needless if the land were fit. But, not being fit, and the growth consequently slow, the sowing is done early in order that there may be a green carpet formed before winter, sufficient to protect the roots. In land rich enough for this crop, the middle of September is soon enough to sow fall wheat, in most parts of Ontario. This fact should be made widely known the present season, during which the lateness of the harvest makes it hurrying work to get in the fall wheat at all. The farmer who is disposed to grieve that he cannot take time by the forelock this year, may comfort himself by hoping that he has at least headed off the Hessian fly. Following is the letter alluded to at the outset of this paragraph:—

SIR,—While we are all rejoicing with the farmer in the prospect of an abundant wheat harvest, it is our duty to call attention to the fact that the Hessian fly has appeared again in considerable force in some localities in this district, and its presence will doubtless have the effect in many instances of considerably reducing the anticipated yield. On examining wheat fields at the present time, among the upright stalks with full heads will be found others more or less reclining, some lying flat on the ground, while in other places the wheat appears as if "lodged" in patches by storms. On examining these recumbent stalks many of them will be found with heads very imperfect and the stem infested with the Hessian fly in what is known as its flax-seed state, a chrysalis condition when it much resembles in size, form and colour a grain of flax seed. These are found imbedded in the stalks just above the first or second joints from the ground, and when handled the stalk will frequently break off at the point where the insect is lodged.

I am indebted to Mr. John Wallis, of the 4th concession of London, for calling my attention to this subject, he having found the first specimens I had seen this season. On visiting his wheat fields I found the insects quite plentiful, and, notwithstanding his excellent system of farming, faithfully carried out, whereby his ground is kept in first-class condition, his loss will probably amount to nearly twenty per cent. of the crop. On farms less ably managed the loss will, I fear, be greater.

Being much interested in ascertaining to what extent this injurious insect prevails—what territory it occupies in Ontario—I shall be glad to receive from farmers and others who may have an opportunity of inspecting wheat fields samples of infested stalks, or information in reference to the presence of the insect. My object is to gather all the information possible with the view of disseminating it again through the publications of the Entomological Society of Ontario, and otherwise among the farmers, with suggestions as to the best means of lessening the evil in the future.

Yours, etc.,

WM. SAUNDERS,

President Entomological Society of Ontario.
July 27th, 1882.

CHEESE EXHIBITION FOR 1882.

We have received from the Secretary, Mr. C. E. Chadwick, of Ingersoll, the prize list for the Cheese Exhibition which is to be held in Woodstock, Oct. 11th and 12th, under the auspices of the Western Dairymen's Association of Ontario. The premiums offered range from \$75 down to \$5. A set of rules and conditions have been adopted regulating the competitions and awards. A public meeting will be held in the Town Hall, Woodstock, on the evening of Oct. 11th, to discuss practical matters connected with dairying. We hope that both the exhibition and meeting may prove eminently successful.

OVERSTOCKING COWS WITH MILK.

A New York correspondent of the *Country Gentleman* calls the attention of that journal to the following extract from the *London Live Stock Journal*, adding:—

"The trick referred to is often practised by cow jockeys in this city, and some breeders of Jerseys are accused of it at late auction sales in New York:—"

"The question of an auctioneer's liability for live stock placed under his charge has long been a moot point. A decision has just been given at Liverpool, which has caused considerable comment. A Darlington auctioneer named Burnside was charged by an inspector of the Royal Society for the Prevention of Cruelty to Animals with having allowed several cows which he was about to sell to become overstocked with milk. Defendant had admitted to the inspector that the overstocking was allowed that the cows might present a more marketable appearance as milkers, having remarked that if he took the animals to the market with empty bags he would find no purchasers. The defence set up, and which met the approval of the bench, was, that as defendant was an auctioneer and not the owner of the animals, he was not responsible for their condition, having no right to milk the cows. The case was accordingly, on these novel grounds, dismissed, and defendant was allowed costs."

A similar trick is often resorted to at farm sales of stock, also at agricultural exhibitions. If the law is powerless to reach it, public sentiment should frown it down. At exhibitions there might very properly be an inspection, charged with seeing that every cow is honestly milked on the morning of the day when an appearance is to be made in the show-ring.

AMERICAN SOUTHDOWN ASSOCIATION.

An organization with the above title has recently been formed, and duly incorporated. Its officers are:—

President—J. H. Potts, Jacksonville, Ill.

Secretary—S. E. Prather, Springfield, Ill.

Treasurer—D. W. Smith, Bates, Ill.

Board of Directors—A. M. Bowman, Waynesboro', Va.; J. M. Palmer, Springfield, Ill.; G. J. Hagerty, Hanover, O.; D. W. Smith, Bates, Ill.; J. H. Kissinger, Clarksville, Mo.; C. F. Mills, Springfield, Ill.; Geo. Pickrell, Wheatfield, Ill.; A. L. Hannilton, Lexington, Ky.; J. H. Potts, Jacksonville, Ill.

As one of its first acts, this association has addressed the following letter to the Prince of Wales:—

SPRINGFIELD, ILL., July 8, 1882.

To His Royal Highness the Prince of Wales:

I have the honour to call your attention to the organization of the American Southdown Association, having for its object the collection, revision, preservation and publication of the history, management and pedigrees of Southdown sheep.

The breeders of all kinds of improved stock in America are more than ever alive to the advan-

tages to be derived from the public registry of their breeding animals. The enhanced value of recorded stock has been fully demonstrated.

Public records have grown in popularity because of the facility with which, by their aid, the ancestry of recorded stock can be traced. By them the intelligent, careful and progressive breeder is enabled to make selections best suited to his purpose, from the flocks or herds of others engaged, as himself, in the handling and improvement of pure-bred stock.

Pleased as we are with the many flocks of highly-improved Southdown sheep about us, and not unmindful of the fact that from the United Kingdom of Great Britain and Ireland came the original stock of this justly-esteemed breed of sheep, nevertheless we as Americans are moved to still further effort among ourselves for the improvement of our flocks. As a means for the furtherance of this object, we have associated ourselves together for the publication of the American Southdown Record.

Inasmuch as no public record of these sheep is kept in Great Britain, we cannot do better in the preparation of our first volume than to require all animals to trace in all their crosses to the flocks of reliable breeders in the land of their nativity. This would give us the best present available foundation on which to build. It would, however, greatly facilitate our work if English breeders would organize at once for the publication of a similar record in England.

An association of the leading Southdown breeders of Great Britain would certainly command the highest respect on this side of the waters. The publication by them of a Southdown record could not fail to popularize their flocks in this country.

Affording as it would to American breeders better opportunities for securing well-bred and pedigreed stock than can now be had, the importation of such stock would be much encouraged, to the mutual benefit of both parties.

Your prominence as a breeder of Southdown sheep warrants this association in the hope that you will be pleased to call a meeting of breeders for the purpose of consulting as to the practicability of establishing in England a record of Southdown sheep, and report the result of the conference at your convenience to the association. Respectfully,

J. H. POTTS, *President*.

S. E. PRATHER, *Secretary*.

BOOK NOTICE.

BEES AND HONEY; or, the Management of an Apiary for Pleasure and Profit, by Thos. G. Newman, Ed. *Am. Bee Journal*, Chicago, Ill.

The third edition of this work is on our table. It has been carefully re-written by the author, for the information of the many who are now becoming interested in the pursuit of bee-keeping. It contains 160 profusely-illustrated pages, is "fully up with the times" in all the various improvements and inventions in this rapidly developing pursuit, and presents the apiarist with important aid in the successful management of the honey bee, so as to produce the most honey in its best and most attractive condition. Chief among the new chapters are "Bee Pasturage a Necessity," "Management of Bees and Honey at Fairs," "Marketing Honey," etc. Price, bound in cloth, 75 cents; in paper covers, 50 cents, postpaid. This book may be ordered from the author, *American Bee Journal* office, 925 West Madison Street, Chicago.

FOUR-FIFTHS of all the wheat raised in England is sown in autumn, from October 15 to December 10.

CORN is likely to be scarce and high in the Western States the coming fall and winter. The season has been an unfavourable one thus far for this crop.

WILSON, Crescent, and Charles Downing were lately voted by the Wisconsin Horticultural Society the three best strawberries for general culture.

SKETCHES OF CANADIAN WILD BIRDS.

By W. J. KEELS, LISTOWEL, ONT.

THE PURPLE FINCH.

The male of this species in form and colour bears considerable resemblance to the tanager. Its colour is brownish-crimson above and white beneath, while that of the female is olive-brown above and white beneath. Its head is ornamented with a crest of short feathers, which it can erect or depress at pleasure, but it is generally when excited that it exhibits its feathery "waterfall." Its common notes resemble those of the sparrow; its song is a low, soft and pleasant warble. It frequents orchards, gardens and balsam groves, and generally places its nest in the thick branches of evergreens, especially balsams. This is formed of fine roots and weeds, and warmly lined with fine hair; its eggs, four in number, are greenish-blue, dotted on the large end with black. It generally moves about until the breeding season, in flocks of a dozen or more. It feeds on buds and fruit blossoms, and the seeds of cabbage and turnips, and also on insects. Its length is five inches.

THE PINE FINCH.

This species is between four and five inches long, from the tip of the beak to that of the tail—the latter, which contains ten feathers, is of a blackish hue; the upper parts of the body and wings are of a greyish hue, mottled with blackish-brown; the under parts are whitish, except the breast and throat, which, with the forehead, has a crimson hue. In the winter season these birds are seen in pretty large flocks among the pines and other evergreens, where they feed upon the seeds, buds and lichen. They also, in severe weather, resort in quest of food to the public highways and the vicinity of human residences. On the arrival of spring they retire to the evergreen swampy regions further north, where they nest.

THE RED-CAP, OR GARDEN FINCH.

This familiar little bird is not remarkable for either the beauty of its plumage or the melody of its notes. Its neatly-formed nest, found generally in a low bush, or shade, or fruit-tree, often within a few feet of the dwelling-house, or garden walk, and containing four pretty little blue eggs, with dark dots on the large end, is the most interesting feature about this summer tenant of the garden, grove, or woodland side. It does not choose the deep wood as its dwelling-place, but rather frequents the vicinity of human dwellings and scenes of cultivation. It feeds largely on insects and caterpillars, which it gleans from the leaves of fruit-trees and berry-bearing bushes, and is therefore of great benefit to the gardener, whose domain it selects for its summer habitation. Its nest is formed of very fine roots and stalks, lined with hair, and when it cannot find a more suitable place, it sometimes builds on the ground, in the root of a fallen tree, or in the crevice of an out-house or straw-stack, and it hatches two or three times in the season. Its common notes are a simple "chip," but it often repeats others resembling the notes "Do-do," which may be regarded as its love song. It is between three and four inches long, and its general colour above is a motley brown, and greyish beneath; on the top of the head is a strip of red. It is very affectionate to its mate and young.

THE BARRED FINCH.

This species resembles the Red-cap in its general appearance, but the wings and tail are marked by bars of faded yellow, and it is also larger in size, and its song is a low, plaintive warble. It frequents wild places bordering on the forest, and overgrown with briars and brushwood.

THE DAIRY.

MILKING.

It is not every dairyman that knows how to milk—some cannot and others will not learn. Vast numbers of good cows are ruined every year by carelessness, by neglect, and by brutality of milkers. The manner of milking and the circumstances connected therewith are not often fully understood, or if fully understood, not fully appreciated by dairymen. I heard two farmers recently comparing the yield of milk from their respective herds for the past season. The receipts of one were about a third more than those of the other, and the latter said: "I cannot understand this—my feed, my water supply and my cows are as good as yours." The reply was—"Yes, but when my milkers go to the milk barn to milk they understand that it means business. I tell them my milk barn is no place to tell long stories and spark the hired girls. I won't have a poor milker around at any price, and if I catch a man striking or maltreating a cow, 'off goes his head.' I talk this thing over with him, and he understands the first time he abuses my cows his time is out." It was evident these few words struck deep; the subject now had a money value which carried conviction and was more impressive than mere words.

The health authorities and the Society for Prevention of Cruelty to Animals would do well to give some attention to the manner in which cows are milked in some dairies East and West, for I am of the opinion that an investigation in this direction is much needed, and would promote the welfare of the public.

In new districts, and especially at the West and North-west, where the dairy interest is rapidly spreading, some suggestions in regard to milking will be the more serviceable, because persons unaccustomed to the care of dairy stock often fall into serious trouble and loss which a timely suggestion would perhaps obviate.

The first point to be observed by milkers is extreme kindness to dairy-stock—no loud talking or rough treatment of any kind should be allowed while milking. The animal should become well acquainted with the milker; should be made to feel a perfect trust and confidence in this person's good intention, so as to be kept as quiet and free from excitement as possible. This is best effected by petting the cow, handling her gently, and speaking in a low, kind, cheery tones. Cows that are frightened, that are kicked and beaten for every misstep they make while being milked, not only fall off greatly in their yield of milk, but their milk is rendered unwholesome, and often so much so as to cause disease and death to persons partaking of it. The changes which milk undergoes under such circumstances have not been fully explained, though as a physiological fact the unwholesomeness of such milk has been long observed, and made record of, by the medical profession. It should be borne in mind, therefore, that anything which frets, disturbs, torments or renders the cow uneasy, lessens the quantity and vitiates the quality of her milk.

The quantity of milk that a cow gives depends much upon the mode, time, and regularity of milking. Cows do best that have one regular milker, and the time of milking should be carefully attended to, and not be subject to certain variations from day to day. The bag should be brushed of any loose hairs, and in case of any dirt on the udder it should be cleansed by washing with a cloth and fresh water. For if the cow has been driven through any muddy places and thus become besmeared, any dirt accidentally falling in the pail will communicate its taste to

the milk. The practice of wetting the hands and teats with milk before milking is a very vicious practice. This should always be avoided, both for the comfort of the animal and the cleanliness of the milk. The milker should have short finger nails, for long nails will be sure to hurt the teats and cause irritation to the cow. There are two methods of milking—the one may be called stripping or catching the teat between the finger and thumb and stripping, down the whole length of the teat. This plan is not recommended. The better way is to grasp the teats, one in each hand, diagonally across the bag and press out the milk—the second, third and fourth fingers doing the main work, while the upper portion of the hand and first finger prevents the milk from returning to the udder; the milk should be drawn rapidly, and udder completely emptied of its contents. In the flush of the season, or when the cows are yielding the most milk, from eleven to twelve cows per hour will be about the rate for a competent hand. A slow, dilatory milker makes a great loss in the yield of milk, and, if possible, ought never be allowed to milk except, perhaps, when the cows are going dry at the end of the season. As the last-drawn milk is the richest in butter, great care should be taken that all the milk in the udder be drawn, and this is important, not only on account of the value of such milk, but because the habit of leaving a part of the milk undrawn has a tendency to dry up the cow and weaken her capacity for yielding a full flow of milk another season.

To be a good milker is an accomplishment which some persons can never attain. It requires a muscular hand, honesty or conscientious integrity in discharge of the duties, good nature, or complete control of temper, at least while milking, and a scrupulous regard to cleanliness.

Unless perfectly trusty hands can be employed in milking, the dairyman should give personal attention to the milking, and if he does not milk himself, he should see to it that those in his employ perform the work properly in every particular; for it is upon the manner in which this work is performed that his profits from the dairy will be in a great measure regulated. One blow on the spine with a milking stool in the hand of the passionate, ill-tempered man, or a kick on the udder, may ruin a cow forever.—*X. A. Willard, in Rural New Yorker.*

COMPLAINT AGAINST MILK MEN.

A correspondent of the *Country Gentleman* writes as follows in a recent number of that journal:—

"Some of my neighbours propose to start a creamery. They have as good water as there is in the neighbourhood, and the required skill. But so near Rochester as we are, I find it almost impossible to buy good cows. The milkmen can, and do, buy all the best milkers at prices which those who manufacture butter or cheese cannot afford; selling the milk at a higher price, they can more than make a cow pay for herself in a single season. Generally they do not seek to keep her a second, letting her remain farrow, feeding her heavily, and by the time she is dry, turning her over to the butchers at about as high a price as was originally given. It is possibly the most profitable system for the milkmen, but it is terribly wasteful. Good cows are scarce enough at the best, and it is a pity to see choice milkers given over to milkmen, with a certainty that not only will their progeny never help perpetuate the race of choice cows, but that they also will, after a few years at most, be lost to the dairy interest of the country. When a farmer gets one of these best cows he should hold on, or if for any reason he finds it advisable to sell, let him sell to some

brother farmer who will keep the cow as a breeder, and not sacrifice her to this modern Moloch of the bovine race."

PACKING BUTTER.

The whole secret of packing butter to keep—always assuming that the butter is made right, and free from caseous matter, or buttermilk—lies in putting it in a package that will not taint it, and in making the package air-tight. Sweet woods—as oak, the sap of white-ash, spruce free from knots, and even clear hemlock—should be used for packages; but wood is pervious to air and moisture, and does not make an air-tight package. The remedy for this is to keep the butter covered with brine. Wooden packages should be thoroughly soaked before use, to take out the taste of the wood, and then saturated with scalding brine. Return packages are objectionable, as the wood gets frouzy and tainted in hot weather, while returning, and it is next to an impossibility to make them sweet again. Many attempts have been made and are making to supply a metal package or a metal-lined package, with more or less success, but nothing of the kind has yet met with general approval.—*Farmer and Dairyman.*

SKIM-MILK AND FLAXSEED FOR CALVES.

Skim-milk and grass alone will raise good calves, if the milk is abundant and not allowed to get too sour. When too sour, it causes calves to scour, and thus counteracts its good effect. Skim-milk is well adapted to raising heifers for the dairy, as it is rich in albuminoids and phosphate of lime, to give a strong muscular and bony development. A little more oil would improve it, and for this purpose flaxseed is a cheap addition, effectually replacing the cream skimmed off. The large percentage of oil it contains prevents constipation, as well as scouring. Flaxseed should be boiled in four times its bulk of water, and it then forms a gelatinous mass. A little of this—say, a tablespoonful of the jelly—mixed with warm skim-milk, is enough for a calf from one to three weeks old. As the calf grows older, this amount is increased.

If oil meal is used, it should be linseed meal, and not cotton-seed meal, for calves. Cotton-seed meal is not so easy of digestion—is rather constipating and thus adds to this quality in skim-milk. With the skim-milk and flaxseed we raised grade Jersey heifer calves to five hundred pounds' weight at six and seven months old, last season. It is doubtful if they would have been better fed on new milk. When the milk becomes short, linseed meal may very profitably be added.—*N., in Live Stock Journal.*

MILKING STOOLS.

It is not a neat or good practice to try to milk without a stool, and at the same time hold the pail from resting on the ground. A piece of one and a half inch plank or slab, with three legs, six or eight inches long, will make one. The plank should be about twenty inches long, six or seven inches wide at one end, and a little narrower at the other. Into the wider ends insert two legs about eight inches long, boring the holes in the plank a little slanting, so that the legs spread a little at the bottom to keep steady. In the other end insert a leg six inches long, boring so that this leg will stand perpendicular. Across this end nail a cleat one-half inch thick, to prevent the pail from slipping off, and you are provided with a nice stool on which you can sit, and at the same time it will hold the pail for you.—*W. H. W., in Country Gentleman.*

BEES AND POULTRY.**BUYING AND SELLING QUEENS.**

The public in general has little idea of the magnitude of the traffic in queen bees. Only professional apiarists know that thousands of queen bees pass through the mails each year. If a bee-keeper loses all or nearly all of his bees in the winter, he usually wishes to build up his apiary the next season as rapidly as possible, and in no way can he expedite matters with so little expense as by buying queens and giving one to each of his newly-made colonies. Another bee-keeper becomes dissatisfied with the irritable and stinging blacks, and, in order to Italianize his apiary as soon as possible, buys an Italian queen for each colony. Often, in looking over his bees in the spring, a bee-keeper finds some of the colonies queenless, the queens having died during the winter. There are plenty of bees, combs, and honey, and all that is needed to make everything all right is a queen for each queenless colony. An order is at once sent to some breeder in the South, and, in a few days, young queens, that had just commenced to lay in some apiary in Louisiana, are doing duty in the once queenless colonies of northern apiaries. Perhaps some breeder has obtained queens direct from Italy, thoroughly tested these imported queens, bred from only the best, and, by great care, has developed a superior strain of bees. Such bees as these find sale even among professional apiarists and queen breeders, who buy them to improve their stock and to avoid in-and-in breeding.

It seems to have great fascination for some bee-keepers to send long distances for queens ("far fetched and dear bought"), but I can only think it a foolish practice, especially when just as good stock can be obtained nearer home. A long journey is pretty hard on a queen, confined as she is in, a small cage, and the cage shut up in the stifling atmosphere of a mail bag, and, if she does not die before reaching her destination, she is often so tired and jaded that it is well-nigh impossible to introduce her. Even if the bee-keeper does succeed in introducing her, quite often she lives only a short time, her constitution being "broken down, so to speak, by the hardships of a long journey. I should advise bee-keepers to purchase queens of the nearest reliable breeder: then the queen will be only a short time on the road; will arrive in a fresh, healthy, strong condition; there will be little trouble in introducing her, and she will be likely to prove of some value after she is introduced.

At some seasons the demand for queens is so great that many breeders are often behind in filling orders. For this reason, when it is possible to do so, queens should be ordered some little time before they are needed, and the time specified when they are to be sent. It is not advisable to make a colony queenless, with the expectation that a queen will arrive at a certain time, because the queen rearing business is one that is very dependent upon the weather, and the breeder may not be able to send the queen at exactly the time that he promised. Or the queen may be delayed upon the route, or perhaps die before she arrives. When the colony is found queenless, it should at once be given a comb filled with eggs, and unsealed brood. This will not only give the bees something to do, and make them happy and contented, but it will strengthen the colony, and will also prevent all trouble from fertile workers. When ordering a queen for a queenless colony, she should be ordered from the nearest reliable breeder, and it would do no harm to mention the fact that she was wanted for a queenless colony. Breeders usually fill orders strictly in rotation,

but, if a breeder knew just how badly a queen was needed, he might possibly send her a little sooner.

As a general thing, breeders guarantee safe arrival. If a queen arrives dead, the breeder should be notified at once. If she was intended for a queenless colony, the colony should not be left undisturbed, and neglected until another queen arrives. It should be furnished, as often as once in three or four days, with a comb filled with eggs. To obtain these combs of eggs, an empty comb can be placed in the centre of the brood nest of some populous colony, when, within a day or two, it will be filled with eggs. Taking a comb filled with eggs from some strong colony will be scarcely any drawback to the strong colony, while the giving of combs of eggs to a queenless colony will be a great help to it. When ordering queens, it is a good plan to inform the breeder how long the queens can be waited for, and instruct him to return the money at once if he cannot send the queens within the required time. This will save time, as well as an extended correspondence upon the subject, as the breeder will know just exactly what to do. What class of queens it is best to purchase depends altogether upon what purpose they are wanted for. If the purchaser wishes a queen from which to rear queens at once, without waiting to test the queen himself, what is termed a "selected, tested queen" should be bought. If queens are wanted to Italianize a whole apiary, for increase of stocks, or for colonies that are to be run for honey, nothing will be gained in buying high-priced queens; what are called "dollar," or untested queens, answering every purpose.—*W. L. Hutchinson, in Country Gentleman.*

POULTRY DISEASES.

Fully nine tenths of the diseases from which fowls suffer are simply and solely caused by vermin. Careful investigation has established this as a fact. The comb of a fowl may be considered its health indicator. The first intimation a close observer of his flock has, is the condition of their combs. Comparatively few birds in their wild state die of disease. They have certain ways to keep themselves comparatively free from lice; fifty are not crowded in a space where twenty-five should be; nature's (bird) laws are not transgressed, and they thrive in health. With domestic fowls it is different; they are crowded together, become lousy, and get the cholera, roup, canker, and various so-forths—none of which would they if lice were not preying upon their bodies, unless it is roup, which is caused by several things.

To avoid many of these troubles, watch your poultry, and the first time you see a hen moping around or refusing to eat, or one with feathers ruffled up, or comb looking dark blue at the end, pick her up and look for bugs. You will find them. Grease her well with an ointment made of lard and sulphur, under the wings and over the vent, and on the head. Perhaps if you examine the roosts in the hen-house, by taking them up and looking on the under side, wherever the roosts rest on anything, you will be astonished to find the numerous little red lice congregating there. These torment the fowls at night and return to their hiding places before the fowls leave their roosts. The roosts should be frequently washed on all sides with coal oil.

AN IMPORTANT HINT.

The Chicago Times, in an extended notice of a recent publication, entitled "Food Frauds," speaks as follows of "glucose mixed with a little of the honey produced by the bees:" "Its test is one of

difficulty, and the best way is to beware of the neat glass jar bearing the trade-mark of a New York or Chicago dealer, and to buy the tin pails or common fruit cans with the name of the producer on the vessel." We have time and again advised bee-keepers to label their honey packages with an attractive label, giving their name and address, and also simple directions for liquefying the honey when it becomes granulated. It is an important matter, and in the near future the name of the producer will sell the honey when no assurance of the dealer could do so.

CURCULIO CATCHERS.

Daniel Billings kept chicken coops under his plum trees, and his trees were so heavily loaded that he had to prop or tie them up. Peter Myers made a pen around his trees, large as one length of the boards would make, and put two pigs in each pen, and he too had to prop the trees to keep them from breaking with loads of fruit.

YOUNG CHICKEN.

A young hen may be known by the freshness and smallness of the toes, and the absence of rough and coarse scales on the legs, but more especially by the softness of the breast bone at the lower part. If, when the bone is gently pressed, the edges readily give way to the pressure, it may be known that the bone is not fully formed, and that the edges still consist of cartilage, which is the substance of which immature bone is first formed. In choosing poultry, the softness or hardness of the breast bone at the edge is the readiest and surest test.

POULTRY ITEMS.

FOWLS should have plenty of room, fresh air and a clean house to roost in, to thrive well and keep free from disease.

WHEN soft eggs are laid by fowls, they intimate usually that the egg organs are inflamed. This state is occasioned by the birds being over-fed, or too fat. Spare diet and plenty of green food, especially lettuce leaves in summer or cabbage in winter, is the best treatment for fowls in such condition.

POULTRY need far more care during damp, rainy or wet weather than during the dry, warm weather of summer or the clear cold of winter, for dampness engenders numerous disorders, many of which are difficult to cure, therefore it is always better to apply the preventative than to administer a supposed cure.

A FIRM in Reading, Penn., which uses the yolks of thousands of eggs in tanning kid, has put in operation a steam egg beater, having a capacity of 20,000 eggs. The tank, made of cedar, is two and a half feet in diameter, and two and a half feet in height, and contains two revolving rakes, bevel wheels and pinions running in opposite directions.

CONSTRUCT your houses not too large, as you will be tempted to keep too many fowls together. Have them with large windows, so placed that the fowls may enjoy as much sunlight as possible, perfectly tight, excepting means for ample ventilation, without a possibility of a direct draught reaching the fowls at night after going to roost. A fowl will take cold while asleep as easily as a person. Keep the roosting apartment clean and sweet by frequent cleaning.

VERMONT, with a short season, and not particularly productive soil, raises twice as many bushels of corn to the acre as does Tennessee, where the soil and climate are peculiarly well adapted to the production of corn.

HOME CIRCLE.

RUMMAGING.

"Kitty! Kitty!" cried her aunt, "what are you doing in the garret? Come down, child; do. There's not one thing there you would care about, and I do hate to have people rummaging among my things," she added, in a lower tone, quite unheard by her niece, who ran gayly down.

"Oh! Aunt, such treasure! Are you going to sit down now? I'll bring my work." And she ran into her room to brush off the dust from her black dress.

"Aunt Catty," she began, after they were seated in the neat, bare parlour, which Kitty contemplated with an inward shudder, I wish you would tell me about great Aunt Katharine."

"What shall I tell you about her?"

"Oh! everything. Why she was so queer and unkind to you and papa; and what became of the beautiful old place and furniture; and why you, poor thing, were cut off with a shilling?"

"In the first place," said Miss Randall, rather grimly, "she never was unkind to your father. She never meant to leave her money to him. She gave him a good education, and he was a man; and what more could he want? she thought, and I think too. But the place; why, do tell, Kitty Randall, if you didn't know it went to the Masons. Jane Mason was her other niece, and had a large family of children; and I suppose it was all right. But as for me, who had always lived with her from a baby—well, I suppose we were too much alike. If she nagged, I answered back—spoke my mind, instead of holding my tongue. However, I'll try to be just to poor Aunt Katharine. I don't believe in my heart that she would have let these trifles influence her will, though in the long years they do turn love very like hate. But it was more than that. I suppose I may as well tell you, Kitty, I was engaged to the wrong man."

"Aunt! you engaged! Why did nobody ever tell me about it?"

"Who was there to tell you, Kitty? Your poor father was ill so long, he wouldn't remember the past—my past, at any rate."

"But do tell me all now, dear Aunt Catty."

"There's not much to interest you, child. I was thirty, and as plain as a hedge fence, and lovers had never troubled me much; so, when this man—never mind his name—began to make up to me, and seemed to care so much, and admire and respect, you know, why, he made a fool of me—a perfect fool."

"Aunt Katharine hated him. She did everything to induce me to break it off. I couldn't think why. He was a very personable man, my dear, and made both his other wives happy; and I was just set on him, I am ashamed to say."

"Finally, she told me all. It was an uncle of this very man, the same name even, who had ruined her life, and made her the queer, crabbed woman she was. She was only sixteen when he persuaded her into a secret marriage, to be concealed until she was of age or grandpa could be brought round; but before that time came her fine young gentleman had settled his fate by committing forgery and being sentenced for twenty years."

"Aunt Katharine never owned the marriage, though she might have got a divorce easily enough, and she gave him a large sum to promise in writing never to claim her; and she burned the certificate. And as for letting me marry the nephew of this man, and having him drop in upon us at any time, why, she wouldn't and she couldn't, and she ended by declaring that it was my fortune James Lavater (there, the name is out!) wanted, and not me, and that not one cent of her money should ever go to forgers and fortune-hunters."

"Matters didn't mend. Neither gave up. We couldn't, we were born so. It was just as impossible to either as to sit crooked or to make our hair curl; and we were just alike. I felt sorry for Aunt, I must say; but I saw no reason why her bad luck should keep me from happiness. Well, Kitty, it wasn't many weeks after that Aunt died. Died in a moment, of heart disease. Nobody knew she had it, unless maybe herself, for she had looked strange and shaken for some days, and I guess she felt it coming on. At the funeral I saw a stranger—an old man—standing close by the grave. You'd have thought he was chief mourner, and James Lavater—my James—went up to him, looking very red; and they walked off together, talking very low."

"That was Aunt's husband. I found it out afterward, and that he had been hovering about the neighbourhood for a week or two. And the next thing that came out was that the Masons were to have the old place and furniture; but the sixty thousand dollars which were to have gone to me were nowhere. Aunt had drawn that whole sum out of Government securities a little while before her death, and it was all gone."

"Of course I knew the good-for-nothing husband had seen her and either frightened or coaxed her into giving it to him. He left the country right afterward."

"How perfectly outrageous!" cried Kitty. Did she leave you nothing?"

"My dear, she left me a trunk and some old clothes in it. One dress in particular she stated that she hoped I would wear when I married. She needn't have troubled herself to write that bitter sneer in the new will she made only two days before her death. Of course you know I never married. Aunt Katharine judged James Lavater aright. Perhaps there is something in a name. After home and fortune went, the lover soon followed. Never mind the details."

"I went away just then as a hospital nurse, Kitty; and it did me good. You know I had a little property from my mother, and I came back to her old neighbourhood, when the war was over, and hired this house. I have twelve hundred a year to live on, and peace and independence, if nothing else. I don't say I have not been lonely and sad, Kitty; but if you can content yourself here and put up

with my fidgetty ways there'll be some brightness, after all, in your old Aunt's life."

Kitty felt the appeal, and responded with a caress; but answered, in a hesitating voice:

"You know, darling Aunt, you are all I have to cling to now, and this seems my right place; but—but—I must speak frankly."

"Freely and fully, my dear. I like plain speaking."

"In the first place, Aunt, the money question. I must pay my share."

Aunt looked thoughtful, then nodded.

"I see, dear. You would be most welcome to what I have; but I know what it is to be born independent. You shall do as you like."

"Oh! you dear, sensible thing," cried Kitty, giving her a hug. "Now, that is comfortable. Let us have it all over at once. You say you have twelve hundred a year. I will put in another twelve hundred, and we can live nicely on that, in a very small way. Can't we?"

"Kitty, Kitty, that's twice too much."

"Not one cent, Aunt. I couldn't possibly live on less. We will have two maids, and make a pretty garden, with lots of roses and vines."

"Earwigs and slugs," remarked Aunt, grimly. "And the maids will quarrel. Well, go on. You haven't got through, I can see."

"Just one thing more," floundered Kitty. "This house (don't feel bad, dear) is so hopelessly ugly."

"Ugly! Well, I declare! Kitty Randall, do you mean to drive me crazy with modern art? Are you going to tack up Japanese fans and idiotic paper parasols all over the walls? Must I have a row of kitchen pie plates on the mantle shelf and stick a sunflower in the middle of the dinner table? Are you an æsthetic young lady, Kitty?"

Kitty laughed heartily.

"Don't be afraid, Aunt. I only want my earwigs and slugs, and the maids shan't quarrel, but I want some low chairs and a pretty little table and lamp, and a place to put my piano and my various pictures and pretty things. And I want to send away this dreadful stove and have an open wood-fire. I saw some beauties of andirons and a brass fender in the attic, Aunt."

"Wood-fires make a lot of dirt, Kitty."

"The new girl can sweep it up. Let us put this carpet in your room, and stain the floor and put down rugs. It's so much cleaner. I see you are going to say 'Yes,' you dear. There is just one thing more. I saw a trunk in the attic—the trunk, I guess; and a most beautiful old silk dress—the dress, Aunt?"

"Yes, Kitty, the dress. What now? Am I to wear it to church, with a peacock feather in my hat?"

"Not quite. I was only thinking what a lovely sofa-cover it would make."

"Kitty! a pink and white brocade!"

"Not exactly. Have it dyed."

"I never thought of that," said Miss Randall, opening her eyes very wide. "It's not a bad idea. A good, sensible brown."

"Or a soft olive or lavender," suggested Kitty. "You must choose a pretty paper first, you know, and then cover to harmonize. Oh! you dear, good Aunt! I do believe you are going to let me have my way, and turn this house into a distractingly lovely little home."

"Distracting, indeed!" sighed Aunt Catty. "But—yes, Kitty. You are young, and have the tastes of your times. I'll not thwart you. If you sit by the fire, I shan't miss my neat little stove, perhaps. If you are happy, maybe I'll get to like the new-fangled ways."

"Do let me kiss you, dear Aunt Catty. I am so glad. I wish I could set to work this moment."

"Well, dear, you can. There is that brocade. Rip it up."

"Just the thing!" cried Kitty, delighted; but her Aunt stopped her.

"Only, child, don't rummage. I do hate to have my things tossed and tumbled about. There's nothing in the garret but old broken things, no good at all. Promise me to leave them all alone."

"All right, Aunt." Kitty ran gayly up-stairs. She meant to be very good; but she could not help just looking at this old screen, delightfully capable of restoration, or that old clock, banished for its irregular life, but which, when set in order, would look so well in the hall. The hall! Kitty's countenance fell. How could anything really be done to such a poky, common little house? Kitty sighed, as she lifted the heavy brocade, and wished these decorations might be applied to a somewhat worthier home—something picturesque and artistic.

However, she had gained much, and it was with a bright face she stood before her Aunt, laden with the old-fashioned finery.

"See, Aunt, it is a perfect beauty. I brought down this lovely scarf, too. It would make such a table-cover. Did you know it was there?"

"I never took one thing out of the trunk," said Miss Randall, gravely. "It was a bitter gift to me, and I scarcely know why I did not leave it behind at the Masons'. What a weight it is! I have always supposed it was her wedding dress. I think it will be a real relief to me to send the stuff to the dye-pot. The mere thought of its pink-and-white flounciness has always turned me a little sick! Just look how it is lined throughout, and what a shape!" Aunt Catty seized the scissors and began to rip vigorously.

"I wonder," she ejaculated, "whether Aunt Katharine really thought I would make a guy of myself by wearing that thing to be married in?"

"Oh! no, Aunt, you would have had to rip and alter it, of course, but, with white satin, you know, and plenty of tulle, it might have been made lovely."

"With my yellow cheeks!" said Aunt Catty, with a snort. She ripped on.

"KITTY!"

Kitty, who had been daintily detaching the old lace border from neck and sleeves, looked up, startled, to see Aunt Catty sitting perfectly limp and pallid, staring at the silk, from which protruded various stiff, greenish corners. What

was it? Kitty's mind was quick. She jumped up, she tore recklessly at the silk; the linings fell apart. Miss Randall sat paralyzed.

They fell around her. Greenbacks without number! Fifty dollars, one hundred dollars—by twenties and forties they came; and Kitty, growing methodical, gathered them all up and put them into Aunt's lap.

"I do believe the whole sixty thousand are here!" she cried.

They were. Sleeves, waist, all were pulled apart, and the carefully padded bills extracted. Just over the heart was stitched in a little note:

"Dear Niece,

"Think kindly of me, if you can. If your James Lavater is a better man than mine, you will find the real worth of this my wedding dress. If he is what I think him, you are well quit of him, and may thank me. In any case, you are sure to find the money soon, for it wouldn't be you not to rip up and dye my old silk and make it of some use. Niece, may you be a happier woman—whether maid, wife, or widow—than your unfortunate

"AUNT KATHARINE."

Poor Aunt Catty; she could hardly recover the shock and surprise; but when she did it had a wonderfully softening effect upon her. A dozen bitter little angularities and queer-nesses which had grown out of her time of indignity and disappointment dropped away at once and for ever. She looked younger and sweeter than she had ever done, her niece thought, when she emerged, at last, from a long cry behind her handkerchief, cheered by the knowledge that Aunt Katharine had not insulted and forsaken her, as all those years she had thought; but had in reality saved her from what might have been an unhappy marriage, and applied the test to a heart which shrank back in good time, thank Heaven! And now, instead of a soured, forgotten old maid, lovelily and drear, as she had considered herself, she waked to the truth that she was a rich, healthy, independent woman, with a lovely niece to pet and spoil and delight in; a niece who was wildly dancing around the room, waving a greenback over her head, and crying, with merry triumph:

"Aunt Catty, never say again that you hate rummaging!" —Janet W. Muirson, in N. Y. Independent.

THE LATE SOLAR ECLIPSE.

The solar eclipse of the 17th of May was successfully observed by English, French and Italian parties at Soham, a village in Lower Egypt, on the Nile. The duration of totality at that point was only seventy-two seconds, but the observers did prompt and efficient work in this short space of time. The telegraph swiftly bore the record of their labours to our Western world, and the firstfruits include the view of a comet near the sun, indications of a lunar atmosphere, and a photograph of the spectrum of the corona.

The precious seconds when the sun's face was hidden by the moon's dark shadow revealed in the first place a comet near the sun.

The second item coming from the eclipse observers is more astounding than the first, for the darkening of the lines of the spectrum, as seen by the French astronomers, gives indication of a lunar atmosphere. Years ago an observer detected a rosy cloud floating over the lunar crater Linnæus, but the phenomenon was looked upon by more staid astronomers as a flight of fancy. A few years ago an observer in one of the Western States detected a change of form and an appearance of volcanic action around one of the moon craters, but the scientific world in general considered it an optical illusion. It may be that these observers were not so far out of the way, though the startling discovery will not be accepted without strong proof to verify it.

One more meagre item closes the first bulletin from the eclipse expeditions. It is, that the spectrum of the corona was photographed for the first time. We may, therefore, hope for increased knowledge of the constitution of the sun's magnificent appendage, seen only in a total eclipse, so grandly beautiful as to make the beholder feel like veiling his eyes in the celestial presence. The corona, with its silvery light, its spreading wings, its circles, arches, and curves stretching out into fathomless depths around the darkened sun, is considered as one of the most impressive and awe-inspiring sights in which celestial majesty and grandeur are ever embodied. Its constituents and office in solar economy are problems whose solution is much desired.

The English eclipse expedition, observing at Soham, with Professor Lockyer as the chief director, laid out an organized plan of operations. Some of their points of observation were to note if the abundance and activity of the rosy protuberances gave proof of the present disturbed condition of the sun while passing through its maximum period of sun spots; to compare and detect the difference in the spectra of rosy flames and sun spots; to get an idea of the physics of the solar atmosphere—that is, to find what it looks like, to study—if the expression may be used—its circulatory system; and to determine its chemical nature, especially if the chemical elements existing in the sun are dissociated or separated by the intense temperature existing there. Special attention is now directed to solar physics and chemistry, in consequence of the bold and ingenious theory of Dr. Siemens on the conservation of solar energy.

Photography was greatly relied upon in the solution of these intricate problems, and so much have methods improved in the rapidity with which the image can be impressed on the sensitized plate that seconds will now record more than minutes did twenty years ago. The telescope and the spectroscope combined with the photograph in the attack on the sun's surroundings during the eclipse.

There is every reason to hope for noteworthy results to be obtained from the recent solar eclipse with the best astronomical instruments the world can furnish, and with astronomers of world-wide renown to use them effectively

under the cloudless sky and in the serene atmosphere of the station on the Nile. We have still to hear from other stations on the thin line of totality, and to wait for fuller details and photographs that will tell more of the good news.

Professor Lockyer and his assistants spent three months in hard work to prepare for seventy-two seconds of observation. They travelled thousands of miles and transported thirty cases of instruments to aid them in the work. If their time, talent and labour have succeeded in drawing a single secret from the sun, or helped to confirm a single theory, the reward is all they ask; they have not laboured in vain. For this heaping up of observation upon observation is the work of the present generation of astronomers, the only means of wresting knowledge from our sun, our brother planets, and the suns that people space.—*Scientific American*.

A TALK ABOUT HOUSE-WORK.

Girls whose parents can afford to keep servants, get the impression sometimes that it is quite out of the question to engage in any kind of household work, some even leaving the care of their own room to the charge of hired help. Such girls seem to us the embodiment of laziness. There is no reason why every girl should not understand the running of the household machinery, so that if at any time mother was sick and unable to oversee the usual arrangements, her daughter might be able to take her place, managing satisfactorily. It is a false notion that to become a housekeeper is to become also a domestic drudge; and if any of the girls who read this have made up their minds to that effect, let them abandon it instantly, and by experience prove it a libel. When there are two sisters in a family, a good plan is to divide the work, each one being responsible for that portion that is entrusted to her care. Let each understand clearly what is expected of her, not doing it haphazardly, but promptly and regularly each week; or the work could be alternated, if this arrangement would be more agreeable. One reason we would give in favour of household work for girls is, that it gives a chance to learn the many details connected with woman's work that cannot be learned in any other way than by experience, and without which knowledge no woman can govern a house well. We don't want to convey the impression that the girl should shoulder the entire responsibility of her home, but simply to show her how much better it is to be able to know how to do it, should it ever become necessary. House-work is not demeaning; on the contrary, we consider it elevating. A girl can be just as much a lady in a sweeping-cap, with broom in hand, as in breakfast-cap, reclining languidly, with book in hand. The truest, noblest and best woman we know, has been trained from her girlhood to look, practically, to the ways of the household, and yet she is a lady in every respect, an ornament to the most cultivated society. When you have homes of your own, girls, and are obliged to get along with little or no help, you will be thankful for the training you have imposed upon yourself in youth; or if it falls to your lot to have servants in abundance, you will still be glad that you can rule and direct them; and should they leave you without any warning, as they are sometimes disposed to do, you will be "mistress of the situation," able to take hold successfully until such time as relief may come.—*Daily*.

ANTIPATHY TO CATS.

Many years ago there was a lady who had the most intense dislike to cats; so much so, that were there one in the room when she entered, she would be obliged to leave immediately, such an effect had it upon her nervous system. On one occasion she was invited to dine with the narrator's family in the country, but she declined, because she knew that there were cats on the premises; but on the promise that the cats should be strictly incarcerated she consented to come, and the three cats belonging to the house were duly shut up. During the dinner, she was seen to be very uncomfortable, and to look very pale, and on being asked the matter, she said that she was sure there was a cat in the room. Assurances that this could not possibly be the case were of no avail, and on search being made, a cat was found actually sitting under her chair. She rose immediately, and left the table; and passing down the dining-room toward the door, she also passed across a small cupboard door opening in the wall, through which the dinner was served directly from the kitchen. As she passed this, the second cat of the establishment jumped through it into the dining-room. A scream of horror burst from the poor lady, and she was led away fainting into the drawing-room. The time of the year was such that the window of the drawing-room was open, and it was so made that it reached nearly down to the floor, and not much above the lawn outside the house. While the poor lady was being attended to by aid of scent bottles and such-like restoratives, the third cat of the establishment jumped in at the window! This was too much to be borne by such a peculiarly constituted nervous system, and she begged to leave the house immediately.

EFFECT OF ONE SONG.

In England, salesmen who travel from place to place are known as "commercial travellers." They have their own inns, and one room, the "Commercial Room," is always reserved for their exclusive use. The following story, told by an English paper, shows what faithfulness to one's principles may accomplish:—
A Christian commercial traveller found himself in a commercial room one night, where, the party being large and merry, it was proposed that each gentleman present should give a song. Many songs of the character usual on such occasions were sung. It came to the turn of our young friend, who excused himself on the plea that he knew no songs they would care to hear. In derision, a gentleman asked him if he could not give them *one of Scoble's hymns*, and several others cried out that they would join in the

chorus. He took them at their word, and choosing a well-known hymn, and with a silent prayer that God would use it, he sang—as perhaps he never sang before. All present joined in the chorus. Before its close there were moist eyes. He retired to his bed-room, and soon heard a knock at his door. A young gentleman requested permission to come in. The song had brought back the strains he had heard his sainted mother sing, and he wished to talk about personal religion. Scarcely had this inquirer left than another knock was heard, and an elderly traveller entered. He had formerly been a professed Christian, and he, too, wished to converse about his past life and his present duty. It was nearly two o'clock before he could lie down, but it was with heartfelt gratitude to Him who had thus honoured his song.—*Youth's Companion*.

CHARITY.

I have read in ancient story
Of the heroes, brave and great,
Who have won by deeds of valour
Honour, wealth and regal state;
They were great, but were not noble,
For themselves they toiled and fought,
Vain and selfish was their labour,
And the world's praise all they sought.

I have heard of others, also,
Who have toiled to get a name,
That they might for future ages
Be trumpeted loud by Fame;
They were noble in their actions,
But the end they had in view
Was that all might praise and flatter,
And their lives were selfish, too.

There were others truly noble,
Who have known not fame or praise,
But have lived unknown, uncared for,
Helping others all their days;
Better than the warrior's oak wreath,
Or the laurel leaves of Fame,
Is the crown they win in heaven,
Though the world knows not their name.

A GENEROUS CRIMINAL.

A young man recently made his escape from the galleys at Toulouse. He was strong and vigorous, and soon made his way across the country and escaped pursuit. He arrived next morning before a cottage in an open field, and stopped to beg something to eat, and for concealment while he reposed a little. But he found the inmates of the cottage in the greatest distress. Four little children sat trembling in a corner. The mother was weeping and tearing her hair, and the father walking the floor in agony. The galley-slave asked what was the matter, and the father replied that they were that morning to be turned out of doors because they could not pay the rent.

"You see me driven to despair," said the father. "My wife and little children without food or shelter, and I without the means to provide for them."

The convict listened to this tale with sympathy, and said: "I will give you means. I have just escaped from the galleys. Whoever secures and takes back an escaped prisoner is entitled to a reward of fifty francs. How much does your rent amount to?"

"Forty francs," answered the father.
"Well," said the other, "put a cord around my body. I will follow you to the city. They will recognize me, and you will get fifty francs for bringing me back."
"No, never!" exclaimed the astonished listener. "My children should starve a dozen times before I would do so base a thing."

The generous young man insisted, and declared at last that he would go and give himself up if the father would not consent to take him. After a long struggle the father yielded, and, taking his preserver by the arm, led him to the city, and to the mayor's office. Everybody was surprised that a little man like the father had been able to capture such a stout young man; but the proof was before them. The fifty francs were paid, and the prisoner sent back to the galleys. But after he was gone the father had a private interview with the mayor, to whom he told the whole story.

The mayor was so much affected that he not only added fifty francs more to the father's purse, but wrote immediately to the Minister of Justice, begging the noble prisoner's release. The Minister examined into the affair, and finding that it was comparatively a small offence which condemned the young man to the galleys, and that he had already served out half his time, he ordered his release.

BABY'S FIRST STEPS.

A young child's bones are soft and cartilaginous, and keeping a poor little thing tied up against a chair, when it ought to be lying on its back kicking the air and strengthening its limbs, or crawling on the nursery floor, is positively injurious and sinful. It is done, I know, with the view of teaching it all the sooner to maintain the erect attitude; but bent legs may be the result, and however strong a bent-legged man may be, he certainly does not look elegant. Let the child creep, then, and as soon as he finds that he can pull himself cautiously up, and stand by the side of a box, he will do so; this is the only safe and natural process. Soon after this he will, if encouraged, venture upon what parents call the first step. Let him creep, and when he walks and falls, laugh at him; unless you want to make the child an idiot, do not rush to pull him up. Children are not at all brittle, and they ought to learn at a very early age to depend upon the strength nature has endowed them with. Some nurses tie a band around a poor child's waist, and then shove him kicking and sprawling on before them, during which time the child looks as graceful as the golden lamb which hoists hang out as a sign. The practice is *want* injurious.—*Cassell's Family Magazine*.

CORALS OF THE INDIAN OCEAN.

Of all the wonderful sights in this land of wonders, there are none greater than the wonders of the reef when the tide is low. The ideas about coral which people have who have never seen it in its living state are generally erroneous. They know it as a beautifully white ornament under a glass shade, or in delicate pink branches in their jewellery, and they imagine living coral is like these. Their ideas are helped along by the common misnomer of trees and branches, as applied to coral. I have never seen it in the South Sea Islands, but throughout the Eastern seas the most common variety takes a laminated form, not unlike the large fungi to be met with any summer's day in an English wood growing out of the older trees—flat, circular tables of dingy brown, growing one over another, with space under each. These attain a great size, extending for yards without a break, so that the bottom of the sea is perfectly level. This kind is much sought after by the limeburners. Another species grows in detached bosses, like thick-stemmed plants which the gardener has trimmed round the top. These clumps grow out of the sand, and stand up in dull brown against the white flooring. A third pattern is spiked like stags' horns tangled together, and is of a dingier brown than the first, its spikes collect the drifting weeds, and its appearance is consequently untidy.

DEFINITIONS.

It is curious the love some people have of definitions. They are the delight of persons who think, but whose thinking has not gone a great way. It is not hard to understand why definitions are in such favour. To begin with, they save a good deal of trouble; it is pleasant to know that we have the result of much patient thought and careful investigation put up for our use in a neat, compact little bundle, easily portable without fatigue. Definitions are compressions of large truth into small compass, and it is plain that they may be very useful things; but the difficulty with them is that they are not always trustworthy, and it is just this essential point about them which the definition-lover is incompetent to decide. He wants a sure rule of judgment in a certain matter, because he himself does not understand it well enough to do without a definition, or to make one for himself. Oddly enough, he is often ignorant of what a definition is; he needs, first of all, to have the meaning of that word defined for him.—*July Atlantic*.

SILENT FORCES.

Workmen in the stone quarries sometimes find a very hard kind of rock. They pick little grooves for the iron wedges, and then, with great sledge-hammers, drive and drive the wedges into the flinty rock. And yet, once in a while, they fail to divide the solid mass. The iron wedges and the sledges prove useless, and the workmen wonder at the stubborn rock.

But there is yet another way. The iron wedges are removed from the narrow grooves. Then little wooden wedges, of a very hard fibre, are selected. Now you begin to shake your heads, and think, "Well, if iron wedges will not do, how is it possible for wooden wedges to be used successfully?" Just wait, until we explain. The sharp, well-made wooden wedges are first put into water. They are then inserted in the grooves tightly while wet, and water is kept in the grooves, and no sledge is needed to drive them. They would break under the severe blows of the ponderous hammer. But the workmen just let the wet wedges alone. They will do what driven iron failed to do. How so? The damp wood swells. The particles must have room to enlarge. And the granite hearts of the rock cannot withstand this silent influence. In a little while the solid rock parts from top to bottom, and the workmen's will is accomplished.

It is so, often, in other things. What noise and visible effort fail to do, some quiet power, when applied, will surely achieve. Teachers may remember this fact in mechanics, and manage some very stubborn natures by the application of the silent forces. The iron and sledge hammers often fail, but tears, prayers and a patient example never fail.—*Alexander Clark*.

LENGTH OF DAYS.

Multiplying by five the number of years required to mature its skeleton, will give the natural longevity of an animal. Twenty-one years being required for the completion of the human framework, five times that, or one hundred and five years, may be accepted as the natural duration of our life. In this country, the average is only forty-two years, by which we know that grand agencies are at work against our race, which do not affect in the same degree the lower animals.

Chief among the causes contributing to reduce man's life to so low a value is his mental organization. That superiority strangely works out this inferiority. The lord of the fowl and the brute cannot control his own destiny. Of human beings and brutes, many are killed before their time by overwork; of the former, many more are killed by worry than by work.

There are numerous instances on record of horses or other animals dying suddenly from fright, and of dogs that have grieved themselves to death at the loss of their masters; but from cankerous cares that beset the daily life of man, these are through incapacity measurably exempt. One of the higher uses of reason should be to promote health and life by such means as reason dictates—and especially to fret not.

PHILADELPHIA barbers have formed an association to secure Sunday closing, the members of which will close their own shops and prosecute all who refuse to obey the law.

AN English gentleman recently rode his bicycle from Land's End to John O'Groat's house, a distance of 994 miles, in 13 days.

YOUNG CANADA.

A CHERRY TREE LESSON.

A naughty little city boy was taken to a farm,
To spend the summer holidays, away from heat and harm;
Where he could roll upon the grass, or chase the little
chicks,
Or tease the piggies in the pen by poking them with sticks.

To pull the peacock's feathers out of him was lots of fun;
The geese stretched out their necks and hissed, and made
him turn and run;
He didn't dare to plague the dog, for fear that he would
bite;
But he was in all sorts of scrapes from morning until night.

One day he climbed a cherry tree that in the garden grew,
Because it was the very thing he'd been told not to do;
The cherries they were red and ripe, and tasted very
sweet—
That naughty boy he swallowed them as fast as he could
eat.

But when he'd eaten all he could, and scrambled down
again,
He sat upon the ground, and soon began to scream with
pain;
And when at last the doctor came he very grimly said,
"Give him a dose of castor-oil, and put him right to bed."

"It isn't nice," said his mamma, "to lie in bed all day;
I hope 'twill be a lesson, Tom, and teach you to obey."
Tom promised solemnly no more that cherry tree to climb;
And his mamma was very sure he meant it—at the time.
—*Harper's Young People.*

KATY'S TEMPTATION.

Sarah was leaning against the gate of Farmer Jones' orchard. She was thinking how nice the farmer's pear tree looked, and how good the pears would taste. Just then her friend Katy came along. "Where are you going?" said Sarah. "Oh, nowhere in particular," said Katy, "I had nothing else to do, so I thought I would take a wal'. I am real glad I came across you; what are you going to do?"

"Well," said Sarah, "I am glad to see you, too. I was getting dreadfully lonesome. Do you see that pear tree over in the corner? Well, let's go and get some."

"But they are Farmer Jones' pears," said Katy.

"Well, he will never miss a few; we can just pick them off the ground. Besides, if we should ask him, you know he would say yes."

"Well, then, let us find him and ask him; you know mother always says that if a thing isn't worth asking for, it isn't worth having. Besides, the command says, 'Thou shalt not steal.'"

"Yes," said Sarah, "but it wouldn't be exactly stealing, do you think? Mr. Jones would not care so much for the pears on the ground."

"Are they our pears? that's the question," said Katy. "Have we any right to take them?"

"No," said Sarah, "and I am ashamed and sorry that I proposed such a thing. I am glad that you stood up for the right, instead of yielding to my evil advice. Come, we will go together and ask Mr. Jones for some pears. I am almost ashamed to face the kind old man after intending to treat him so meanly."

Just inside the orchard they met Mr. Jones. Katy asked him if they might have some of the pears that lay on the ground. "Yes, certainly you may," said the old gentleman, "come with me." When they reached the tree, he gave it a good shake, and down tumbled the mellow pears. "There," said he, "I am always glad to favour a little girl who

stands up for the right as Katy does, and also one who acknowledges her faults and is sorry for them as Sarah is. I heard all that passed between you, and I am glad that you are little girls to be trusted."

You may imagine Katy's and Sarah's feelings. What would they have been, if they had not resisted the evil temptation? "Be not overcome of evil."

TRY AGAIN.

A gentleman was once standing by a little brook watching its bounding, gurgling waters. In the midst of his musings he noticed scores of little minnows making their way up the stream, and in the direction of a shoal which was a foot or more high, and over which the clear sparkling waters were leaping. They halted a moment or two as if to survey the surroundings.

"What now?" inquired the gentleman; "can these little fellows continue their journey any further?"

He soon saw that they wanted to go further up the stream, and were only resting and looking out the best course to pursue in order to continue their journey to the unexplored little lakelet that lay just above the shoal. All at once they arranged themselves like a little column of soldiers, and darted up the foaming little shoal, but the rapid current dashed them back in confusion. A moment's rest, and they are again in the sprayey waters with like results. For an hour or more they repeated their efforts, each time gaining some little advantage. At last, after scores and scores of trials, they bounded over the shoal into the beautiful lakelet, seemingly the happiest little folks in the world.

"Well," said the gentleman, "here is my lesson. I'll never again give up trying when I undertake anything. I did not see how these little people of the brook could possibly scale the shoal—it seemed impassable, but they were determined to cross it. This was their purpose, and they never ceased trying until they were sporting in the waters above it. I shall never give up again."—*Kind Words.*

STOP BEFORE YOU BEGIN.

Success depends as much on not doing as upon doing; in other words, "Stop before you begin," has saved many a boy from ruin.

When quite a young lad, I came very near losing my own life and that of my mother by the horse I was driving running violently down a steep hill and over a dilapidated bridge at its foot. As the boards of the old bridge flew up behind us, it seemed almost miraculous that we were not precipitated into the stream beneath and drowned. Arriving home, and relating our narrow escape to my father, he sternly said to me, "Another time hold in your horse before he starts."

How many young men would have been saved if early in life they had said, when invited to take the first step in wrong-doing, "No, I thank you." If John, at that time a clerk in the store, had only said to one of the older clerks, when invited to spend an evening in a drinking-saloon, "No, I thank you," he

would not to-day be the inmate of an inebriate asylum. If James, a clerk in another store, when invited to spend his next Sabbath on a steamboat excursion, had said, "No, I thank you," he would to-day have been an honoured man instead of occupying a cell in the State prison. Had William, when at school, said, when his comrade suggested to him that he write his own excuse for absence from school and sign his father's name, "No, I thank you; I will not add lying to wrong-doing," he would not to-day be serving out a term of years in prison for having committed forgery.

In my long and large experience as an educator of boys and young men, I have noticed this, that resisting the devil, in whatever form he may suggest wrong-doing to us, is one sure means of success in life. Tampering with evil is always dangerous. "Avoid the beginnings of evil," is an excellent motto for every boy starting out in life. O how many young men have endeavoured, when half-way down the hill of wrong-doing, to stop, but have not been able! Their own passions, appetites, lusts, and bad habits have driven them rapidly down the hill to swift and irremediable ruin.

My young friend, stop before you begin to go down hill; learn now to say to all invitations to wrong-doing, from whatever source they may come, "No, I thank you," and in your old age, glory-crowned, you will thank me for this advice.

SEALS AND THEIR BABIES.

Sometimes great storms come, breaking the ice-floes in pieces and jamming the fragments against one another, or upon rocky headlands, with tremendous force. Besides the full-grown seals that perish in such gales, thousands of the weak babies are crushed to death or drowned, notwithstanding the dauntless courage of their mothers in trying to get their young out of danger and upon the firm ice. And it is touching to watch a mother-seal struggling to get her baby to a safe place, "either by trying to swim with it between her fore flippers, or by driving it before her and tossing it forward with her nose." The destruction caused by such gales is far less when they happen after the youngsters have learned to swim. Does it surprise you that seals, when they are constantly in the water, have to learn to swim? Well, it might stagger the seals to be told that men have to be taught to walk. The fact is, a baby seal is afraid of water; and if some accident, or his mother's shoulders, pushes him into the surf when he is ten or a dozen days old, he screams with fright and scrambles out as fast as he can. The next day he tries it again, but finds himself very awkward and soon tired, the third day he does better, and before long he can dive and leap, turn somersaults (if he is a bearded seal), and vanish under the ice, literally "like a blue streak," the instant danger threatens. But he had to learn how, to begin with, like any other mammal.—*St. Nicholas.*

THERE is very little that we do in the way of helping our neighbours that does not come back in blessings on ourselves.

Scientific and Useful.

SNOW POTATOES.—Boil some potatoes until they are quite done, but not broken; let them stand a moment to flour, and then rub them quickly through a colander on to a very hot dish. Serve immediately.

DAMP CLOSETS.—For a damp closet or cupboard, which is liable to cause mildew, place in it a saucer full of quicklime, and it will not only absorb all apparent dampness, but sweeten and disinfect the place. Renew the lime once in a fortnight, or as often as it becomes slaked.

APPLE BREAD.—Peel and chop very fine one pint of nice apples and put this to one quart of Indian meal that has been scalded and left to cool. Beat to a cream one egg and half a teaspoonful of butter, and add to the meat with half a teaspoonful of salt. If the apples are sour, add two teaspoonfuls of sugar, but sweet apples are much the best. Mix with rich milk if sweet apples, with cold water if sour, to rather a stiff dough, and bake immediately.

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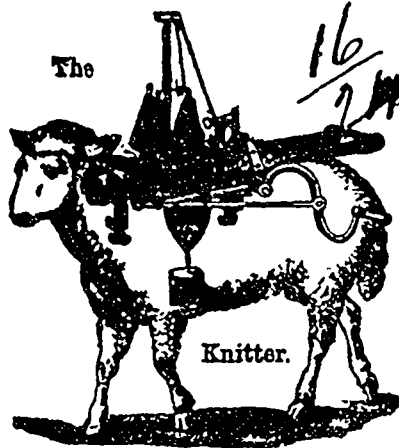
CUSTARD PIE.—Three cupfuls of stewed and strained apples, into which beat one cupful of sugar—or, if the apples are very sour, add more sugar; six eggs beaten very stiff, and then beat it also with the apple, which, by the way, must be set aside to cool before adding anything. Season with nutmeg and very little clove, and stir in, the last thing, slowly, one quart of new milk. Bake immediately. If left to stand a few minutes, the sour apples will curdle the milk. Only a bottom crust will be needed.

CODFISH FOR BREAKFAST.—One quart of finely shred codfish, one ounce of butter, three gills of milk or cream, two even table-spoonfuls of flour, two-thirds of a teaspoonful of pepper, one egg. Be careful to remove every bone; it will be more easily picked if heated a short time in the oven. Lay it on a frying-pan, well covered with cold water, let it heat gradually and simmer for ten minutes; drain it, add the pepper, butter, and the milk or cream, reserving a little of this for the flour, which must be rubbed into it gradually to keep it smooth; when it begins to simmer, add the flour, let it boil two or three minutes, then stir in the well-beaten egg, slip on a dish with some square bits of toast, and serve.

NERVOUSNESS AND WAKEFULNESS.—Grace Glenn tells the following in the "Country Gentleman": "Auntie had been suffering all day with nervous headache, occasioned by wakefulness at night, with which she has been greatly troubled since her long continued vigils with grandma. 'I was afflicted just so at one time in my life,' said Mrs. Jacobs. 'I used to lie awake hour after hour, restless and nervous enough, longing for sleep which would not come, and thinking of a thousand things to worry and distract me all in a moment's time. I found a very simple thing at last which relieved both wakefulness and headache, and I have never been troubled in that way since. It is to put a teaspoonful of spirits of lavender into half a tumbler of water, and drink a little of it an hour or two before bed-time, and occasionally afterwards, until it takes effect. It does not produce sleep, but quiets the nerves and sleep follows. It is harmless, and I wish you would give it a trial.'

TO CLEAN SILVER.—Wash first in strong soap-suds, boiling-hot, to remove all grease or impurities. Wipe perfectly dry, then mix as much powdered ammonia as will be needed to a thick paste, with cold water or spirits of wine. Put this paste over the silver with a soft bit of flannel, and leave it till the paste is perfectly dry. If there is much silver to clean at the same time, the paste on the first piece will be well dried by the time all have been covered with the paste. Then, beginning with the first article, brush the dry paste off thoroughly with a soft brush, made especially for cleaning silver. Be particular to brush all the raised or chased work perfectly free from paste; then polish each article, after well freed from paste, with a soft, dry chamois-skin, and your silver will look like new; and, if well washed in hot soap-suds, rinsed in hot water, and wiped very dry, every time it is used, the silver should not require cleaning in this way more than twice or three times a year. But the washing and drying must be very thorough.

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TORONTO WHOLESALE MARKETS.

OFFICE RURAL CANADIAN, Toronto, Aug. 12th, 1882.

CATTLE.—There has been but a moderate supply of beasts at the Cattle Market since Tuesday. A few cars of medium cattle have arrived. On Thursday a lot of 150 lambs and a dozen sheep were sold at \$3.50 a head all round.

PROVISIONS.—Very little change since our last. Butter.—There has still been no movement here in shipping lots, as buyers' and sellers' views have continued to be apart, though we should say that their differences are decreasing. Holders would have sold selections at 18c., and round lots at 16c. to 16 1/2c., which is a concession on their previous demands, but buyers have steadily refused to pay over 16 1/2c. to 17c. for selections, and have not manifested much inclination to take round lots at all, or at best not over 15c. Thus there has been no movement all week, but as stocks in the country have now become fairly large a change is not improbable. Very choice dairy for the local market has been scarce, steady, and wanted at 18c. to 19c., but for inferior qualities there has been no sale at any price.

CHEESE.—Scarcely any change has occurred; small lots have sold at 11 1/2c. to 12c. for choice, and 10c. for creamery skim. At Ingersoll on Tuesday markets were firm, and 10 1/2c. paid. EGGS.—Receipts have been increasing, the demand slackening, and prices weakening, with round lots not sure to bring over 17c. at the close. PORK.—Selling quietly but steadily in small lots at \$25, with cubs or half-cubs obtainable at \$24.50, but none selling. Bacon.—Scarcely any change can be noted. A steady but quiet sale of tons and cases has been carried on at 13 1/2c. for long clear, and 12 1/2c. for Cumberland; round lots of long clear nominal at 13c. Rolls selling usually at 15c., bellies very scarce, and sometimes 16 1/2c. to 17c. asked for small lots, but bellies and backs have sold at 15c. all round. HAMS.—A steady demand at steady prices has been maintained; sales large, but usually in small lots, which have brought 16c. for canvassed, but round lots obtainable at 15 1/2c., smoked scarce and quiet at 15c. to 15 1/2c., and pickled held at 14c. LARD.—The only movement is that in small lots, which have sold at 15c. to 16c. for tinnets and pails.

POTATOES.—Nothing doing in car lots, but farmers' offerings have sold readily at \$2 to \$2.25 per barrel, and single barrels sometimes at \$2.50.

HAY.—Pressed quiet, and values much as before, at \$13 to \$13.50 for cars. Receipts on the street have been very small, as is usual at harvesting time. All offered has been readily taken at \$10 to \$13 for new, and \$14 to \$15 for old.

STRAW.—The supply has been very small, and decidedly insufficient; prices firm at \$8 to \$10 for oat and rye in sheaves.

GRAIN AND FLOUR.—There has been a sustained dullness in the Flour market. There is no extra offered for sale. A transaction is reported of a sale of 500 bbls superior at \$5.50, outside, at equal to Toronto freights. There is no outlook for advance. There has been very little movement in Wheat, and transactions have hardly represented the state of the market. Sales are only to millers. Quotations would be fair at \$1.14 for No. 2 fall, and \$1.17 for No. 2 spring. The demand is pressing for Oats, and prices beyond anything known. Oats have sold at 53c. on the track, and are quoted at 54c. There are light stocks of Peas everywhere, and in Toronto the quantity is trifling. Holders ask 88c. for No. 2, and 90c. for No. 1. There is no demand for Rye, and stocks are light. Prices are not quoted. There is nothing doing in Corn, and prices nominal, about 90c. There is not much Oatmeal in store, and there is no demand, quoted at, for car lots, \$5.10 to \$5.20. The demand for Cornmeal is not heavy, and the price is unchanged; \$4.25 for car lots. For Bran there is a moderate demand, and the outside price would be \$12.50. There is nothing said of Barley. The stock in store on Monday was 4,432 bushels.

HIDES AND WOOL, ETC.—Hides.—Prices still without change, but strong, and the feeling is decidedly in favour of an early advance. Cured selling at 8 1/2c. for ordinary to 8 3/4c. for selections. Stocks light. Lambs and Pelts.—Also unchanged. Country lots, of which there are but few coming in, range from 40c. to 50c. City slaughter are fetching 60c., at which they are likely to stand for some time. A good many are now offering. Tallow.—Still wanted at 8 1/2c. Little now offering. The scarcity is unusual. Wool.—In fleece no sales or purchases by dealers of any consequence are reported. Large quantities are held by country dealers, but they ask from 21c. to 23c., while there

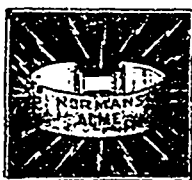
is no disposition to pay them over 20c. The representative of one of the largest mills in the States, says the Globe, and formerly probably the largest consumer of our Canadian wool, was in town for a few hours this week. Though only likely to want a small quantity in any event, the prices he found current here prevented his making any offers so far as can be learned, it being a pretty well-ascertained fact that similar wool can be laid down from England at a price considerably below anything a Canadian dealer could supply and make any profit. The surplus of such wool as ours is greater in proportion in England than here, and there is, so far as can be seen, no prospect of any advance. From factories the demand for medium and fine wools is very good, and the aggregate of sales for the past week is large. Stocks are lower, if anything, than usual.

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