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RURAL NOTES.

D. D. HAY, Esq., M.P.P., of Listowel, has threshed 417 bushels of wheat from 11 acres of land. If that had been done in the "Great North-West," a blare of trumpets would be announcing it through all the newspapers of the Dominion.

The New York Tribune states that Mr. Ira C. Jenks, of Deansville, in an address at a meeting of the Central New York Farmers' Club, referred to the wheat-growing experience of "a Canada agriculturist, whose crop one year was 546 bushels from 10 acres of land." Bravo!

ALONG the southern slopes of Lake Minnetonka's banks, near Minneapolis, Minnesota, grape culture is being successfully pursued. Concord and Delawares are the leading varieties grown. This shows what can be done in peculiarly favourable spots pretty well north for vineyard husbandry.

DEBT is the worst hindrance to good farming in this country. It is very easy to run into debt, and buying on credit soon acquires the force of a habit. It is not so easy to form the opposite habit, but it can be done, and it is eminently wise to do it. Live within your means. Lay by something, if it be ever so little. Don't run into debt.

THE GLOBE is of opinion that, owing to the serious damage done by storms to the crops of Ontario, and the abnormally large yield of wheat throughout the world, the profits of farming in this Province will be 25 to 30 per cent. less than might have been counted on three months ago. There will, however, be a rising wave of prosperity everywhere, that will not fail to benefit, among others, the farmers of Canada.

WHILE the honey yield has been generally a measure one the present year, some localities have produced well. We recently inspected the apiary of Mr. James Heddon, Dowagiac, Michigan. It consisted last spring of about 200 hives. He has repressed swarming as much as possible, yet has increased to nearly 300 stocks. His honey crop will be about 10,000 pounds of comb honey, and about 5,000 pounds of extracted; no mean showing for the profits of bee-keeping.

THE American Cultivator truly says that above all things else it is necessary that there be a general understanding that large crops are always proportionately more profitable than small crops; that within certain limits a given amount of products can be grown more cheaply on five acres than on ten. When this fact is properly appreciated, the popular craze to secure more land will be abated, and better culture of fewer acres will

take the place of the present system of half tillage over large areas.

AN advocate of the absurd notion that wheat will sometimes turn to chess, misquotes the Scriptures to support his theory, in a recent issue of the Canadian Farmer. He says: "If we sow wheat we shall reap wheat—or some other grain—so says the good Book, and I have found it so." The good Book makes no such statement, as any candid reader of 1 Cor. xv. 36-38—the passage adverted to—will at once perceive on a careful perusal of the place. In fact, it contradicts the idea of wheat turning to chess, by declaring that God "giveth to every seed its own body."

It is the belief of the Rural Home that when a farmer summers over a crop he loses not only the interest on the value of the crop, but also a large percentage in waste. A straw stack is no exception to this rule, and its waste of valuable properties is much greater than the wastage of grain that is housed. Sometimes foul weeds are introduced into a crop by foreign seeds, and in that case it may be good policy to sell the straw stack immediately to the paper mills, as one farmer in the vicinity of Avon, N.Y., has done. In that case, the value of the straw may be invested in commercial fertilizers or stable manure.

THE incidents connected with our annual shows, details of exhibits, and prize-lists, belong fairly to the sphere of the newspaper. A journal such as the RURAL CANADIAN finds its chief line of usefulness in helping to make the exhibitions what they are. It is for the newspaper, as such, to chronicle the results. The best style of farming is what secures the prize-taking products, whenever there is competent judgment. To raise the style of farming, and thus elevate the standard of excellence, is our task, and a right noble one it is. Its reward is to be found in the evidences of agricultural, horticultural, and industrial progress furnished by the exhibitions of each recurring year.

THURLOW BROWN said: "I once killed birds in my wantonness—God forgive me—merely to test my skill with the rifle. But I received a bitter lesson. While once passing through the woods I carelessly fired at a bird, caring only to discharge my gun, so as to make my next fire sure. I wounded a bird which sat upon the fence. I felt guilt-stricken at once, and tried to catch it. Failing in that, I thought it would be humanity to shoot it. Before I could load my rifle it fluttered across the field, where I followed it, and found the panting sufferer at its nest, and the blood dripping upon its young! My cruelty flashed upon me in all its nakedness, and I cringed under my reflections like a guilty butcher as I was."

THIS is the way a sound-headed Virginia farmer got rid of sheep-eating dogs, after having had twenty or more killed and worried, as reported by a contemporary. He piled the twenty sheep's carcasses in a heap, built a close rail fence about them, and smiled a quiet smile. The fence was made so as to form a sort of a half covering over the mutton, in shape like an Esquimaux hut, with a hole at the top, so that, while any kind of a dog could run on the outside and jump in, no possible dog could ever jump out. The next morning the granger strolled out to the trap with a shot gun and killed the suspected cur. But he let the trap remain, and repeated his strolls until he had shot forty-six dogs, and our contemporary adds, there is not now a bark to be heard in all the town.

THE great Sullivant farm of 40,000 acres, in Illinois, has been found too unwieldy to be profitable, and has been cut down to 20,000, the other half having been resolved into small farms of from 100 to 300 acres in extent. We heard it freely stated, during our late tour in the North-West, that the Dalrymple and other great bonanza farms were not paying concerns. Indeed, it was currently reported that Dalrymple was on the verge of bankruptcy. It will be a good thing for the world if it should prove that centralization and monopoly are inconsistent with profitable farming. How much better that 100 farmers and their families should carve out independent and comfortable homes, than that one lord of the soil should be monarch of all he surveys on an area of 10,000 acres.

THIS is how the Fargo Argus of September 3rd announces the ingathering of the year's crops:—"Hark! All over the glorious Dakota-land resound the glad anthems of 'Harvest Home.' The reapers have done their joyous work. The golden sheaves have fallen thick over valley and plain. The pyramidal shocks stand like long rows of wigwams all over the fields. The wondrous soil has done its duty nobly. The crop is as bounteous, the harvest as magnificent, as ever feasted the eye, gladdened the heart, and filled the pocket of sun-browned husbandman since the Almighty Father of all good first set in motion the everlasting march of seedtime and harvest, and flung out the many-tinted bow upon the high arches of heaven, as the banner of the season's steady tread. Dakota will need a whole month of thanksgiving-days to do justice to her overflowing cup of blessing. Let the church bells chime their sonorous hosannas. Let the grand organs peal forth their thunderous pœans of grateful homage. Let every Dakotan heart and tongue give thanks to Him 'from whom cometh every good and perfect gift.'"

FARM AND FIELD.

MANAGING MEADOWS.

There is much of our grass land that does not pay, yet its improvement would be easy and comparatively inexpensive, and it is a great loss if it is not secured. But farmers have been discouraged by unsuccessful efforts in this direction. The custom was to scatter a little seed over the field, and so leave it. Now, if the soil had not strength to support the one crop, how could it be expected to carry the two? Then it has been tried to harrow the meadow, sow the seed and roll. This proved to be better, but still not satisfactory. Our best farmers do this, with the important difference of adding manure—spread either in fall or winter, or early spring, best in the fall. The surface soil will then have received the washings of the manure, the harrow bringing up fresh soil; this mixed with the manure, which should be fine, there will be a bed for the seed. The manure should be clean; if it is old, it will be so. Such a course never fails if there is sufficient enrichment, and the work can be done early, so as to get some of the winter moisture in case there should be an early drouth.

I have mentioned harrowing. Some object to this—which is another error. All crops raised by the farmer are benefited by cultivation. Harrowing is one of the most successful modes of tillage, giving the air a chance, and stimulating the plant. Unless a meadow is as good, or almost as good, as it can be, the harrow will improve it; it will be cultivating the grass. Yet there are those who are horrified at the thought of "tearing up the sod," as I have frequently heard it expressed. This tearing up, however, always proves an advantage, twice passing over being better in general than once. Harrow and cross-harrow and then roll. After that, some concentrated fertilizer may be applied, or a light coat of finely comminuted manure from the barn or compost heap, which, of course, is to be evenly spread. This will be a guard, in some measure, against drouth, and being old manure, will be taken up at once, as fast as the plant can appropriate it.

Sometimes, where a meadow is badly run out, the land is ploughed, yet this does not always give satisfaction. The reason is very evident: there is a lack of fertility. It is but the common fault—an attempt to do without manure, or as little as possible, when it should be the object to see how much can be used. To plough a meadow deep for re-seeding, in our clay or drift soil, is to spoil it. In land porous or leachy it will sometimes succeed, that is, to grow a moderate crop. But in our cold, compact clays it will not do. Sometimes an improvement is made by ploughing very lightly, say two or two and a half inches. Thus a mellow seedbed is more apt to be obtained. But it is a pity in such case to go to the trouble of preparing the land and incur the expense of seed without manure, the very thing that is needed. It does not need much; only let it be of good quality, fine, and, most of all, evenly spread. In lumps or spots there will be unevenness, and much of the strength will be lost.

Neglect to use the roller on meadows in spring will result in loss amounting to several times the cost of roller and labour. The benefit of rolling has long been known; and it is almost equally beneficial to pastures, only the smoothness of surface is not here required as in the other case, where the mower is employed. The effect of frost upon grass lands is to loosen the soil, which, to a certain extent, is a benefit; but beyond this it is hurtful, as it admits too much air, especially if an early drouth and severe winds should occur. Besides, in some seasons much of the grass is

started from its place, and some lifted out. This is more the case with clover, and almost always on wet soil or land not sufficiently drained, and there is much of the latter. Pass the roller over this, and it will give compactness to the soil and fix the plants in it. But it is to be done at the right time, when the land is neither too wet nor too dry—just so that it will bear the horses and avoid the mud, smoothing at the same time the land. The time is to be watched; yet it must not be done so early that subsequent frosts will require re-rolling.—*Cor. N.Y. Tribune.*

LIFE ON THE FARM.

As to its drudgery—whatever has been the case in the past, when there were stumps to be pulled and mortgages to be lifted from almost every field; when it was a long way to market, and the buyer paid for produce in "trade;" when almost all implements were laboriously hewn out at home or clumsily hammered out by the village blacksmith—there is, happily, less drudgery on the farm now, and less need of it every year. Taking the year through, the working hours of a man on a farm are no longer than those of the section hand on the railway or the artisan in the shop, who has his own garden to hoe before breakfast or after supper. The busy lawyer or the doctor in average practice works longer and harder than the farmer. The grocer and the editor and book-keeper each sees less of their children in their waking hours than the farmer who sometimes envies them their "easy life."

It must be conceded, of course, that the profits of farming are not so large on the average as those which are realized by men who are successful in mercantile or professional life. But, such as they are, they are surer—twenty-fold surer, at least. Large profits are always contingent on large risks. One must not expect the same rate of interest from Government bonds as from mining stocks. The wear and tear, the losses and defeats of business men in the last ten years, have been an experience that no farmer need covet. He may well be satisfied with the small income that, taking one year with another, is such a sure one; to resign the five chances of shining success in commercial life to those who are willing to take the ninety-five chances of sure failure.

The cities and towns are full of men who once had visions of a business success that would in monthly profits put to shame the small profits of a farmer's lifetime. On the home-stretch of three-score-and-ten they find themselves dependent for a livelihood on salaried positions, which they hold by a dismally uncertain tenure, or on the precarious commissions of a canvasser or a commercial traveller. In comfort and in income, the lives they have led make a shabby showing compared with what they might have done as farmers, and point an important moral for the young men who are now debating whether they will turn their backs on the farm, and try their luck in the lottery of city life.—*Good Company.*

THE USE OF THE ROLLER.

The *New England Farmer* has a timely article on this subject. Indeed, it is almost always timely to talk about the good effect of rolling land. The roller will not make moisture, but it will tend to retain some of it that is already in the soil, and its use may make the difference between a crop and no crop on land that is to be seeded down during a dry period. In a soil made compact by the roller, a light shower may afford sufficient moisture to the surface to germinate the seeds and give them a healthy start, while in an over-mellow soil they would lie dormant or merely sprout, and then dry up and die. The iron roller

is far better than a wooden one in every respect. It turns easily, being made in short sections; it is heavy according to its size, and bears harder on the soil it covers. The weight of a large wooden roller is distributed over too much surface at once. The roller is often useful in the spring for compacting the surface of newly-seeded mowing or grass fields, sown the previous autumn, and which the frosts of winter have loosened up or torn to pieces. If clover seed be sown on such land, the roller becomes almost indispensable, and some farmers practise covering their grass seed with a roller in place of a harrow or brush, which is an excellent method where the soil is sufficiently moist. Another good use of the iron roller is upon mowing lands recently top-dressed with stable manure. The weight is needed to press the manure down close to the surface, where it will keep moist, and all the sooner help start the new growth, at the same time leaving the surface smooth for the scythe or mowing machine. It is also used by gardeners to break up lumpy soil, and with alternate harrowings, to render it fit for receiving the seeds of tender garden vegetables.

UNDERDRAINING.

In prospecting for the underdraining of a piece of bottom land, the first thing to be sought for is the outlet. This should be always the lowest point in the plot. When there is running water this is easily ascertained. It would then be well to get by actual measurement the difference between this and the highest point of the central drain, and the distance between the two points. By this means the grade can be ascertained, which should be uniform from one end to the other. A fall of one foot in a hundred will be sufficient in most cases. Something more than this would be better; less than this would not always insure success.

The workmen should begin at the lowest point, and complete the central ditch first. Then the lateral ditches may be dug, beginning at the upper end and running them as near parallel as possible, having an eye to the grade, and the springs of water to be tapped.

The tiles being put down, the turf should be thrown upon them bottom upwards, and the soil be placed on top, and the whole trodden down as firmly as possible, to prevent the damage from heavy rains, which might occur soon.

Sometimes in prospecting for ditches it is proper to use a sounding rod, in order to avoid rocks which often interpose, and require blasting, or a change in the course after much work has been done unnecessarily. This implement is made of iron, about an inch in diameter, and five or six feet long, with a tapering point and a head about two inches thick, with an eye in it, and an iron bar some two feet long through it, in order to aid in its extraction when driven into the ground. This is effected with a sledge-hammer where there is any suspicion of underlying rocks.—*Pendleton's Scientific Agriculture.*

THE HESSIAN FLY.

There are two broods of the Hessian fly (*Cecidomyia destructor*), one in the spring, and the second in autumn. The fall brood appears in August or September, and each female deposits about thirty eggs on the leaves of the young winter wheat.

The eggs hatch in four days, and the larvæ or maggots make their way down to the base of the leaf, and remain between the leaf and stem, where they feed upon the juices of the plant, and cause it to turn yellow. In about a month after the eggs are laid, the "flax-seed" state is assumed, in which the larvæ remains until the warm days

of spring, when it passes into the pupa, and afterwards emerges as the mature fly, at the end of April. The eggs laid by these flies soon hatch, and the maggots, after a few weeks, go into the little, brown, oval form of the "flax seed" state, and produce flies in autumn, thus completing the cycle in the life of this destructive pest of the farmer.

As a precaution, it is recommended to sow a part of the wheat early, and if afflicted by the fly, plough and sow the rest late in the season. If the pest is not abundant, the crop may be saved by the use of additional manure, or by cultivation. Pasturing the infested wheat field with sheep in late autumn will destroy many of the eggs and young insects. The same good results are obtained by rolling the crop. Only the hardy and more vigorous varieties of wheat should be sown in infested localities. There are a number of natural enemies of the Hessian fly, such as the Ichneumon parasites, whose combined efforts destroy nearly nine-tenths of all the flies that are hatched. The burning of stubble is therefore not recommended, as it will destroy the useful parasites in large numbers, as well as the pests upon which they prey.—*Amer. Agriculturist.*

PRICKLY COMFREY.

Much has been said, *pro* and *con*, in regard to the value of prickly comfrey as a forage plant. Having tried it for the last five years in a small way (some rows in my garden), I am prepared to express a favourable opinion of it. It requires rich land; but on such land, four cuttings may be made annually. Hogs and cows are fond of it, after they become accustomed to its use; and no doubt horses also will eat it. It is somewhat bitter, but stock soon get accustomed to this. I am feeding my hogs on it now (24th April); and no forage plant comes earlier into use than this, save rye and pink clover (called Swedish or German and perhaps French). It is propagated from division of the roots, and may be set out in April and May, or in the fall. In planting it, I would place it 3 feet by 2 feet, or 18 inches, digging a hole, and putting in it at least a peck of manure, and manuring annually. I have no analysis of it, but no doubt it is very nutritious. In chewing, it is found to be very mucilaginous. An acre of it would furnish a great deal of food, with its four cuttings, and on very rich land, no doubt five. It is but little affected by drought, and lives for years, perhaps perpetually, without renewing.—*Thomas Pollard, in Farmers' Union.*

DURABLE WHITEWASH.

Every farmer has more or less outbuildings and fences that are built of rough boards, that he does not feel that he can afford to paint with lead and oil, that could be covered very cheaply with whitewash, and thus greatly improved in appearance, and, what to most of farmers is important, made to last twice as long as if left exposed to the changes of weather.

The great drawback in common whitewash is the want of durability, it being necessary to renew it every year; but an improved preparation may be made, at a very low cost, that when properly put on will last some years and look very well. It is made as follows: For five gallons, slack six quarts of good lime in hot water, covering it up while in the process of slacking, to keep in the steam; when slacked, strain through a coarse cloth; add one quart of salt, prepared by boiling in water until dissolved, and the impurities have been skimmed off; also add one pound of alum, one-half pound of copperas, three-fourths of a pound of potash, four quarts of very fine

sand, and colouring to suit the fancy. This preparation should be put on hot; if properly done, it makes a durable paint. To make a brilliant white: To the amount of lime above mentioned, add one fourth of a pound of burnt alum, one pound of refined sugar, three pints of rice sugar, three pints of rice flour, made into a thin paste, and one pound of dissolved glue. This, like the other, should be applied hot. If the lime be good, it will make a very pure white that will last some years.—*Ex.*

THE WHEAT MIDGE.

The Wheat Midge was formerly regarded as an insect of the same genus with the Hessian fly, and was known as *Cecidomyia tritici*, but entomologists now rank it in a separate genus, *Diplosis*. In general appearance the parent insect much resembles the Hessian fly, but it deposits its eggs in the flowers of the wheat. The heads of wheat thus attacked are soon seen to shrivel, and upon examination there will be found numerous legless maggots, about one-twelfth of an inch long, and of an orange colour, among the forming grain, which are popularly known as midges; a portion of the larvae or midges go into the ground and pupate, while others are harvested with the grain. Some parasite insects help reduce the numbers of the midge, and so far as is known, deep ploughing, to turn those which have entered the ground so deep that they cannot make their way to the surface, and the burning of the refuse in the cleaning of the grain, are the only artificial helps suggested.—*Mrs. Treat's Injurious Insects.*

WEEDS ALONG THE ROAD SIDES.

Some farmers appear to forget that their land extends to the middle of the roadway, and that they have rights and duties in connection with the road-sides. At this season it is common to find by the way-side the largest weeds in the neighbourhood. They have had it all their own way, and this has been to ripen a large crop of seeds. Such neglect of the road-side is a great mistake, as it not only gives a neglected appearance to the street, but is a means of propagating weeds that do much damage to the crops in the adjoining fields. It does not matter how clean the cultivated crop may be kept, if weeds are left to grow just over the fence. It is too late now to do more than collect and burn these, but in doing this, the seeds should all be killed, to make the work of subduing these pests less burdensome in the future, besides adding to the attractiveness of the street.

CATTLE ON MEADOWS.

The editor of the *Mirror and Farmer*, in a trip into the country, counted eight cows and a horse running on a meadow that had just been cleared of its hay crop, and it struck him very forcibly that the owner had commenced cutting his 1883 crop a little early. This is a ruinous practice that no level-headed farmer will allow. It is cheaper to feed from the barn.

MOSS IN PASTURES.

A successful Hatfield farmer tells the *New England Homestead* that he restored to usefulness a pasture which had been completely overrun by moss, by the application of muriate of potash, at the rate of 300 pounds to the acre. The field had not been ploughed for twenty-five years, and the moss showed that it was pretty well run out. But after the potash was applied, not a trace of moss remained, and clover and various nice grasses took its place without re-seeding.

CREAM.

"A REPTASHUN," says Josh Billings, "once broken, may possibly be repaired, but the world will allus keep their eyes on the spot where the crack was."

"A FELLOW must sow his wild oats, you know," exclaimed the adolescent John. "Yes," replied Annie, "but one shouldn't begin sowing so soon after cradling."

A LITTLE boy who has been used to receiving his older brother's old toys and old clothes, recently remarked: "Ma, will I have to marry his widow when he dies?"

A PARIS manufacturer claims to have discovered an excellent cigar wrapper in eucalyptus leaves. But it can never take the place of the pure Havana leaf raised in Connecticut.

"He was the most perfect gentleman I ever saw," said a Kentuckian of Henry Clay. "When you went to see him, he handed you the whiskey bottle and then turned his back."

"WOMAN," quoth Jones, "are the salad of life, at once a boon and a blessing." "In one way they're salad indeed," replied Brown; "they take so much time in their dressing."

PHYSIOLOGY: "Mother, what have people got noses for?" asked an Austin child of her mother, who had seen better days. "To turn up at poor folks, my child," was the cynical response.

A LITTLE girl in Somerset, England, being requested to name the earlier writings of the Bible, glibly answered: "Davonshire, Exeter, Luticus, Numbers, Astronomy, Jupiter, Jumbo, Ruth."

A MAN asked for admission to a show for half-price, as he had out one eye. But the manager told him it would take him twice as long to see the show as it would anybody else, and charged him double.

EXAMINER: "Well, sir, we will now suppose that you have been called in to attend a patient who has taken a powerful dose of arsenic. What would you advise giving him?" M.D. (in embryo): "The last sacrament, sir."

FRIEND of the family (to the boy twins): "I'm afraid you little fellows don't always agree. You fight each other sometimes, don't you?" Twins—"Yeth, thir, thumtimth." Friend of the family: "Ah, I thought so. Well, who whips?" Twins: "Mamma whips."

THE most absent-minded man was not the man who hunted for his pipe when it was between his teeth, nor the man who threw his hat out of the window and tried to hang his cigar on a peg; no! but the man who put his umbrella to bed and went and stood behind the door.

"Young men," said a tiresome and instructive old muff to a group of apprentices, "young men should begin at the bottom of their business and work up." "I can't," responded one of them. "Why not?" asked the old muff. "Because I am a well-digger," answered the apprentice.

"I'm not going to school any more," said a little four-year-old boy to his mamma on his return from his first day at the kindergarten. "Why, my dear, don't you like to see the little girls and boys?" "Yes, but I don't want to go," persisted the boy; "'cause my teacher says that to-morrow she's going to try to put an idea into my head."

THE prize-in-every-package tea stores are at present the subject of a general crusade. When a man buys a fifty cent package of tea, expecting to get a \$5.00 prize, and takes it to the wife of his bosom, who opens it and finds therein a pewter spoon, he feels a yearning desire to go out under the silent stars, by the back fence and kick himself.—*Peck's Sun.*

GARDEN AND ORCHARD.

INSECTS INJURIOUS TO THE PEAR.

In the evidence now under review the pear-tree slug (*Selandria cerasi*) is the only one mentioned as particularly affecting the pear. It also visits the cherry and plum. It is described as a disgusting, slimy little creature, with the anterior segments enlarged, presenting an appearance something like a tadpole, and accompanied by an unpleasant odour. It destroys the leaves of the tree, and thus impairs the maturing of the fruit. Mr. Saunders says:—

“It is the progeny of a four-winged fly of a blackish colour, with transparent wings, which is abroad early in the summer. The insect spends the winter in the chrysalis state in the ground, and the flies emerge early in the season, laying their eggs on the pear, cherry, or plum, which hatch out into the slugs. From what I have seen of the insect, I believe it to be double-brooded, but I am not quite sure.”

Among many remedies, he has found that the use of hellebore is the most effectual. An ounce of hellebore in a pailful of water, applied with a syringe, will soon rid the tree of them. (See Fig. 46.)

INSECTS INJURIOUS TO THE PLUM.

The plum has numerous enemies. The first of these on the list is the Plum Sphinx (*Sphinx drupiferarum*), of which a life-size representation, with one of its moth, is given. It is described as follows:—

“It is a large green caterpillar, with white stripes on the sides, and a prominent horn on the tail. It attains the length, at maturity, of perhaps three or three and a half inches, and is correspondingly thick. This produces a very handsome sphinx moth, which is a night-flying insect, and has a flight somewhat similar to that of the humming bird. It deposits its eggs about the month of June, and the larva attains its maturity about the end of autumn, when it descends from the tree, enters the ground and changes to a chrysalis, in which form it remains until the following season.” (See Figs. 47, 48 and 49.)—Report Ontario Agricultural Commission.

MONEY IN FRUIT RAISING.

My friend began fruit-growing, says a New York *Tribune* correspondent, on a farm of 100 acres, without experience. He leased on shares, for grain-growing, all but ten acres. He purchased 1,200 strawberry, 1,500 raspberry (red and black), and 300 blackberry plants; 120 grape vines, a few currants and gooseberries, 200 peach, 300 apple, 100 pear, and 50 quince trees, costing altogether \$100, and embracing the leading varieties, except with the apples, which were all Baldwins, and the pears, which were all Dwarf Duchesse. The 300 apples occupied six acres. Excepting grapes, quinces, and pears, all the above fruits were planted either in or between the rows of apple trees. He layered grapes and raspberries. The strawberries and some other species multiplied fast; thus the second year he had a stock of plants of his own growing for further planting. Thus he extended the enterprise gradually each season, buying only a few improved varieties, and extending his pear, peach, and quince plants.

The first season there was no income from fruits. The second year his fruit sales amounted to \$23, the third year to \$141, the fourth \$854, the fifth to \$576, yet the quinces, pears, and apples had not arrived at bearing age, the peaches only moderately one season, the grapes were just ready to give returns, the strawberry crop had been out short two seasons by late spring frosts, and only eight acres had been occupied. The fruit sales were made at extremely low prices—five to seven cents per quart—and much work had been done in a roundabout manner. It will be safe to estimate his receipts annually from the ten acres, when all the trees are of bearing age, allowing for occasional failures of some species,

form handles to lift the frame by. Over those frames I stretch and tack on cheap muslin. The fruit to be dried is spread on these frames, which are carried out in the morning as soon as the sun is high enough, and brought in about five o'clock and stacked one above another in any safe place. I do not turn the fruit during the process of drying, as the muslin is so thin the fruit dries from the underside too. When dry, I place the fruit on platters in the oven until quite heated through, for the purpose of destroying any eggs that may have been deposited by insects while exposed out of doors. Then I store the fruit in sealed jars or other vessels. With this plan I have no difficulty about keeping the fruit from the worms.”

THE PEAR TREE SLUG—*Selandria cerasi*.



Fig. 46. Fig. 46 represents this slug at a full grown, and also in a younger state feeding on the leaf; b represents the perfect fly.

THE PLUM SPHINX AND CHRYSALIS—*Sphinx drupiferarum*.

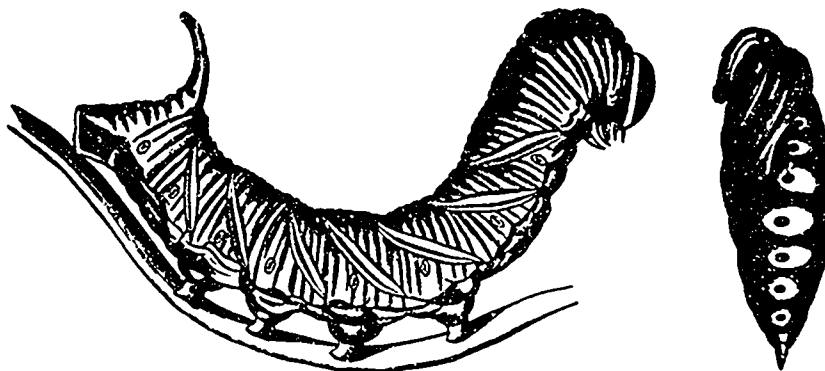


Fig. 47.

Fig. 48.

PLUM SPHINX MOTHS.



Fig. 49.

PROTECTION FROM FROSTS.

A cold snap usually comes in early autumn, after which there are weeks of the finest days in the year. It therefore pays to take some pains to protect the tender plants during two or three frosty nights, that their bloom may be enjoyed afterwards. A light sheet, or even newspapers spread over beds of geraniums, coleus, etc., will save them. A group of cannas may in this way be kept in its beauty, while, if left unprotected, the luxuriant growth is cut down by the frost, and soon becomes unsightly. Any one who has gone to all the care and toil of bringing a fine bed of tender plants to perfection, should certainly use every precaution to preserve the plants as long as possible.

OLD CURRANT BUSHES.

It is too common to plant currants along the boundary fences of gardens, giving them no care, and allowing the grass, Canada thistles and burdocks to grow up among them. In spite of this treatment, the bushes bear crops every year, but the currants are small and the crop spare. Cultivation, manure and pruning, as we have found by trial, will at least quadruple the size of the berries. You will be too busy next spring, at the time for renovating the bushes, and the work may be done now at the beginning of autumn. First, clear away all the dead grass and stems of weeds. Then spade the sod handsomely and

deeply under. Then trim out all the old, half-dead wood, and leave an evenly distributed supply of young shoots. Lastly, cover the ground for three feet on each side with manure, which will be washed into the soil with autumn rains. Next spring, spade what manure is left lightly under, and keep the ground clean. You will have currants, even of the old sorts, that will grace a table; and if you have the cherry or Versailles currant, the berries will grow to about five-eighths of an inch in diameter.

The soil for radishes should be very light and rich.

MANY plants are killed by too much protection. For example, strawberries are hardy, and the covering of straw, marsh hay, etc., that is recommended for them is not so much to shield from cold as to prevent frequent freezing and thawing of the soil.

at \$1,000, from which, at a rough estimate, \$400 to \$500 should be deducted for labour, gathering, marketing, etc. These figures are not startling, they simply represent what the novice may reasonably expect from a similar venture.

DRYING FRUIT IN THE SUN.

A. E., Peoria (Ill.), writes an exchange: “There are many farmers who dry only a small quantity of fruit, just enough to supply the wants of their own family. These farmers cannot, many of them, afford the expense of a patent dryer or evaporator, but must depend upon home contrivances and the assistance of the sun’s rays and their cooking stoves. Of course it is a troublesome plan, this drying fruit in the sun, but of late years I have made the labour less by employing home-made frames, three by six feet in size, of four pieces of stout lath, the two end pieces projecting so as to

THE DAIRY.

A CHEAP MILK-HOUSE.

We have a milk-house, made of brick, with twenty-inch walls, and covered with about eighteen inches of sawdust. A window (hung on hinges) is situated in the south end, covered with a wire-screen. A flue is placed in the south end, which acts as a ventilator, and can also be used to put up a stove, if desired, in winter. A low, steady fire will keep the room at a proper temperature in very cold weather. At the south end is also a trench about fifteen inches deep, in which flows the waste water from the pump. This is let in from the north end by using a piece of pipe from an old force pump; the water is conveyed along the side by a small trench left in the floor, which is made of cement. From the trench a tile goes through the yard and garden, having its outlet in a calf pasture, where is placed a box or trough to catch water for calves. So we have three things combined—an outlet for the water in the trench, a drain for the garden and yard, and a watering place for the calves. It will very materially aid in keeping the building cool in hot weather, to open the window in the morning and let in cool air. This building, though small in the interior—six and two-thirds feet, by eight and two-thirds feet—will hold a large quantity of milk. It is very easily kept clean and fresh, and if not wanted as a milk-house in winter, can be used as an above-ground cellar, by placing on another door and fixing a bundle of straw to just fit between the doors, which can be fastened to the outside door and swung with the door. The cost of building need not exceed \$125; it can be built with 8,000 bricks, and will never be found a bad investment. Our butter is pronounced "gilt-edged," though the cream is raised in common one-gallon crocks.—*Cor. American Agriculturist.*

KEEPING BUTTER.

When butter comes from the churn and working table it has a certain flavour to which "the market" is a stranger. It may be characterized as a delicate, creamy, buttermilk flavour, in which the ethereal and fugitive sentiment of sweet vernal grass and clover blossoms blend with what in the market is called "rosiness," a coarser essence preserved by salt and tickling the palates of grocery men and the "trade." Rosiness is very well in its way, but he that can get butter whose flavour pleasantly titillates the olfactorias and mollifies the most sensitive nerves of the most exacting tongue-tip, satisfying the sensitive palate, and, besides, carries him back dreamily to the sweet-breathed kine and the green pastures, to the thick cream and the plashing churn—must enjoy it within four or five days of the churning.

Such a butter may well sell for a dollar a pound in the town—hot and vile with odours of humanity and horses, of sewers and street sweepings—but it will not keep. It is like the morning cloud and the early dew. Salt will not save it. The ethereal essence of cream will go, but the rosiness will remain. Salt keeps that.

Well-packed butter, if it is good to start with, and is packed in good oak firkins, scalded and brined as every dairyman knows how to do; solidly packed, headed and filled with strong brine, so that every particle of air is excluded, every interstice filled with the brine—such will keep a year, and will be rosy and sweet and marketable; and the butter must be good. Salt will not keep poor butter.

If the cream or milk is wrong—or, to go to the fountain head, if the cows and their feed are not right—the butter will show it. If the churning

be overdone, and the working be overdone or underdone, the butter will be off—off—off. Packing is of little account, unless the butter is made up to the mark as well as the market.

Keeping! Why are we asked to tell how to keep butter? There is very little use for a dairyman who can make good butter to try to keep it. Sent to market it will only keep till buyers find out where it is, and can get and pass it into the consumers' hands, after it has paid two or three profits. In any family that we know it will not keep long if it is good enough.

The best butter keeps after this fashion the shortest time, and yet June butter is good in March and May. Oleo will keep, they say, and we should hope it might. He who has poor butter, or oleo, may keep it as long as he pleases; but our readers may rest assured that if their butter is good, and packed after the good old fashion above indicated, there will never be a complaint of its not keeping.—*American Dairyman.*

HOW TO SET MILK.

This is a subject upon which creameries and farmers cannot be too well informed, and it is best to know the character and objects of those giving advice. Mr. C. C. Buell, of Rock Falls, Ill., a well-known and successful dairyman, gives the following directions for setting cream so as to obtain the best results. And this accords with the experience of dairymen everywhere.

The milk is put warm in deep vessels, in cold water, with good ventilation. This will produce the best butter. If we adopt the Cooley system, the whole must be submerged and without ventilation. He favoured setting with ventilation as especially adapted to the plan of setting the cream. All farmers must have some means of cooling. Let milk set twelve hours, and you get butter good as the best, if the fixtures are all kept sweet and clean. The difficulty is that farmers have not the necessary appliances. If, after the milk is thoroughly cooled, the vessels are covered all right, there is no longer necessity for ventilation, after the animal odour is carried off during cooling. Thus he thinks the cream can be as perfectly saved as in any other way, and the cream is then easily transported, if it be wished to sell it; and, no light matter, the farmer has sweet milk for use or for feeding sweet to hogs or calves. The temperature required is from 50° to 60° Fahrenheit. Thus 118 cubic inches of cream should give a pound of butter.—*Iowa Homestead.*

KINDLY TREATMENT OF DAIRY STOCK.

Mr. Parcell, in the Report of the New Jersey Agricultural Society, says:—"It is important that dairy stock, from the young calf to the old cow that is being fed for beef, should be handled and treated kindly. If a calf is handled roughly, and becomes wild and vicious thereby, when it becomes a cow you may expect the same; but if handled carefully and treated with kindness, when grown up she will be mild and gentle. It may not always be so, but in general it is. There have always been many cows spoiled by the person having the care of and milking them, by whipping or frightening them whenever they come in his way; or if, when milking, a cow hoists her foot, or kicks (which is generally caused by pain) such a fellow stops milking and commences whipping, or worse, kicking the cow, and she, becoming enraged, holds up her milk, kicks back, and is finally ruined. Never whip a cow for kicking if she does kick the milk-pan out of your hand, and sometimes upset and knock you over; but be kind and gentle with her, and milk her out with as little excitement as possible, and if she gets

over her kicking propensity, it will be by mild and not by harsh treatment. Never whip a cow because she kicks, for it will do no good, but will do a great deal of harm."

BEAU-IDEAL OF A DUTCH COW.

A "beste koe" must show a finely moulded head; large nostrils, thin, transparent horns; a clear, bright eye, thin, large, and not excessively wrinkled eyelids, rose-coloured inner members of the eye; purely red lachrymal; a kind, mild, countenance; blue nose; thin neck; free respiration, fine bones, well-formed body, with rather broad hind parts; straight back; long, thin tail; round but moderately bent ribs; developed belly; stout, yet not heavy legs; smooth joints; thin, mellow, moveable skin; soft hair; delicately haired, broad and drooping udder; four well-formed dark-coloured teats; well-developed milk and blood vessels; veins on the belly and about the udder to be proportionally broad and vigorous, and of wenlike swell, and the veins of the udder and inner hams to spread net-like; the openings through which the milk and blood veins enter the body to be large and roomy. A cow thus formed is also apt to show a perfect escutcheon.—*C. Muller, United States Consul at Amsterdam.*

TREATMENT OF COWS.

Phil. J. Ebersold, of the *Clarksville Star*, says on this subject:—"A heifer coming in at two years old is the best time to develop her future milking qualities, but comfortable quarters, generous feed, regularity in milking and kind treatment, will do much in rearing a fine milker. It may appear to many that it is taking a great deal of trouble to attain desired results, but we claim that now-a-days, when cream is worth twelve cents per inch, it pays a good interest for extra labour employed to rear and improve our dairy cows to the utmost milking capacity. We sold a seven-year-old cow that was milked for three years past without raising a calf, and she is yet giving eight quarts of milk per day, and has been treated as above stated."

ODOURS FROM MILK.

From my acquaintance with efforts to remove pungent and offensive odours from milk, I am fully persuaded that prevention is not only better than cure, but the only practicable cure. Milk retains odours once imbibed with a tenacity that cannot be overcome by any mere enchantment. No vacuum-pan, nor submerged can, nor any other apparatus with however magical a name, will make bad milk good. Odours might doubtless be distilled off by attaching a condenser or an exhauster to the vacuum pan, but until the Creator establishes some new code of laws for the action of matter, no practicable process of milk-setting will very materially help the matter.—*O. S. Bliss, in Tribune.*

The record as a milker of the wonderful cow owned by A. D. Hull, of Charlestown, N.H., is attracting considerable attention in that section from cattle breeders and dairymen. She is four years old, and from a grade Jersey and Ayrshire cow imported by Sherman Paris. Her weight is 950 pounds, which, in the space of nineteen days, has been exceeded by that of her milk, which weighed 958 pounds 18 ounces. The first milking weighed 46 pounds 10 ounces, the last 53 pounds 4 ounces, and averaged upward of 50 pounds per day for eleven days of the time weighed.

HORSES AND CATTLE.

THE CLEVELAND BAYS.

Dr. McMonagle in his evidence quotes Mr. George E. Brown, of Aurora, Illinois, in regard to these horses as follows:—

“Mr. Geo. E. Brown, of Aurora, Illinois, is the only American importer and breeder of Cleveland Bays so called. In endeavouring to produce the park horse he explains himself thus: ‘Having some knowledge of the Cleveland Bays, we were confident they would meet the requirements. We went to England and thoroughly investigated them, as well as the different breeds in Scotland and France. We also consulted with the best breeders, managers of large stage companies, and others largely interested in different horses. Our first conclusions were confirmed, and we commenced importing in 1875. We are well aware that many writers (some of them English) claim that the Cleveland Bays are extinct. In a certain sense this is true, and by the same reasoning Cyde and Norman are in the same fix, that is to say, not the same they were one hundred years ago.

“As originally bred, the Cleveland Bay was a long, coarse horse, weighing over 1,600 pounds, and used to haul the ponderous old stages over long routes. With the advent of steam those old stages were displaced by lighter vehicles, requiring lighter horses; consequently, during the past fifty years, the Cleveland Bay has been considerably reduced in size; in some cases by an infusion of the blood of the race-horse, and in others by judicious selections of the finer families.”

Youatt, speaking of the improved Cleveland, says: “Now we have an animal with far more strength and treble the speed.”

Professor Low says: “It is the progressive mixture of the blood of horses of higher breeding, with those of the common race, that has produced the variety of coach horse usually termed the Cleveland Bay.” The district of Cleveland owes its superiority to the production of this beautiful race of horses to the possession of a definite breed, formed, not by accidental mixture, but by continued cultivation.

In a word, the original Cleveland Bay is no longer to be seen, but he is replaced by a horse suited, by the commingling of the thoroughbred with the old Cleveland blood, for the purposes of the times.

Mr. Patteson says of the Cleveland Bays:—

“There are not many Cleveland Bay stallions in the country. A few—perhaps not pure-bred—were exhibited both at Hamilton and Toronto at the late fairs. Those at the Toronto Exhibition were shown by a farmer named, I think, Somerville. There are no native pure-bred Cleveland Bays; in fact, I am not aware that there are any pure-bred mares of this class in the country at all. Mr. Abbott, of Montreal, imported two pure bred mares, but I know of no others.

“I should welcome the importation of Cleveland Bay mares for the improvement of our carriage stock, but the most we can hope for is the stallion. The Cleveland stallion comes from the district in England indicated by his name, and a good prize-taking specimen can be got there for \$1,000.”

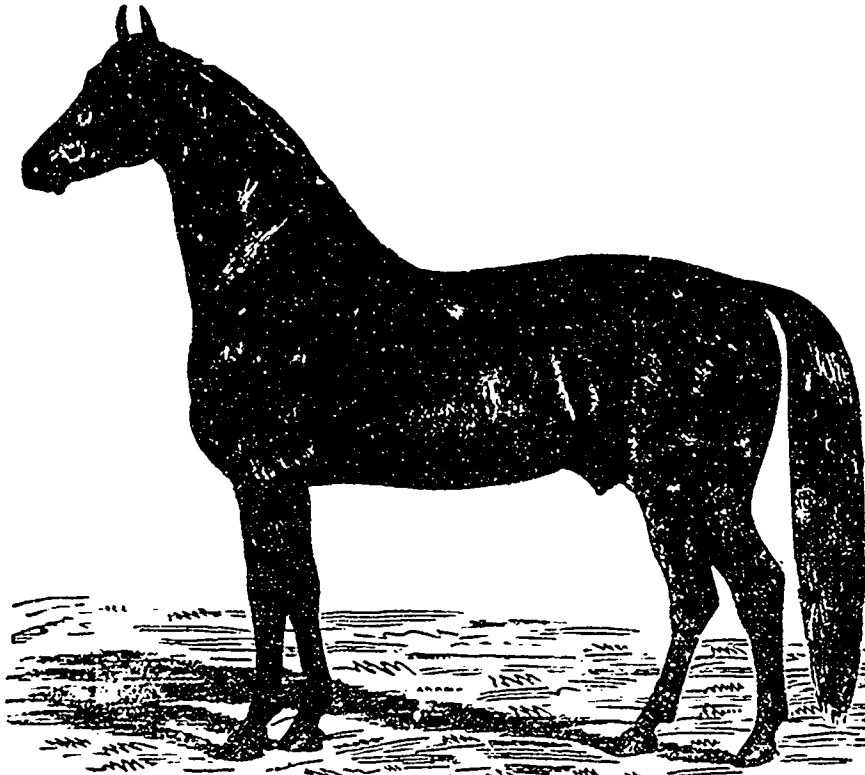
Mr. Williams, however, says:—

“There are a few Cleveland Bays in this Province, but I do not think so highly of them as Mr. Patteson does. The few I have seen have usually been very deficient in action, while their colts have been raw-boned, very slow to mature, not very strong in constitution, and, while rather imposing in appearance, from a side view, make

bad horses to follow. I have not seen the Cleveland Bays in the old country, and I am speaking merely of those that have been brought out here, as nearly pure-bred as they can be got, and their progeny. I think the breed is pretty well run out.”

It is quite possible to reconcile, or at least account for, these rather conflicting statements. There is a great scarcity of Cleveland Bays, both in England and elsewhere, and nothing is more likely than that inferior horses, claiming to be improved Cleveland Bays, which have no such definite type or standard as some other breeds, should be palmed off upon the foreign buyer. On this point Mr. Geo. E. Brown, already quoted, says:—

“Of late years the demand for hunters has been very great, and as Cleveland mares and thoroughbred stallions produce the most popular ‘weight-carrying hunter,’ they have been extensively bred in this way, and to-day even the improved Cleveland is very scarce, which has led to the assertion that they are extinct. But there are reliable breeders in Yorkshire, having mares descended from old and popular families, who take pains to secure the service of stallions of the same class. But even this cannot last long, for agents of the Russian, German and French Gov-



CLEVELAND BAY.

ernments are constantly scouring the country for large and strong ‘nags’ and Cleveland stallions, paying high prices, which accounts for their not being sooner introduced into this country. The improved Cleveland stands from 16½ to 16¾ hands high, and weighs from 1,350 to 1,450 pounds.

“It has been my good fortune to personally inspect some of the most popular stallions that have been acknowledged and patronized as Cleveland Bays by the most reliable breeders in Yorkshire, during the past fifteen or twenty years. Among them are ‘Barnaby,’ ‘Luck’s-All,’ ‘Champion,’ ‘Brilliant,’ ‘Emperor,’ ‘Wonderful Lad,’ ‘General Benefit,’ and many others. Some of the above are owned there and doing service still, with many of their descendants.

“Stallions called ‘Cleveland Bays’ have no doubt been imported and failed of good results; but genuine Cleveland Bays have to my certain knowledge been imported and been eminently successful in producing just the ‘model horse,’ bay, 16 hands, weighing 1,200 pounds, with plenty of bone, symmetrical all over, ‘action high and trappy,’ yet he is at home on the reaper or threshing machine.”—*Report of the Ontario Agricultural Commission.*

IMPORTATIONS of fine-bred cattle are an everyday occurrence in this country. We are bound to have the best.—*Nor-West Farmer.*

OXEN CROWDING IN THE YOKE.

Forty years ago, in Canada, twenty miles north of Lake Ontario, at the first settlement of that part of the country, all teaming, as well as logging, was done with oxen, horses being few and not obtainable through the limited means of the new settlers. I had several pairs during eight years’ residence in that section, and was greatly annoyed by the crowding and hauling of the oxen in the narrow winter snow roads of from one to four feet deep of snow, and in warm weather time by the same oxen in the same yoke hauling from each other to about the utmost of their strength. Observing this, and urgently desiring to remedy the difficulty without whipping, it occurred to me to alter the length of the yoke, using a very short one when on snow or narrow roads, and a very long one for warm or hot weather, and a common medium length for logging and the usual farm work. Adopting this method, both crowding and hauling were instantly prevented. Heat, with being too close together, causes the oxen to haul off from each other, and narrow, deep snow roads cause them to crowd,

the stronger prevailing and always going ahead of the other. The horns of my oxen would lap each other with the short winter road yoke on them, but no crowding. Whipping or any other instruction I deem to be unnecessary.—*New York Tribune Correspondent.*

TRAINING VICIOUS HORSES.

A new and very simple method of training vicious horses was exhibited at West Philadelphia recently, and the manner in which some of the wildest horses were subdued was astonishing. The first trial was that of a kicking or “bucking” mare, which her owner said had allowed no rider on her back for a period of at least five years. She became tame in about as many minutes, and allowed herself to be ridden about without a sign of her former wildness. The means by which the result was accomplished was by a piece of light rope, which was passed around the front of the jaw of the

mare just above the upper teeth, crossed in her mouth, and thence secured back of her neck. It is claimed that no horse will jump or kick when thus secured, and that a horse, after receiving the treatment a few times, will abandon his vicious ways forever. A very simple method was also shown by which a kicking horse could be shod. It consisted in connecting the animal’s head and tail by means of a rope fastened to the tail and then to the bit, and then drawn tight enough to incline the animal’s head to one side. This, it is claimed, makes it absolutely impossible for the horse to kick on the side of the rope. At the same exhibition a horse which, for many years, had to be bound on the ground to be shod, suffered the blacksmith to operate on him without attempting to kick, while secured in the manner described.—*Ohio Farmer.*

MR. CHARLES S. TAYLOR, Burlington, N. J., remarks in *The Breeder’s Gazette* that his “great objection to the average Jersey record” is based on the fact that men of good character put forward figures wholly upon the evidence of the herdsmen, and “the temptation to make a large showing is extraordinary.”

SHEEP AND SWINE.

HOW TO HANDLE SHEEP—THE PROFITS OF SHEEP RAISING.

The following article, by a correspondent of *Home and Farm*, though specially written for the South, is, most of it, well adapted to Canadian farmers:—

I have thought it best to give your readers an article on "How to Handle a Flock of Sheep," as there may be some who would engage in it who do not understand the best way.

As I have said in former articles, it is much better for new beginners to start with a flock of common native sheep, as they are much hardier than improved breeds, and will stand more exposure and rough treatment. If the sheep are small, with but little wool, then cross them with Cotswold bucks to give them size, more wool, and good fattening qualities.

Then, if the flock is small, say 100 or 200, and mutton is wanted for the family or for sale, cross these with Southdown bucks. This cross gives a sheep of good size, fine shape and good mutton—sheep that mature early and fatten well—and as a general thing pay better for wool and mutton than any other kind of sheep. But if a large flock is kept, and only for wool, then the best of all crosses is with the merino, as no other breed of sheep will so well bear flocking in large numbers. As a general thing, it is best to have lambs drop about the time that grass springs up, as they will be less trouble to take care of and the ewes can get a good bite of grass. But when early lambs are wanted, then the best time for lambing is in December. Where a good market is convenient, this latter pays better than the former, as good lambs can be ready by the first of June or sooner. At that time they always bring a fine price, and when a field of rye, wheat or barley is sown, and the ewes and lambs are put on it, and given some grain besides, the lambs grow rapidly and pay well.

The best time to alter lambs is when young—about a week old will do—but many cut the bag off when only two or three days old. This is quickly done, and with no damage. When lambs get old it is difficult to alter them without danger of their dying. Where lambs are intended for market it is best not to alter them, as they sell better than when castrated.

The pasture should be changed as often as convenient, as sheep run over the grass and do not like to eat that that has been trampled on. When it can be done, it is best to divide the pasture, that they will always have fresh grass that has not been trampled on. Sheep destroy more grass running over it than they eat.

The period of gestation with ewes is 154 days; from this a calculation can be made at what time bucks should be put with the ewes. One buck to each forty ewes is about right, although I have known one buck to serve 100 ewes. In a former article I said that a wire fence would protect sheep from dogs. One of your correspondents objected to the idea, saying that if the sheep were frightened they would injure themselves against the bars. This is true of large flocks, but it can be remedied by nailing flat rails on the post inside the wire fence, or what is better, plant a hedge of osage orange inside the fence.

I neglected to say that the tails of lambs should be cut off when they are young.

As to the money that can be made raising sheep, I believe it is equal to that of any other stock, and in connection with cotton raising will pay better than anything else on the farm. The advantages are: the mutton for the use of the family, the wool, the manure they drop on the ground, and the briars and weeds they destroy.

Mutton is now worth, in Atlanta and other southern cities, eleven cents per pound gross. This will be about \$11 per head for good mutton, and the labour of one man can easily raise and fatten 200 head.

Then the greatest value is the nice fat lamb and mutton that can be used for the family, and I doubt much if a farmer, after having for one month nice fat Southdown lamb, would ever be willing to go back to bacon again.

The south eats too much bacon. It is not healthy, and certainly not as nice as fresh meat.

I read of all the trouble that planters have to get advances. Now, if a planter has a flock of sheep equal to his cleared lands, say two sheep to every acre that he owns, the lambs and wool will pay all his expenses, and he need ask no one for an advance.

There is another great advantage in handling sheep on cotton plantations, and that is the ease with which the land can be manured, if a planter who has sheep will divide his farm into four fields—one to be in grass, one in peas, one in corn, and one in cotton; feed off the peas to hogs, and what mutton that is wanted for market, and then feed the cotton seed to the sheep on the field where the peas grew. This will so enrich the land that it will grow a good crop of corn or cotton, and this rotation kept up for a few years will bring land back to its original fertility; or the land where the peas grew can be sown to rye or some small grain, upon which sheep can be pastured while being fed with cotton seed, and the rye can be turned under next spring, and planted to corn or cotton, or the land can be sown to winter oats.

A great many men, when speaking of sheep, say get fine-blooded sheep; that they pay much better, and that a farmer has more pride in fine stock than common ones. That is all true, when a farmer has plenty of money to buy them with, and has sheds to protect them; but few beginners in the south have any spare cash, so the best way is to get the cheapest and breed up.

A cheap and good protection for sheep from rains can be made with poles or rails, so laid that one side will be open, and covered with cornstalks or hay. This is very necessary, as sheep suffer more from rain and wet than they do from cold weather. It is much better to separate the ewes before lambing time, so that they can be better protected and better fed, and if a field of small grain can be had to turn them on, it will give the lambs a good start and push them rapidly.

I have read that goats are a great protection to sheep from dogs. Of this I know not, but I have my doubts, as goats are very much afraid of dogs. I have a small flock of goats, and when they trouble the field I set the dogs on them, and they keep away for months, and I see no disposition to fight the dogs. I have read an article on the feeding of rape, or colza, to sheep a few weeks before being coupled with the ram, and it was said to produce almost invariably twin lambs. I have some sown this year, and I will try it and report. Ewes should be in good condition when they go with the buck, as this will bring good, strong lambs.

In former articles I have spoken of cotton seed as a winter feed for sheep, and I am satisfied that at present prices it is good, cheap food. But it may be that cotton seed will so advance in price that grain, hay and peas can be raised cheaper than cotton seed; of this kind, I doubt if corn sown thick in August, and cut with a mower, will not be the cheapest food that can be raised, but a field of small grain sown early will be a great help.

Pigs are able to consume far more food in proportion to their weight than either sheep or oxen.

THE SHEEP BOT-FLY.

The Sheep Bot-fly or Gad-fly (*Estrus ovis*) inhabits the nostrils of sheep during its larva or grub state. The fly is of a brown colour with yellow bands, and is about the size of a small honey bee. The eggs are deposited in the nostrils of the sheep in early summer, and, as soon as they hatch the larvæ, make their way up to the frontal sinuses, where they attach themselves by little hooks that surround the mouth. They continue to feed there upon the mucus of the abiding locality. The larvæ, which at first were creamy white, became brown in age. The grubs remain in the nostrils until the following spring, when they pass down the nostrils and drop from the animal. This outward passage is a very irritating one to the sheep, often causing them great discomfort. After dropping to the ground the grubs burrow and pass into the inactive or pupa state, from which they come out as the perfect flies in six or eight weeks.

The gad or bot-flies soon provide for a new brood of the sheep pest by depositing eggs in the nostrils as described above. Opinions differ as to the injurious effects of the sheep bots. It is difficult to assign death to them in many cases. They are certainly a great annoyance, and for this, if nothing more, measures should be taken to destroy them. The remedies are two-fold: first, the preventive of the eggs being deposited; and secondly, the removal of the grubs. It is pretty generally considered that dry and open situations are much less infested with the bot-fly than where there is thick under-bush in low and damp locations. The most common method of keeping the flies from depositing the eggs is to tar the noses of all the sheep. This tarring should be done at frequent intervals during the season of the fly. After the larvæ are once well settled in their upper nostril home, it is a hard matter to dislodge them. An irritating substance, as some kind of snuff administered that will produce violent sneezing, is probably the only method of proceeding against them. There is something very strange in this peculiar parasitism, where a part of one animal must be the home of another, and for aught we know, the grub at the same time may have some smaller animal which it unwillingly supports.

"So naturalists observe, a flea has smaller fleas that on him prey,
And these have smaller still to bite 'em, and so proceed
ad infinitum."

—Correspondent Farmers' Review.

A CELEBRATED French flockmaster, upon being pressed to say wherein the secret of his success in sheep lay, said: "It is only a matter of food and care. Give them a variety of food and plenty of it, and they will turn out mutton and wool. That is about all there is of success in any stock. But with well-bred animals to feed, the profits are largely enhanced." In the same direction a western dairyman said: "Plenty of butter and cheese lies more in good feeding than any other one thing."

A GERMAN authority claims as the result of twenty-five years' experience, contrary to the general belief there, that larger quantities of wool are obtained from small sheep in relation to a given weight than in larger kinds, the relative increase amounting to from twenty to thirty per cent. On this side the water we have long known this fact, in breeding merinos, and hence the French merinos have long been discarded for the American merinos, descendants of the Spanish sheep. They are undoubtedly the best fine-wooled sheep in the world.

EVERY farmer raising sheep or swine should subscribe for the RURAL CANADIAN. Only \$1 per year.

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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,

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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, OCTOBER 2ND, 1882.

SKETCHES OF CANADIAN WILD BIRDS.

Mr. Kells desires us to intimate that he will have to suspend his interesting sketches for an issue or two. He will be absent for a short time, on a visit to some brother ornithologists, whose collections he is anxious to study; and as the classes of birds he wishes especially to investigate come next in order to be sketched, he prefers to delay for a little, so as to obtain the freshest and fullest particulars. We hope that the youthful readers of the RURAL CANADIAN, and all of them for that matter, will study these articles on our feathered friends, so as to become more interested in them, and more familiar with them.

TORONTO INDUSTRIAL EXHIBITION.

"Canada's Great Fair," as the Toronto dailies delight to call it, has once more passed into history. Owing to absence on a tour in the North-West we did not see it, which we much regret; still, having seen its predecessors, we can form a pretty good idea of it from the details so fully published in the metropolitan journals. Financially, it was all that could be desired. The gross receipts were nearly \$29,000, an increase of about \$6,000 over those of last year. It must be owned that the chief attractions to the crowds that attended consisted of features distinct from and foreign to the essential belongings of an industrial fair. "Speeding in the horse ring," donkey races, a mock bombardment, and various other side-shows provided by the directorate, had the most to do in drawing the multitudes who, day after day, thronged the Exhibition grounds. It is pleaded in defence of these extraneous attractions, that mankind must be amused as well as instructed; that, on such occasions, people turn out for a holiday; and that many who would not go to a purely agricultural and industrial exhibition will be tempted from home, and led to visit a scene which is at once a play-ground and a school; carrying away with them the recollection of not a few valuable lessons, along with a sense of enjoyment. We are not inclined to be cynical in regard to these things, and yet are forced to confess to a doubt whether the good really overbalances the evil in the present instance. This doubt especially attaches to the horse-racing feature, perhaps the most prominent one in the recent fair. Horse-racing it was, though disguised by the soft name of "speeding in the ring." In view of the bad moral influence which always connects itself more or less with horse-racing, and with the experience of our neighbours across the lines, who have thoroughly tested the effects of the "agricultural boss-trot" in connection with their State Fairs, we fear the Toronto Directorate have not acted wisely in this matter. That their intentions have been good; that they have honestly wished to make their exhibition, on the whole, beneficial to the public, rather than otherwise, we do not question for a moment; but

the hard facts of observation and experience justify hesitancy in affixing the seal of approval to their policy.

Apart from its questionable points, the Exhibition was evidently an excellent one, well fitted to illustrate the resources and products of Ontario, and to rouse a spirit of emulation among our farmers and manufacturers. The turn-out of stock appears to have been unusually large, and of choice quality. We are pleased to note that two highly deserving breeds of cattle were, for the first time, displayed to our people in respectable force. We refer to the Polled Angus and Jerseys. The capabilities of this country in the way of supplying the British market with fat cattle and sheep were never more clearly demonstrated. Our agricultural implement makers have done themselves honour by showing how fully they are able to meet the growing wants of the farming community in the line of improved implements and machines. It was a wise thing to show the public the process of cheese and butter manufacture in actual operation. The honey display was more varied and excellent than last year, which is saying much, not only in view of last year's performance in this direction, but also in view of the fact that this has been an exceptionally bad season for bees. It was expected that the exhibition of fruit would be meagre, for Ontario has rarely known a year so unfriendly to the products of the orchard; nevertheless, this department exceeded the most sanguine anticipations, and the natural reflection was, if these are samples of what our fruit-growers can do in a bad year, this province must indeed be one of the best fruit countries in the world. Garden products, both vegetable and floral, were in profuse display, and could hardly fail to induce a taste for horticulture. The electric light was a novel and pleasing feature, illustrating one of the most interesting and important improvements of the age we live in. We are glad to observe that a more general satisfaction with the judging is mentioned by the papers as one of the characteristics of the recent fair. This is indicative of greater judicial competence, a thing much to be desired in connection with all our shows. On the whole, Toronto and the province at large may be congratulated on the successful outcome of "Canada's Great Fair" for the year 1882.

EXTORTIONATE FREIGHT RATES TO THE NORTH-WEST.

No just-minded person will grudge his neighbour a fair profit on his labour, capital, or skill, in whatever department of business these may be employed. We are benefited in so many ways by railroads, that the public is disposed to be specially generous toward the enterprising men who build and run them. Still, there is a limit to the generosity of the people in this direction, and it is quite possible for the eagerness of monied men to carry them the length of extortion. That this has been the case with the St. Paul, Minneapolis and Manitoba Railroad will be questioned by few. So high are the freight charges levied by this road, that it is no wonder manufacturers and settlers are laying their grievances bare to the eye of honest criticism. Mr. F. W. Glen, of Oshawa, one of our most prominent implement-makers, has recently published some startling facts and figures in regard to the road just mentioned. He shows that the charge for carrying reapers is \$6.50 each over and above a fair rate; that on threshing machines, \$66.25 above an average rate; while the tariff on smaller implements, such as ploughs, harrows, grain drills, horse hay rakes, waggons, etc., is in the same proportion.

Another manufacturer testifies that out of a

charge of \$812 per car-load from Toronto to Brandon, the Grand Trunk and Chicago and North Western roads get only \$56, while the St. P., M., and M., and the C. P. R. get \$256, nearly five times the amount, for conveying less than half the distance! It is no wonder that at the recent annual meeting of the St. P., M., and M., the surplus net revenue for the fiscal year was reported to be \$985,000; that the dividends were so large it was proposed to announce them quarterly; and that, as in the case of other concerns paying high profits, the propriety of watering the stock is under grave consideration.

It is proverbial that corporations have neither consciences nor souls, and this is emphatically true of railroad corporations. Their natures are hard and tough as the steel rails on which their cars run at such money-making rates. What is the much-abused and long-suffering public to do? Competition has been tried and proved a failure. In railroad, as in other business concerns, the big fish gobble up the little ones, and sometimes, as in the case of the G. W. R., one large fish is gulped down by another yet larger. The people of the North American continent are minus hundreds of millions of dollars contributed by them to check monopoly by competition. Soulless corporations have become fatter and richer in consequence of the very means employed to keep them within moderate dimensions. When there is no other course practicable, rival roads pool their earnings, and so become, practically, a monopoly. The result of all this is, that farmers groan and struggle against a taxation so exorbitant, that were it levied by Government for any purpose under heaven, it would excite rebellion. It was recently stated that there are four men in the city of New York who, by a single stroke of the pen, could impose a tax on the people of the United States which Congress dare not levy. A rise of five cents per bushel on the freightage of wheat from Chicago to New York would amount on this year's estimated crop to from \$80,000,000 to \$100,000,000.

There is but one remedy for this gigantic evil, and that is, restrictive railway legislation. To apply it, the people must be enlightened as to the facts, and stirred up to demand their rights. We talk of liberty, and fancy we are a free people. The fact is, that the freest nations on earth are under the tyranny of great monied corporations, that can only be reached by the strong arm of law. When any attempt is made to reach them thus, bribery is used to paralyse the only arm that can interpose for the protection of the public. Perception of the evil, vigilance over legislators, union and determination among the people, will secure the reform of this abuse, as they have done the reform of others. Farmers, particularly, should open their eyes to the evil that is so rife. Extortionate railroading is a tax on every acre of land in the country. The soil is the ultimate paymaster, and every dollar of ill-gotten gain is coined out of the sweat of the man who tills the soil.

"For every evil under the sun
There is a remedy, or there's none.
If there be one, let us find it;
If there be none, never mind it."

There is no way in which the Vanderbilts, Goulds, and other railway magnates can honestly roll up their millions at the rate they are doing it. The days of highway robbery are said to be past. So they are, in the Dick Turpin style of performance. But the devil is a gentleman in these days of intelligence and refinement. He does not bestride a fleet horse, arm himself with a brace of pistols, and say, "Your money or your life." No, he sits in a luxurious office, picks up a gold pen, and quietly writes, "Freight tariff from A. to B., \$— per cwt." Our sleek railway directors are the modern highwaymen, and can

only be held in check by the enactment and enforcement of just laws for the protection of the people. The old-time highwayman plied his trade successfully, for want of effective Governmental interference. In like manner does the modern highwayman, who robs, not with pistols, but with freight-bills. When the people rise *en masse*, and demand effective Governmental interference, we shall get it, and not before. Already there are signs in the United States of a grand popular uprising for this purpose, and there must be one throughout Canada. In the mighty army that will fight for and win victory along this line, the farmers will be the most important class, and it is high time they were enlisting for the fray.

FARM FENCES.

All through the Great North-West, recently visited by us, it is observable that stock are fenced *in*, not *out*. The farmers of Manitoba, Dakota, and Northern Minnesota cannot, if they would, adopt any other system. Fence material is too scarce and costly to make the system practicable that obtains at the east. There can be little question that the time is coming, and is not very far distant, when there will be a great revolution as to fencing all over the American continent. Facts like the following prove this to a dead certainty:—

The Iowa Agricultural Report for 1859 says: "The annual cost of keeping up our fences exceeds the total sales of our live stock."

The Iowa Report of 1866 says: "The total cost of fencing the land in most of our States exceeds the cost of the buildings."

The Massachusetts State Reports give the cost of fencing in several States: "Up to 1875, the cost of fences in Kansas had reached \$80,000,000; in New York, \$144,000,000; in Iowa, \$74,000,000; in New Hampshire, \$42,000,000; in Pennsylvania, \$106,000,000; in Massachusetts, \$23,000,000; in Maine, \$25,000,000."

The Report of the New York State Agricultural Society for 1862 says: "The taxes paid by the farmers of New York State are thirty-three cents per acre. The annual taxes that fences occasion are \$1.12 per acre."

The Report of the United States Department of Agriculture declares: "The fencing in use in the United States, in 1875, had cost \$1,748,529,185."

We see it declared that the annual cost of maintaining the fences of the United States is \$449,476,098.

A BIRD'S-EYE VIEW OF THE SEASON.

The following epitome is from the monthly report of the Ontario Bureau of Industries, and gives, in a brief, compact form, the main facts relating to the crop yields for 1882:

The early weeks of spring were dreary in the extreme. There was little rainfall, a succession of killing frosts, and a continuous blow of east winds. A rainy spell followed, and with the setting in of warm weather the crops sprang up as if they were under an enchantment. The meadows thickened, the fall wheat, that was believed to have been ruined, grew to be the finest crop seen in twenty years, and the spring grains promised a splendid yield.

But just at the critical time another change occurred. The heavy grain became lodged, the wheat in many districts was smitten with rust, and throughout the western counties harvest work has been interrupted by a week of rain. Fortunately, however, the storm was not general throughout Ontario, and in a large wheat-growing section no harm has been done.

The correspondents of the Bureau refer this month (August) to the state of grain crops on the 1st of the month, and to the progress of haying and harvesting operations at that date. They also report on the fruit and root crops, on live

stock and the dairying interest, and on the supply of farm labour and the rate of wages. A large majority of the correspondents are themselves farmers, and report what they see and know. It is not possible, however, to organize a full and efficient staff in a single season. The services of men who will, without remuneration, collect and report facts promptly and intelligently are not procurable in every neighbourhood; but it is gratifying to know that there are many such men in the country, and that they fully appreciate the efforts made to promote the farmer's interests.

The month of July was very favourable for hay-making, the weather being steady, and the temperature moderate, and the bulk of the crop has been saved in excellent order. Clover recovered to some extent from the serious damage done to it by winter exposure and spring frosts, but in the most favoured localities the yield does not exceed one ton per acre, and the general average is much less. Timothy and mixed grasses were very heavy, and the uniform report from all sections is that no better crop has been gathered in twenty years.

Throughout the western half of the Province fall wheat has been remarkably heavy, but it has not escaped the dangers incident to a late season of ripening. Owing to a rank growth of straw and occasional rain storms, the crop lodged badly in many localities just as the grain was beginning to harden, and about the same time, unfortunately, it was struck with rust. As a consequence, the sample is not generally as good as was looked for; it is lacking in plumpness and colour. The worst effects from those causes are reported from the loamy lands of the south-western counties—from Essex, and the basins of the Thames and Sydenham rivers. In some sections the whole crop has been reaped and saved in good condition, but the bulk of it was either standing or in shock when work was interrupted last week by a rain storm of several days' duration. Late reports say that in many fields the grain has sprouted, but the full extent of the damage will not be known for some time. The storm was local, and confined chiefly to the western counties. In the Georgian Bay counties a large acreage has been saved in good order, and the sample is prime. In the Lake Ontario and St. Lawrence and Ottawa counties, the crop was badly winter-killed, and what remains will yield less than an average. In the East Midland counties a good crop will be harvested, but not equal to last year's. In the Lake Erie counties, where some grain has been threshed, it is found to yield from 20 to 30 bushels per acre, and correspondents in all counties west of Toronto estimate the yield at not less than 20 bushels per acre. Spring wheat in the eastern half of the Province, where it is extensively grown, gives promise of an abundant harvest, but in some districts it is being attacked by the midge, the Hessian fly, and rust.

Barley is everywhere a heavy crop, and a large acreage has been grown, especially in the Lake Ontario and East Midland counties. The grain is uniformly plump and of good colour, with a few exceptions where it ripened too rapidly, owing to the drought, or where it lodged and rusted. In the western counties the yield is good, but the harvesting season has been unfavourable.

There is a large area under oats, and, excepting in the Georgian Bay counties, the crop is reported good all over. In those counties it was affected by a local drought. The estimates of correspondents range from 35 to 60 bushels per acre. Peas are a good crop in all the northern counties, but elsewhere they have been injured by the bug.

The corn crop is everywhere pronounced a failure. The season has been too wet and cold for it, and though it has made good growth during the past three weeks, there is little chance now of its attaining to half an average crop. Beans are chiefly grown in the counties of Kent, Norfolk, Brant and Renfrew. They are generally reported good, but in some localities the crop is worthless.

Potatoes were injured by too much rain early in the season, and later on by the drought. The beetle, too, is about as troublesome as ever. Turnips, mangolds and carrots have only partially come up, and a good crop is rare; turnips

especially are late, and are badly injured by the fly.

The fruit crop is poor in all the best fruit-growing districts. The blossoming season was hopeful, but the fruit has been destroyed by a combined attack of frost, blight and insects. Apples are good only in the Lake Ontario and River St. Lawrence counties, and there they will be less than half a crop. Peaches and plums are almost a total failure, pears and grapes are fairly good, and small fruit alone is abundant.

Pastures were good throughout June and the first half of July, but recently they have become parched and bare in many parts of the Province. This has been especially the case in the Lake Ontario counties, where in some districts cattle had to be given extra fodder. Fat cattle are scarce, particularly in the finer classes suitable for export, and there is a disposition to force young cattle prematurely into the market. The dairying interest is less flourishing now than it was earlier in the season, and the milk supply is falling off. The recent rains, however, will doubtless make the pastures good again.

Farm labourers have been scarce, and the demand for them was increased by the general heaviness of the harvest. Wages ran from \$1.50 to \$2.50 per day, and from \$25 to \$40 per month with board, and even at these high figures it was difficult to procure men.

The *Inter-Ocean* (Chicago) is of opinion that if the State can teach boys useful trades after it gets them into penal or reformatory institutions, surely it should find the means of teaching them such trades before they have lapsed from virtue. This is a strong argument for teaching agriculture, the most universally practicable of all trades, in our public schools.

It is reported that the American Jersey Club are proposing to exclude from entry in their herd book all animals not bred either in the U.S. or on the island of Jersey. Mrs. E. M. Jones, of Brockville, Ont., the pioneer Jersey breeder of this Province, we believe, has entered a most vigorous and eloquent protest against this narrow and unjust policy in the *Country Gentleman*, which it is to be hoped, may have the desired effect.

The attention of new settlers on the prairie should be directed to the advantage of providing earth cellars, built on the surface of the ground within a rod or two of the rear of their dwellings, and connected by a covered way. Not only are they convenient for a thousand household purposes, but are a sure place of refuge and protection in case of fire, during a blinding snowstorm, or a high wind like those devastating Iowa and Nebraska. Should a prairie farmer, wife and children, a mile distant from a neighbour, be driven from his burning house, his ground hole would save the family from death by freezing, and against twisting deadly cyclones, should they ever find this valley. It is the only form of sure protection for the settler against wind, fire, lightning and freezing.—*Nor-West Farmer*.

WORTH KNOWING.

A Winnipeg business man, writing to the *Monetary Times*, gives the following rules to be observed in connection with the shipment of freight from Ontario:—

1st. Be sure and bring through with you one copy of the invoice, with all articles or packages named on it, together with shipping bill, having written on it the guaranteed through rate of freight.

2nd. Mark every package fully with the address, also the weight if possible.

3rd. Never prepay the freight through, for in prepaying freight you run the risk of having it billed here as if not paid by some of the American roads over whose lines it may pass, and then have to pay it over again here, without any redress, except trying to collect the amount first paid.

BEES AND POULTRY.**THE WHITE COCHINS.**

This variety of fowls, when so kept that their plumage does not become soiled, present a very beautiful appearance. They differ only in colour from the Buff Cochins. The advantages of these large Asiatic fowls may be briefly summed up by saying, that they are quiet in their habits; do not fly all over creation; bear confinement well, and so are adapted to small yards in towns or cities; may be restricted to their quarters by a low fence, and are good layers. It must be admitted that, as table birds, they are not first-class, their flesh being somewhat coarse, and inclined to stringiness, especially when they are no longer chickens.

SUCCESSFUL POULTRY RAISING.

In raising poultry, or stock of any kind, it should be the aim of everyone to keep it healthy and improve it. You can do it very easily by adopting some systematic rules. These may be summed up in brief, as follows:—

1. Construct your house good and warm, so as to avoid damp floors and afford a flood of sunlight. Sunshine is better than medicine.

2. Provide a dusting and scratching place, where you can bury wheat and corn, and thus induce the fowls to take needful exercise.

3. Provide yourself with some good healthy chickens, none to be over three or four years old, giving one cock to every twelve hens.

4. Give plenty of fresh air at all times of the year, especially in summer.

5. Give plenty of fresh water daily, and never allow the fowls to go thirsty.

6. Feed them systematically two or three times a day, scatter the food so that they can't eat too fast or without proper exercise. Do not feed more than they will eat up clean, or they will get tired of that kind of feed.

7. Give them a variety of both dry and cooked feed; a mixture of cooked meal and vegetables is an excellent thing for their morning meal.

8. Give soft feed in the morning, and the whole grain at night, except a little wheat or cracked corn placed in the scratching places to give them exercise during the day.

9. Above all things, keep the hen-house clean and well ventilated.

10. Do not crowd too many in one house. If you do, look out for disease.

11. Use carbolic powder in the dusting bins occasionally, to destroy lice.

12. Wash your roosts and bottom of laying nests, and whitewash once a week in summer, and once a month in winter.

13. Let the old and young have as large a range as possible—the larger the better.

14. Don't breed too many kinds of fowls at the same time, unless you are going into the business. Three or four will keep your hands full.

15. Introduce new blood into your stock every year or so, by either buying a cockerel or sittings of eggs from some reliable breeder.

16. In buying birds or eggs, go to some reliable breeder who has his reputation at stake. You may have to pay a little more for birds, but you can depend on what you get. Culls are not cheap at any price.

17. Save the best birds for next year's breeding, and send the others to market. In shipping fancy poultry to market, send it dressed.—*Charles Lyman, in Empire State Agriculturist.*

HOW FAR WILL BEES GO FOR HONEY?

The precise distance that bees will fly in search of forage I am unable to state. Some consider three miles to be the extreme limit, while others place it as high as twelve miles. The most satisfactory results may be expected if abundant stores can be found within two miles. It is evident that they work more freely upon the blos-

This is a fine illustration of the advantages of obtaining forage within a reasonably short distance. I have never had direct proof of the effect, yet there is ground for the belief that if honey could not be found nearer, bees would not fly the distance named without being gradually led along by newly opening blossoms, as in the case mentioned.—*Quinby's New Bee Keeper.*

ROBBER BEES.

If all the colonies are kept strong, there is no danger of robbing. It is only the weak ones that are robbed. Working with bees at unseasonable times, leaving them exposed in the apiary, etc., induces robbing. Colonies of black bees and nuclei are usually the sufferers. Contracting the entrance, so that a single bee can pass, is usually a cure for robbing. In times of scarcity of honey, the apiarist should be careful not to keep a hive open long, or robbing may be the result. All strong colonies maintain sentinels at

the entrance in times of scarcity. Those of that colony are allowed to pass, but strangers are "arrested on the spot." If a colony is unable to defend itself, close up the entrance with wire cloth and remove it to the cellar, or some other convenient place, for a few days, and when it is returned to the old stand, contract the entrance to allow only one bee to pass at a time.

FOWL IN CONFINEMENT.

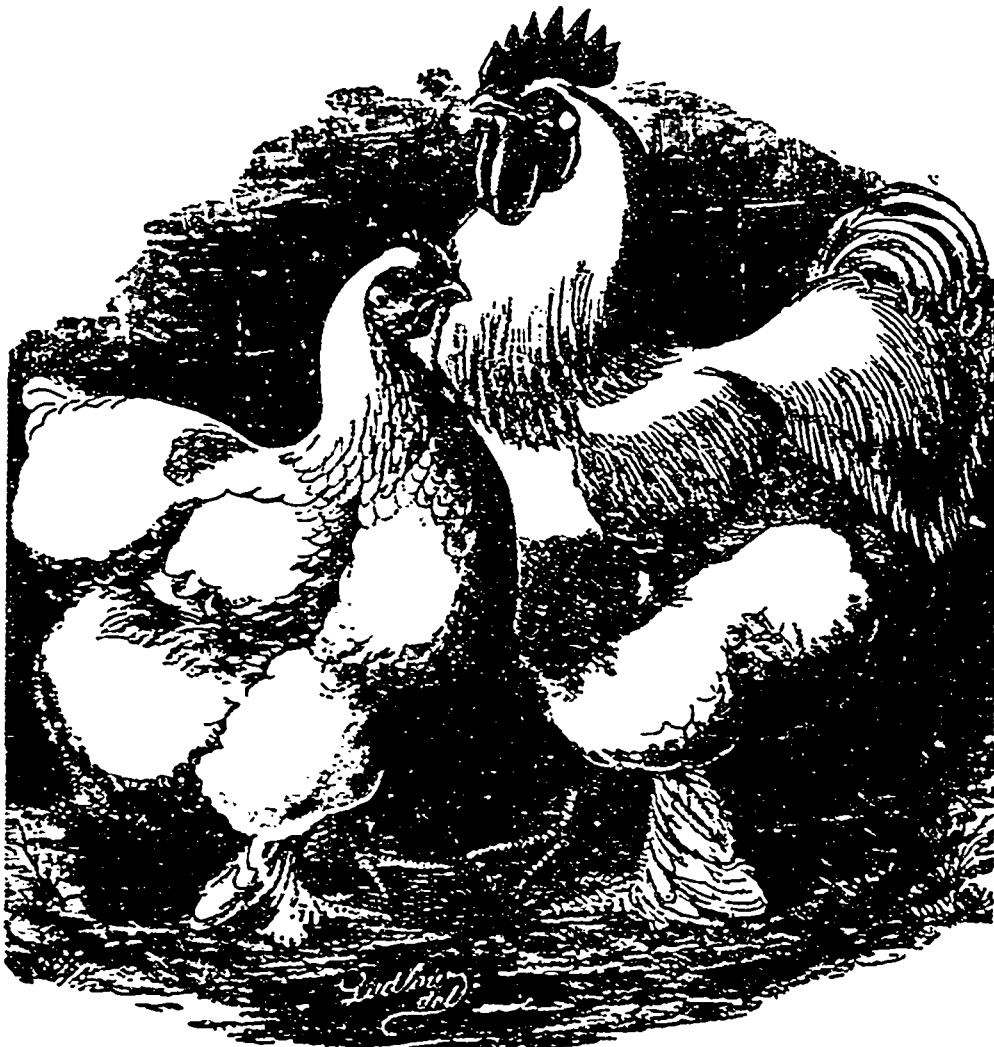
Fowls are always more profitable and less trouble when kept within certain limits. There are, perhaps, many that would disagree with me concerning the trouble, considering fowls at large the least trouble. From experience I cannot think so. I always feed my fowls regularly, and it is no more trouble in that respect. I furnish them with broken shells, and this I always do when at large. The green food is extra, but the pleasure of having a fine vegetable adjoining their yards, and the larger yield in eggs, more than compensates this

addition to the trouble. Besides, I always know just where the eggs are, and could gather them in the dark.—*Country Gentleman.*

A PRECOCIOUS CHICKEN.

The following, from the *Hamilton Daily Times* of the 14th inst., will be of interest to poulterers: "Mr. Thos. Gain, of the East Hamilton poultry yards, exhibits a fair-sized egg, the product of a white Leghorn pullet hatched on the 15th April last. The egg was laid on Saturday last, and Mr. Gain claims it is about the fastest time on record. He does not know of faster. The usual time taken by a chicken to develop into henhood is from nine to twelve months.

If you use the eggs laid by your own fowls for hatching, select them from your best specimens, and have them as fresh as possible. If you are about buying those of any choice breed, be sure that you get them from reliable parties.



WHITE COCHINS.

oms at some little distance than when these are very near the apiary. If I were to sow anything with a view to a supply of honey, I should prefer that it should not be in the immediate vicinity of the hives. Their flights are evidently modified by local conditions. During the large yield from basswood in 1874, as the blossoms failed in the valley, the bees continued bringing in the same quantity of honey, following the basswood day by day, as it opened on the hills, until the first week in August, when they still came in heavily loaded, but very tired from a long flight. I drove to the heights, six miles distant, and found that basswood was there just coming into bloom. I immediately moved 48 swarms to this location, and in the following week those 48 colonies gave me one ton of surplus honey, while the 71 swarms left at home did not secure one-half the amount, yet they continued working upon the same ground during the same period.

A MANITOBA COW HOUSE.

The following article, from the pen of Mr. J. S. Ireland, of West Lynne, and the accompanying illustrations appeared in the columns of our excellent contemporary the *Nor'-West Farmer* in reply to a request for a plan of a cow stable suitable to the requirements of the country, and as many readers of the *RURAL CANADIAN* have settled in Manitoba, and others are contemplating moving there at an early date, the article and plans are reproduced here for the benefit of whom it may concern:—

"As no particulars are given as regards height of walls, pitch of roof, and the kind of floor to be used, all of which are necessary to be known in estimating the cost of construction, I take it for granted that the building is to be built in a substantial manner, using no surplus material, and as cheap as may be consistent with strength and durability. I send you a plan of a stable that is convenient, and suited to the wants and requirements of the majority of farmers in the Prairie Province.

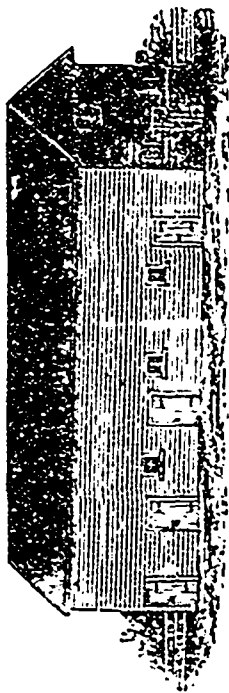


Fig. 1.

"Fig. 1 is a front and end view of the stable; size, 60 feet by 30 feet, 14 feet height of walls, and 18 inches thick, with four doors in front, one entering behind each row of cattle, and one into passage-way; two in the end, one entering into meal or storage room, and one into the loft or mow over the cattle. Three small windows in front and two in the end, to admit light into passage-ways and stable; the window frames should be set into the walls, and the concrete built over them. Double windows should be used, that is, one placed near the inside of the frame, and the other near the outside. When the windows are single, the breath from the cattle in cold weather freezes on them so thick that it makes them, in a measure, opaque. The inside sash may be hung on a pivot in the centre, so as to open easily to give ventilation in the spring and summer seasons, when the stock is required to be stabled, and the outside one can be taken out, and a mosquito bar put in its place. The doors are hung on hinges; they are cheaper, and better adapted to the country than slide doors.

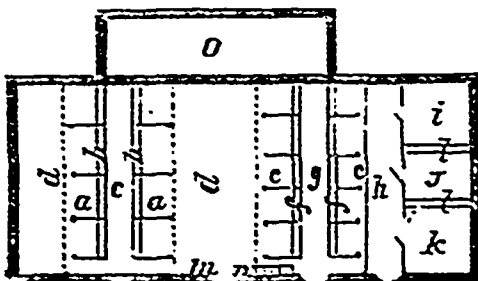


Fig. 2.

"Fig. 2 shows the plan of stable floor, which contains eighteen double stalls, with ample accommodation for thirty-six head of cattle, besides

calf house, meal or store room, and one loose box or fws at calving time, or an extra calf pen, if required; a. a. cattle stalls, six feet four inches in width from centre to centre, and eleven feet in length from the passage-way c. in front, to the wall behind the cows on the one side, and the same distance from the passage to the manure dropped on the other side; b. b. is a manger, twenty inches high from the floor, two feet wide on top, and one foot six inches in the bottom. The top of the manger is formed of three by six scantling, running the width of the stalls, and from the scantling to the floor of inch lumber, made tight and close at the bottom for feeding meal, or a small box at each side of the stalls can be made for that purpose. c. passage-way, in front of cows to feed from, four feet wide and boarded up, three feet six inches. d. d. manure drops. The stalls described are for large-sized cows. e. e. are stalls for smaller-sized cows or young cattle, five feet centre to centre, and ten feet from passage-way to the partitions on one side, and the same distance to the centre of manure drop, d., on the other. f. f. are mangers, the same as d. d. g. passage-way, the same as c. h. is manure drop, i. calf house, j. meal room, k. loose box, l. l. mangers, m. side passage, n. ladder to loft. O. shows the position of a root house that can be built, if required, and entered from the stable by the passage-ways. The partitions between the stalls are six feet long, and four feet four inches high, boarded up with two inch plank, each partition requiring four pieces of two by six plank spiked to the studding, the two top pieces having a small bolt through each end, making them firm and secure.

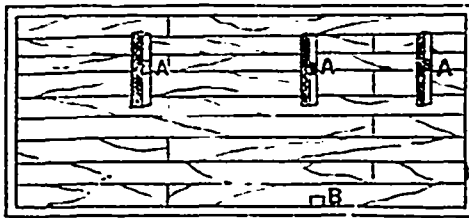


Fig. 3.

"Fig. 3 is a hay loft, A. A. are feed shoots for delivering hay into centre of passage-way. The hay can be thrown in at the tops, or through small doors in the sides, according to the height of hay in the mow. B., entrance to loft from passage below; A., shoot, the same as A. A., to deliver hay into feed room for calf pen and loose box.

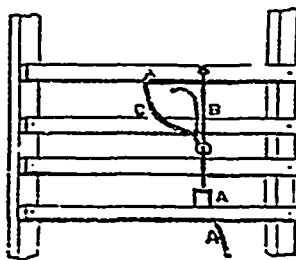


Fig. 4.

"Fig. 4 shows stall partition, and manner of tying cows, A. A., end view of manger. B., a two-inch round stake, the bottom end left into top piece of the manger, and the other end bolted to the top bar of stall partition; c. is the chain, to slide up and down on the stake. Instead of stakes, rods of inch iron can be used, fourteen inches long, and bolted on the stall partitions for the chains to slide on, but they would add eighteen dollars to the cost of the building, and the stakes answer equally as well. The partitions are boarded up five feet high. Height of stable, seven feet from floor to loft; the upper floor is laid with inch lumber; if poles are used instead of lumber for the upper floor, it will lessen the cost in the estimate about thirty dollars.

QUANTITY OF LUMBER REQUIRED.

- 17 pieces, 2x8—30 feet long—630 feet, for joists.
- 4 " 2x10—30 feet long—200 feet for plates.
- 22 " 2x6—8 feet long—396 feet for rafters.
- 3 " 3x8—26 feet long—78 feet for mangers.
- 55 " 2x6—12 feet long—672 feet for collar beams and stall partitions.
- 40 " 2x4—14 feet long—396 feet for studding.
- 14 " 2x8—12 feet long—224 feet for windows and door frames.
- 3 " 3x14—12 feet long—56 feet for calf mangers.

Inch lumber, 14 feet long	1,886
" " 12 "	9,512
Total number of feet	7,600
ESTIMATE COST.	
7,600 feet of lumber, at \$30 per thousand	\$228
24,000 shingles, at \$4 50 per thousand	108
4,140 cubic feet of concrete, at 15 cents per foot ...	621
Nails and hinges	30
Windows	6
Carpenters' work	100
Total cost	\$1,083

"I have made no estimate of kind of floor to be used, as lumber and other materials are expensive. And as D. S. is in the neighbourhood where stone is plentiful, a floor paved with stone will be the cheapest and best floor for him to make, and he can do the paving himself at spare times, and the cost will be small. He can also change the plan as regards width of stalls, passage-ways, ventilation, etc., if necessary, for no person can possibly know so well what an individual wants as himself, if he be a reflecting man."

HOUSE SLOPS.

An economical farmer says: "This is what I do with my slops: I have most of it carried and thrown on to the stable manure, which is under cover. This makes the manure in better order for use in three months than it otherwise would be in nine months. I also keep a box or barrel near the kitchen packed full of the short straw and dust such as comes from a fanning mill, etc. Into this barrel or box are thrown small quantities of wash and dishwater. The water drains through, leaving the substance in the straw and dust. When it is fully charged, I move it away and supply another box. You will be surprised to see what a valuable feeder you will acquire during the year. This substance is generally thrown on the ground, which finds its way into the well, is drank, and followed by sickness in the family."

We would advise immigrants to this country to dispose of the most of their effects below, and bring the cash here. They will find they can suit themselves better by buying here, as agricultural implements and settlers' effects can be purchased here at almost the same rates as in Ontario. It would not be amiss, however, to bring horses and cattle, and when doing so they should get the best that is to be had. There is just as much freight on a poor animal as on a thoroughbred.—*Nor'-West Farmer*.

It has frequently been stated that the farmers in the North-West do not use manure on the land, but this is not the case in every instance. While in many cases it may not be necessary, and even injurious to the crops, to manure the land, in others it may be advisable. But in one case in Kildonan, a field has yielded wheat for fifty consecutive years without a particle of manure. Farmers should study their land as a student would his book, and they will reap a rich reward.

As the autumn approaches and the long nights come on, the farmer, as well as the man of any other occupation, begins to provide himself with reading matter, by means of which he is able to pleasantly and profitably spend the time which, if squandered, would be of no avail to himself. There are many things for the parent to take into consideration now, in making selection of literature for the winter. Cold weather is a time when children can contentedly fasten their attention upon books and papers. Through the hot days of summer there is a greater tendency to play, while through the long, cold winter, mind is more active, retentive, and eager for knowledge. Such books and papers as will best educate are the ones that should be selected. This thing should be looked into, as it is a great and grave error to neglect to provide that which will act as food for the mind at a time when that mind is the most hungry for such food, and must be thus fed or suffer a great and lasting loss thereby.—*Nor'-West Farmer*.

HOME CIRCLE.

TOPKNOT.

BY MRS. C. N. LIVINGSTON.

It was a fresh, bright morning in early spring. "The very morning to work out of doors," Mrs. Butler declared; so, donning a sun-bonnet, which she kept on purpose for gardening, and taking her trowel, she proceeded on a tour of inspection over the pretty lawn that surrounded her pleasant home.

She inquired into the needs of the crocuses and daffodils, told the hyacinths they were late in blooming, noted with pleasure the purpling buds of the lilacs, then turned her steps to the corner which needed her most—a bed of lilies of the valley, that were becoming far too numerous for thriving growth.

Mrs. Butler's next-door neighbour, Mrs. Lane, wanted a bed of lilies, too. If these were to be thinned out, why should she not have some of them? She had a spot of unoccupied ground, between the house and a high fence, damp and cool, just the place where those lily leaves would grow broad and green. So she hovered about her window, peeping through the half-closed blinds, until her neighbour had come over to the lilies, which were not far from the fence that separated the two lawns; then she threw a light shawl over her head and happened out. She ran down to the gate and took a look up street and down; then slowly coming back, stopped a moment over this and that shrub, to see if they were putting forth signs of life. At almost any other time she would have run out unceremoniously and asked for some. But there were reasons why Mrs. Lane felt a slight hesitancy in approaching her neighbour this morning. On account of some occurrences of the last few days, she herself had been nursing a little resentment; but she had come to the conclusion to put aside all ill-feelings and return to friendly relations. Mrs. Butler was too good a neighbour to break with lightly. She was half tempted, though, to go straight back into the house without speaking, particularly as Mrs. Butler did not once look her way. But, then, she wanted to break the icy little crust that was gradually forming between them, and this was a good opportunity; besides, she wanted some bulbs. So she came up to the fence where the lady stooped over her work, saying, "Good morning, Mrs. Butler," with a slight constraint in the tones, it is true. But the trowel went industriously on, and the head was not lifted. She evidently did not wish to hear; but Mrs. Lane tried again:

"Good morning! I say; what are you busied about so early?"

Then Mrs. Butler looked up, but the glance that flashed from her black eyes to the other lady was not such as she was wont to bestow upon her neighbour. Neither were the tones—that seemed to issue from the cavernous depths of a never-ending sun-bonnet—the cheery ones that belonged to Mrs. Butler, as she said,

"Whatever else I'm doing, I'm not slandering my neighbours."

"Indeed! And who is engaged in that business, pray?" and Mrs. Lane brought the shawl over her cheeks, so that her neighbour should not see the red that she felt was rushing into them.

Mrs. Butler stood up now, and the lady on the other side of the fence fairly quailed beneath the withering gaze, as, looking her full in the face, Mrs. Butler said:

"It is best to speak out plainly. Mrs. Lane, I do not wish to hold any conversation with you. It only shows what a perfect hypocrite you must be to come around with your smooth 'Good-mornings' after what you told Mrs. Ketchum about me."

"Oa, now! You're making a mountain out of a mole hill," said Mrs. Lane, confusedly. "You'd better find out what I actually said to Mrs. Ketchum before you flare up so. A little explanation on both sides will straighten this thing all out, I dare say."

"No explanations," said Mrs. Butler. "that you can possibly make will satisfy me. Indeed I will not listen to any, and certainly I do not feel called upon to make any to you. So let it be distinctly understood, once for all, that I wish to have nothing whatever to do with you from this time forth." Saying which she picked up her trowel and marched off to the other side of the lawn, while Mrs. Lane beat a hasty retreat into her own house.

The first thing she did was to indulge in a good cry; the next, to make a firm resolve never to have anything more to do with Mrs. Ketchum, for telling what she had positively promised never to breathe to a living soul. Of course, she had broken her promise, else how would it have gotten to the ears of Mrs. Butler?

A hen is a seemingly inoffensive creature, but is capable of accomplishing a vast amount of mischief—far more than is generally supposed. If all the unhappy tempers and long-standing feuds that she has provoked were searched into, and results placed among our statistic and general averages—the number of quarrels to one hen—we should doubtless be overwhelmed. For it was nothing more nor less than a little gray hen that was the occasion of the sharp words that were so sadly out of tune with the song of the robins, the budding green and sweet spring airs of that morning.

There had been slight clouds in the sky between the two families on this account before. The Lanes had for years made a practice of keeping a few hens, thereby serving two purposes—keeping themselves in fresh eggs and testing the friendship, as well as cultivating the grace of forbearance, in their neighbours. They were not that exasperating sort of people, either, who were indifferent to the comfort of their neighbours. They cherished the delusion that they kept their hens at home, and they did aim to, but some of them had straying proclivities. Then they tried to keep them shut up, letting them out occasionally, keeping a sharp watch over them meanwhile. But it did seem as if some of these hens had "two presences," for while Mrs. Lane sat sewing by her window, casting her eye on them occasionally, sure that they were all there—Old Yellow, Speckle, White Topknot and Beauty—that very minute two or three of them would be

scratching for dear life in Mrs. Butler's smooth, neat beds, just sown with early lettuce and onions.

It is a wonder that a woman with as much tinder in her composition as Mrs. Butler bore it as well as she did. Especially was Topknot, a saucy little gray and white hen, with a jaunty tuft on top of her head, peculiarly trying. Many a time had Mrs. Butler worked hard in her garden all the forenoon, and looked from her window an hour after to behold Topknot comfortably established in a well-fitting round hole of her own digging, in the very centre of a circular bed, carefully prepared and sown with seeds of some rare and highly valued flowers. Again and again was she stoned and driven home in disgrace, and, on complaint being entered against her, was shut up and securely fastened in, as was supposed. But whether she had the power of slipping through cracks, or not, she would, somehow, unaccountably effect her escape; and the next thing known of her, she would sit complacently in the very choicest part of Mrs. Butler's garden, a persistent, triumphant Topknot, utterly regardless of the poor little two-leaved plants that were uprooted and crushed beneath her. It was on one of these occasions that Mrs. Butler caught her, and in sheer despair and vexation, tossed her over the fence, accompanying the act with a hearty and audibly expressed wish that "that hen was dead."

Mrs. Lane, happening to stand at her chamber window, saw the hasty manner in which her favourite hen came home, as well as the exasperated expression on her neighbour's face, and likewise had an exaggerated report of what the cruel woman said, when she "heaved the poor creature over the fence," from Bridget, who was out in the woodshed at the time.

This episode, among other little things, caused a slight coldness to spring up between the ladies, so that for a few days the well-trodden path between the houses was not so much used as heretofore. In the meantime Topknot disappeared. She was not to be found in the barn loft, nor under the bushes, nor in any of the secret places about the premises of any of the neighbours; nor even in the barn of the Butlers, nor cosily settled under the low-spreading branches of their evergreens. Plainly, Topknot was dead, or she would certainly have come home at meal-times. She was a great loss, as she came of a high family and was the handsomest of the brood. Mrs. Butler had been interviewed concerning her, and had answered sharply that she should not mourn greatly if the troublesome creature was never found.

It so happened, a few days afterward, that Mrs. Lane needed a cake pan of a certain size and shape which she did not possess, but she knew Mrs. Butler did; so she determined to ignore the little unpleasantness that existed, and run in the back way and borrow it. As she came along back through Mrs. Butler's woodshed, she noticed a basket of feathers. She paused a moment, looking intently at them, then murmured to herself, "Topknot's feathers, I do believe." Ah, indeed! What and if Topknot had met her destiny in Mrs. Butler's dinner-pot! And then a suspicion that had at times flitted vaguely through her mind, took shape and began to live. At dinner she half seriously mentioned the idea to her husband, and he answered,

"Pooh! As if Mrs. Butler was not able to buy all the chickens she needs, and more too."

"But those feathers! I would know those pretty gray and white feathers anywhere."

"Now, my dear, you don't suppose Topknot was the only hen in the world who owns a gray dress, do you? Farmers bring in hens and chickens every day with all sorts of feathers. Don't, for pity's sake, slip such a foolish thing to anybody else. It will be sure to get to her, and I would not let forty hens come between my friendship with such a woman—a little high-strung perhaps, but a good woman, after all. Then you must own that she has borne a great deal from Topknot. It would not be such a dreadful thing if she had boiled her up. It would be the only way of making sure that she would not be turning up again continually."

That afternoon Mrs. Lane took her work and went to sit an hour with Mrs. Ketchum. In the course of their neighbourly conferences Mrs. Ketchum asked,

"Did it ever occur to you, Mrs. Lane, that Mrs. Butler was deceitful?"

"Why, no, I never thought she was. What makes you ask?"

"Oh, things I heard her saying about some of her neighbours that she is very thick with," said Mrs. Ketchum, looking mysteriously.

"What did she say?" Mrs. Lane asked, growing at once suspicious and interested.

"Well, I heard she said that she never had been more tormented in her life by anything than she had by your head, and that Mr. Butler talked of prosecuting your husband for damages."

"Suff and nonsense!" Mrs. Lane ejaculated, her anger kindling. "Everybody knows we keep our hens shut up. It is true poor Topknot strayed over there occasionally, but she is gone now, and if I didn't see her feathers in Mrs. Butler's woodshed, I'm much mistaken. At any rate, I know they had not pie for dinner about that time."

No sooner had these words escaped her lips than she was sorry she had said them.

"Is it possible?" said Mrs. Ketchum; "I always thought Mrs. Butler was a very queer woman—but—you don't say she—"

"Oh, no, I don't say anything. It is only some of my nonsense," Mrs. Lane said hurriedly, as she gathered up her work. "Don't mention it for anything. Good-bye, I must be going."

She did not notice the wide open eyes and ears with which Mary Ann, Mrs. Ketchum's servant, who was at that moment replenishing the grate with coal, took in every word, and much more than they were meant to convey, and who, on the first leisure opportunity, hastened to share such a choice bit of gossip with her dear friend, Ellen Bryan, who lived near. Ellen, in turn, related it to her mistress, by this time a much exaggerated and embellished account—how Mrs. Butler had stolen and killed and cooked one of Mrs. Lane's chickens; for "Mrs. Lane was as sure of it as she was that

she was alive, and, if 'twas her last breath, she'd say it, because she saw the feathers with her own eyes in Mrs. Butler's woodshed." Then Mrs. Morgan, her mistress, and a particular friend of Mrs. Butler's, forgot that terse utterance—"Where there is no tale-bearer the strife ceaseth." She put on her bonnet, straightway, and carried this absurd story to Mrs. Butler. "She was not fond of repeating gossip in general, but she thought it her duty, as a friend, to tell this, so that it might be contradicted at once." Strange how many good women Satan finds to help him carry out his plans!

And Mrs. Butler, though she had the reputation of being an excellent woman, consistent and foremost in every good word and work, was not proof against this most trying test. Her spirit took fire; she allowed her anger to wax hot, and she said many foolish and unkind things about Mrs. Lane, which she would not at all have believed one month ago, and did not believe now, for that matter. Mrs. Butler's weak point was her pride. Never had a word, to her knowledge, been breathed against her fair fame. And now to be accused of such small meanness—it was unbearable; it was beyond anything. Her sore heart verified the truth of the proverb—"The words of a tale-bearer are as wounds."

The spring-time unfolded leaves and blossoms, but the balmy airs and bright sunshine did not warm the hearts of the two women toward each other. Day after day passed, and yet, since that fatal day when they met at the fence, they had given no sign that each was aware of the other's existence.

It was inconvenient and forlorn in more ways than one—this breeze which the little hen had raised. It was trying to give up the neighbourly kindnesses that they had been wont to exchange. They had borrowed patterns and magazines and cake-pans and yeast, of one another. All the seldom-used utensils in one house were common property in both. Mrs. Butler's lap-board and scales and colander, and Mrs. Lane's carpet-stretcher and step-ladder, often changed places; and many a plate of cookies, or pan of biscuits, had travelled from one house to another, when either happened to have unusual good luck in baking. There were no more runnings to and fro between the houses, or cheery callings from each other's windows. The back gate was nailed up, and the east windows in one house and the west windows in the other had their blinds carefully closed. They had been wont to share their joys and troubles. They had made calls and afternoon visits in company. But now, one peeped through the blinds to make sure that the other was well on her way to sewing society before she would start; and, by degrees, their circle of friends began to understand the fact that Mrs. Butler and Mrs. Lane did not "speak."

Poor Mrs. Lane was consumed with vain regrets that she had, in her momentary vexation, allowed that slippery tongue of hers to make her so much trouble. Sometimes she was heartily ashamed of the whole thing, and would gladly have told Mrs. Butler so, only that she believed, whatever excuses or apologies she might make, the proud-spirited woman would never receive them. At other times she told herself that she did well to be angry; that of course Mrs. Butler had made away with her hen; it was not likely she had intended it—probably some of the family had stoned poor Topknot and lamed her so she had to be killed, and Mrs. Butler had thought they might as well have a dinner out of her, and nobody would be the wiser for it. It was, after all, not the loss of the hen she cared so much for, she argued with herself, as that Mrs. Butler should prove herself so unworthy; and then to crown it all by getting angry at her, when probably, after all, she had only hinted at the real truth to what she said to Mrs. Ketchum; and she to go on just as usual and put a bold face on the matter—it was too aggravating!

It is much more comfortable to blame other people than yourself. So Mrs. Lane silenced all inward condemnation of her mischief-making tongue, and began to pride herself on being a long-suffering woman, in that she had not brought the affair before the church, instead of preserving a magnanimous silence. What a stir she could make, to be sure!

It was strange how much bad feeling one small hen could occasion. Mrs. Ketchum was amazed to see Mrs. Lane sail past her on the street without so much as a nod. Mrs. Butler looked askance across the church at Mrs. Lane, and wondered how she could look the minister in the face while he took for his text, "Speak not evil one of another, brethren," and then painted in vivid words the sin of the slanderer. Then Mrs. Lane, in her turn, wondered how Mrs. Butler could have the face to take such a prominent part in church affairs, when she had such a sin on her conscience.

(To be continued.)

MARRIAGE IN CHINA.

Among the pure Chinese, and especially among the higher classes, the affair is a much longer and more serious one. From the old Turkish strictness with which females are secluded, it is comparatively rare that a couple see each other previous to betrothal, and still more so that there should be any acquaintance between them. This has given rise to the necessary employment of a character equivalent to the bazalan or marriage-broker of ancient Brittany, to Mr. Foy's Parisian Matrimonial Agency Office, or the daily marriage advertisements of our own papers. If your wish is for marriage in the abstract, the broker will find you a fitting partner first, and negotiate the transfer after. If you are less purely philosophical, and wish to consult your own tastes as well as the interests and wealth of the nation, you are only to name the party, and the broker becomes your accredited ambassador. There is, however, one preliminary point to be ascertained. Has your intended the same surname as yourself? If so, it is a fatal difficulty, as the laws of China would not permit the marriage. If, however, she is Chun and you are Le, or she is Kwan or Yu, and you rejoice in any other patronymic monosyllable, the next step is for the broker to obtain from each a tablet containing the name, age, date and hour of birth, etc. These are then taken to a diviner and compared, to see if the union promises happiness; if the answer is favourable

(and crossing the palm with silver is found to be as effectual with fortune-tellers in China as elsewhere), and the gates are equal—that is, if the station and wealth of the two families are similar—the proposal is made in due form. The wedding presents are then sent, and, if accepted, the young couple is considered as legally betrothed. A lucky day must next be fixed for the wedding, and here our friend, the diviner, is again called upon. Previous to the great day the bridegroom gets a new hat and takes a new name, while the lady, whose hair has hitherto hung down to her heels in a single heavy plait, at the same time becomes initiated into the style of hair dressing prevalent among Chinese married ladies, which consists in twisting the hair into the form of an exaggerated tea-pot, and supporting it in that shape with a narrow plate of gold or jade over the forehead, and a whole system of bodkins behind it. On the wedding morning presents and congratulations are sent to the bridegroom, and among the rest a pair of geese; not sent as we might imagine, by some wicked wag or ineluctable bachelor as a personal reflection on the intellectual state of his friend, but as an emblem of domestic unity and affection. The ladies, too, in China, as well as elsewhere, indulge in a little fashionable crying on the occasion, and so the relatives of the bride spend the morning with her, weeping over her impending departure, or, more probably, their own spinsterhood.—*Popular Science Monthly.*

HOW TO READ THE BIBLE.

Read it through once in course; less for spiritual benefit than to know what is in it, and where to go and find what you want. Such a reading once in a lifetime is enough.

Read it by books. For this purpose it is well to get what is called a Paragraph Bible, in which the divisions into chapters and verses is not maintained. Then read the story of Esther, or of Ruth, or the Epistle to the Romans, or that to the Galatians, through at a sitting. Or get a harmony of the Gospels—there are several such—and read through the life of Christ as you would read a biography of Wesley or Luther. In such a reading Christ's teachings take on new aspects, and the life itself assumes a new significance.

Read it topically. Take a particular subject on which you feel need of instruction. Take the American Tract Society's Bible text book as a basis. Examine every text there classified under the head Atonement, or take a Teacher's or a Bagster's Bible, and examine every text therein referred to, as giving the titles of Christ; learn thus what the Scripture teaches by gathering fruit from all its branches.

Study its spirituality. Study it according to your own mood, your own special need. Do you feel full of gladness? Read its psalms of trust, or its promises of comfort. It is bread—take what you hunger for. It is medicine—take what your soul needs.

Read in other books that throw light on the Bible. Take such a book as "Van Lennep's Bible Lands."

Read it, and as you read examine every reference. You will read slowly, of course, but you will come upon new texts and upon new meanings of old texts. You will be like a traveller going through a comparatively new country, with a guide and a friend.

Sometimes do not read at all. We suppose some of our readers will be shocked at this advice; nevertheless, it is more reverent to the Bible, to go to sleep at the Bible on a single verse, than to read a chapter with heavy eyes, a weary brain, and a nodding head. Sometimes the best meal is on an empty table.

Finally, digest what you read. Appropriate it. It is better to read the one verse, "Blessed are the meek, for they shall inherit the earth," and practise meekness for that day, than to read the whole Sermon on the Mount, and shut up your religion between the covers of your gold-clasped Bible, and leave it there. He will love the Bible best who studies most zealously to practise its precepts and imbibe its spirit.

GIVING IS GETTING.

One of the plain paradoxes in the realm of mind, matter, nature and grace, is that true gain comes only through loss; that hoarding is impoverishing; that there is no way of keeping one's hold on a desired good, like parting with it; that acquisition is a result of expenditure; that dividing is multiplying; that scattering is increasing; that spending is saving; that giving is getting. Bodily strength comes from its expenditure, not from its hoarding. Every wise use of a muscle adds to the power of that muscle.

It is the use, not the possession, of any material treasure that gives it its highest value. Money gathered and kept for its own sake increases the discontent and cravings of its holder, while money sought and handled for its beneficent uses gives pleasure and satisfaction to him who employs it. As a rule, men and women of ample means shrink more from the outlay of money for their personal convenience and enjoyment, or for the giving of pleasure to others, and really have less of the delights which money-using might secure, than persons of more limited income who have no desire for money as money; no wish to be rich, in comparison with the thought of living and doing richly. Straitened circumstances are quite likely to increase with growing accumulations of wealth; and unsatisfied cravings for riches are exaggerated by every effort at their satisfying. "There is"—indeed there is—"that withholdeth more than is meet, but it tendeth to poverty." And the pinch of poverty itself can never nip so sharply as the pinch of withholding avarice.

Our mental faculties gain through their using. Giving out thought in speech or writing increases one's treasures of thought as well as one's ease and power of expression. In our moral nature the same principle prevails. President Hopkins said: "It is of the very nature of the affections that they give, and of the desires that they receive."

The exercise of desire is belittling; that of affection ennobling. Desire brings unrest. Affection brings content.

When a child receives gifts, or selfishly employs what has been given him, his desires are exercised, and by their very exercise they are strengthened and intensified. But when the child gives to others it is his affections which are exercised and which are enlarged by their exercise. As with the child, so with those of us of any age. Only as we give do we get anything that is worth getting. Only in our giving do we find the real pleasure of living. If we find that our affection, our ministry, our presence, is a source of comfort or pleasure, we recognize a blessing just there.

"For the heart grows rich in giving;
All its wealth is living gain.
Seeds, which mildew in the garner,
Scattered, fill with gold the plain."

—*Sunday School Times.*

MY LAST OFFER.

We had a wedding at our house last night,
With throng of guests and maze of flowers;
The rooms were brilliant with their blaze of light;
In song and feasting passed the hours.

My little nephew, four years and a half,
Bewildered, glad and wonder-eyed,
Saw all the glitter, heard the song and laugh,
And ate unwonted sweets beside.

Next day he pondered much, as wise folks do,
Then craved of me a little boon;
"Aunt Jeanie, why don't you get married, too?
I hope you'll do it very soon."

"Dear child," I said, and stroked his curly head,
"You would not wish it if you knew
That I must go away if I should wed,
Instead of living here with you."

His face grew grave, for he had only thought
Of wedding cakes and ices sweet;
But, if with loss of auntie it were brought,
The feast would be a doubtful treat.

He clasped my neck and kissed me on the cheek,
Then said the loving little elf,
"Aunt Jeanie, don't get married till next week,
And I will marry you myself."

—*C. M. St. Demys, in Our Continent.*

WHEAT IN HISTORY.

Dr. E. L. Sturtevant gives the following account of the past of the wheat plant:

"Isis was supposed to have introduced wheat into Egypt, Demeter into Greece, and the Emperor Chin Wong into China, about 3,000 B.C. In Europe it was cultivated before the period of history, as samples have been discovered from the Lacustrine dwellings of Switzerland. In England it was probably not cultivated by the ancient Britons; but the Anglo-Saxons, when Bede wrote, early in the eighth century, sowed their wheat in spring; and in the days of Queen Elizabeth its cultivation was but partial. Indeed, wheat was an article of comparative luxury till nearly the seventeenth century. In India, wheat seems not to be native but introduced, for its Sanscrit name signifies 'food for the barbarians'; yet three varieties are mentioned in the Bhavapraska, one of which, a large-grained, is said to have come from the west, and another, a small grained or beardless wheat, is said to have been indigenous to middle India.

"The first wheat raised in the New World was sown by Spaniards on the Island of Isabella in January, 1494, and on March 30th ears of corn were gathered. The foundation of the wheat harvest of Mexico is said to have been three or four grains carefully cultivated in 1530, and preserved by a slave of Cortes. The first crop at Quito was raised by a Franciscan monk in front of the convent. Garcilasso de la Vega affirms that in Peru, up to 1548, wheaten bread had not been sold at Cuzco. Wheat was first sown by Gosnold on Cuttyhunk, one of the Elizabeth Islands in Buzzard's Bay, off Massachusetts, in 1602, when he first explored the coast. In 1604, on the Island of St. Croix, near Calias, Me., the Sieur de Monts had some wheat sown which flourished finely. In 1611 the first wheat appears to have been sown in Virginia. In 1636 samples of wheat grown in the Dutch colony at Netherlands were shown in Holland. It is probable that wheat was sown in the Plymouth colony prior to 1629, though we find no record of it, and in 1629, wheat was ordered from England to be used as seed. In 1818 wheat was introduced into the valley of the Mississippi by the Western Company. In 1799 it was known among cultivated crops of the Simos Indians of the Gila River, New Mexico."

NOOSING SHARKS.

The Island of Aitutaki, one of the Hervey group, in the Pacific, is surrounded by islets, underneath which are submarine caverns, the homes of sharks. The natives classify them as lagoon sharks, which are comparatively tame, and ferocious sharks, which spare nothing they can seize. The lagoon shark, about six feet long, is esteemed a delicacy, and the natives supply their feasts with the toothsome dish by a remarkable style of fishing.

Arrived over the entrance to the shark cave, the fisherman leaves his canoe to the care of his companions, and dives to the bottom, carrying with him a slip knot of strong cord.

He expects to find two or three sharks at home, well satisfied and drowsy after feeding in the lagoon, with their tails toward the entrance. Selecting the largest, the diver adroitly adjusts a noose over the tail, taking care that it hangs loosely. If he has another noose, he secures a second shark.

The shark catcher now, with one bound from the white, sandy bottom, rises to the surface, in order to assist his

friends in hauling up the fish. The astonished sleepers beneath suddenly find themselves ascending tail first to the surface. Once inside the canoe, a smart blow from an axe between the eyes or on the tail ends its career.

But accidents sometimes happen to the bravest. One of the most successful shark-catchers at Aitutaki was Reubena, whose ancestors had excelled at this perilous sport. Long practice had made him almost amphibious.

One Saturday morning he started out with two companions in a canoe across the placid lagoon to one of the more distant islets. Grasping in his left hand a noose provided for the occasion, he dove down to the entrance of a large submarine cave.

On entering it, Reubena found several sharks lazily resting themselves. In a trice a slip-knot was skilfully passed over the tail of the nearest shark without exciting its ire. The shark, at this critical juncture, moved so that there was not room enough for Reubena to get out.

He now gently stroked the side of the shark, and succeeded in inducing it to move away, so as to permit his exit. This operation is said to be very agreeable to the fish; but if through nervousness the shark be stroked the wrong way, its anger is sure to be excited, and the diver's life would be the certain forfeit.

Reubena was making his escape, when, in his dismay, another large shark came back from feeding in the lagoon, and blocked up the entrance with his unwieldy body. To get out now was impossible, for even Reubena dared not stroke the head of the monster.

The captive fisherman waited, hoping the shark would go farther in, so as to leave the opening free. Unhappily the huge fish did not move. Reubena's agony became intense; seconds seemed to be hours. Was he doomed to perish in a shark cave?

At last the shark passed quietly into the interior, and Reubena was barely able to get out of the cave and rise to the surface. His associates in the canoe, who had become anxious for his safety, seized him by the hair and pulled him in, blood flowing from his ears, eyes, and nostrils.—*Youth's Companion.*

TRUE GENTLEMANLINESS.

True gentlemanliness includes both manliness and gentleness. The real gentleman combines the tenderness of the womanly nature with the strength and nobleness of high manhood. The lad who aspires to be a gentleman must not be content with lifting his cap to a lady, and showing her deference in his words and actions. That is all well, as far as it goes; but it does not go far enough. Real gallantry does not limit its show of respect to those who are of the gentler sex; it is as deferential to age, and as keenly alive to the needs of the weaker of either sex, as it is uniformly courteous and polite towards every woman. But it is a very common thing to see a young man quick to rise from his seat in a crowded car and proffer the place to a well-dressed and attractive lady, when he had no thought of offering that seat to an aged gentleman who had been standing before him for a considerable time. His action proves his attention to ladies, but it does not show his gentlemanliness. Parents who would have their sons gentlemanly must teach them that it is quite as important to give deference to age as to sex. The command, "Thou shalt rise up before the hoary head, and honour the face of the old man," was spoken by God Himself before the command had gone forth to be very quick to give your seat to a pretty girl in the horse-cars.—*Sunday-School Times.*

FRETFULNESS.

Fretfulness is one of the most common and grievous faults of ordinary life. "I dare no more fret," said Wesley, "than I dare curse and swear." Nothing more surely and certainly destroys the peace of a family than the causeless, profitless habit of fretting, grumbling, and fault-finding so common in many families.

"Look into the home of a fretful man or woman, and mark the discomfort, the unhappiness, the positive misery they often cause within its sacred enclosures. Notice a fretful man in his business relations—how disagreeable he makes himself and others, and how much he detracts from his own power to act coolly and wisely. See such a man in church—what an amount of friction and trouble he causes, where all should work smoothly and quietly. Besides the rasping and discomfort such a person occasions, the example he sets is most pernicious. Children easily catch the manners of their elders, and many fretful people have no one to blame but themselves if they have worrisome, teasing, disagreeable children."

"Fret not thyself because of evildoers." Put away grumbling and complaining. Look on the bright side, make the best of everything, bridle your temper, rule your own spirit, and possess your soul in patience and in peace.—*Selected.*

HOW THE ALLIGATOR FEEDS.

An alligator's throat is an animated sewer. Everything that lodges in his mouth goes down. He is a lazy dog, and instead of hunting for something to eat, he lets his victuals hunt for him; that is, he lies with his great mouth open, apparently dead, like the possum. Soon a bug crawls into it, then a fly, then several goats, and a colony of mosquitoes. The alligator don't close his jaw yet; he is waiting for a whole drove of things. He does his eating by wholesale. A little later a lizard will cool himself under the shade of the upper jaw. Then a few frogs will hop up to catch the mosquitoes, and goats light on the frogs. Finally, a whole village of insects and reptiles settle down for an afternoon picnic. Then all at once there is an earthquake. The big jaw falls, the alligator slyly blinks one eye, gulps down the entire menagerie, and opens his great front door again for more visitors.

FOURTEEN Missionary Societies are at work in South Africa.

YOUNG CANADA.

THE STOLEN CUSTARD.

A TRUE INCIDENT.

Sugar-toothed Dick
For dainties was sick,
So he slyly crept into the kitchen,
Snatched a cup from the pantry
And darted out quick,
Unnoticed by mother or Gretchen.

Whispered he, "There's no cake,
For to-morrow they bake,
But this custard looks rich and delicious.
How they'll scold at the rats,
Or the mice, or the cats;
For of me I don't think they're suspicious.

"They might have filled up
Such a mean little cup!
And, for want of a spoon, I must drink it;
But 'tis easy to pour,—
Hark! who's at the door?"
And the custard went down ere you'd think it.

With a shriek he sprang up,
To the floor dashed the cup,
Then he howled, tumbled, spluttered and blustered,
Till the terrible din
Brought the whole household in,—
Dick had swallowed a cupful of mustard!

—Our Little Ones.

READY FOR A FIGHT.

It is not necessary to cross the Atlantic in order to visit places that are foreign and strange to American travellers. How different is a Canadian city from one of our own! Halifax, in Nova Scotia, for example, amazes and amuses an American citizen, from the moment he gets a view of its magnificent harbour—one of the finest in the world. He sees for the first time in his life—unless he has travelled abroad—a city that is held on the tenure of conquest. It is a city fortified and garrisoned; and the fortifications are on a scale that recalls those of Gibraltar.

As soon as the visitor is fairly within view of the city, and while it is still five or six miles distant, he sees on a lofty height, commanding the approach to it, a mass of grass-covered earthworks, with great guns slanting down from deep embrasures. The harbour narrows as the city is neared, and very soon is seen, on another height, a stronger and newer fort, with guns of the best calibre, all aimed with a sly and covert menace at some imaginary foe. In front of the town nature has placed a small island, a green chunk of earth, of irregular shape, rising from the water a hundred feet or more; a cool and pleasant spot for a picnic. Man has converted it into an earthwork of almost Gibraltar strength. He has dug into it, undermined it, and placed in it as many great guns as he could point at the imaginary foe who covets the city, and is coming up the bay to capture it.

Halifax rises from the water's edge to near the summit of an eminence two hundred and fifty feet high. The summit itself is crowned by an extensive fortification, called the Citadel—green with grassy slopes—in which are set a great number of huge pieces of ordnance, slanting over the town toward the same phantom foe. Just above the city rides at anchor a mighty ironclad of eight thousand tons burden. She has a crew of seven hundred and fifty men. Her guns are few in number,

but of earthquake power, capable of hurling six hundred-pound balls at any power presuming to enter the harbour with uncivil intent. This monster is painted white, and is full of the best-natured fellows to be found afloat. Near her lie two other ironclads, smaller, but by no means small, each swarming with blue-clad men, not unwilling to exchange chaff with a passing boat.

On shore, what first greets the eye of a new-comer? A squad of red-coats going to relieve sentries. Their red coats are of the reddest red. Their summer helmets are of spotless white, and on the front of them glistens in letters of burnished gold the number of their regiment and the arms of England. If the object of those who designed this uniform was to give to it the most conspicuous character possible, that object has been accomplished. But that is no affair of ours. What we wish to remark is, that there are about three thousand of these red-coated gentlemen. Splendidly drilled and equipped, they pass the season at this agreeable summer resort, serenely awaiting the hostilities of the shadowy foe whose coming is so long delayed. It is evident that the British lion has a strong grip upon the beautiful capital of Nova Scotia. But the puzzle to an American is, Who wants to get it away from him, that he should take the trouble to hold it so extremely tight?

We could not but think of the words of John Bright: "If you want war, prepare for war; if you want peace, prepare for peace." England prepares for war, and her experience, like that of other warlike nations, gives significance to Mr. Bright's aphorism—she generally has war, whether she wants it or not. —*Youth's Companion.*

OLD RYE'S SPEECH.

I was made to be eaten,
And not to be drank,
To be threshed in a barn,
Not soaked in a tank.
I come as a blessing
When put through the mill—
As a blight and a curse
When run through a still.
Make me up into loaves
And your children are fed,
But if into drink
I will starve them instead.
In bread I'm a servant—
The eater shall rule;
In drink I am master,
The drinker a fool.
Then remember the warning:
My strength I'll employ,
If eaten, to strengthen,
If drunk, to destroy.

A NOBLE LAD.

A poor boy, whose name no one knows, but we hope that it is in the Book of life, found three little children who, like himself, had been washed ashore from one of the many wrecks, wandering along the dreary coast in the driving sleet. They were crying bitterly, having been parted from their parents, and not knowing whether they were drowned or saved.

The poor lad took them to a sheltered spot, plucked moss for them, and made them a rude, but soft bed; and then, taking off his own jacket to cover them, sat by them all the

night long, soothing their terror till they fell asleep.

In the morning, leaving them still asleep, he went in search of the parents, and to his great joy met them looking for their children, whom they had given up for dead. He directed them where to find them, and then went on himself to find some place of shelter and refreshment.

But when the parents were returning with their recovered little ones, they found their brave preserver lying quite dead upon the snow, not far from where they parted from him.

The long exposure in his exhausted state was too much for his little strength, and having saved his little charges—a stranger to them as they to him—he lay down to die.

A sad story is this, and one that moves our hearts. How much more should our hearts be moved by the story of Him who freely gave His life that He might save us from eternal death!

THE THREE SIEVES.

"O, mamma!" cried little Blanche Philpot, "I heard such a tale about Edith Howard! I did not think she could be so very naughty. One—"

"My dear," interrupted Mrs. Philpot, "before you continue, we will see if your story will pass three sieves."

"What does that mean, mamma?" inquired Blanche.

"I will explain it. In the first place, *Is it true?*"

"I suppose so; I got it from Miss White, and she is a great friend of Edith's."

"And does she show her friendship by telling tales on her? In the next place, though you can prove it to be true, *Is it kind?*"

"I did not mean to be unkind; but I am afraid I was. I would not like Edith to speak of me as I have of her."

"And, *Is it necessary?*"

"No; of course not, mamma; there is no need for me to mention it at all."

"Then put a bridle on your tongue. If you cannot speak well, speak not at all."

LOVE YOUR ENEMIES.

A large boy in a school was so abusive to the younger ones, that the teacher took the vote of the school whether he should be expelled. All the small boys voted to expel him, except one, who was scarcely five years old. Yet he knew very well that the larger boy would probably continue to abuse him. "Why then did you vote to have him stay?" said the teacher. "Because, if he is expelled, perhaps he will not learn any more about God, and so he will be more wicked still." "Do you forgive him then?" said the teacher. "Yes," said he; "papa, and mamma, and you, all forgive me when I do wrong; God forgives me too; and I must do the same."

"THE hope of the righteous shall be gladness; but the expectation of the wicked shall perish. The way of the Lord is strength to the upright; but destruction shall be to the workers of iniquity."—*Prov. x. 28, 29.*

Scientific and Useful.

PEAR MARMALADE.—Boil the pears until soft; when cold, rub the pulp through a sieve, and boil to a jelly, allowing one pound of sugar to two pounds of pears. Many kinds of marmalade are made in the same way.

TO PREVENT MILDEW ON PRESERVES.—Take the white of an egg and wet slightly both sides of a piece of letter-paper sufficiently large to cover the top of the preserves snugly. I have kept them free from mould and spoiling two years.

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CANNED PEACHES.—Peel the peaches, cut them in halves, and remove the stones. To four pounds of peaches take one pound of sugar; make a syrup of the sugar and a little water, and add the peaches. Cook slowly twenty minutes, and put in cans while hot.

SPONGE CAKE.—One pound of sugar, one pound flour, ten eggs. Break the eggs in a vessel. Add the sugar. Keep over a fire until slightly warm. Beat till very light. Add the flour, and flavour with lemon to suit the taste. Bake immediately in a quick oven.

PEACH PRESERVES.—Peel and halve the peaches. To four pounds of fruit take three pounds of sugar; make a syrup of the sugar, add the peaches, and cook twenty minutes. Put them into a jar. The next day pour off the juice, boil it down, and pour it hot over the peaches.

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A PLEASANT DRINK for the sick: Take a dessert teaspoonful of arrowroot and add a teaspoonful of milk; wet and rub in smooth. To this add a teaspoonful of powdered sugar. Heat a half-pint of good rich milk and bring it just up to the boil. Then, when it boils, stir in carefully the arrowroot and sugar. Allow it to boil three minutes, and give either warm or cold.

GINGER SNAPS.—Never put ginger snaps in a jar while they are hot; take them from the tins and lay them on plates to cool, otherwise they will steam and become moist, and will not be crisp and brittle; other cookies will not need so long a cooling process, and cake which you wish to keep a week or ten days is improved by being wrapped in a towel while it is still in the tin: let it stand in this way for two or three hours.

CURRENT FRITTERS.—Currant fritters are made of one cup and a half of very fine bread crumbs, one tablespoonful and a half of flour, one cup and a half of sweet milk, one quarter of a pound of well-washed English currants (drain the currants thoroughly), two eggs, two tablespoonfuls of sugar, a small lump of butter. Flavour with cinnamon or nutmeg to suit your taste; drop in spoonfuls in hot lard, and fry until done. Eat with sugar.

HOW TO SMOKE HAMS.—A smoke-house should be well ventilated, and the hams be hung at least eight or ten feet above the fire, and the smoke given out in moderate quantities, and come from corn-cobs or hickory wood. It is important that the hams be kept cool and dry through the whole operation. Proper ventilation of the smoke-house secures this. If they become moist by improper ventilation, or are placed so near the fire as to be heated, their flavour is greatly injured.—Ploughman.

THE MAYONNAISE SAUCE FOR CHICKEN.—If you have six shells of chicken allow four eggs; separate the yolks carefully from the whites, put them into a basin with a salt-spoonful of dry mustard, and with a wooden spoon incorporate all well together; then add slowly, almost drop by drop, five table-spoonfuls of salad oil alternately with about one dessert-spoonful of vinegar, most carefully added (the whole quantity of vinegar in the sauce should be but one dessert-spoonful); keep stirring one way all the time, in a very cool place, with a wooden spoon.

TO PURIFY WATER.—A large spoonful of pulverized alum, sprinkled in a hoghead of water and stirred, will, after the lapse of a few hours, precipitate all the impurities to the bottom, and make it as clear and sweet as fresh spring water; a painful may be sweetened by, say, a teaspoonful to every four gallons. Another method of clearing and purifying water is to shell almonds, and having washed them to a paste, stir them in

water: they will take with them all the impurity of the water to the bottom. This is more expensive than the alum, and also more effectual. A handful will cleanse a cask of water of forty gallons.

GOOD BRFK TEA.—Cut a pound of rump steak in quarter-inch cubes on a board with a very sharp knife. Sprinkle salt on the bits of beef—about as much as would season it if it were broiled. Put it in a glass preserve jar, and let it stand fifteen minutes. Add four great spoonfuls of cold water, cover the jar air-tight, and let it stand one hour. Then set the jar into a kettle of cold water on the stove. Let it come very slowly to a boil. Then set it on the back part of the stove where it will keep at a boiling heat, but without boiling, until wanted. After straining it for use, add more salt if necessary, and a sprinkle of red pepper if the case allows it. This concentrates the nourishment, and makes it more palatable.

AMBER SOUP OR CLEAR BROTH.—This soup is served at almost all company dinners. Take a large soup bone (say two pounds), a chicken, a small slice of ham, in a gallon of cold water, and boil slowly for five hours; then add an onion, two sprigs of parsley, half a small carrot, half a small parsnip, half a stick of celery, three cloves, pepper and salt. Strain the soup into an earthen bowl, and let it remain over night. Next day remove the cake of fat on the top; take out the jelly, avoiding the settlings, and mix into it the beaten whites of two eggs with the shells. Boil quickly for half a minute; then, placing the kettle on the hearth, skim off carefully all the scum and whites of the eggs from the top, not stirring the soup itself. Pass this through the jelly-bag, when it should be quite clear. This soup may then be put aside and reheated just before serving. Add then large a spoonful of caramel, as it gives it a richer colour, and also a slight flavour.

NIGHT AIR.—An extraordinary fallacy is the dread of night air. What air can we breathe at night but night air? The choice is between pure night air from without and foul air from within. Most people prefer the latter—an unaccountable choice. What will they say if it is proved to be true that fully one-half of all the diseases we suffer from are occasioned by people sleeping with their windows shut? An opened window, most nights in the year, can never hurt any one. In great cities, night air is often the best and purest air to be had in the twenty-four hours. I could better understand shutting the windows in town during the day than during the night, for the sake of the sick. The absence of smoke, the quiet, all tend to make night the best time for airing the patient. One of our highest medical authorities on consumption and climate has said that the air in London is never so good as after 10 o'clock at night. Always air your room, then, from the outside air, if possible. Windows are made to open, doors are made to shut—a truth which is extremely difficult of apprehension. Every room must be aired from without—every passage from within: But the fewer passages there are in an hospital the better.

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TORONTO WHOLESALE MARKETS.

Office RURAL CANADIAN,
Toronto, Sept. 30th, 1882.

The provision dealers find prices firmer since the recovery in the Chicago market, but grain merchants find it difficult to get prices established. Old grain is about exhausted, and the abundant harvests here and in the States point to low prices for new.

PROVISIONS.—The Chicago market has almost entirely recovered from the bad break in prices last week, *Mess Pork* being now quoted \$21.25, and *Lard* 12 1/2c. This is an advance of \$2 per bbl. on pork and 1c. per lb. on lard. This has stiffened holders' feelings here, and full prices are asked for the small stocks which remain on hand. There has been a fair jobbing trade, with sales of one or two car loads of long clear bacon. There is a little *Mess Beef* in market, which is held at \$15 to \$16. The dullness in *Butter* continues, the only demand being from the city trade, which requires a finer quality than most commission men can offer. *Cheese* is still dull and weak; factorymen now offer August make at 11c., but shippers hold off. *Evaporated Apples* None in market; a few dried are selling within our range. *Eggs* are temporarily scarce, and are held at 18c. firm, some asking 19c. *Hops*, 50c. to 55c., and firm. It is generally conceded that the crop is a short one, and holders as well as growers have got their ideas up high, the latter talking of 50c. This price would be paid by brewers for No. 1 new—there are no old in market—but if they go any higher their use will be restricted, while barley and other materials will come into play. *Dressed Hogs*, price irregular, say from \$9 to \$10.

Respecting hog-packing in the United States, the Cincinnati *Price Current* of the 14th inst. says that reports of light supplies of old stock continue to come from all points east of the Mississippi. The number of hogs packed at Chicago from 1st March to 13th September this year was only 1,434,000, as compared with 2,100,000 in same time last year. There is a decline, too, at every other point named; and the total pack is 2,570,000 hogs, against 3,545,000 last year—a decrease of 975,000, or 27 per cent.

FLOUR AND MEAL.—There is very little to report. The only kind of flour moving is Superior Extra, of which there have been sales at \$5.20 for old; the new of this grade would not bring over \$5. Extra is held at \$5.10, but other grades are nominal. *Oatmeal* continues firm at even higher price, being scarce; the absence of transactions is the result of want of stock. *Bran* we quote at \$13.

GRAIN.—The stocks of grain at this point are very low, the total being but 37,611 bushels in store, against 56,900 bushels last week and 138,783 on corresponding date last year:

	Sept. 18.	Sept. 11.	Sept. '81.
Wheat, Fall..	13,277	24,239	64,200
Wheat, Spring	5,085	13,790	10,793
Bailey	8,032	7,664	65,829
Oats	400	400
Peas	4,523	4,523	1,191
Rye	6,284	6,284	1,250
Total bush..	37,611	56,900	138,783

English advices point to lower prices; Beer-bohm's telegram of last week states that corn is 1s. easier, while off-coast cargoes of wheat are quoted 39s. instead of 41s. on the 8th inst., a decline of 2s. Western American markets are steady, but with weaker feeling. There have been sales here of old *Wheat*, both Spring and Fall, at our quotations, and more would be taken if it could be had, but transactions are limited by the slender stocks as given in above table. \$1 to \$1.05 has been paid, we understand, for new White wheat, but new Spring has not begun to move. *Barley*—No movement can be reported yet, but nominal prices are about 70c. for No. 2 Extra. *Oats* are wanted this week, and are quoted 1c. to 2c. higher, with almost none to be had. A quantity intended to be sent early in the month was stopped by the drop in prices ten days ago. *Peas* are likewise scarce, and consequently in demand. There is nothing stirring in either *Corn* or *Rye*.

HIDES AND SKINS.—Prices unaltered from those of last week, except that sheepskins are advanced 5c. The movement in hides continues moderate.

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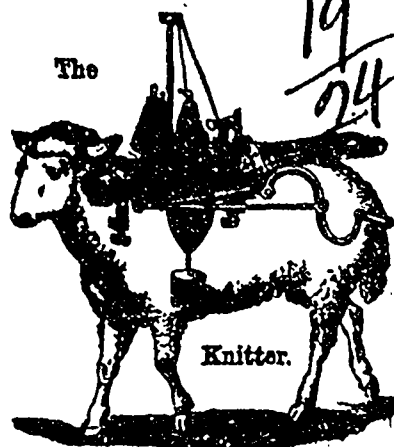
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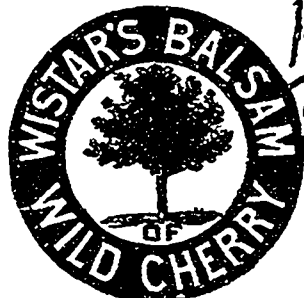
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