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THE
RURAL CANADIAN.

AND FARM JOURNAL

Vol. III. No. 12.

Toronto, December, 1884.

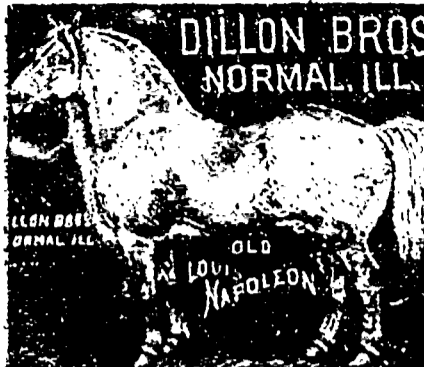
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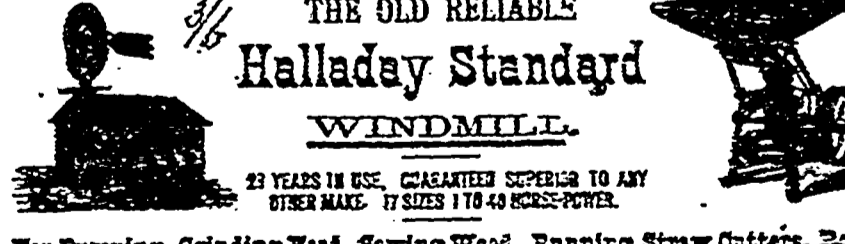
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Vol. III. No. 12.

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RURAL NOTES.

The best results with grain or oil-cake, are obtained when they are mixed with straw, chaff, or turnips. Roots and green fodder again produce the most paying results when mixed with dry food.

In case of an animal being choked with a potato or small turnip lodged in its throat, a simple remedy is to administer a little oil or salt and then work the obstacle up or down by pressure on the outside.

The outlet of an underdrain should be of the best quality of tile, and firmly set in stone or bricks. A covering of evergreen boughs, or boards and straw, will prevent the effects of freezing and thawing in winter.

In order to take advantage of our remarkable clubbing offer, subscribers in arrears are expected to send on arrears as well as the combination price for 1885. Do this at once and so get the full number of *RURALS* for next year.

The idea of loaning money at a low rate of interest, for the purpose of enabling farmers to carry on the work of underdraining, did not originate with the Legislature of Ontario. The plan was tried in England many years ago, and in every instance the loans were repaid.

This season again the clover midge has been very destructive to the seed crop, and a large quantity of seed will necessarily have to be imported. Where farmers grazed their clover until the beginning or middle of June and then left the crop to grow, the midge was found to do little or no harm to the seed crop.

Of course no intelligent farmer will dream of putting fat on his breeding ewes. Clean, bright straw with well cured cornstalks, make excellent fodder for the winter, but it is advisable to give a light feed of roots as the time of yearing approaches, to stimulate milk production and to make parturition less difficult. Their quarters should be dry and moderately warm.

In underdraining it is well to avoid laying drains near to elm or willow trees, as the roots of these trees are apt to enter and choke them. The willow is particularly bad in this respect, and being without beauty or value, its destruction does not involve much loss. Where, however, there is not much water in the soil a few willow trees answer of themselves the purpose of an underdrain.

At the Chicago Fat Stock Show the white steer Clarence Kirkingston, of the Bow Park herd,

won the Shorthorn sweepstakes prize; also the grand sweepstakes for the best animal in the show, open only to winners of their respective classes, also the prize for the best carcass. This animal weighed 2,400 pounds, at 1,870, days, showing an average gain of 1.74 per day from his birth.

Don't let your subscription run out. Renew promptly. Our combination offers make this an easy matter on very favourable terms. *THE RURAL CANADIAN* and *The Canada Presbyterian* is only \$2 per annum; *THE RURAL CANADIAN* and the *Montreal Witness* \$1.25; and *THE RURAL CANADIAN* and *London Advertiser* at the extraordinary price of \$1.15. Take your choice and renew without delay.

The ailment of horses known as heaves is usually caused by the feeding of dusty and musty food, although in some cases it comes from indigestion, and in some it is inherited. Prevention is easier than cure, and with the thoughtful farmer prevention is a first consideration. Relief, however, may be afforded by feeding the affected animal with moistened food of a nutritious kind, keeping the system open and avoiding severe exertion.

We have been adding a large number of names to our list during the past month, and expect a regular rush during December. Our staff of clerks is large and experienced, but in spite of all efforts mistakes are sometimes made in our busy season. These we are always ready to correct when they are pointed out. But we wish to say to friends that the best remedy is to remit early and so help us to avoid the rush in the last week of December, which is quite unavoidable when so many put off renewing to the last moment.

FARMERS who are fattening sheep for market know that great care requires to be exercised in the manner of feeding. If the animals are thin in flesh it is never safe to put them on a heavy grain diet suddenly, it is better to begin with a very moderate allowance—say half a pound per day, morning and evening while they have still got the run of the fields, and if they begin to gain on this the allowance may be slowly increased. It is safer to feed oats than corn, as it is less heating, contains less oil, and is more bulky in proportion to weight.

Hon. H. G. Joly advises the planting of maple orchards on hill-sides, but instead of transplanting saplings from the forest he would collect seedlings as they may be found after the fall rains, and set them out in a garden for three or four years. By this time, he says, they will be fit to transplant, and they will soon overtake saplings

of ten feet high, taken direct from the woods. A bare hill-side is often of no value for farming purposes—being difficult to work and yielding but a light crop of grain or grass, but if converted into a maple orchard the benefits are obvious.

It is reported that in consequence of the low price of wheat some of our Ontario farmers propose feeding it to their stock instead of sending it to market. An English farmer says that after the drop in wheat following the Crimean war, he fed it to horses and cattle rather than sell it for 36s per quarter. He ground it, boiled it, sprouted it, and even fed out large quantities of it whole; but the usual plan was to sprout it and then feed with chaff or roots. Horses fed on the wheat so prepared, fattened rapidly, but they required great attention. A little common nitre added to the water they drank was given with good effect once or twice a week.

WHEREVER infectious diseases break out, whether in the stable or the household, there should be a liberal use of disinfectants. Bleaching powder was formerly used for the purpose, but charcoal and carbolic acid are regarded as more efficacious. The latter, however, is more generally used than the former, no doubt because it is more easily procurable and because a very small quantity is effectual. Being a powerful drug it needs to be handled with care, for it is a deadly poison if taken internally; even the outward application is dangerous, as it rapidly cauterizes the fleshy tissues, and is absorbed by the pores of the skin. When used as a disinfectant it should be diluted with eighty or ninety per cent of water; or four ounces of the acid may be mixed with a pound of precipitated chalk or fine sand. In the latter form it makes a very valuable disinfecting powder.

In writing on the subject of shipping apples to England, Mr. Alex. McD. Allan, of Goderich, says in the November *Horticulturist*: "Give me a cargo of choice apples, leading varieties, such as Russets, Baldwins, Spies, King Tomkins County, R. I. Greenings, Ribston Pippin, Blenheim Pippin, Wagner, Ontario, Mann, etc., all well selected and packed, and I care not how the British market may be flooded with apples from other countries, I can sell at a paying figure, and am sure of a higher price than any other country can demand, because our apples, especially from the central and northern belt of Ontario, are superior in point of quality to any in the world, and British as well as other consumers are aware of this. To growers I say choose best leading varieties and plant more trees. Plant, plant, plant!" This thoroughly endorses the opinion on the same subject expressed in the November number of *THE RURAL*, and we could wish no better authority on such a subject than Mr. Allan.

FARM AND FIELD.

WALKS AND TALKS AMONG THE FARMERS.—NO. VII.

FOR THE RURAL CANADIAN.

AGAIN we have had the dreary-looking spectacle of men and boys working in bad weather, with mud-belegged boots, and numb-cold fingers getting in a turnip crop, which Jack Frost threatened to make a fixture in the ground all winter. And, again, when their dirty, miserable task was finished, the Indian summer has come out of its retreat and laughed at them.

TURNIP-GROWING is an agricultural hallucination in this country. It was brought here by men who imported it under the influence of a determination to transfer to Canadian soil everything that is good in British farm practice. But the crop is about as well suited to the Canadian climate as Indian corn is to the climate of England and Scotland. We have to put it in laboriously amid the summer heat, and it is either a race or a fight with winter to get it harvested. There is a big job housing it, and when it is wanted for feeding it is a final task to get it out of the pit or cellar in which it has been stored. All this toil and trouble over a product that is, at best, ninety per cent. water. That is to say, if a man grows 500 bushels of turnips to the acre, he handles 30,000 pounds of bulk for the sake of 3,000 pounds of nutriment.

In many talks I have had with farmers on this subject, I find it almost impossible to convince them that out of every 100 pounds of turnips, ninety are only water. They have the idea that it isn't water but turnip juice, which is, of course, a great deal better than water. But, oh! my innocent bucolic friends, this is all delusion. Ninety pounds of water, no better than you find in a common creek, pond, or lake, and then ten pounds of solid food: such is this wonderful bulk that you take so much pains to cultivate.

In Great Britain, turnips are grown and harvested under fewer difficulties than here. The moist climate suits them better. In this country under our burning sun, I positively believe they exhale ammonia, instead of absorbing it. In no other way can I account for the immense consumption of fertilizing material by a turnip crop. In Britain, there is no hazard of the bulbs getting frozen in. You can usually feed them to advantage where they grow. If you pull and pile them, they need no other protection than their own leaves. The whole process, except the preparation of the soil, is attended with far less labour in the old country than here. Yet we, who need to economise labour, must needs throw it away in super-abundance on growing turnips.

You can raise the same quantity of nutriment much easier by growing corn or clover, and escape the annual vexation of getting turnips out of the ground in bad weather. In fact, it is no great trick to raise 3,000 pounds of nutritious matter to the acre in various crops. A big yield of turnips is nothing to brag of, seeing that a farmer whose place is well watered, has nine-tenths of the product ready to hand, without the toil of cultivation.

But how is it, I have been asked many a time, that stock do so well on turnips if the larger proportion of them is nothing but water? Because cattle need a liberal supply of water in winter, and do best when they get it little and often. Give them constant access to water and the same amount of solid food that they get in turnips, and they will do equally well.

THEREON hangs a tale. If there were a Society for the prevention of cruelty to animals whose inspectors went around our concessions and sidelines, a great many farmers would be arrested for not giving their animals a due supply of water. The sufferings of the bovine race from this cause are terrible every winter, and the man who keeps up a lot of stock on dry feed without ample and constant access to water, should just be put on that kind of diet himself for a while. It would be punishment sufficient. In the summer time when cattle are on green, juicy feed, we see them go to drink several times a day if they have the chance of doing so; how much more do they need to slake their thirst often when on dry fodder?

Yes, turnips are a substitute so far, for constant access to water, and we find that animals which have daily a liberal ration of turnips are not punished by thirst, and do not care to drink when they have the opportunity. But, I prefer to water my stock by spring, well or cistern, to growing ninety pounds of water in ten pounds of turnip rind. The days are said to have gone by when farmers take a bag of wheat to mill on the back of a horse, the wheat in one end of the sack and a stone in the other to balance; but there is considerable of the same kind of folly shown in other ways.

What shall we do for a cleaning crop if we do not grow turnips? Raise corn and potatoes instead, that is if you *must* do a lot of hard work with the hoe to make, prove and keep yoni industrious! But if you would have a comparatively easy time, clean your land with clover, which, while it kills weeds, deposits a good coat of manure on the field. How preciously afraid some people are that farming will be made too easy, and that the devil will get them yet, on the principle that—

"Satan finds some mischief still
For idle hands to do!"

But that catastrophe can be averted without growing turnips.

I BEGAN this talk by referring to the glorious uncertainties of our climate in regard to the setting in of winter, and whether we grow turnips or not, wisdom suggests the policy of being ready in good season, so that if the ice-king makes us an early visit, we may not be taken unawares. There are always a number of things to be done before the cold season sets in, and how few there are who have forethought enough to get these things accomplished so as to be all ready, and waiting for winter to come. Too many are, like the cow's tail, always behind. Instead of driving their work, it drives them. It's a very bad habit, but no bad habit is more common than this.

As to the weather and seasons, every fall brings a host of contradictory predictions. I never knew a year in which both a mild and a severe winter was not prophesied; and each prediction was fortified with proofs in the shape of signs and proverbs, as though people did not know that these things were often very contradictory. Thus on a different subject than the weather, we have the two inharmonious proverbs: "A rolling stone gathers no moss," and "A setting hen never grows fat:" both of which are true and have many illustrations, and yet are contrary to one another. Many weather signs and proverbs are capable of being interpreted either for or against the prospect of a hard winter. The safest prophecy in regard to this matter is the famous one of Josh Billings: "There will be some weather."

It is, however, almost, if not always the case

that a premature snap of winter is succeeded by a longer or shorter pleasant period preparatory to the actual closing in of the hard season. The "oldest inhabitant" can possibly recall exceptions, but they establish the general rule. Winter does not come, any more than death, without sufficient and timely warning. Our last spell of fine weather before winter finally sets in, is that strange, weird, hazy, peaceful, brief period we call Indian summer. It is nature's hectic flush that precedes death. What perfect days and sleepful, dreamy nights to ke up the Indian summer! How soft and enticing is the mellow sunlight! All things are lulled to rest, and there is a universal hush. A sweet silence reigns everywhere, as if the outer world had sunk into a profound slumber.

"O, rare, brief season, thou hast all the charms
Of summer's gladness blent with thine own peace.
How like thou art to beautiful old age—
The restful calm where active labour ceases,
And, pausing on life's threshold ere he leaves,
One sees heaven's sunlight smiling on his shaves!"

W. F. C.

ONTARIO'S CROPS.

The report of the Bureau of Industries for November deals chiefly with the grain and root crops of the Province, and gives tables of produce based on 1,250 returns made to the Bureau on the 25th of October. These tables show that the harvest of grain crops has been even more bountiful than appeared by the estimates of the 1st of August, and form a gratifying contrast to the tables of last year's harvest. The quality of the grain, too, is generally excellent, being plump, hard and heavy. Barley, however, was badly discoloured by the rain of the harvest season, and the bulk of it does not rank higher than second grade. Wheat is remarkably free from defects of any kind. The grain is above the standard weight, and the average yield of the spring and fall varieties is 23.3 bushels per acre, or 9.6 more than last year. Oats also show a large yield, although in the northern and north-western counties, this and other spring grains suffered from the drought of June and July. Compared with the harvest of 1883, the aggregate and average yield of cereals is as follows: Fall wheat aggregate, 1884, 20,722,288 bushels; 1883, 11,626,957 bushels. Average, 1884, 24.9 bushels; 1883, 10.6 bushels. Spring wheat aggregate, 1884, 14,609,663 bushels; 1883, 9,726,063 bushels; average, 1884, 20.2 bushels; 1883, 16.6 bushels. Barley aggregate, 1884, 18,119,041 bushels; 1883, 18,414,837 bushels; average, 1884, 27.3 bushels. Oats aggregate, 1884, 5,733,025 bushels; 1883, 5,573,609 bushels; average, 1884, 38.6 bushels; 1883, 38.6. The total yield of peas is 13,691,607 bushels, or 3,000,000 bushels more than last year; while the average per acre is twenty-four bushels, or three to four bushels more than last year. The quality is of unvarying excellence, little or no damage having been done by the bug. Beans and corn, which were in an unpromising condition toward the end of July, made a surprisingly good recovery in August, and steadily improved to maturity. The yield of the former is 592,044 bushels, and of the latter 12,935,889 bushels, being an average of 23.8 and 74 bushels per acre respectively. Last year both crops were destroyed by the early frost. The root crop is generally an excellent one, especially in potatoes, mangolds and carrots. Turnips suffered to some extent by the August drought, but they are of good quality. The aggregate and average yield for 1883 and 1884 is as follows. Potatoes, aggregate, 1884, 27,546,262 bushels, 1883, 16,400,782 bushels; average, 1884, 153.2, 1883, 98. Mangolds, aggregate, 1884, 8,655,184, 1883, 62,522,015; average,

1884, 474.9; 1883, 863. Carrots, aggregate, 1884, 4,197,200; 1883, 364. Turnips, aggregate, 1884, 41,406,363; 1883, 29,879,535; average, 1884, 426.2; 1883, 301.

THE USE OF LIME AS A FERTILIZER.

BY HENRY STEWART.

The best time to apply lime is in the fall, for the reason that it is more easily dissolved in cold water, and is then the more actively effective. It is also a more convenient season for the work than any other. The manner of using it is to draw the lime as fresh as possible from the kiln, and drop it in the field in heaps of one or more bushels a certain number of feet apart, this depending upon the quantity to be used per acre. Thus for spreading the following quantities the sizes of the heaps and the distances apart will be as follows:

40 bushels per acre is a bushel 33 feet apart.
50 bushels per acre is a bushel 30 feet apart.
60 bushels per acre is a bushel 27 feet apart.
80 bushels per acre is two bushels 33 feet apart.
160 bushels per acre is two bushels 30 feet apart.
120 bushels per acre is two bushels 27 feet apart.

The table may be easily carried on up to 300 or more bushels by a simple process of addition to the size of the heap. This method is chosen because at thirty-three feet apart the heaps are easily and accurately spread by casting the lime with a long-handled shovel sixteen and a half feet, or one rod, in every direction, and sixteen and a half feet is an easy cast with such a shovel. The lime having been drawn and dropped in the field, is left until it has absorbed from the air or has received from the rain enough water to reduce it to a fine powder. It is then air slacked and should be evenly scattered without loss of time, because more water would make it pasty, and it could not be evenly spread in that condition. The best way to apply it in the spring is on the ploughed ground or upon the meadows during the present or the next month. It should never be ploughed under, as it works downward very rapidly, and would soon pass below the reach of the roots. It should be harrowed in the soil along with the seed, and it will do no harm if the manure is covered in at the same time, for reasons to be explained presently. It may be spread directly from the waggon, the heaps having been made upon the headlands or in an adjoining field in quantities of one hundred or more bushels. As soon as the lime has been properly slacked, it may be drawn upon the field and scattered upon each side in strips thirty-three feet wide, or sixteen and a half feet (one rod) from the centre of the waggon-box. A waggon-box will hold conveniently for this purpose twenty-five bushels, so that a load of this size will cover a strip fifty rods in length for fifty bushels per acre, or twenty five rods if eighty bushels per acre is used. In this way the quantity spread can be accurately measured. A waggon-box of the usual size will hold forty bushels of lime when slightly rounded up.

The action of lime upon vegetable matter, as has been already stated, is to liberate ammonia from it and to produce nitric acid by hastening its oxidation or decomposition. If mixed with decomposed manure, it rapidly drives off the ammonia in vapour or gas, and it rapidly changes the nitrogen of raw manure into very soluble compounds. Thus, if mixed with manure, either old or fresh, without precautions, it will soon deprive it of its most valuable properties. This is so well understood that there exists among well informed farmers a prejudice against the use of lime, under the impression that it "eats up manure," "impoverishes the ground," and generally acts in a wasteful and prodigal manner. It is

well that this impression exists, because lime is a substance to be used with knowledge and judgment. It should never be mixed with old manure in a heap at all, nor with fresh manure unless it is in the compost heap, where a large proportion of earth, soda, or plaster is used; and these will act as absorbents of any ammonia liberated or nitric acid formed by the action of the lime. But in properly constructed compost heaps lime acts as an active agent to produce an active decomposition of the mass and quickly prepares it for use in the field. Also, when lime is spread upon newly manured soil its action is not wasteful, because the soil at once absorbs the ammonia that is liberated and holds it until it is finally prepared for the use of the crop.

From the above explanation it is readily seen how true may be the old adage that "lime enriches the father, but impoverishes the son," as though the former spent his substance in expensive enjoyments and left his son without inheritance. This is true enough if the lime is used without judgment, just as money may be spent recklessly. But no one blames the money for this, nor should we give the lime discredit for the fault of those who use it. Lime is a food and an active provider of food at the same time. It thus gives the plant what it has in itself, and all that it can draw from the soil as well. In this lies at once its usefulness and the danger of using it. If a farmer uses it to drag from his field all the fertility contained in it as he would drag a fish pond with a net, or spend from his pocket without returning to it, then he injures himself by exhausting his land; but if he gives manure, plows under clover, feeds more stock with his enlarged crops, and returns to the soil the food supplies he has drawn from it, then he uses this valuable fertilizer in a profitable manner, and will find it the most remunerative manure he can use for the money spent in it. The usual price of lime at the kiln is from ten to twelve cents a bushel of eighty pounds when fresh burned, or half that price for slacked or waste lime. The former is the cheaper. One who has limestone to be easily procured, or abundance of clam or oyster shells, can burn it in kilns or pits for five cents a bushel, with wood or coal as fuel. At these prices there is no cheaper way of improving land than by using lime.

The pastures in wood-lots are generally so poor that they cannot be depended upon. Where a maple grove can be formed by cutting out other trees, the wood-lot can sometimes be profitably used as a pasture. It should be seeded with orchard grass, that being best adapted to growing in the shade.

THERE is so much level arable land in this country that there is no necessity for a long time to come for ploughing steep hill-sides. Such ploughing involves immense losses by the washing of the loosened soil on the level lands below, where there is already an excess of vegetable matter. Many rough hill-sides should never have been cleared of their original forest, or if cleared should have been replanted with timber with as little delay as possible.

Those farmers are unfortunate whose necessities oblige them to sell grain at present low prices. It is better to restrict farm operations than to extend them when the product of the soil, if sold, detracts as much in value from its fertility as the price it brings. This fertility must sooner or later be restored. When grain is cheap the farmer should strive doubly hard to dispose of it in the shape of pork, beef, poultry, or the products of the dairy and henhouse. Even if he does not get full market rates for grain so fed he will be the gainer in the end.

HOUSEHOLD HINTS.

FLOWERS may be kept very fresh over night if they are excluded entirely from the air. To do this wet them thoroughly, put in a damp box and cover with raw cotton or wet newspaper, and place in a cool spot.

Cut some new turnips into quarters, put them into a sauce-pan with a piece of butter, give them a toss or two on the fire, then pour in enough stock to cover them; add pepper and salt to taste, also a little grated nutmeg, and let them stew slowly till done.

To keep worms from dried fruit place your fruit in a steamer over a pot of boiling water, covered tightly. When thoroughly heated, tie them immediately in a clean linen or cotton bag and hang them up. This method is preferable to heating in an oven, as that is apt to render them hard, even if you are so fortunate as not to burn them.

CARLIFLOWER is particularly good when boiled until tender, changing the water twice, and taking care that no scum is left to discolour it. When done drain off every drop of the water, and pour over the cauliflower, while still in the kettle, some milk, adding a good sized lump of butter and some pepper and salt; let this just come to a boil. Serve hot.

A DELICATE dish for dessert is made by paring six ripe, tart apples, cut them in halves, put half a pound of sugar into a sauce-pan, with half a pint of water, add the juice of one lemon and let this boil until it is thick, then lay in the apples. When they have simmered until they are tender, take them out, drain them on a sieve and let the syrup boil a few minutes longer. When the apples and syrup are both cool, put the apples carefully into a glass dish and pour the syrup over them.

THE latest fancy in sheets and pillow-cases is to make them of black, red, pink, blue, or primrose, yellow Surah, or foulard silk; trim them with cream, ficelle-gray, or black lace, and use them only when necessary to receive, in spite of indisposition, in bed. The coverlet over such sheets and pillow-cases is of silk broche, any colour preferred, lined with satin to harmonize, and bordered with swans' down, feather bands, or light fluffy fur. The camisole or gown must match the colour of the sheets.

For a luxuriant growth of green in winter, put some lumps of charcoal in the bottom of a suitable vessel (I use one of my hyacinth glasses) and fill with water, or take an ordinary flower-pot, making the bottom tight; put in the charcoal, cover with sand to the depth of two inches and fill up with water. Put in thrifty slips of English and German ivy, and the varieties of tradescantia. If sand is used, place the stems firmly in it. As the water evaporates fill with fresh. A beautiful effect is produced by simply placing a handful of the heads of wheat in a vase of water. Each grain will send out bright green leaflets and continue to replace the old one for many weeks together.—*Boston Transcript*.

To make choice and delicate pie-crust, the essentials are: A pound of flour, a quarter of a pound of butter, a quarter of a pound of lard, half a teaspoonful of salt, a cup of cold water, a cool room, and quick movements. Put the flour on the moulding-board, spread the butter and lard through it in flakes, moisten with the water, draw into a heap, dust over with flour, and roll out tenderly. Fold and roll out two or three times, when it will be ready for use. Instructions were given in preparing and baking fruit and berry pies of various kinds so that the juices could all be retained in the pie, and both upper and under crusts be crisp and unsoaked.

HORSES AND CATTLE.

HEREFORDS—1817. 1884—A CONTRAST.

Two striking pictures are shown herewith. Looking into a book that was printed sixty-seven years ago, we found on its frontispiece a finely-executed engraving of one of the best Herefords of that day. The interest is heightened by the comparison of this animal with the one below, sketched from a Hereford of to-day. It would not be easy to better illustrate the marked improvement that has been made within two-thirds of a century. The book from which we produce the first portrait is entitled "The Code of Agriculture," by Rt. Hon. Sir John Sinclair, Bart., founder of the British Board of Agriculture. This "Code" was published in England in 1817, and in the following year it was reproduced in America. The second engraving shows the bull Sir Garnett, imported from England, and now in the herd of C. K. Parmelee. In this model animal the greatly increased depth of the body, the better clothing of the legs and the shoulder with flesh, the shortening of the neck and broadening of the back, and the general rounding out of the form, are characteristics especially noteworthy. The more placid expression of the modern bull as compared with that of the bull of 1817, may be to some extent due to the skill of the artist who has placed on the block a true like-

ness of a typical Hereford of 1884, showing not the form alone, but the colour-marking which forms so plain a distinguishing characteristic of the breed. The horns of the Herefords are generally rather strong, at a first glance giving a somewhat coarse appearance of the head, compared with those of other pure breeds, notably the Shorthorns. The following quotation from the Code of Agriculture will be of interest, since it places clearly before the reader the principles of breeding announced in 1817, which have brought the Herefords into their present excellent form, giving to them their honourable position

among the leading beef breeds: "Though it is extremely desirable to bring the shape of cattle to as much perfection as possible, yet profit and utility ought not to be sacrificed for mere beauty, which may please the eye, but will not fill the pocket; and which, depending much upon caprice, must be often changing. In regard to form, the most experienced breeders of this day (1817) concur in this: 1. That the form or shape should be compact, so that no part of the animal should be disproportioned to the other; and the whole be distinguished by a general fullness and rotund-

ought to possess. The form must likewise be such as to contain the greatest possible proportion of the finer, compared to the coarser and less valuable parts of the animal. This, by selection, may be attained; and thus the wishes of the commoner may be gratified.

"The form of animals has fortunately attracted the attention of an eminent surgeon (Henry Cline, Esq., of London) the substance of whose doctrines are: 1. That the external form is only an indication of the internal structure. 2. That the lungs of an animal is the first object to be

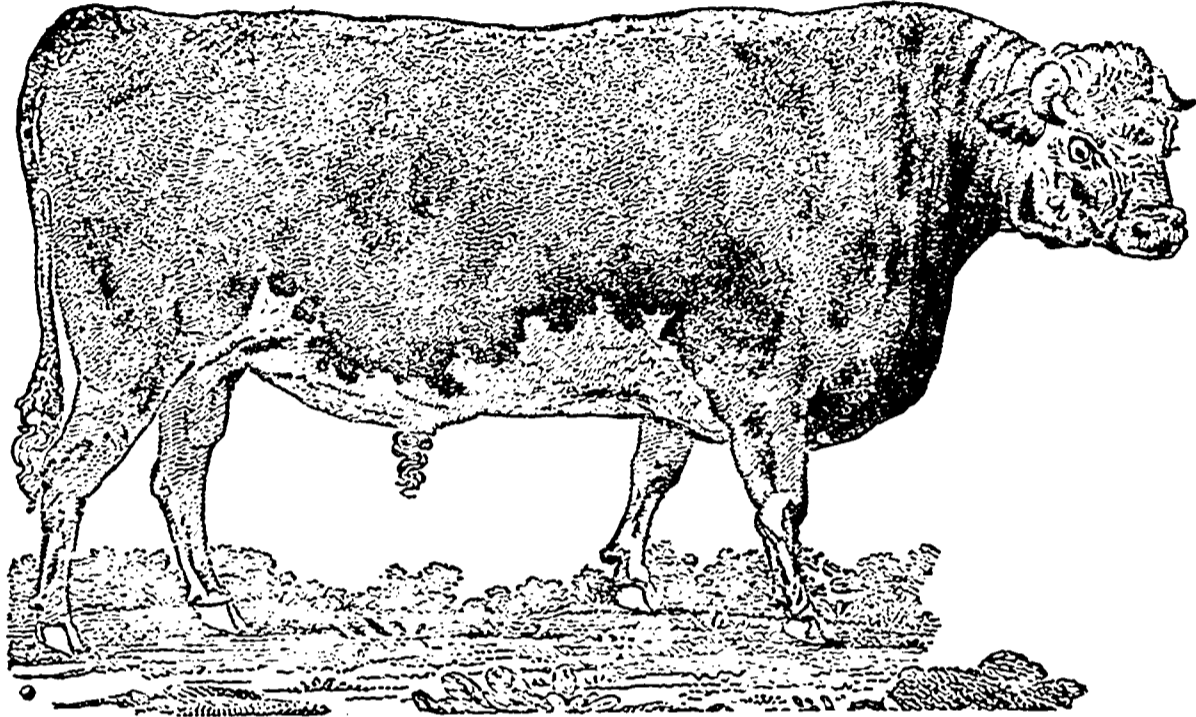
attended to, for on their size and soundness the health and strength of the animal principally depend. 3. That the external indication of the size of the lungs, are the form and size of the chest, and its breadth in particular. 4. That the head should be small, as by this the birth is facilitated—as it affords other advantages in feeding, etc.—and as it generally indicates that the animal is of a good breed. 5. That the length of the neck should be in proportion to the size of the animal that it may collect its food with ease; and 6. That the muscles and tendons should be large, by which an animal is enabled to travel with greater facility.

"The most desirable properties of livestock in general, may be considered under the following heads: 1. size; 2. form; 3. early maturity; 4. hardiness of constitution, and 5. prolific quality: to which may be added, with regard to those sorts

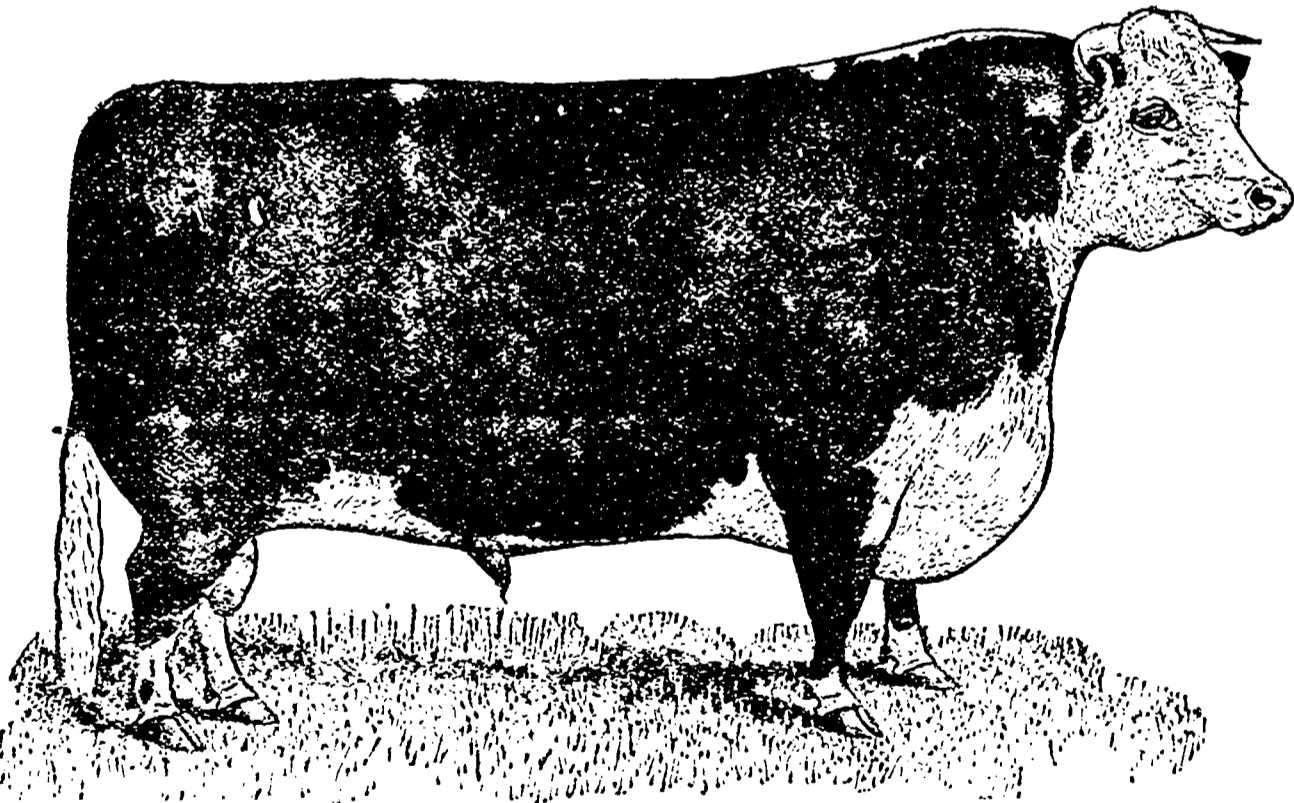
which are destined for food: 6, a tendency to grow; 7. a disposition to fatten, and 8. lightness of offal."

HOW TO TELL A HORSE'S AGE.

The foal is born with twelve grinders. When four front teeth have made their appearance, the colt is twelve days old; and when the next four assert themselves its age will be about twenty-eight days. The corner teeth make their appearance when the foal is eight months, and these latter attain the height of the front teeth at the age of a year. The two-year-old has the kernel—the



THE REPRESENTATIVE HEREFORD OF 1817.



THE REPRESENTATIVE HEREFORD OF 1884.

ity of shape. 2. That the chest should be broad; for no animal whose chest is narrow can easily be made fat. 3. That the carcass should be deep and straight. 4. That the belly should be of moderate size; when it is more capacious than common in younger animals, it shows a diseased state, and in older ones it is considered a proof that the animal will not return in flesh, in milk, or in labour, the value of the extra quantity of food which it consumes; and 5. That the head, the bones and other parts of inferior value, should be as small as is consistent with strength, and with the other properties which the animal

dark substance in the middle of the tooth's crown—ground out of all the front teeth. In the third year the middle front teeth are being shifted; and when three years old those are substituted by the permanent or horse teeth, which are larger and more yellow than their predecessors. The next four teeth are shifted in the fourth year, and the corner teeth in the fifth, giving place to the permanent nipper.

At five years of age a horse has forty teeth, of which twenty-four are grinders far back in the jaw, with which we have little to do. But, be it remembered, horses invariably have tushes, which mares very rarely do. Before the age of six is arrived at, the tush is full grown, and has a slight groove on its internal surface (which generally disappears with age, the tush itself becoming more rounded and blunt); and at six the kernel or mark is worn out of the middle front teeth. There will still be a difference of colour in the centre of the teeth.

The tushes have now attained their full growth, being nearly or quite an inch in length; convex without, concave within, tending to a point, and the extremity somewhat curved. Now, or perhaps some months before, the horse may be said to have a perfect mouth.

At seven years, the mark, as described, is very nearly worn out of the four-centre nippers, and fast wearing away in the corner teeth—especially in mares; but the black mark still remains in the centre of the tooth, and is not completely filled up until the animal is eight years old. As he gets on past seven the bridle teeth begin to wear away.

At eight the kernel has entirely disappeared from all the lower nippers, and begins to decrease in the middle nippers. It is now said to be "past mark of mouth."

When more than seven, the knowing ones are accustomed to go by appearance of the upper fronts, from which some conclusion may certainly be drawn, as the marks remain in them long after they have been lost from the bottom ones. Much reliance can never be placed on the tushes; for sometimes they may be found quite blunt at eight, and as often remain pointed at eighteen, and sometimes those in the same mouth will show an apparent difference of a year or more.

There are indications which enable very shrewd observers to guess at a horse's age after eight years even, but none to enable accurate determination. In the ninth year the mark has entirely disappeared from the upper middle teeth, and the hook on the corner only has increased in proportion as the bridle teeth lose their points. At eight the upper surfaces of the nippers are all oval, and as the animals get older they diminish in width, but not in thickness; they become more rounded and appear wider apart.

TEACHING A HORSE TO PACE.

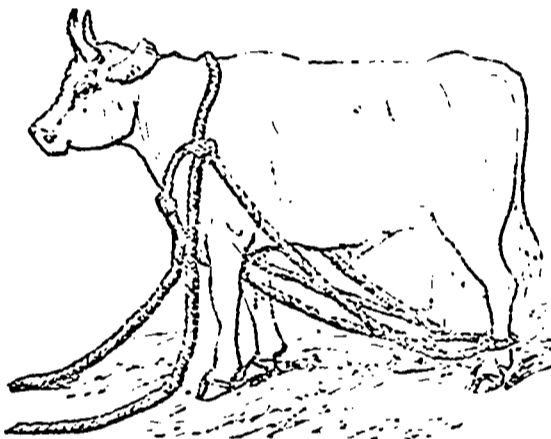
To teach a horse to pace, take nine or ten pounds of lead, divide in four parts, equal to three and three-quarter inches by four and a half in size; make two holes in each end of these leads; fasten two of them together and have them padded. Then fasten them on the horse's legs, one on each hind leg, just above the ankle joint. Ride your horse briskly with these weights upon his ankles, at the same time pulling each rein of the bridle alternately. By this means you immediately throw him into a pace. After you have in this way trained him to some extent, change your leaden weights to something lighter; leather paddings, or something equal to it, will answer the purpose. Let him wear the light weights until he is perfectly trained. By adopting this plan you will speedily make a smooth and easy pacer of any horse.—*Louisville Courier-Journal.*

FEEDING CARROTS.

The carrot is excellent when employed as a tonic for old horses in order to purify and strengthen the blood; but its use is dangerous for young horses, and especially for stallions. It gives them too much blood, makes them nervous, irritable, spiteful, or vicious when at work, and predisposes them to apoplectic fits if they do not take enough exercise. Geldings and mares might not be particularly liable to inconveniences of this nature, nevertheless, in all cases carrots should be given with the greatest moderation to horses of less than ten years of age. For horses past this age they may be harmless, and with oats they may constitute a valuable article of food. Horses eat them with avidity, especially when they are mixed with coarse bran.—*French Paper.*

HOW TO CAST AN ANIMAL.

ESQUIBER writes IN THE RURAL CANADIAN of December, 1882, or January of the following year was given directions for casting an animal. Will you kindly reproduce the article and illustration? We do so with pleasure, as the information may be useful to thousands of readers who were not then on our subscription list:



Pass a rope first around the neck, a noose being formed in the centre of a strong rope, the ends of which are carried between the fore legs, each respectively drawn through the ring upon the hobble put upon each hind fetlock, and afterwards through the rope collar upon each side. The head being secured, force is applied to one rope, in a line with the body, the pullers being behind, and the other at right angles, or from the side. When the animal falls the ropes must be secured by drawing them into knots at the collar or around the fetlocks of the hind feet.

A REMEDY FOR BALKY HORSES.

I once heard of an unfortunate gentleman who had become insane, but was restored to sound health simply by causing the mind to make a sudden revulsion, which was done by skilfully causing him to become jealous of his wife, who was a most excellent lady and aware of the process. On this hint we might learn to manage a balky horse. He is insane on the subject of going, that is self-evident. If we manage to make him think on some other subject, he will naturally forget about going and go before he knows it. The following devices have been successfully tried to accomplish the desired end: First, tying a string around the horse's ear close to the head; second, hitching the horse's tail to the single tree by means of a cord; third, filling the mouth full of some substance; fourth, tying a stout twine around the leg, just below the knee, and then removing it when he has travelled some distance. Never whip a balky horse, for the more he is whipped the crazier he will become. Let everything be done gently, for boisterous words only confuse him and make him worse. Treat him in the mild manner that you would a crazy man, and you will succeed.—*Horn and Farm.*

CREAM.

The hair of the horse is sometimes his mane beauty.

ONE of the sublimest things in this world is plain truth. *Bolton*

Why is a kiss like a rumour? Because it passes from mouth to mouth.

THERE is no rainbow without a cloud and a storm.—*F. H. Vincent.*

In prayer it is better to have a heart without words than words without a heart.

"Woe by a bare scratch!" as the hen observed when she turned up the worm.

MR. MORE wrote to a girl asking her to marry him. She declined, and closed her note with "No More at present."

LIFE'S field will yield as we make it
A harvest of thorns or of flowers.

—*Alice Cary.*

If you want to be miserable, think about yourself, about what you want, what you like, what respect people ought to pay you, and what people think of you.—*Charles Kingsley.*

AFTER her grandmother had given her a good scolding, a little mischief was overheard to say to herself: "Somebody is cross in this room; 'taint me, and 'taint dolly, and 'taint kitty. I wonder who it is?"

"MAMMA, cried little Willie, "I want an errand. Oh, I must have an errand!" "Why, child, what do you mean?" "Oh, Harry's mamma said he had gone down town on an errand, and I want one to ride on too."—*Harper's Bazar.*

WIFE—"I notice a statement to the effect that in this city every year \$22,000,000 is spent for liquor, but only \$7,000,000 for religion. That's significant." Husband—"Significant of what?" Wife—"That you men are having a pleasanter time in this world than you will in the next."

A TRAMP stopped at a house the other day and asked for something to eat. "Which do you like best?" asked the hired girl. "Steak or chop?" The tramp hesitated a minute, and then replied, "Chop." "Step right this way," said the hired girl. "Here's the axe and there's the wood-pile."

"My dear," said a wife to her exhausted husband in a dry-goods store, "do you notice those ladies' pocket-books marked fifty cents each? They are remarkably cheap." "I notice them," he said, edging in the direction of the street entrance, "but remember the old maxim: 'Never buy anything you have no use for because it's cheap.'"

MR. BROWN took home a splendid doll one day for his little daughter. It was provided with a wonderful piece of mechanism which enabled it, on being squeezed, to emit the squeaking sound, supposed to imitate the human voice, so dear to childhood. That same evening the dear little puss was sitting on her father's knee, and several times pressed her small fist upon her parent's shirt front. Producing no effect she looked up in the parental face, saying, "Papa," "Yes. What is it, my child?" he replied. "Why don't you squeak, papa?"

YOUNG MEN!—READ THIS.

THE VOLTAIC BELT Co., of Marshall, Mich., offer to send their celebrated ELECTRO-VOLTAIC BELT and other ELECTRIC APPLIANCES on trial for thirty days, to men (young or old) afflicted with nervous debility, loss of vitality and manhood, and all kindred troubles. Also for rheumatism, neuralgia, paralysis, and many other diseases. Complete restoration to health, vigour and manhood guaranteed. No risk is incurred as thirty days' trial is allowed. Write them at once for illustrated pamphlet free.

SHEEP AND SWINE.

FRENCH TREATMENT OF LAMBS.

A ewe goes in young twenty-one weeks, and a lamb born ten or thirteen days before its time rarely lives. Weaning is not attended with serious difficulties if the animals have been duly cared for, and kept in a condition neither too fat nor too lean. Before the period of parturition, they ought to be generously fed, and if one-third of a pound of bran, bean or pea meal, cake flour, etc., be added to their rations, so much the better. The interference of the shepherd with the ewes is often useless, and frequently injurious. Leave them in tranquility; but if a false presentation takes place, introduce the hand, carefully rubbed with oil or lard in advance. If anything more serious arises, call in the veterinarian. Should puerperal fever show, the disease being so contagious, the shepherd ought on no account, touch a healthy sheep after being in contact with an affected ewe.

Ewes that produce two lambs ought to be kept in separate cribs, to prevent the young going astray if the mothers were kept in the flock. The numbering and marking of the lambs should take place very early. The teats of the mother ought to be regularly examined, to ascertain if the milk flows freely. If necessary, make the teats supple, and remove any wool in proximity, so that the lambs may not contract the habit of eating wool. If all goes well, the lamb and its mother can be turned loose after three or four days; but if she refuses her milk the sojourn in the shed is to be prolonged. The shepherd ought to bring the lamb near to the mother's teats and milk a few drops into its mouth. As in the case of calves, the first milk of the mother is good for lambs. If the ewe gives too much milk, a certain quantity must be milked away and the rations diminished. This remark applies, of course, to ewes that have lost their lambs. If it be found that a mother has not sufficient milk for a lamb you desire to rear, obtain a nurse; the same treatment for a lamb that has lost its mother. Avoid, if possible, cow's milk, but if it be a case of Hobson's choice, give the preference to the milk of a six months' farrow cow. The state of the udder should be well looked after; for if the milk accumulates, an udder will be the consequence. If a mother has too much milk, and the lamb cannot consume all, reduce the forage. If a mother dislikes a lamb, the shepherd ought to reconcile them; and if, in the case of two lambs, one takes more than its fair share of milk, muzzle the offender; but good milking mothers rarely allow that partiality.

There cannot be good lambs without good milk; hence, select not only those ewes notable for their milking qualities, but supply them as early as possible with succulent food. When the lamb recognizes its mother, they can join the flock. It would be well to have lambs weaned within fifteen days of each other grouped together. This classification will aid the weaning process. It will be a necessity if the weanings of the flock extend over five weeks. To enable the lambs to be alone, it is good to separate them when four weeks old, from time to time, from their mother; this can be effected by having a hole in the pen, by which they can run in and out without the mother being able to follow them. By closing the aperture for fixed periods the commencement of the weaning can be made.

Lambs ought never to suckle less than three months, and weaning is the best time suited for selecting those to be reared—free from defects in shape, debility or fleece. Never rear any but good animals; their keep is not greater, and the care they demand is perhaps less. For four or

five months after the weaning continue the feeding commenced during the suckling. Tender hay is excellent, increasing until the ordinary rations of the flock can be enjoyed. To the hay add a little oats augmenting both with the advancing growth of the animal. When sent to graze for the first time care should be taken that the lambs be protected from the weather, and at the same time be well guarded. If the period be damp or moist it is not a bad plan to give a little hay or dry fodder, or let them remain all day in the shed. If the sheep are to be shed reared let the building be well ventilated, the rations good, and the exercise adequate. When ten days old castrate and dock the lambs. The amputation of the tail is much practiced on the Merinos and English breeds; the appendage economically, is useless; it accumulates filth. In France the shepherds have ever an interest in the weanings being good; their salaries are increased, or a percentage allowed on sales, less deductions for losses.

In the case of a race of sheep that produces two lambs, one is sold off at an early hour to the butcher. To produce meat, the French ewes are generally crossed with English rams. It is said that the flesh of the female is better than that of the male lamb. Often the mother and lamb are fattened simultaneously; that is, the former is well kept on roots and hay before, as well after weaning, so that the mother, when dried, can be easily finished off. Artificial feeding is not in favour for fattening lambs. From M. Magne's experiments it appears the rate of increase in flesh of a lamb is, during the first week, ten and one-half ounces; the second, seven and one-quarter ounces, and between seven and eight ounces afterward; in other words, a lamb gains, on an average, in ten weeks after weaning, about thirty-four pounds of flesh. The disease that lambs are often subject to, known as *muguet*, and which is due to feebleness of constitution and defective digestion, is a cryptogamic kind of vegetation in the mouth. It is often accompanied with chancres. The mouth ought to be washed by means of tow or old linen, on a stick, with a solution of alum, common salt, or borax. Give mealy or salty drinks. —N. E. Farmer.

WINTERING YOUNG PIGS.

Pigs born later than the first of October will need good care and skillful management to keep them in a thrifty, growing condition through the winter. This is particularly the case if you keep them in large numbers, and it is a good plan to sell all you can before winter sets in. People who keep only two or three pigs to eat up the slops from the house can handle their late pigs to better advantage than the large farmer or breeder. Such young pigs need milk, greasy water, or broth and bread, or cooked potatoes, with corn meal pudding; these are more likely to be liberally furnished from the kitchen when you have only two pet pigs than when you have two score or two hundred. Whatever method of feeding is adopted, let it be liberal. Let them have all the good feed they will eat—no more, no less. Let them have good, dry, comfortable quarters to sleep in, and disturb them as little as possible. Pigs are in part hibernating animals. The more they sleep the better for them and their owner. We do not want to fatten pigs in winter. We simply want to keep them in healthy, growing condition, and the fatter they are when winter sets in, the easier it will be to carry them through the winter. Pigs well wintered, are in good condition to thrive well on grass and clover next summer. They will do far better on pasture alone than young spring pigs. We are not now advocating having young pigs in the autumn, but if you have them and cannot sell them, or do not

wish to, then take the best care of them, and feed liberally. The most profitable pork we have ever made, was from young pigs which had been well cared for through the previous winter, and the next summer fattened on clover pasture.

A DOG STORY.

Some years ago, in the northern part of New England, Farmer Adams bought a drove of sheep from Farmer Scott.

"I need some one to help me drive these sheep home," said Adams, "for the road is long, and winds over the mountains and through the woods."

"There is nobody here to go with you; but you may have one of my shepherd dogs," replied Scott. "When you get home give him a good breakfast and tell him to go back and he will find the way all right."

The sheep were all turned into the pasture, at the end of the journey; but the dog had been so efficient that Farmer Adams thought he would try to keep him. Therefore he was chained, and only allowed freedom enough for exercise. After feeding and petting him for a week, that he might become wonted to the place, one evening his chain was loosed to allow him to take a run. At eight o'clock they called him to be tied up for the night, but no dog appeared.

About a week afterward a letter from Mr. Scott stated that the dog had returned home bringing all the sheep. He had evidently gone to the pasture, gathered the sheep together and driven them back to their former home.

Moral. Do not try to steal a dog for you may lose your sheep.

DRESSING SHEEP.

Many farmers are deterred from the use of mutton on their tables from the woolly taste of the meat when killed at home. The reason of this is almost wholly in the manner of dressing. To obviate this all that is necessary is the exercise of care. Allow the sheep or lamb no food for twenty-four hours before slaughter, but allow all the water it wants. Just at nightfall, having everything prepared, seize the animal, hang up by the hind legs, cut the throat, being sure to sever all the arteries of the neck. As soon as dead, disembowel at once and then skin quickly and without allowing the wool to touch the flesh. Spread the quarters to cool the carcass as quickly as possible, hang in a cool, sweet place, and you will not be troubled with woolly-tasting mutton.

POLAND-CHINA.

At the National Convention of Swine Breeders, at Indianapolis, Nov., 1872, the following characteristics were decided upon as determining purity of breed:

"The best specimens have good length, short legs, broad, straight backs, deep sides, flanking well down on the leg, very broad, full square hams and shoulders, dropping ears, short heads, wide between the eyes, of spotted or dark colour; are hardy, vigorous, and prolific, and when fat are perfect models all over, pre-eminently combining the excellencies of both large and small breeds."

Most barnyards are larger than they need to be, and the consequent scattering of manure make it much more difficult to save. Early in the fall the entire yard should be covered with straw to the depth of a foot or more, to absorb the solid and liquid excrement that would be wasted. If the barnyard is too large for this a portion should be fenced off and the stock kept out of it.

BEES AND POULTRY.

IS POULTRY KEEPING PROFITABLE OR NOT?

FOR THE RURAL CANADIAN.

The above question has often been asked by a great many amateurs and others, and my answer would be, *Yes*, and at the same time I will try and prove to the readers of your valuable journal the way it is profitable, and how hens should be kept to make them so.

In the first place, we will take their residence, in which they spend more than half their time. It is very essential to see that they are provided in proper proportions to the size and number of the fowls. Pure air is required and shelter from wind and weather; and another important thing is, that your house should be so constructed that it would face the south, so the rays of the sun could shine in upon them, for it is hardly possible to exaggerate the influence of this agent in securing and establishing the health of the flock. The list of diseases caused from the neglect of this precaution is nearly as long as the whole list of those to which poultry are liable.

The site must be dry: if the house is not kept perfectly dry it will be impossible to secure a proper degree of cleanliness, and the utmost cleanliness *must* be carried out, and by giving all these things strict attention it will be one good step to poultry being profitable. The next thing is to see that your house is warm in the winter time, when your fowls have to be confined in it, for that is the time you want them to lay, as eggs are a good price. I do not approve of warming a house by a stove, it is neither beneficial nor profitable. In the month of October I look to my houses and see that they are fixed comfortable for the winter. In the first place, they are all double-boarded and filled in between with saw-dust. I consider saw-dust the best, as the turpentine in the pine saw-dust helps to keep the houses free from vermin which fowls are subject to; and another thing, rats or mice cannot build in it, for as soon as they make a hole the saw-dust runs down into it and prevents them. Now, after you have this all done and battened outside, it is well to make a shutter that shuts over the window, so, on cold frosty nights you can shut this and keep all the cold and frost out, then, in the morning you can open this and let the rays of the sun in. Of course, it is well to have a small ventilator at the top, to let out the bad air, and when this is all done, you have a good winter hen-house, and with the proper number of fowls and properly fed you cannot but help to make them pay, even if you sell the eggs for table use and not to breeders at fancy prices. Now, for a cock and five hens, a house of five feet square would be large enough, and if you have more, then have your houses larger in proportion to your stock, but do not keep over fifteen or twenty fowls in one house if you wish to make them pay. The next thing is the feeding and caring for them, different breeders have different ways and sometimes a

good many are successful. I prefer giving my fowls for their winter's breakfast a nice warm dish of boiled potato peelings and refuse from the house, mixed up with shorts; I do not make it too soft and mushy, but put in lots of shorts so when it is properly mixed up it will be middling dry and crumble: once or twice a week I cut up some meat and put with it. This constitutes their breakfast, and at noon they have some wheat screenings thrown in on the ground, which is covered with dry leaves, which makes the fowls work to find the food in the leaves and keeps them active and all the exercise they require. Then at night they have a handful of whole corn before they go to roost, which finishes up their day's rations. Of course this food is varied some, it does not do to feed fowls continually on the one thing, as they will tire of it and it will not do them so much good. You can change about with cracked corn, barley, whole wheat, buckwheat, or

the past season by the reports coming in from different parts of the country of the large yields of honey gathered from wheat stubble.

When the wheat was cut, before the straw was fully ripened, a sweet juice oozed out of the straw where it was cut; in some instances the juice was so plentiful that a clear drop of juice ran out of every stubble, and some filled the upper joints and ran down the stubble.

It is a very rare season indeed that bees cannot secure enough honey from some source to support themselves. We have many times been despondent thinking that we would get no surplus, and have to feed our bees their winter store, when, all at once, there would come a flood of nectar from some unlooked for source. A cool, wet spring and summer will produce no honey, although the bloom may be abundant, and yet it may be just the condition suitable to produce many honey yielding fall flowers. During the

last autumn a large amount of surplus honey was gathered from the different varieties of smart-weed (*Polygum*). This honey was beautifully white, and of a fine minty colour. These plants flourish on overlands and damp lands generally, although they are found abundantly in this locality, growing in corn fields, and where early potatoes have been raised.

Sweet corn is growing in favour as a honey plant. A sweet syrup is secreted in the axils of the leaves, near the stock, and bees gather pollen from the tassel.

It is surprising that farmers will go to town and buy miserable glucose syrup, when a heaven-born sweet syrup can be had at their doors, "not for the asking but for the taking."—*Mrs. L. Harrison in Beekeepers' Magazine.*

POULTRY YARD NOTES.

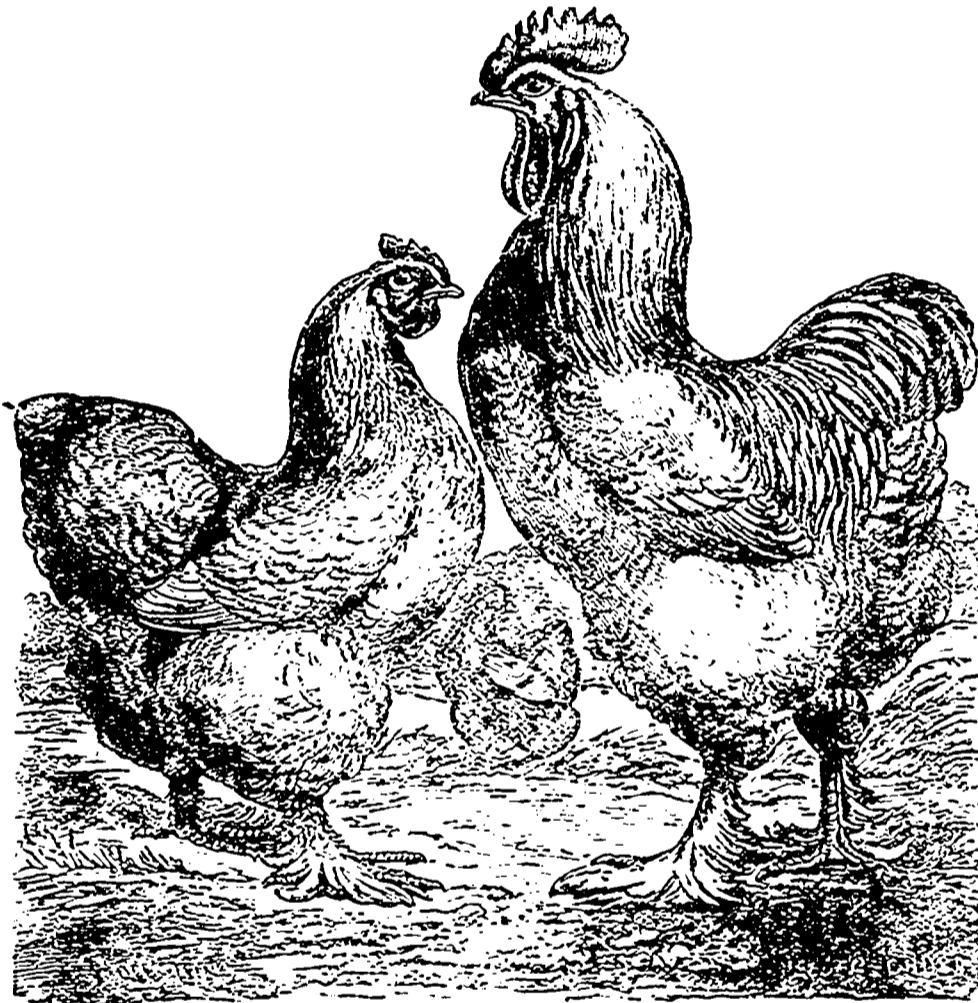
See that the hen-house is put in good condition for the winter. When the roads are in a dry condition it will be a good time to secure dust and sand. The hens will find it a

luxury to wallow in on warm sunny days in winter and early spring.

An excellent way to feed cabbage to poultry is to suspend a head within reach and allow them to peck at it when they will. By this method it is kept out of the dirt and is better relished by the fowls.

Poultry should have variety in food. Do not feed all corn, nor all fresh meat, nor all of anything, in fact, that is considered excellent. The proper way is to give a little of everything by turns that a fowl likes. Corn may be the principal food, but corn will ruin a flock in time. Still, starvation ruins a great many more flocks than too much corn does.

The mineral elements of the eggs and their shells should not be forgotten. Pounded oyster shells will afford good material for making shell. Pounded bones will afford material for the bone elements of the eggs. The flat and soft bones may be readily pounded into pieces while fresh, and the larger and firmer ones may be burned or charred until made brittle, and then be easily pounded up.



BRAHMAS.

oats, and by all means have in your house at all times a good dish of fresh water, and in very cold weather it is well to take the chill off and put a red pepper in, as it warms the fowls and makes them feel better. Give them a cabbage now and then, tacked on the wall high enough so they can reach it, and have a dish of crushed oyster shells in the house at all times; and you will then say that keeping fowls is both pleasant and profitable.

CHARLES BONNICK.

Toronto, November.

BEES ON A FARM.

We have often heard people say, "I mean to have some bees, and I meant to have had them long before this." Yet these people live, year after year, without them, while their fruit bloom is poorly fertilized and the nectar secreted in the flora of their fields and hedges is left to waste its sweetness.

Bees seem especially designed in the economy of nature, to gather up the remnants "that nothing be lost." This was forcibly illustrated

CANADA WEST LAND AGENCY COMPANY.

Those who have hitherto applied to this Company for copies of the FARM JOURNAL will notice the amalgamation which has taken place by which the JOURNAL becomes, in connection with the RURAL CANADIAN, a monthly publication. It will be the endeavour of the proprietors to extend the circulation still further, in Great Britain and the United States, so as to make it the most important medium of communication between these countries and our Dominion. Parties wishing to advertise lands for sale may obtain full information as to rates, etc., by addressing J. R. ADAMSON, Manager CANADA WEST LAND AGENCY COMPANY, 14 Adelaide Street East, Toronto.

BRANT COUNTY.—Onondaga Township.

742.—The "Onondaga Farm" is a magnificent property containing 200 acres, of which 120 are cleared and mostly free from stumps. 80 acres are covered with fine hardwood bush. The soil ranges from sandy loam to clay, and is very productive. It is well fenced with board rails and trimmed stumps. The buildings comprise a solid roughcast house, 1 1/2 stories, containing 8 or 9 rooms; 6 good frame barns, with other outbuildings. There are 2 orchards, one old and one young, both bearing. It is conveniently situated to school, church, post-office, and railway station about 3 miles distant. Caledonia, where there are stations on the G. T. R. and the N. & N. W. R., is 7 miles distant. Brantford, the county town, 11 miles, and the City of Hamilton about 14 miles. Price, \$12,500; \$2,500 cash, balance to suit the purchaser, with interest at 6 per cent. The farm is very well adapted for stock-raising, the land being rolling, and Big Creek running through it, without, however, making any waste land. It is within 7 miles of "Low Park Farm."

BRUCE COUNTY.—Carrick Township.

3524.—A particularly nice farm of 115 acres, about 70 cleared, some fine sugar bush ash, cedar, etc. The soil is a first-class loam, rolling and easily worked, watered by a spring creek and wells. Fences are board and rail. Log house, frame barn, good orchards containing Apples, Pears, Plums and Cherry trees with grape vines and currant bushes all bearing. On a gravel road close to school, Churches and Cliffed market town 2 1/2 miles. Price \$2,000, terms easy. This is a bargain.

ELGIN COUNTY.—Malahide Township.

2445.—A splendid farm of 125 acres, 175 of which are cleared, 140 free from stumps, 15 in fall wheat, 15 in meadow, 20 seeded down, and 25 in bush, which affords good pasture; timber, oak, maple, and beech; soil is sandy loam, gently rolling and easily worked; there is a spring and a creek, a well at the house, and a cistern at the barn; good subsoil drainage; the fences are rail, board and pine stumps; the dwelling is a frame, on stone foundation, 2 1/2 stories, with cellar size of house; outside kitchen, 18x14, woodshed, 18x14; frame barn, No. 1, 20x30, on stone foundation; barn No. 2, 20x30; stable and shed No. 1, 12x24, stable and shed No. 2, 12x24; frame granary, 20x22; drive house, 21x26; stable, 21x26, pig pen, 12x12, all in good repair; 4 acre orchard, containing all kinds of fruit—all bearing. The farm is 1/2 mile from gravel road, and a school is on the lot. English Presbyterian, Methodist, and Baptist churches; post and telegraph offices, and market town at Ayr, 2 1/2 miles on the Air Line, G. W. R. P. O., also at Jaffa, St. Thomas, 13 miles. Price, \$14,000; \$2,000 cash, balance in 10 years, at 7 per cent. Owner giving up farming. Will exchange for city property.

GREY COUNTY.—Sydenham Township.

2110.—A most valuable property, 600 acres; 13 cleared, 125 meadow; timbered with Maple, Birch, Cherry, Cedar and Pine, soil light clay loam, rolling and easily worked; watered by 2 springs and 2 creeks, cistern in back kitchen; fenced with straight cedar rails; dwelling of frame, on stone foundation, 36x21, 1 1/2 stories, containing 10 rooms; cellar, 10x10; also a large woodshed; there is also a house for hired men—all in good repair; orchard composed of a few fruit trees. Taxes amount to \$200 a year, with 15 days' road work. School 1 1/2 miles, Church 1 to 2 miles, Post Office, 1 1/2 miles, 2 miles, Telegraph Office 3 miles, and market town Owen Sound, 11 miles, on the T. G. & E. R. Price, \$11,000; \$2,000 down, balance to suit, at 6 per cent.

HALIBURTON COUNTY.

We offer in the Townships of Hyatt, Dodley, Harcourt, Gifford and Harburn a large tract of land admirably adapted for stock raising. It is extremely well watered, and raises even better grass and root crops than the high priced lands in the tract. As the price ranges from \$1 to \$5 per acre, stock raisers can operate a much larger acreage than it would be possible for them to do on lands ranging from \$10 to \$100 an acre. In consequence of this low price the cost of raising animals is reduced to a comparatively very small sum. Intending purchasers would do well to inspect these lands thoroughly before buying elsewhere. Any practical man who understands his business can easily convince himself of the advantages of this district by personal inspection.

HALTON COUNTY.—Nelson Township.

2176.—That magnificent property known as "Limestone Hill," containing 240 acres; 150 are cleared, nearly all free from stumps; 20 in permanent pasture, and 30 seeded with beech and maple; soil, limestone loam, slightly rolling, more stony, well watered; fences cedar rails, and at the front pickets. The residence is a splendid cut stone two-story building, 60x20, containing about 14 rooms; cellar, 20x20; summer kitchen and woodshed. A large barn, with stables, was recently burned down, leaving the stone foundation and cellar; this has been partially rebuilt, and the stone foundation is still standing ready for building the remainder. The other buildings comprise a frame barn, 40x20, a 1 1/2 story frame dwelling house, with stables in connection, a stone smoke house, etc. There are 2 orchards, covering 1 1/2 acres, and containing 700 trees all bearing, and nearly all grafted fruit in various stages of growth and all choice varieties. Distance 1 1/2 miles from school, church 1 1/2 miles, Lawrence P. O., 1/2 mile, Union Station or St. Ann's Station on the N. & N. W. Railway 3 miles, Nelson 7 miles, city of Hamilton 13 miles, Burlington 5 miles. This is one of the best stock farms in the country, and cannot be beaten for raising any kind of crops. Price \$12,000, terms easy with interest at 6 per cent. A fine spring creek runs past the buildings.

HALDIMAND COUNTY.—Caledonia Village.

487.—That first-class foundry and machine shop known as "Scott's Foundry," occupying a large brick building, 2 1/2 stories, the ground floor of which is fitted with extensive lathes, cutting and punching machines, etc. The first floor is a carpenter's shop and fitting room, and the upper floor is a pattern room. The foundry, with copola, and powerful hot blast furnace, and further to the east is the paint shop and store house for finished work. There is also a blacksmith shop with 4 forges; planing mill, 30 horse power engine, and 10 horse power boiler, and all necessary shafting and machinery for carrying on a large business. The lot covers half an acre of ground, and is very centrally located.

The shipping facilities here are unsurpassed, the G. T. R., passing through the village, and while the N. & N. W. R., gives access to the country north and south, and to the G. W. R., C.N.R., C.V.R., and T. G. & E. R. Price, \$1,500; terms easy. A dwelling house may be had adjoining the foundry at a moderate price. This foundry is celebrated for the manufacture of the Vibrator Threshing Machines, of which all the patterns are in stock, as are also horse powers, reaping machines, ploughs, saw mill machinery, engines, and a large lot of gearing patterns, stove patterns, straw-cutting box patterns, etc., etc.

MUSKOKA DISTRICT.—Stephenson Township.

2136.—The "Norcot Farm," containing 195 acres, 45 cleared, 40 meadow, 40 seeded down, 147 bush, no rocky or stony land timber, hardwood, a few pine, plenty of cedar, spruce, etc., soil clay loam, rolling; there is a creek, and a well is near the house; the farm is well ditched; the fences are cedar rails (new); log dwelling, 20x10, 1 1/2 stories, 1 room and attic, small cellar, roofed with shingles, in very good repair, frame barn, 50x33, on cedar posts, log stable and loft, 24x12, both shingled, 3 years built, and in first-class condition, government road, post office, schools, and store 40 rods away, churches, telegraph office, grist and saw mills, etc., 3 miles; market town, Bracebridge, 15 miles. Price, \$2,500, \$1,750 cash, balance to suit.

2137.—Adjoins 2136, and is situated on the shores of Mary Lake, containing 212 acres; 175 cleared, 15 meadow, 15 seeded down, 195 bush; timber consists of hardwood and cedar; soil, clay loam; the farm is hilly, with one or two flats of about 20 and 60 acres; drainage is good; spring close to house; fences are cedar rails, few logs; all new. The dwelling is frame, 24x27 and 16x16, 2 stories, 6 rooms, on stone foundation; cellar 24x26, kitchen 16x16, roofed with shingles; in good repair, built in 1881; stable is frame, 40x24, on stone blocks, built in 1881; lean-to wagon shed (to barn), 16x16, lean-to covering manure shed, 21x12; stable to hold 13 head of cattle, 1 horse, harness and laundry bins, all new; government road, 2 miles, churches, post office, etc., by water 2 miles, by road 1/2 mile. Price, \$3,000.

NORFOLK COUNTY.—Charlotteville Township.

2559.—Good farm of 100 acres, 90 cleared and free from stumps, 25 in meadow, and 10 wooded with excellent pine and white oak; soil is sandy loam, rolling and easily worked; fenced with rails, is watered by a creek, cistern, and two wells, situated one at house and other at barn; dwelling is frame, 26x30, roofed with shingles, 1 1/2 stories, 7 rooms; cellar and outside kitchen, good lumber bank barn, 20x32, with cow stabling underneath; also a shed, drive house, machine shed, with carpenter's and blacksmith shop, smoker, and bee houses, cow crib, pig sty, poultry shed, etc.—all buildings in good repair; there is a very large orchard, containing 300 apple, 250 peach, 100 cherry, plum and pear trees, and some grape vines, good roads; school, 1 mile; English church, 4 miles, Methodist 2, and Baptist, 1/2 mile away; post office, Glenora, 1 mile; market town, Simcoe, 5 miles, where are post and telegraph offices, and station, on the G. T. R.; also one at Delhi, 6 miles. Price (which includes live and dead farming stock), \$5,000, which is a bargain.

WELLINGTON COUNTY.—Luther Township.

625.—A good farm of 202 acres; 45 cleared, under cultivation and well fenced; balance, 155 acres, is excellent hardwood land, heavily timbered with maple, beech, elm, hemlock and horwood, and 30 acres of first-class cedar and valuable mixed timber; this is a particularly good lot; rails slightly to east and south from the centre; it is a corner lot, the 12th concession road being in front, and the 13th side line running along the easterly limit of the lot, rendering it easy of being divided into two farms of 100 acres each; good roads; choice neighbourhood; good rail fences; 1 1/2 miles from Egerton post office, and one mile from school-house; there is a splendid new frame house, 30x22, containing 7 rooms, well finished; new frame barn, about 20x40; log stable on the premises. Price, \$3,500. This lot is only separated by the road from the following one.

626.—Valuable farm of 100 acres; 30 of a dry, luxuriant beaver meadow in the north-west corner, through which flows a never failing creek; 40 acres more are burned and ready for clearing and fencing; and 30 of heavy standing hardwood bush on rising ground, extending along the westerly and southerly boundary of the lot; no waste land; at a small outlay that can be made a most valuable farm; would make a very valuable stock or dairy farm; good roads; no buildings. Price, \$1,200, or 625 and 625 together, \$4,500.

WENTWORTH COUNTY.—Ancaster Township.

2004.—A splendid farm of about 125 acres, known as the "Oakridge Farm," of which 90 are cleared, and 30 free from stumps; 30 in fall wheat, 23 meadow, and the same quantity seeded down, and 24 acres wooded with oak, chestnut, pine, cherry, etc., soil is sandy loam, rolling, and watered by a spring and creek near the house and barn, where there are also wells; it is well fenced with pickets, boards and rails; the dwelling house is brick, 35x20, 1 story, on stone foundation, with cellar, 12x21, and kitchen, 16x22, also a wing, 10x24; the barn is frame, 35x35, with 3 sheds, in which are stables, 21x25 and 21x25 respectively, there is a wood shed, pig pen, hen house, cow house, etc.; the taxes are \$35 per annum, with 7 days' road work; the orchard covers 3 acres, and contains 200 apple, 20 pear, 40 plum, 20 peach and 50 cherry trees, grapes and fruits of all kind—all bearing; it is within a mile of Ancaster village, where there is a school, churches of all denominations, post and telegraph offices, 2 miles distant, Weston R. R. station, 3 miles, and Toronto, where is market, 6 miles. Price, \$10,500; half cash, and the balance to suit, with interest at 7 per cent.

YORK COUNTY.—West York Township.

2393.—The "Stephenson Farm" consists of 100 acres, all cleared and free from stumps; the soil is clay and is easily worked; there is a small creek and a well; the fences are board and rail; the dwelling is frame on stone foundation, 18x21, 2 stories, containing 7 rooms; kitchen, 16x20; there is a small dwelling on west end of lot, not in good repair; barn is frame on cedar posts, barn No. 2 is frame, and a frame stable; an orchard of 3 acres contains apples and plums—all bearing; school, churches of all denominations, post and telegraph offices, 2 miles distant, Weston R. R. station, 3 miles, and Toronto, where is market, 6 miles. Price, \$30,000; 1/3 cash, balance in 3 years, with interest at 6 per cent.

J. R. ADAMSON, Manager "Canada West Land Agency Co.,"
14 ADELAIDE STREET, EAST, TORONTO.

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Publisher.

The Rural Canadian.

TORONTO, DECEMBER, 1884.

BEEF ROOT SUGAR.

Our Ontario farmers are sometimes urged to engage in the cultivation of the sugar beet, and the example of France and Germany is referred to as showing the profitability of this crop. In those countries sugar beets are sold to the factories at \$5.50 per ton, and there is no doubt but that, at this figure, they are profitable to the producer. But then there are other circumstances which must be considered before we can know what the ultimate profits are. In Germany the sugar companies have been organized by farmers, who divide the stock among themselves—each farmer binding himself to grow three and a half acres of beets for every share of stock he holds, and being subject to a fine if he fails. The mills buy the beets at about \$5.50 per ton, they pay a revenue tax to the Government of \$4 per ton, and the cost of manufacture is about \$2.50. This makes in all \$12 per ton, and the average product of sugar is about 225 pounds per ton—the total annual product of the country being 900,000 tons. To the German consumer the price of sugar is \$6 per hundredweight of 112 pounds, but to encourage exportation the Government grants a subsidy in the form of a rebate of the tax, and about three fourths of the product is exported. In the London market the price at present is \$2.50 per 112 pounds, which is \$3.50 per hundredweight less than the German consumer pays for it; yet it is affirmed that in Germany it does not pay the cost of production, and that it cannot be made to pay until the price of the raw material is reduced. We do not understand what advantage it can be to the German consumer of sugar to pay \$3.50 per hundredweight more than the British consumer; but so long as the German consents to a policy which yields such a result, no one else has any fault to find in particular, unless it be the producers of other countries who grow the beet or cane and manufacture the sugar without any aid from Government. So far as Ontario is concerned it would be rash to engage in sugar-beet cultivation without knowing more about it than we can learn from Germany or France.

INSTRUCTION IN BUTTER MAKING.

It is pretty generally known that an attempt has been made this year to teach butter-making under the creamery system at the Agricultural College, at Guelph. The results of the experiment are not yet known, and probably will not be until the next annual report of the institution is published. We do not think, however, that a very sanguine account should be looked for—partly because we have only a beginning of the creamery there, but chiefly because it has only been in operation for two months in the fall of the year. In that short time it can scarcely be expected that the students should show much interest in the work, especially as many of them are attending the College for the first time and have not yet got a thorough run of the work which they are called upon to do. Then much depends on the patronage given to the creamery by farmers of the neighbourhood; also upon the relations which the price of cream has to the price of butter product, and generally as to

economy in the management. Another season will be necessary in order to determine measurably as to the success or failure of this department of the College course of instruction, and we do not doubt but that the manager and instructor has already learned some useful practical lessons from his short experience of this year. To the students of the College a thorough knowledge of the processes of butter-making in a well conducted creamery is of great value, and if the course of instruction is thorough, it is a matter of secondary consequence that the College creamery should pay running expenses. At the same time it must be considered that the cost of operating is in itself a thing to be closely considered, for if the business be carried on at a loss there is very little to encourage men to establish or patronize creameries as a commercial enterprise.

Meanwhile it is worth looking abroad to see what is being done by other peoples with a view to improve and develop their dairying industry.

Much information on this subject is to be found in a recent report of a commission appointed by the British Government to enquire into and report upon technical instruction, both in Europe and America. The portion of this report which deals with agriculture was prepared by Mr. H. M. Jenkins, Secretary of the Royal Agricultural Society of England, and contains much that is valuable as to systems and their results.

We learn from Mr. Jenkins' report that in Germany there are eighteen schools where special instruction is given in the theory and practice of dairying. The most celebrated of these is at Raiser, in Mecklenburg-Scheverin, which owes its existence to the liberality of Count Schlieffen. This nobleman provides the school building, the house and garden for the director, and everything that may be required for experimental and teaching purposes; in addition, the governing body of the Duchy gives now a subvention of £325 a year. The course of instruction extends over six months and is given only to young men, six at a time. They pay £7 10s for instruction, and board and lodging at the farm for the full term, and they are made to work in the dairy like paid labourers. Besides these there are about twenty-five other students who provide their own board and lodging in a neighbouring village, and who pay 25s for a month's instruction in the classroom. These students are not required to perform manual labour. The dairy instructor gives demonstrations in all matters of a practical nature, and theoretical instruction is given daily in a lecture of one hour's duration, by the director of the establishment. Great attention is paid to book-keeping, and to the principles of breeding and feeding as well as of dairying, and throughout Germany this school is regarded as by far the best of its kind.

In a similar school at Heinrichthal, in Saxony, ten or twelve young women are taught the theory and practice of butter and cheese making. These pupils must be at least sixteen years of age, and they pay £5 for one month's instruction, board and lodging, or £9 for three months. The farm consists of 150 acres of arable land, grass and wood, and twenty-two milch cows of the Dutch or Holstein breed, are kept upon it. The course of practical instruction embraces the following:

1. Technical management of a dairy, including book-keeping.
2. Feeding and management of cows, and fattening calves and pigs.
3. Instruction in cooking and general house-keeping.
4. Management of poultry, according to their season.
5. Management of the kitchen garden.

The pupils of this school belong to a higher class than those ordinarily seen at such schools.

They are mostly daughters of proprietor-farmers of moderate acreage, but some are the daughters of large farmers; while a few, Mr. Jenkins says, come from the towns, being about to marry young farmers, and therefore required to learn everything connected with the management of a farm house.

Another school is at Gross Heinstedt, and while owned by a farmer it was organized by a bonus of £225 granted by the Royal Agricultural Society of Hanover, which society also votes a varying sum yearly toward its maintenance. Under an arrangement made by the society, six pupils are furnished with board, lodging and instruction for a year, at the rate of £18 each. These pupils give their services in the dairy until one o'clock, after which they are taught house-keeping. Servant girls are kept to milk the cows and do other heavy work of the dairy; but if the pupils do not know how to perform any description of dairy work they are taught it carefully.

These three schools may be taken as a fair type of the German dairy schools, and enough has been said to give an idea of the system upon which they are conducted.

In the agricultural school at Fune, in Denmark, a department was established in 1873 with the object of giving special instruction in dairying to girls. The course extends through the months of September and October, and during that period special instruction is given by lectures and practical work, both as regards milking and dairy work, and keeping accounts. The girls are divided into two classes, one receiving instruction in dairy work in the forenoon and the other at the same time being taught account-keeping, writing and female handiwork generally. In the afternoons and evenings both classes attend lectures on history. The rate per month is about £2, and books and all kinds of materials required in the schools are obtained from the teachers; and the only revenue of the school in addition to the fees of pupils and the products of a small farm, is a grant of £104, contributed in part by the State, and in part by the commune.

There also prevails in Denmark a system of apprenticeship for the sons of small farmers; but perhaps the system under which the largest results are obtained is that in which every large dairy farm in the country is a practical school of dairying for farmers' daughters. These young women remain on the farm for one or two years, and in exchange for instruction, board, lodging, and sometimes a payment of £2 or £3 a year they do all but the heaviest work of the dairy. As a rule there are not more than three or four pupils in a dairy at once, but Mr. Jenkins mentions an exceptional case where a dozen girls are in attendance as working pupils, and remain for various periods extending from six weeks to two years. Each pupil has five cows allotted to her in rotation and the results of each milking are carefully noted, the produce of each cow being entered separately morning and evening with the name of the milker. This is one of the most fundamental, and at the same time one of the most neglected, of the operations connected with dairy farming; and it is observed that the knowledge that results are booked produces a spirit of emulation amongst the girls which gives far better results than any system of supervision. On some of the very large farms, where the head of the dairy is a man, the pupils are also men; but as a rule dairying in Denmark is in the hands of the women.

Now it appears to us that there is much to be learned from the systems which prevail in Germany and Denmark; not perhaps in cheese-making, for that industry is well understood in Ontario, but more particularly in butter-making.

It is doubtless a good thing to have a school under Government patronage to give instruction in butter-making; but the number who require instruction is very large, and we think that any skillful dairyman who would make known his willingness to take pupils need never be at a loss for applicants. A good dairy school in each township, which would give thorough instruction in butter-making to four or five pupils every year, would speedily effect a revolution in the butter industry of the Province.

FALL SHOWS AND OTHER MATTERS.

FOR THE RURAL CANADIAN.

For the past dozen years I have been in the habit of attending a number of the exhibitions held throughout the province,—from the Provincial, and of late the Mammoth Industrial, to the smaller but equally useful county and township fairs, and have had good opportunity of seeing the improvements that have taken place in the agricultural world in that time. The strides forward in the last decade have been marvellous, and it seems almost impossible to credit the evidence of one's senses. Ten years ago the really good cattle were confined to the provincial and a few of the best county shows, but now there is hardly a township society that offers a grade bull; that folly has disappeared, and the splendid thoroughbreds that are to be found in most neighbourhoods have left their impress on the fine young stock that is taking the place of the old-fashioned kind. The sheep pens, too, are filled with a superior class of animals; and fat, comfortable-looking pigs replace the races of former days. The wonderfully constructed quilts which used to be so prominent a feature are succeeded by fancy needle-work, which shows an appreciation of art and beauty; and the specimens of fruit and vegetables, with the fact that a large share of the best prizes go to farmers, show that many of the tillers of the soil appreciate the good things of this life, and are not disposed to confine themselves to a meat and potato diet.

A little while ago I visited a township show in Eastern Ontario, near the Quebec boundary. It was, I believe, the second ever held in the place, and the people had hardly got into the way of it. The stock was poor enough, probably a dozen years behind the west, but I saw a fine Percheron stallion and a fine Durham bull—evidences that there were some farmers of enterprise. The emulation that this show will create must lead to good results, and by the raising of good cattle instead of scrubs, the value of every farm in the neighbourhood will be increased not a little.

At the Stratford Show I saw some very fine Herefords and Durhams, imported this season by Mr. Joseph Sharman and Mr. Thomas Ballantyne, M.P.P. These gentlemen are wealthy enough to be able to invest liberally in good stock, and both having sons who had specially distinguished themselves in the stock classes at the Model Farm, wisely sent them to the old country to make the purchases. These lads, for neither had turned twenty years, visited the best herds and picked out animals which certainly did credit to their judgment. The old stock-men in Britain wondered that such slips of boys should be so wise about cattle, but were forced to admit that they did know their business—the way in which they picked out the best animals showing that the Agricultural College is a good place to learn practically the value of cattle, and that they thoroughly understood the lessons they had received.

The fruit and vegetables this year were wonder-

fully fine—at the little shows as well as the big ones. People have opened their eyes at the roots sent from Manitoba, but at most of the shows there were plenty of potatoes at any rate equal to any from the North-West. There seems to be quite an effort now-a-days to procure new kinds of potatoes, and the offering of prizes for collections has stimulated the introduction of valuable varieties.

Every year sees a change for the better in fruit—apples are especially a Canadian fruit, and nowhere in the world can better be grown. The demand from foreign countries has caused the planting of hard winter fruit, and Northern Spys; Spitzenbergs, Baldwins, etc., of the finest quality are becoming commoner than they were. The quantity of apples shipped to the North-West this year has been immense, and as it must be years before fine orchards can be brought into bearing there, if indeed the climate will ever permit fruit-growing, there will always be an outlet for unlimited quantities of the Ontario products. No acres on the farm pay so well as those under orchard, if the trees are properly looked after.

The Toronto Industrial Managers have done well in banishing fakirs, gamblers and other disreputable persons from their grounds, and it is a pity they hadn't let the liquor business alone; but their experience this year on that question will probably be useful to them hereafter. No other show, so far as I am aware, has had backbone enough to forego the revenue arising from licensing these people, and the number that infect the enclosures is a positive disgrace. Gambling is carried on unblushingly, and it is not at all uncommon, in driving up to an hotel at a small hamlet, when a township fair is in progress, to find a wheel of fortune whirling away in the sitting-room or in the stable, and later on in the fair grounds, the directors congratulating themselves on getting a few dollars out of the proprietors. Surely the legitimate attractions ought to be enough, and the side-shows, etc., be allowed to travel with the circus, where they belong.

I would be very sorry to see the county and township shows done away with. It is the fashion to rail at them and call the prize lists, which fill the pages of the papers during September and October, "pernicious literature," but they have their mission just as well as the big shows, and are educational institutions whose value is not appreciated near as fully as it should be.

CANADA SHORTHORN HERD-BOOK.

Below we give a list of transfers of thorough breeds reported up to October 20, 1884. In the following list the person first named is the seller and the second the buyer.

- B. Duke of Weisenburg [12373], by Lord Bright Eyes [7317], 23742, John Pipe, Guelph; Henry Hall, Weisenburg.
- B. Royal Charles [12374], by Duncan [8335], Wm. Hedley, Dunfermline, John O'Brien, London West.
- B. Tom Pedr [12370], by Marquis [8647], John Marshall, Tibury East; John B. Hughson, Quvry.
- H. Brunette [Vol. 9], by Essa Doctor [8546], Francis Mills, Schomberg; John Winters, Lloydstown.
- H. Julia [Vol. 9], by Prince Arthur [10313], Joseph J. Kitley, Bond Head; John Winters, Lloydstown.
- B. Duke of Carleton [18382], by Sir Leonard [10500], [45613], Thos Graham, Bell's Corners; Stephen Tacker, Clarence.
- C. Summer Queen [Vol. 9], by Duke of York

- [3111]—Henry Doughty, Lindsay; Wm. Hunter, Cameron.
- B. Young Hector of St. Vincent [12388], by Hector [8687], Samuel Short, Meaford; Wm. Knox, Sault Ste. Marie, Mich.
- B. Prince of Drumquin [12380], by Captain Brant [8200], Robt. Howes, Trafalgar; John Campbell, Drumquin.
- C. Rose of Drumquin (Vol. 9) by Captain Brant [8200], Robt. Howes, Trafalgar; Wm. Howes, Trafalgar.
- C. Princess Louise (Vol. 9), by Captain Brant [8200], Robt. Howes, Trafalgar; David Featherstone, Drumquin.
- B. Halton Hero [12388], by Captain Brant [8206], Robt. Howes, Trafalgar; G. Greener, Oakville.
- H. Spring Morn (Vol. 9), by Earl of Rugby [12320], J. S. Williams, Knowlton, Que.; Horace Green, Bolton, Que.
- H. Lady May (Vol. 9), by Earl of Stafford [11432], C. D. Bancroft, Knowlton, Que.; Horace Green, Bolton, Que.
- H. Lady Maud (Vol. 9), by Earl of Stafford [11432], C. D. Bancroft, Knowlton, Que.; Horace Green, Bolton, Que.
- B. Earl of Rugby [12320], by Earl of Stafford [11432], C. D. Bancroft, Knowlton, Que.; J. S. Williams, Knowlton, Que.
- H. Mary M (Vol. 9), by Princess Lovely's Duke [9179], Wm. Bennington, Maple Lodge; John M. Stevenson, Sylvan.
- H. Lucy (Vol. 9), by Sir William Temple [6324], James Wilson, Glanamis; Peter Robb, Lovat.
- C. 2nd Fair Maid of Atha (Vol. 9), by Proud Duke [2673], Wm. Mills, Brougham; Wm. Grainger, Leedersboro'.
- B. Prince of Strathallan [12391], by Blooming Mayflower [8153], John Miller, Brougham; Wm. Grainger, Leedersboro'.
- B. Gen. Graham [12306], by Jacob Bright [8741], H. S. Merewether, Armstrong's Mills; A. McConnell, Sauguen.
- H. Agatha's Duchess (Vol. 9), by Mazurka Duke [5703], Lt. Col. C. A. O. Malley, Wardsville; E. J. Yorke, Wardsville.
- B. Yorke's Ready Money [12410], by Fancy Duke [7072], E. J. Yorke, Wardsville; Robert Mickelborough, Sutherland.
- B. Duke of Holland [12407], by Royal Butterfly [11114], Michael Perdue, Campbell's Cross; Wm. Foster, Massie.
- B. 4th Duke of Middlesex [12408], by 3rd Duke of Kelvin Grove [10886], Peter Tole, Mt. Bridges; R. Williams, Christina.
- B. Roan Prince [12400], by Osaden [11693], Alex. Watkins, Baisam; Thos. Fields, Enfield.
- H. Crimson Bad (Vol. 9), by 2nd Prince of Springwood [5978], Wm. Heron & Son, Ashburn; Samuel Adam, Bowmanville.
- B. Lovely Prince 3rd [12411], by 2nd Prince of Springwood [5978], John S. Armstrong, Speedie; John A. Farrow, Armstrong's Mills.
- B. Aristocrat [12110], by Rosedale's Oxford [9274], Jas. Parkerton, Schomberg; Henry Atkinson, Orangeville.
- B. Young Eclipse [12410], by 6th Duke of Torrindale [8945], John S. & Wm. Taylor, Evelyn; Samuel McKenzie, Preston.
- B. Young Dixie [12415], by Garland's Chapplet [3892], Robt. Galbraith, Kerwood; Jabez Barber, Kerwood.
- C. Lady Red (Vol. 9), by Monitor [5710], Hy. Dixon, Leith; Brigham Wilkinson, Owen Sound.
- B. Beauty's Duke of Logan [12417], by Beauty's Duke [11706], Thos. Worden, Mitchell; Thos. D. Ryan, Dublin.
- H. Rosy Maud (Vol. 9), by Young Warlaby [12423], Wm. Hewitt, Listowel; Isaac Raviel, Trowbridge.
- B. Red Wellington [12424], by Dampson Hero [6595], Joseph Thompson, Salem, C. E. Lane, Mt. Elgin.

GARDEN AND ORCHARD.

FOR THE RURAL CANADIAN.

INSECT DEPREDACTIONS IN A CANADIAN GARDEN.

BY ANNIE L. JACK.

The class Insecta (inseco, I cut into) is one of the most important and interesting of the articulate animals, and a subject for investigation that cannot be ignored, on account of the vast amount of damage done to vegetation in all stages of growth. Although composed of twelve orders, the chief depredators are included in the following four: Hemiptera, Hymenoptera, Coleoptera, and Lepidoptera. It is not merely for the sake of a scientific or physiological knowledge, that this department of zoology should be more widely studied, but a knowledge of the structure, habits, transformations and food of insects is necessary in order to distinguish friends from enemies.

The most destructive Hymenoptera are rose bush, and pear tree slugs, saw flies in variety, and joint-worms. In Hemiptera we have plant and bark lice, vine-hoppers and thrips, squash bugs and other plant bugs. But the Coleoptera and Lepidoptera are a formidable array of enemies, often very beautiful in form and variety, but in the larval state eating incessantly and voraciously. The first of these, the Coleoptera, (Gr. koleos, a sheath; and pteron, a wing) is often regarded by entomologists as the typical division of insecta. These insects are of solid structure, distinct in their articulations, and covered with hard external integument. Foremost as a depredator I should place the May Beetle, included in the genus *Melolonthia*. Every one is familiar with this brown, horny beetle, which, as evening approaches, makes such a buzzing among the branches of fruit trees, continuing on the wing until midnight. Our insect hunters have often during the season of the beetle's greatest activity brought in to be destroyed, three quarts of these insects, caught by the stratagem of a net, or tree jarring in a single evening. This is of some importance when we know that a single female deposits 200 eggs and that the whitish grub which is hatched in fourteen days, lives for a period of from three to five years destroying acres of grain, and feeding on the roots of the strawberry and other tender plants. Fortunately they in turn are a delicate meal for the weasel, rat, common-fowl and bat, while crows have been observed to follow the plow in an infested field, noisily enjoying a feast. The beetle most destructive to fruit trees is the *saperda bruttata*, while the larvæ of a small weevil or curculio by its destruction of the plum crop recalls Massey's lines that—

"Many a blossom of the spring,
Will never come to fruit."

Another insect that proves injurious to the season's crop of grapes is *Haltica Chalybea*, which feeds on the buds and leaves. The dreaded potato beetle, though seen for the last six years, has not proved destructive. The order Lepidoptera (Gr. lepis, a scale; pteron, a wing) is divided into three groups. Papilionis, (butterflies); Sphingis (hawk-moths), and Phalaenæ (nocturnal moths), over 3,000 Lepidoptera have been identified by entomologists on this continent and each species is distinguished by some modification of structure adapted to itself. There is hardly a plant in an ordinary garden free from the ravages of these insects in the larval state, of the genus *Papilio*, the *turnus* feeds upon fruit leaves, *troilus* on the lilac, and the beautiful *asterias*, with its rich black velvet wings, and spots of yellow and blue, was once a caterpillar two and a half inches long, feeding on the carrot, parsley and celery. The *Pieris rapæ* and *Protodice* destroy

the cabbage family, leaving only the skeleton. It was imported from England to Quebec in straw used for packing, and commenced its depredations there three years previous to the wholesale destruction of the New York cabbage fields. The *Oleria*, delicate and purely white, feeds on the radish and turnip, and has lately taken a fancy to a meal of the mignonette. The *Colias* family feed on the hop and clover. It is sulphur yellow, bordered with black, and a perfect black butterfly found on our grounds some seasons ago created quite a *furor* among entomologists here. The *Nymphalca* prefer the honeysuckle, while *Danias*, *Argynis*, *Aphrodite*, *Myrina* and *Bellona* are enemies to the spring violet. While I class as friends many that feed on weeds, there are some that like variety, and the *Pyraustus* will leave a thistle for a dinner of hollyhock or sunflower, to gratify its æsthetic taste. The *Grapta* delights in elm, hop and grape, as do some of the skipper family, of the *Sphingis* only the family *Agerian* are to be dreaded. These are the squash vine and grape root borers which lay eggs in the pith of the plant and burrow down, causing it to wither. Of the nocturnal moths there are many injurious to vegetable life. This group is the largest and the moths differ greatly in size, colour and beauty. When resting the upper wings cover the lower, presenting a diversity of form. Some of the females are wingless and only live long enough to deposit their eggs, which, by a wise provision of nature they invariably place on or near the food best suited for the larvæ. By this means those bent on their extermination can readily discover them. In instance of this the *Amphidasy* that feed upon the gooseberry, deposits its eggs along the under ribs of the leaves as soon as they unfold. By picking off these leaves before the larvæ hatch, it is quite possible to keep the bushes free from this little gray-winged enemy. Of the same family is the *Angerona*, so baneful to the life of the strawberry plant, and the canker worm moth which makes its appearance where apple trees are found, and, in speaking of fruit trees I may here mention the *Clusi-campa Americana* and *Deustria* has proved so destructive in this locality the last few years that the orchards and forests that beautify the mountain side of Mount Royal present the appearance of having been destroyed by fire. During this period on our own fruit-farm, of nearly 2,000 trees, we suffered little damage by the simple expedient of paying children a cent per dozen for collecting the rings during the winter, when they are easily seen upon the terminal shoots, and can be reached by the aid of long-handled shears. In this way, by actual count, we have in one season collected ten thousand rings, each of which contained from three to five hundred eggs. Following this example, neighbouring fruit-growers have kept their fruit trees clear of this dreaded pest, and can reap a harvest, while two years' neglect, results in the death of the tree.

The *Emperor Cecropia* is the largest of Canadian moths, expanding six and a half inches. The cocoon, which we invariably find fastened longitudinally to a plum twig, is about three and a half inches long, and when the moth emerges from its chrysalis form it is "a thing of beauty" although not so famed for delicacy of tint and texture as the *Empress Luna*. This pretty creature lives only on the hickory as a depredator, and can hardly be called an enemy. It is pale green with a purple border, and on each wing an eye-like spot, transparent in the centre and encircled by a ring of yellow and black. The *Agrotis* moths supply the cut worms which conceal themselves all day and creep forth at night to feed on newly-set or tender grown plants. But in this brief article it is impossible to mention many

beautiful depredators that we meet in daily summer warfare, and I will only suggest that in every school and every home, the youth of to-day who are to be bye-and-bye, the pride of the twentieth century, be taught to search for, and admire, and understand, the wonders of the insect world—

And how the ant constructs its wondrous hill,
And how the locust wings its hungry flight,
How horny beetles nature's ways fulfil,
While Luna reigns fair Empress moth of night.

PRUNING APPLE TREES.

Pruning apple trees is a necessary evil, and should be avoided as far as practicable. If the tree from the first has been properly looked after, very little pruning will ever be required. Such branches or buds as would give the tree an undesirable shape, or which would cross other branches or crowd other branches, should be removed. Frequent inspection during the growing season is required in order that those buds or young shoots which would interfere with the form desired, may be removed with the thumb and finger. In this way the removal of large limbs in subsequent years will be avoided, and the trees saved from the danger attending such removal. In regard to the matter of pruning, Prof. Maynard a few years since very sensibly remarked: "It is very doubtful if we can improve upon nature's method in this matter. A tree growing out in the open field, fully exposed to the sunlight and air, naturally takes a fine form, and, if in good soil, grows vigorously, and bears abundantly. Most of our orchards are planted too close in the first place; then, to let in the sunlight and air, large limbs are cut out from the centre, and the wounds made left exposed, decaying in a few years. This practice of cutting out the central branches to let in the light is all wrong. Branches grow best in the centre of the tree, because here they find the most congenial shelter from the sun's rays. Cut away the branches with their foliage which shelter these roots, and they cease to grow, and the long bare branches exposed to the scorching sun during the summer, and continued freezing and thawing in winter, becomes much injured. If the time now expended in annual pruning were devoted to the care and attention of the soil, our orchards would be much more healthy and productive. The practice of removing nearly all of the top of the tree when it is grafted, leaving the limbs exposed to the hot sun, is a very hazardous proceeding, and is frequently followed by the loss of the tree. Very few limbs should be removed from a tree in any one season."

Bury the boxes that accumulate about the premises, and bury them at the roots of the grape vines. Throw in an occasional dead cat.

In making selections of apples for next spring's planting, don't be too ambitious as to varieties. Three or four varieties, (if they are the right ones,) will about fill the bill.

Nine out of every ten apple trees in America are being slowly starved to death. In most cases it is potash that is needed, say 200 pounds of muriate of potash to the acre spread broadcast.

Keep the vegetable and small fruit garden separate. Or at any rate have the fruit and perennials, like rhubarb and asparagus, on one side and the vegetables on the other. Let the whole plot be a run for the chickens from November to March.

Probably you should set out a few additional fruit trees next spring. Ride out among the neighbours who want to do the same thing, make up a little club for the purpose, and send on your order, in one lot, to some reliable nurseryman. May be you had better send to several of the reliable nurserymen first for their catalogues.

THE DAIRY.

CARE OF MILK COWS IN WINTER.

From the care that many farmers bestow upon their milk cows during winter they are an expense rather than a profit. In the summer, when herbage is fresh and abundant, cows can supply themselves with material for milk production, but in the winter they have to depend on the skill of their owners for this material, which is often illy provided.

I have heard farmers say they had to keep three or four cows to get milk and butter enough to do their family, when to follow them to feed these cows you would find them sheltered by the fence or the side of their barn, shivering with cold, icicles hanging all over their body, and if sheltered she had been forced to lie in her own filth all night. Her feed consisted of a few rotten nubbins of corn and an armful of husks or a little fodder. This they claimed was all they could afford to give, and even at this it looked as if they would run out before spring.

To winter a milk cow at a profit the first requirement is a warm dry stable, in which there is abundant ventilation, and where perfect cleanliness can be observed; for comfort is as necessary to profitable milking as feed or water. It is interesting to trace the ill effects of bad keeping upon the milk-pail, and how neglect leads to diminished profits. The skin is a very important secretory organ. Generally it is considered solely as the hide which covers and protects the flesh and bones. But there is continually passing through the numberless pores of the skin a vast quantity of watery vapour mingled with much effete animal matter, which escapes with the vapour that passes off as insensible perspiration. For the healthful action of the skin it should be kept clean and well carded. The feed should be nutritious, easily digested and abundant. As milk contains a large proportion of albuminoids and phosphates, any food that contains enough of these substances to meet the demand for milk in addition to what is required to supply the wastes of the body, will keep up the flow of milk. If the food does not contain enough of these substances or a sufficient quantity is not given, the flow of milk will be diminished, or else the cow must use her own tissues for its production. In either case the farmer is wintering at a loss. There is one fact that the farmer should remember, that the cow cannot give milk unless the raw material be given her to manufacture it from; he also should remember that heat and wastes of the body must be kept up. But the farmer has been taught through the papers so much that the cow was an engine, so to speak, that required constant care, good fuel to keep it in good running order, that many of them are like the little boy said he was when told to go and wash his face, if he did wash his face it would not stay washed. So it is if they are told they won't stay told.

But we have seen that heat has to be kept up in the body by feed or through good housing; and the importance of a clean healthy skin; that the farmer should provide for his cows warm, dry quarters, that he may save food, also provide nice, clean straw for bedding, that his cows may be warm and clean.

The feed for milk cows should consist of nice, well-cured hay; well-cured fodder is a good feed for milk cows; clover hay is an excellent feed. Sweet corn fodder sown in drills three feet apart and with stalks six inches apart, grown to maturity and carefully cured, will make more milk than an equal weight of fair clover hay.

Sorghum fodder, if well cured, makes a good feed. Some farmers object to it and think it will kill cows to eat it, but I have fed it to stock for

several years with no serious effect, but on the contrary a good nutritious food. I have observed wheat bran to be one of the best feeds for milk cows. A gallon at each milking with a little salt mixed with it is fine to keep the flavour of milk. Salt of itself given at milking time will aid in keeping up the quantity of milk. Potatoes when chopped and mixed with meal add to the yield of milk and the quality produced by them is good as might be expected from the large proportion of starch they contain.

Cabbage furnishes another resource for milk not sufficiently appreciated by the average farmer. There are few vegetables that contain as much nutrition, pound for pound, as a cabbage-head. So rich a milk producer is cabbage that it pays to raise this vegetable solely to feed to milk cows. Where cabbage is worth ten cents a head in market the true economy is to feed the waste leaves. Some may object to the flavour that cabbage imparts to milk, but feed in small quantities at first, and after milking.

Whatever food is given it is best to divide it with at least three feeds. If large quantities of food is crowded into the stomach the digestive organs are too severely taxed and the ease and comfort of the cow is interfered with. I have observed to get a good flow of milk that the cow must be at ease in every respect. An uncomfortable cow or a wearied or frightened cow will not give a good flow of milk. The most perfect digestion goes on when the cow is at perfect ease and quietude. Although the cow's stomach is capacious, yet one bushel of loose hay or fodder, or a half bushel of moist feed or roots at once is sufficient.

A regular and ample supply of water is as necessary as the supply of food. Few farmers consider water to be food. The majority look upon it very differently, but it supplies an important part of the animal nutrition. It is said that seventy-five per cent. of the blood and flesh and ninety per cent. of the secretions consist of water. Every one of course considers water a necessity, but that it should be pure and not so cold as to lower the temperature of the body when taken freely is not thought of. The health of the animal depends perhaps more upon the purity of the water consumed than upon the character of the food, because the water enters very rapidly into the circulation and carries with it any impurities which may be held in solution; these at once affect the blood. Besides when an animal is not regularly and frequently watered a large quantity will be swallowed at times. If this quantity should be one-tenth part of her own weight and it given cold the reduction of temperature of the stomach is very great and a serious shock is given to the vitality which requires the consumption of extra food to restore.

If the farmers would study their best interests more they would see the great utility in feeding and watering abundantly and in a proper manner. There is more profit to be gained from two cows properly cared for than three cows with the care of two cows divided between them, besides there is a third more risk to run from disease and death.

THOS. D. BAKER.

THE FLY SEASON AND THE DAIRY.

The hard frosts have already put an end to the annoyance of dairy stock by flies for this season. But it is timely to look at this subject at this time with a view to measures to be taken hereafter for saving the stock from the annoyance to which it is subjected from this source, and also saving the owner from the loss experienced, which is by no means inconsiderable in a herd of milk cows. From the middle of July to the

first of October the flies are a great annoyance to live stock running at large. The more sensitive and delicately organized they are, the greater discomfort and torment they experience. No class of live stock is more sensitive to this torment than the milch cow, and none should be less exposed to it if her own comfort and the interests of her owner are to be taken into account. The demands upon her are large. Not only must she take food enough to supply the waste of her system and maintain her condition, but a liberal supply to be converted into milk, if her owner is to realize a profit from her. Now a cow cannot do her best, if, throughout the day she is tormented with flies, countless as the swarms that troubled old Pharaoh, and besides they come at just the time when the pastures are the shortest. For several years the writer has practised keeping his dairy stock (never exceeding two cows however,) in the stable during the day, from morning to evening milking, giving a feed of green clover or fodder corn, and turning them out to grass at night. The stable is sufficiently darkened so that they suffer little or no annoyance from the flies and it is no small satisfaction to see them lying down and placidly chewing the cud, when cows in the pastures are tormented almost to distraction by the flies, and his experience is that by far the best results are obtained at the pail by this method. The plan of soiling or partial soiling in place of pasture wholly, or in part, has attracted a good deal of attention of late years among dairymen, and some of the best dairymen have adopted it.

It would not be a difficult matter for any farmer to so arrange matters that next summer he can adopt this plan of stabling the cows during the day. If he commences early in the season a field of clover supplies the necessary food. This can be followed by green oats, sown at intervals, so as to last till fodder corn is in season, which will last till the fly season is over. To be sure caring for a herd of cows in this manner involves a certain amount of labour above that required where they are pastured, but it will more than pay in the increased product, and the manure saved instead of being scattered over the fields, defiling the grass so that the cows will not eat it, is no small item. When turned out at evening they will quickly fill themselves and then lie down for the night. The ground required for growing crops for day feeding will more than be saved in the less amount required for pasture, and leaving out all considerations of humanity to the animals, the farmer who pursues this course will be better off in pocket than under the old system of grazing.

One cause of the bad butter in market is the unclean condition of many farmers' cellars. Decaying vegetables taint the air, and their odours are absorbed by the milk, to re-appear in whatever is made from it. If the meat barrel becomes at all tainted, it should be at once removed. In fact, wherever milk and cream are kept in cellars they should be kept in different rooms from the pork barrels. Readers of the Rural, see that your cellars are clean.

The *Medical Record* makes the startling statement, that looking-glasses are responsible for mercurial poisoning. In two cases given, of a man and his wife, the cause of the trouble was in a looking-glass hanging in the bedroom, the wooden back of which was dotted with thousands of minute globules of mercury. The apartment was heated during the night. In another instance the source of the poisoning was a mirror, forty years old, whose back had become weak, and from whose face the quicksilver freshness was fading. The aged culprits having been summarily removed, their victims speedily recovered.

HOME CIRCLE.

GIVE THE GIRLS A CHANCE.

"The trouble with me is, Miss Dare," said Helen Brown as the two girls brushed out their braids, "I am not satisfied to be simply a farmer's daughter—I want to be a business woman; I want a business education like a boy."

"With a view of going into business for yourself?" queried the young teacher, turning a laughing glance toward her friend's reflection in the glass.

"No, but with the view of knowing something when I grow up, besides this everlasting round of stewing and baking and pickling. Has Hester Lane two ideas beyond that roomy kitchen of theirs, or any of the girls around us? Why should people make such a distinction between girls and boys? There is John can sit down and talk over business affairs with father intelligently, and he expects it of him. He would as soon think of talking over money matters with Bruno as with me. It makes me vexed."

Miss Dare laughed at the girl's excited air, but asked quietly, "Haven't you as many brains as John?"

"I can beat him playing checkers."

"Yes, and at other things, if you set out. I see no reason why you should not 'know something,' and be able to talk intelligently, even on business matters, if that is your taste, if you will only apply yourself. But wishing never accomplished much,"—and she coolly pinned back a loose braid. There was a sly point in this which Helen saw. She was not so diligent a scholar as she might be, and all that winter Miss Dare, who was boarding at the farmer's, had tried in vain to stimulate her to closer application.

"Some distinguished man, I forget who," went on the young lady, "said: 'Make a boy master of arithmetic, and you have laid the foundation of his success in life.' Now, I should say that two or three other things are important, but certainly this is a foundation stone, and I do not see why it is not every bit as useful for a girl. The discipline of mind, for one thing, is excellent, and then the principles come in play, every day one lives. Now if you had been as ready as John to compute the interest on that note for your father, don't you think he would have had a higher opinion of your business talent?"

"I always did hate interest."

"So you will hate all business details unless you take hold with a will and master the points inch by inch. You have got to take one fort after another, just as a general does when marching into an enemy's country, if you are to be the victor. After you begin to take forts, then comes the enjoyment. I speak from experience."

The tea bell rang and the two girls went down stairs—Helen with a thoughtful face and a very decided mind. She would take one fort that very evening. The tea things were cleared away and the family seated for the evening, when Helen's father remarked:

"I wish John was at home this evening to help me a little with these accounts. My hands are pretty stiff, and I never was much of a hand at figures."

"I wonder if I could help you, father?" asked Helen, with surprising promptness for her.

"Suppose you could?" queried her father, doubtfully.

"I could try; and may be Miss Dare would look over my work afterwards, and make sure I am right."

"Certainly," said that young lady, looking up from her reading. "It will be an excellent practice lesson for you, Helen."

Father and daughter were soon deep in the de-

tails of the business, and with an occasional question to Miss Dare, the work was completed "tip-top," as Helen's father said. To his great delight, as he was fearful he must put it off until next week, when John returned.

"Who would have thought, mother, that our baby had such a head on her?" said Mr. Brown, pinching Helen's solid cheek.

Was not Helen a happy girl? May be it was because she was only still "the baby" to her father, that he had never looked upon her as a reasoning being before.

Now that she had taken one good fortification, she took heart and attacked another. She plodded through a long page of tough "examples," over which she would once have fretted by the hour. If arithmetic would help a girl along in life, she determined to master it page by page. There were a few spots that seemed a little beyond her depth, but she did her best to understand every step she took, and succeeded far beyond the average of school girls. The determination and perseverance that this required, and the mental discipline, were the best results of all, though the practical knowledge was not to be despised.

A gentleman from the city came out one day to buy some stock of Mr. Brown, and accepted his invitation to stay over night.

What surprised Helen was to see the ease with which Miss Dare conversed upon all topics that came up, with this gray-haired man of business, who was in the habit of gathering information of a practical kind in every locality where he happened to be.

"How did you ever learn so much, Mabel?" asked Helen, in the privacy of their own room. "I never suspected you of being a business woman."

"Oh, a reputation of knowledge is very cheaply acquired sometimes. I always make a point of learning something wherever I go, and then you know I read a semi-weekly regularly. The fact is, Helen, I don't 'skip the dull parts' in a paper." Helen laughed as she saw the application. She always did skip the dull parts from regular system.

"You never will acquire much general information until you get over that habit," went on Mabel Dare. "Reading simply for amusement may do for a recreation, but all play quickly spoils the working powers of body or mind. The two great points with you, Helen, should be in these years to increase your mental powers, and add to your stores of knowledge. I would write these two points on a card, and study over the subject some minutes every day. I would ask myself every day if I had gained anything on either count."

There were several good papers in the house every week, but Helen had always been in the habit of skimming them over on the hunt for a story, and as soon as it was devoured the paper was thrown aside. She tried Mabel Dare's plans of reading for information, and was surprised to find that so much could be learned from a single number. She was a sensible girl, and did not proceed to air her knowledge just for the sake of showing it off, but bided her time, and found it was easy and pleasant to join in conversation on other subjects besides cooking and sewing.

When spring work came on, she entered into the bustle with more zest than she ever had before.

"I wish I had something of my own on the farm, Mabel," she said one day, rather fretfully. "Something I could raise money from, and increase by diligence. I know father is a better provider than most men about here, but I should love to handle money that was my very own; to spend money without asking for it first."

"There are a great many possibilities on a farm," said Miss Dare, "and I am sure your father would be willing to help you if he knew your ambition."

"The two girls discussed various ways and means before they went to sleep, and Helen's mind was made up to "try something."

It is said that Providence helps those who help themselves. That very week a swarm of bees flew over the wheat fields and alighted on an apple tree bough. The united talent of the family conspired to "hive them" in a bushel basket, and from thence they were transferred as soon as possible into a patent hive. It was Helen's discovery, and Helen's swarm. She felt that she was fairly started in a new industry of which she had not even thought.

"It seems a little like keeping strayed cattle, father," said Helen.

"It would be rather hard to prove property," answered Mr. Brown.

"Any way, I mean to ask Mr. Anderson about them," she said; "he is the only person very near who keeps bees."

She did ask him the very first time she met him if she had any of his bees prisoners in her hive.

He laughed, and said he thought likely, but that he should not go to law about it. He always had the luck to lose a swarm or two, but he did not know what to do with all he did have.

So Helen's conscience was at peace, and she went to work with the greatest diligence to qualify herself for a bee farmer. She studied the subject in books, looked over the bee department in files of old papers up garret, and best of all, she made frequent visits to Mr. Anderson's, and found out all he knew about the culture from a practical point of view.

It was a good thing to begin small in this, as in most new enterprises. Those who start out with a dozen colonies are apt to find them much diminished before they are increased. Helen had her ups and downs, as all have, but she did make good money out of the business, and found it a source of great interest besides. Her mind was wide-awake on the subject of earning something "on her own hook," and her father wisely gave her all the facilities she desired. A pet cow, which had been her "little bossy calf" in the childhood days, not so far away, was now her young cow, and after deducting a merely nominal sum for its board, she had all she could make from it. She fed this cow and milked her, and churned the butter herself, and many a pretty article she added to her wardrobe and her room furnishing, by means of the money she earned from this.

If all parents were as wise, there would be a better crop of children raised on our farms. Instead of hoarding up money to be cut up among the children after you are dead, and they have drudged on in poverty until middle life, give them a reasonable sum as they go along—not enough to make them lazy and worthless, but enough to really help them, as money would have helped you in your younger years. Nothing more endears a parent to the hearts of his children than a wise liberality. Nothing makes him more careful in their eyes than a close-fisted stinginess. It is not pleasant to feel that they are looking forward longingly to the day when the estate can be divided up. J. E. McC.

AN ENGLISH FARMER'S WIFE.

"We's up at four o'clock, for yer must be up betimes; the young poultry are soft and can't bide long whiles without food. At quarter to four I steps out of my bed just sharp like and sings out to the girls, and they slips forth from bed as quick as ever they may, and we jumps on

with our clothes and minds our beasts, whatever it may be that God has given us to look after. And then at seven o'clock Bilston and all of us have breakfast. We has home-made bread, and there's bread and milk for the girls; and we always has a slip of bacon on Sundays. After we have had breakfast," continued Mrs. Bilston, "master he bids they settle theyselves, and we sits this wise—Polly there, and Tom yonder, and Bilston in his arm chair," and the good woman enumerated and showed me exactly where each member of her family sat. "Then the master he calls for the family Bible, as belonged to his grandmother, in which is written how his father's sister died of the measles when she was four years old; and he begins at the first chapter of Genesis and works right on forward like till the book is ended, and then he starts and begins again. He always reads one chapter, and never no more and never no less; and when anything as he thinks applies like he says to one of them, 'Now you take and mind that, my lad,' or 'my wench,' as the case may be; and then, when he has said a few words of learning and minding, we gets up, and each of us goes off to his or her business. I churns regular three times a week, and the girls they get off to making the beds or scrubbing, or maybe to the calves or to the poultry. There's always work for the willing. Then by twelve o'clock we're all in again; and after the girls and the boys has a-made theyselves tidy—for I can't do with no dirt about their hands and faces at meal—while we sits down; and we has most times broth, and rice or sago pudding, and winter times an apple tart, or for a treat like, a jam roll; and then there's a glass of cider for Bilston and the men, and there's milk for the girls. And after we've a-done—that's saying, when all's have eaten up clean an neat whatever father or myself have a-given them—we goes out, all but Polly, who clears away, and washes up and puts back all the pewter; and then we minds the beasts again till four o'clock, when we comes in and has tea, which I keeps in the tea caddy as my mother a-gave me when I married, and which I always keeps locked—for I won't have no trifling with the tea; and after tea we drives in the poultry to roost, and we stalls the calves and such like 'nesh' beasts for the night. And after that the gals come, and they out with their needle and thread; and, to make the work go merry, we sings such songs as I used to learn be times when I was a chit, such as 'Cherry Ripe,' 'Little Boy Blue,' and 'Sally in Our Alley,' and all the while we darn father's stockings or make the boys new shirts, or maybe the gals make their own gowns—but I wont have no furbelows or bunching about behind or before, as such like folly only hinders their gait and makes them vain with frippery. Then there's often the sheets to mend or the underlinen to put to rights. And I always keep they sweet with lavender, as does a body good to smell and seems well and pleasant like for any one in bed. And at nine o'clock we all get to bed, and I as round rooms at the half hour; for I wont stand no candles burning after such whiles, for it be a danger to the house and a folly to theselves."—*Nineteenth Century.*

BEAUTY AND TEMPER.

It is time enough to begin to be amiable when you begin to be ugly, say certain young ladies, or they seem to say it. But nature punishes this perversity in a very strange and remarkable manner. They who refuse to cultivate the moral beauty during the reign of the physical beauty, to lose the opportunity of possessing themselves of it, and moreover, they destroy their favourite species of beauty by their independence and neglect of the other. The temper imprints its

mark upon the countenance, which very speedily reveals the character of the disposition which lurks behind it. Being a growing power and a vigorous power, which is even strongest at death, it gradually overcomes every obstacle which stands in the way of its own escape into outside observation. It wrinkles the brows, lowers the eyebrows, bends down the curves of the mouth, and pouts the lips whenever it happens to be of a disagreeable nature; and it gives life and permanent animation to all the lines of the face whenever, in its course of feeling, it happens to be of a kind, generous character. It comes out at last and shows itself, and once shown and impressed upon the face it is there so long as it continues to act from within, and that is generally for life.—*Philadelphia Letter.*

THE FIRST SNOW.

Gay bloom the flowers in springtime set,
And streaky apples linger yet;
'Twas Autumn but a week ago,
Why, then, these flakes of Winter snow?
Summer's last rose they disarrayed,
The while she dreamed in peace to fade.
One swallow was inclined to stay;
The white flocks frightened him away.

Winter's cold shock w'l o first endure
Think him unkind and premature:
Complain the Summer was too brief,
And moralize o'er each dead leaf.
But as he grips with firmer hold
We grow more careless of the cold;
Joy in the sparkle of his snow,
And nestle by his fireside glow.

Dismayed, we note the first gray hair,
Soon others come—we cease to care;
Then gray, outnumbering the brown,
And soon white Winter settles down.
And when from youth we've passed to age,
We've learned our lesson page by page,
To take what comes for weal or woe,
And never fret about the snow.

—*St. James' Gazette.*

WHEN THE FRONT IS ON THE PUMPKIN.

When the frost is on the pumpkin, and the fodder's in the shock,
And you hear the kyouck and gobble of the strutting turkey cock;
And the cacklin' of the guineys, and the clucking of the hens,
And the rooster's hallyk-over as he tiptoes on the fence;
Oh, it's then's the time a feller is a-feelin' at his best,
With the risin' sun to greet him from a night of gracious rest,
As he leaves the house bareheaded and goes out to feed the stock.
When the frost is on the pumpkin and the fodder's in the shock.

They's sompin' kind o' hearty like about the atmosphere,
When the heat of summer's over and the coolin' fall is here;
Of course we miss the flowers and the blossoms on the trees,
And the mumble of the hummin' birds and buzzin' of the bees;
But the air is appertizin', and the landscape through the haze
Of a crisp and sunny morning of the early autumn days,
Is a picture that no painter has the colorin' to mock;
When the frost is on the pumpkin and the fodder's in the shock.

The husky, rusty rustle of the tassels of the corn,
And the razzin' of the tangled leaves, as golden as the morn;
The stabbles in the furrows, kind o' lonesome-like, but still
A-preachin' sermons to us of the barns they growed to fill;
The straw-tack in the medder and the reaper in the shed,
The horses in their stalls below, the clover overhead;
Oh, it sets my heart a tickin' like the tickin' of a clock,
When the frost is on the pumpkin and the fodder's in the shock.

ROUND SHOULDERS.

First, suspend two ropes with ring handles from a doorway, and swing by the arms three minutes at a time three times a day. This will cure round shoulders within three months. Second, remove both bolster and pillow from their usual place under the head when one is sleeping, and have one or both placed under the shoulder blades. This brings the head a little below the level of the dorsal region, and curves the spine in

direct reversal to the curves of the round shoulders, and as during sleep relaxation of the spine ensues, the posterior spinal muscles are permitted to recover some of the contractibility they lose during the day if supports be not worn. During the day let the patient recline upon the front of the body, lying at full length, as children do, and resting on the elbows. This favourite position with the children should be encouraged, as if steadily practised it is a sure prevention of deformity. This position is one of the greatest helps to symmetrical development in children.

HUMMING-BIRD'S UMBRELLA.

In front of a window where I worked last summer was a butternut tree. A humming-bird built her nest on a limb that grew near the window, and we had an opportunity to watch her closely, as we could look right into the nest from the window. One day there was a very heavy shower coming up, and we thought we would see if she covered her young during the storm; but when the first drops fell she came and took in her bill one of two or three large leaves growing close to the nest, and laid this leaf over so it completely covered the nest; then she flew away. On looking at the leaf we found a hole in it, and in the side of the nest was a small stick that the leaf was fastened to or hooked on. After the storm was over the old bird came back and unhooked the leaf, and the nest was perfectly dry.—*H. A., in American Sportsman.*

NEW METHOD OF CLEARING LAND.

Some of the lumber trade journals state that a new method of tree felling by dynamite has been successfully introduced. A cartridge of that explosive substance is placed in a channel bored directly under the tree to be operated upon, and when exploded, the tree is simply forced up bodily and falls intact on its side. If the system works as well as it is represented to do, and the tree is not fractured by the force of the explosion, a large proportion of valuable wood at the base of the trunk can be utilized which is now lost. This method seems admirably adapted for clearing forest properties and converting them into arable land, as it brings up the roots of the tree at one operation, and dispenses with the tedious and costly process of grubbing out the roots of the felled timber. This latter work was a Herculean task in many of the North-Western States, such as Ohio, Michigan, Minnesota and Wisconsin, and also in Canada. Many a farmer in Canada wore his life out in removing stumps, and died before the work was fully accomplished.

THE FARMER'S CONTENT.

Farming is a slow way to make money, but then there is a law of compensation about everything in this life, and farming has its blessings that other pursuits do not have. He is the freest man upon earth and the most independent. He has more latitude and longitude. He has a house in the country with plenty of pure air, and good water. If he makes but little in the field, he has no occasion to spend but little. He can raise his own hogs, sheep, cattle and chickens. His wood costs him nothing, and the luxury of big-back logs and blazing fires in open fire-places all winter is something that city people long for but cannot afford. My farm cost me \$7,000. I have 120 acres of open land in good condition, and it yields me on an average about five dollars an acre over all expenses. Say nine per cent, upon the investment. Well, that is mighty little, considering my own labour and supervision. I've seen the time when I made five times as much without any capital except my head. But then we have to keep a pair of horses to ride around and they have to feed from the farm. *Bill Arr,* in *Atlanta Constitution.*

YOUNG CANADA.

EXILES IN SIBERIA.

Many years ago, in the early youth of the century now growing old, a book was published which, from its patios and its transcription of filial virtues, took deep hold of the popular heart, and will never wholly let go. This is "Elizabeth; or the Exiles of Siberia." Originally appearing in French, it was shortly translated into various languages, proving its nature to be that in which all the world is kin. The story is on a basis of well-authenticated facts, which were transmitted to the author, Madame Cottin, in the letters of a friend who resided at St. Petersburg at the time that "Elizabeth" made her remarkable journey thither. The heroine's real name was Praskovy Gregorion Lupulova—i. e., Pauline the daughter of Lupulova.

This man had been in the service of the Empress Catherine, and was exiled on a life-sentence upon an accusation of stealing plate from the royal household; though if the convict himself knew with what offence he was charged, it is certain that his child, even when she suffered so much for his liberation, was entirely ignorant of it.

When Praskovy, or Pauline, was sixteen years of age, Alexander I. came to the throne. No sooner did the tidings reach their remote and dreary Siberian home, than a purpose was roused in the heart of the girl to make her way to the capital and plead with the new sovereign for her father's pardon. At first her parents refused to listen to so apparently impracticable a scheme, but her unceasing supplications finally prevailed. They gave her the ten copecks they possessed, a few more were contributed by charitable neighbours, where all were poor together; and with this sum of only a rouble—hardly more than half a dollar—and her parent's blessing, she set out to travel on foot four thousand versts—a distance greater than the width of the American continent.

The girl was very thinly clad, and suffered much from cold, as well as hunger. Twenty-five or thirty miles was her daily walk, but sometimes her feet were so swollen with fatigue as to compel a rest of two or three days. Starting at sunrise as a rule, she stopped when night overtook her at any shelter Providence might offer; and God, she said, upheld her courage by giving her many pitying friends along the desolate way. Three-quarters of a year of this arduous journeying brought Pauline to the neighbourhood of Moscow, where her hardships ended in her being received into a convent and kindly cared for. From there to St. Petersburg her journey was by public conveyance.

The nuns, deeply interested in the poor girl, recommended her to the Princess Torrubetskoy, famed for benevolence, who immediately wrote to the emperor, making known the case, and had the letter, together with a petition for Lupulova's pardon, presented by an influential gentleman. The result was that the young woman received a summons to appear before his majesty, which she did trembling with weakness and emotion. Her anxiety was soon over, for he told her in the kindest manner that whatever the crime of her parent might be, he pardoned it for the sake of such a daughter. He also gave her two thousand roubles and presented her to the empress, who gave her three hundred roubles, and pensioned her with two hundred roubles a year for life. Full permission was granted for herself and family to live where they pleased.

The happy girl sent for her parents, and in the meantime she was invited from one nobleman's house to another, where her constant

entertainment was fit for a princess. Pauline was found to be very amiable, affectionate, pious, and much more intelligent than would be supposed possible for a native of the deserts of Siberia. By order of the dowager empress she was sketched in the dress in which she first appeared at the palace, with which the nuns of the convent had provided her,—a gown of gray calico, with "mutton-leg" sleeves, a large black crape handkerchief on her neck, a chaplet of beads and cross, and a white muslin kerchief wound carelessly about the head and knotted under the chin. The face was peculiarly gentle and pleasing, though not handsome. One of these pictures the dowager empress placed in her own cabinet. She also sent copies to each of the imperial family. It does not seem that the girl's head was at all turned by so much attention. When the book narrating her adventures under the name of Elizabeth arrived, and the heads of it were translated to her, she laughed and said, "A poor girl like me made into such a fine story!"

With a large sum raised for her by subscription Pauline went to meet her parents at Catherineburg, saying that her heart was in constant grateful prayer, God knew with what sincerity. Fears had already been felt lest the severe strain she had undergone had so injured the poor girl's constitution that she would not long survive to enjoy her good fortune, and so it proved. She lived to see her parents comfortably settled at Lower Novogorod, and passed away three years after quitting Siberia on her errand of love and duty.

THE LAZY PUSSY.

There lives a good-for-nothing cat,
So lazy it appears,
That chirping birds can safely come
And light upon her ears.

And rats and mice can venture out
To nibble at her toes,
Or climb around and pull her tail,
And boldly scratch her nose.

Fine servants brush her silken coat
And give her cream for tea;—
Yet she's a good-for-nothing cat,
As all the world may see.

TEACHING ANIMALS TO TALK.

A pretty picture, exhibited some time ago, represented a little child looking up inquiringly to the intelligent face of a collie dog, and was entitled "Can You Talk?" Sir John Lubbock has lately been asking the question of a little black poodle, and has been endeavouring to teach it to make its wants known by the use of cards with written characters upon them. Thus, one card bears the word "Food," another "Out;" and the dog has been taught to bring either the one or the other to his master, and to distinguish between the meanings of the two. It seems doubtful whether the dog in this case uses the faculty of sight or smell; and it would be a source of some interest and amusement to those possessing an obedient dog, and with time at their disposal, to carry out the same kind of experiments, using new cards every time.

It is constantly brought home to any observing owner of a dog that the animal understands a great deal more than he is generally credited with. In one case we know of a Dandy Dinmont who became excited when certain things were mentioned in so which he was interested, that French word had to be used in place of English ones when he was present. Their intelligence is truly marvellous. The wife of the editor of this journal possesses a terrier which, while his mistress is out driving, will remain quietly in the parlour during her absence, taking no heed of other vehicles that may

come to the front door in the interval, but instantly recognizing by some intuitive perception the arrival of the carriage or cab that has restored his mistress. Be it noted that the room in which Tim is confined during these temporary partings, is at the back of the house, apart altogether from the front door. This special power of discrimination on the part of our favourite has always been a marvel to us.

Col. Stuart Wortley, commenting upon Sir John Lubbock's experiments, tells an interesting story concerning a cat which he found during the Crimean War. The poor creature was pinned to the ground by a bayonet which had fallen and pierced its foot. The colonel released it; and the animal attached itself to him, and remained with him to the end of the war. The first two mornings of their acquaintance the cat was taken to the doctor's tent to have his wounds dressed. The third morning, the colonel was on duty; but the cat found his way to the doctor's all the same, scratching at the tent for admission, and holding up his paw for examination.—*Chambers' Journal.*

HOW POSTAGE STAMPS ARE MADE.

In printing, steel plates are used, on which two hundred stamps are engraved. Two men are kept hard at work covering them with coloured inks and passing them to a man and a girl who are equally busy printing them with large rolling hand-presses. Three of these little squads are employed all the time. After the small sheets of paper upon which the two hundred stamps are engraved have dried enough, they are sent into another room and gummed. The gum used for this purpose is a peculiar composition, made of the powder of dried potatoes and other vegetables, mixed with water. After having been again dried, this time on the little racks which are fanned by steam power, for about an hour, they are put in between sheets of paste-board and pressed in hydraulic presses capable of applying a weight of two thousand tons. The next thing is to cut the sheet in half: each sheet, of course, when cut, contains a hundred stamps. This is done by a girl, with a large pair of shears, cutting by hand being preferred to that of machinery, which method would destroy too many stamps. They are then passed to two other squads, who perforate the paper between the stamps. Next, they are pressed once more, and then packed and labeled and stowed away for despatching to fulfill orders. If a single stamp is torn or in any way mutilated, the whole sheet of one hundred stamps is burned. Five hundred thousand are burned every week from this cause. For the past twenty years, not a single sheet has been lost, such care has been taken in counting them. During the process of manufacturing, the sheets are counted eleven times.

FAIR PLAY.

Fair play in play is the foundation for fair play in life. To play unfairly is to steal. By the rules of the game, you have certain rights, and your opponent has certain rights. These rights, like all rights, are of the nature of property. If you take the slightest advantage to which you are not entitled, you are to that extent—well, thief is a hard word to use. But I will let you or any other conscientious boy say what is one who takes that which does not belong to him, and thus infringes on the rights of another.

The boy who plays fairly is sure to make an honourable man. I should not like to say that the boy who plays unfairly will grow to be a rogue. But I will say that the boy who takes unfair advantages in a game shows a weak moral nature, and cannot be depended on in a pinch.

The following decision, given by Judge McDougall in the Division Court, Toronto, last week, will not be without interest to readers of THE RURAL CANADIAN. Peebles & Co. v. Nolan, the first case, was a test one. It seems that the defendant signed an order for a book published by the plaintiffs, and afterwards countermanded the order to the publishers. Judgment was given for the plaintiffs, His Honour holding that all orders for subscriptions, books, etc., were binding on the subscriber, and any outside contract made with the agent did not affect the written contract or bind the publishers. Parties who sign a canvasser's order-book for a work sold by subscription, should know that they cannot afterwards cancel their order, and that whether they take the book or not, they can be made to pay for it in the Division Court. The publishers order their edition from the list of subscribers they have obtained, and it would be unfair to them to allow those who have ordered a copy to refuse to accept it when the delivering agent comes round. After an order has once been given for a subscription book, the subscriber must take it.

Many RURAL readers will be pleased to learn that they can secure the Montreal WEEKLY WITNESS—for many years so popular with thousands all over the Dominion—and THE RURAL CANADIAN, on remitting to this office \$1.25. Reader, promptly make sure of wholesome reading for your household for 1885. Balance of year FREE to new subscribers.

The rapid growth and dense shade which buckwheat makes, says the Toledo Blade, gives it great value as a weed destroyer. Even thistles can be kept down by it if the land is sown as soon after ploughing as possible, and the first thistles that appear are pulled or cut with a hoe.

RURAL subscribers are amazed at the \$1.15 offer. For this insignificant sum we send THE RURAL CANADIAN and WESTERN ADVERTISER for one year to any address. The arrangement we have made places the leading weekly family paper of the West, and the best farm and home magazine within the reach of every one who can read. Thousands, we feel certain, will promptly take advantage of the offer.

SHE was going on a journey and a long night's ride was before her. "Oh dear," she sighed, as her husband bade her good-bye in the sleeping-car, "this night travel is so tedious, and the hours are so long. "Don't be discouraged," he said, "you are in a fast train and the night will slip by very rapidly."

Young men and others will find our Premium offers in adjoining columns, worthy of consideration. Any one who has a little "go" in him may secure a good fowling-piece, rifle or double-barrelled gun, as the result of a few hours' work. There is no neighbourhood in Canada where a club can not easily be got up for THE RURAL CANADIAN. Attend to this little matter at once. "Work and win one of these valuable Premiums. The articles are guaranteed to be as represented.

A CORRESPONDENT of the New England Farmer says that a farmer observed that some of his apple trees that had been dressed with unleached wood ashes bore apples which kept all winter without rotting, while the rest of the fruit rotted badly. His trees were infested with apple tree blight. He finally applied wood ashes, at the rate of two hundred bushels to the acre, to his orchard, and washed the bodies of the trees with lye. The orchard recovered from the blight, and the apples would keep well in an ordinary cellar all winter.

YOUNG MEN, ATTENTION!

NOW IS YOUR CHANCE!

The Greatest OFFER ever made in CANADA.

FREE! FREE! FREE!

Any of the following FIRST CLASS Firearms can be obtained FREE by any Man or Boy who will give a few of his spare moments or evenings in his own neighbourhood and among his own friends.

THE FARMER'S FRIEND,

MUZZLE-LOADING



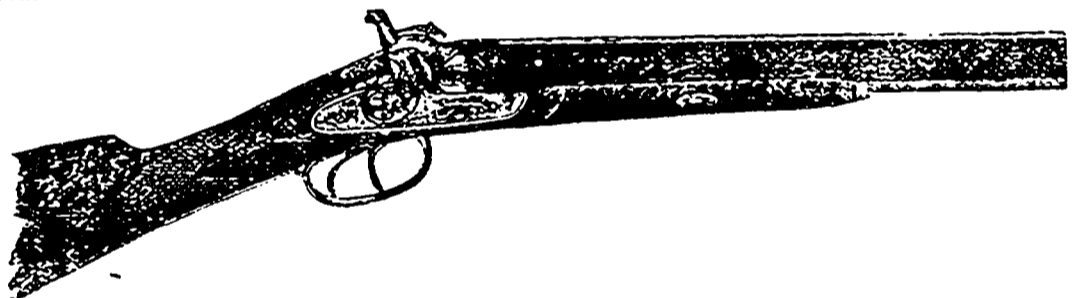
SHOT GUN.

Single barrel, muzzle loader, fine de-carbonized blue steel barrel, small nipples, blue steel mountings and steel ramrod, made of first-class material. The lock of this gun is equal to that of a \$100 gun, and will outwear and outshoot any gun that is sold for \$15.00 in Canada. With bullet mould and steel wad punch.
To any one who will secure us SIX SUBSCRIBERS to the RURAL CANADIAN at \$1.00 each, and send same to us with cash enclosed, we will forward the splendid Shot Gun described above.

PRIMER-BREECH-LOADING RIFLE.

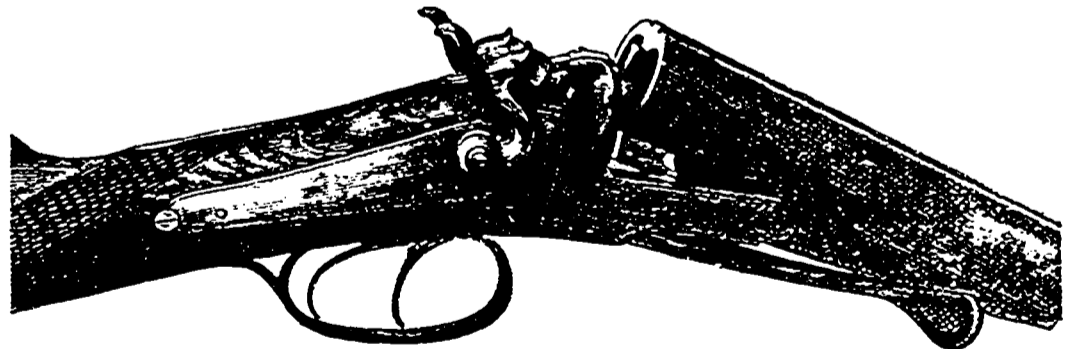
The barrel is made of de-carbonized steel and splendidly rifled; using the regular Spencer metallic cartridge; sighted to kill at 500 yards, positive and simple shell ejector superior walnut stock; case-hardened locks and mountings; 21-inch barrel; magnificent bar lock. No person who needs a good substantial sporting weapon should neglect this opportunity to secure a rifle which is in every respect reliable, substantial, well finished and accurate.

To any one who will secure us TEN SUBSCRIBERS to the RURAL CANADIAN at \$1.00 each, and send same to us with cash enclosed, we will forward this Superior Rifle.



THE SPORTSMAN'S FAVOURITE.

English Double Barrel Muzzle-loading Shot-Guns. Good tested barrels, back action locks, fine polished stock, checkered in break-off, steel mountings and locks, ramrod with tip and extractor. Superior to any \$18.00 gun in the market.
To any one who will secure us FIFTEEN SUBSCRIBERS to the RURAL CANADIAN at \$1.00 each, and send same to us with cash enclosed, we will forward this much admired Double-barrel Shot Gun.



THE CELEBRATED RURAL CANADIAN DOUBLE BARREL BREECH-LOADERS.

Strongest, Safest, Simplest Breech-loading Gun in the world. The celebrated Lefauchaux action, while not quite as handy as a side or top action, can be operated as quickly. When this gun is closed it is as firm and strong as a muzzle-loader. Best de-carbonized steel barrels, patent automatic ejector, fine walnut stock, checkered hand, good locks, patent lever fore-end. We warrant this gun in every respect as safe, strong, durable, and a good, close, hard shooter, and any one who is satisfied with these qualities without extra fine finish will be more than satisfied with this gun.

To any one who will secure us TWENTY-FIVE SUBSCRIBERS to the RURAL CANADIAN for one year at \$1.00 each, and send same to us together with the cash, we will forward this High-class Breech-loader.

Remember this offer is open to all, and you can commence AT ONCE. You do not require any instructions from this Office, although we will be pleased to send you Sample Copies and Club List FREE on application. You run no Risk. You make no outlay. You can get up the Club at your leisure and in your own district. If you try for the highest prize and yet do not succeed in getting more than SIX, you can at any rate secure the FARMER'S FRIEND. You should note that this is the greatest offer ever made in Canada, for the prizes alone are worth almost the entire amount sent us for the subscriptions.

OPINIONS OF THE PRESS AND PEOPLE:

I like the RURAL CANADIAN, it is the best Agricultural Magazine published in Canada. H. Mc G. Ottawa.
The music in the RURAL CANADIAN is worth the year's subscription.—A Lady Correspondent.
It contains a larger variety of practical information on agricultural subjects than I have ever met with in any similar publication.—H. A. Clifford, Muskegon Falls.

The best paper of the kind published in Canada to-day.—Durham News.
It will compare favourably with the best American journals of its class.—Sarnia Observer.
Don't delay! Commence work at once and a good Club is sure to be the result. Write for Specimen Copies to

C. BLACKETT ROBINSON,
Office of RURAL CANADIAN, - 5 Jordan Street, TORONTO.

THESE GUNS ARE FROM CHARLES STARK'S WELL KNOWN SPORTSMAN'S HEADQUARTERS, TORONTO.

I'LL ROCK ME TO SLEEP IN MY GRANDMOTHER'S CHAIR.

Words by JOHN B. SHAW.

Music by EDWARD HOLST.

MODERATO.

Musical notation for the piano introduction, consisting of two staves (treble and bass clef) in 3/4 time, marked MODERATO.

1. I'll rock me to sleep in my grand - moth - er's chair, To dream of the days that's gone by, To
 2. I'll rock me to sleep and in vis - ions so bright, I'll hear her low soft eve - ning prayer, As she
 3. I'll rock me to sleep at the close of each day, And wait for the same an - gel band, That

Vocal line and piano accompaniment for the first system of the song.

catch her bright smile, like the rain - bow of peace, That spans o'er the storm - cloud - ed sky, I'll
 fold - ed my hands at my low trun - dle bed, And asked for sweet ben - i - zens there, When the
 ear - ly one morn bore her spir - it a - way To the home in the bright sum - mer land, I'll

Vocal line and piano accompaniment for the second system of the song.

hear her sweet voice in its love thrill - ing tones, As she rocked to and fro in her chair I'll
 shad - ows of night fled a - way in the morn, And sun - shine peep'd in at the door With the
 wait for the an - gels in slum - ber so sweet, Who bore her a - way through the air To

Vocal line and piano accompaniment for the third system of the song.

2

catch the sweet spir - it that promp - ted her song, As she plain - tive - ly tried it there.
 sweet sing - ing lark on the mead - ow and lawn, My grand - ma was sing - ing once more.
 bear me a - way at life's clos - ing day, While rock - ing in grand - moth - er's chair.

FIRST TENOR CHORUS.

That old rock - ing - chair with its great lov - ing arms, Still holds me and rocks to and fro, While in

That old rock - ing - chair with its great lov - ing arms, Still holds me and rocks to and fro, While in

vis - ions so sweet I dream of the joy of my child - hood in days long a - go.

vis - ions so sweet I dream of the joy of my child - hood in days long a - go.

D.S. ff

I'll Rock Me to Sleep in My Grandmother's Chair.

When the Mason & Hamlin Company announced the accomplishment of a great improvement in Upright Pianos, which they would soon give to the public, much was expected, because of the vast improvements which had been effected by them in reed instruments, and the acknowledged superexcellence of their organs. Those expectations are fully justified by the pianos which they are producing, which have extraordinary purity and refinement of tone. Every mechanic will see that the peculiarities of their construction must add greatly to their durability and especially their capacity to keep in good tune.

This company have as great a future in their pianos as they already realizing in their organs, which are confessedly unequalled among such instruments.—Boston Traveller.

We call the attention of our readers to the Enterprise Mop Choppers advertised in our present issue. The demand for these Choppers has attained such immense proportions that the manufacturers have been compelled to largely increase their facilities for making them, and we are assured that they are now being turned out at the rate of 2,500 per week, 150 hands being steadily employed on them.

There can be no doubt as to the excellence of these Choppers, as they have been tested by the editors of nearly 100 agricultural papers, who have given them a hearty endorsement. We cordially recommend them to all our subscribers as by far the best machine of the kind ever introduced to public favour.

CONSUMPTION CURED.

An old physician, retired from practice, having had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nerve Complaints, after having tested its wonderful curative powers in thousands of cases, he felt it his duty to make it known to his suffering fellow-men. Actuated by this motive and a desire to relieve human suffering, I will send free of charge, to all who desire it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing with stamp naming this paper, W. A. NOYES, 149 Power's Block Rochester, N.Y.

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We the undersigned, druggists, take pleasure in certifying that we have sold **DR. WINTER'S BALM OF WILD CHERRY** for many years, and know it to be one of the oldest as well as one of the most reliable preparations in the market for the cure of Coughs, Colds, and Throat and Lung Complaints. We know of no article that gives greater satisfaction to those who use it, and we do not hesitate to recommend it.

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 - W. L. SMITH, 164 King St. East
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 - JOHN W. GERRIE, 30 James St. North
 - BLEASDALE & HARRISON, 36 James St. North
 - A. VINCENT & CO., cor. James & Murray Sts.
 - MCGREGOR & PARKER, 1 Market Square
 - JOHN A. BARR & CO., cor. York & McNab Sts.
 - A. CALLER & CO., 60 York St.
 - GEORGE A. WOOD, cor. York & Hess Sts.
 - ARTHUR BOYLE, cor. York & McGill Sts.
 - THOMAS COPLAND, 140 King St. West
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THOMAS IRVING, Logan's Farm, Montreal Breeder of Yorkshire Cattle, Clyde-dale, Yorkshire and Berkshire Pigs, and Leicester Sheep.

VIRGINIA FARMS VERY HEAVY Climate mild taxes low health perfect Schools and Churches convenient Good staple Catalogue C. D. Egan, Northway, C. H. Va.

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25 BEAUTIFUL FANCY MIXED CARDS 20 cts. a. do. with name 10c. 10/12

25 COMIC TRANSPARENT CARDS, 10c. Agents wanted. Outfit of 60 fine samples, 15c.

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Many Agents are Making \$5 to \$10 per Day "HOW THE FARM PAYS." SELLING OUR NEW WORK ON FARMING. Single Copies mailed for \$2.50. Table of Contents and Terms to Agents. PETER HENDERSON & CO., 35 & 37 Cortlandt Street, New York.

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2/3 ENLARGED AND IMPROVED.

Balance of 1884 free to all Now Subscribing for 1885

Sixty Special Prizes! Valued at \$1,700! Besides Usual Commission.

The Western Advertiser for 1885 will be surpassed by no other Weekly in the Dominion. All our appointments are of the very first order. Our magnificent Bullock Web-perfecting Press—running at the rate of 20,000 copies per hour—enables us to furnish a newspaper, vastly improved in appearance. Our terms are extremely liberal—

ONLY \$1 FOR 1885

or \$4 for five copies, including the REMAINDER OF THIS YEAR FREE to new subscribers. We count to agents, old as well as new names. We give a choice of six popular premiums to yearly patrons. Our agents, if they prefer it can have a choice of a number of valuable articles in lieu of cash commission. We offer Sixty Special Prizes worth fully \$1,700, to the sixty agents sending us the largest list of yearly subscriptions during the Campaign, which closes on March 14, 1885. The first prize is that magnificent rosewood piano—manufactured by Messrs. Evans Bros. & Litter, of this city—which attracted so much attention at the late Western Fair, the second prize is a handsome cabinet organ, the third, a valuable music box, etc. All of these special prizes will be awarded IN ADDITION to the cash commission or premiums earned by agents.

CHOICE OF SIX PREMIUMS:

- One of the following popular Premiums will be forwarded to each subscriber for 1885, on payment of the small additional amount required for postage, etc. Order according to letter.
- A.—Portrait Gallery, 10c. B.—Home and Health 15c. C.—Chase's Recipes, 15c. D.—Gladstone Portrait, 10c. E.—Wellington and Blucher, 10c. F.—The Sanctuary, 10c.

Note—We club the Rural Canadian a first-class Magazine for the Farm and Home at the unprecedented low figure of \$1.15. Balance of year free.

More complete particulars may be found from time to time in THE WESTERN ADVERTISER. Agents wanted everywhere. Registered letters come at our risk. Address—

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A VALUABLE GIFT.



A WELCOME GIFT.



Patent Reference Index. The latest edition has 3000 new words in its vocabulary that are found in no other American dictionary and nearly 30,000 new words of foreign origin. G. & C. MERRIAM & CO., Publishers, Springfield, Mass.

IMPROVED BUTTER COLOR USED BY THOUSANDS of the finest Creameries and Dairies. BECAUSE it is the purest, the brightest and the best. IT WILL NOT Color the Butter Milk or Turn Rancid. It contains no Acid or Alkali. It is not our old Color, but a new one so prepared as to reduce oil, that it cannot change. BEWARE OF imitations, and of all other oil colors, for they get rancid and spoil the butter. Sold by Druggists and Country Stores. 25c., 50c. and \$1.00. To know where and how to get it, write Wells, Richardson & Co., Burlington, Vermont, or Montreal, P. Q. Duplicates mailed free.

Humphreys' Homeopathic Specific No. 28

In use 30 years. The only successful remedy for Nervous Debility, Vital Weakness, and Prostration from overwork or other causes. \$1 per vial or 5 vials of three vial powder for \$5. Sold by Druggists or sent postpaid on receipt of price. Address Humphreys' Homeopathic Medicine Co., 109 Fulton St., New York.

— THE —
Meal Washer and Bleacher
ONLY WEIGHS 6 LBS. Can be carried in a small valise.

SATISFACTION GUARANTEED OR MONEY REFUNDED. \$1,000 REWARD FOR ITS SUPERIOR. Washing made light and easy. The clothes have that pure whiteness which no other mode of washing can produce. No rubbing required—no friction to injure the fabric. A ten-year old girl can do the washing as well as an older person. To place it in every household, the price has been reduced to \$2.50, and if not found satisfactory, money refunded within one month from date of purchase. See what The Baptist says: "From personal examination of its construction and experience in its use we commend it as a simple, sensible, scientific and successful machine, which succeeds in doing its work admirably. The price, \$2.50, places it within the reach of all. It is a time and labour saving machine, is substantial and enduring, and is cheap." From trial in the household we can testify to its excellence. See what the Canada Presbyterian says about it: "The Meal Washer and Bleacher which Mr. C. W. Dennis offers to the public has many and valuable advantages. It is a time and labour saving machine, is substantial and enduring, and is very cheap." From trial in the household we can testify to its excellence. Send for circulars. Agents wanted.

C. W. DENNIS, TORONTO BARGAIN HOUSE 213 Yonge Street, Toronto. Please mention this paper.

DISEASE BANISHED
Health Gained, Long Life Secured, BY USING **KIDNEY-WORT**

It Purifies the Blood, It Cleanses the Liver, Strengthens the Kidneys, It Regulates the Bowels.

TRUTHFUL TESTIMONY.

KIDNEY DISEASES.
"I suffered day and night with Kidney troubles, my water was chalky and bloody, I could get no relief from doctors. Kidney-Wort cured me. I was as well as ever."
FRANK WILSON, Peabody, Mass.

LIVER COMPLAINT.
"I would not be without Kidney-Wort if it cost \$10. It cured my Liver and Kidney troubles after I had lost all hope."
SAM'L HOGGES, Williamstown, W. Va.

PILES! PILES!!
"I suffered for 13 years from Piles, as now but those that have been afflicted can realize. Kidney-Wort quickly cured me."
LYMAN T. ARELL, Georgia, Va.

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"I was a great sufferer from diseased Kidneys and was terribly constipated for years. I am now at seventy as well as ever I was in my life and it is due alone to Kidney-Wort."
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"After suffering for thirty years from Rheumatism and kidney trouble, Kidney-Wort has entirely cured me."
ELBRIDGE MALCOLM, West Bath, Me.

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"Kidney-Wort has cured my wife after two years suffering and weakness, brought on by use of a Sewing Machine."
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"The past year I have had Kidney-Wort more than ever, and with the best results. It is all in all, it is the most successful remedy I have ever used."
PHILLIP C. BULLOCH, M. D., Montclair, Vt.

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"Chronic Malaria for years, with liver disease made me wish for death. A European trip, doctors and medicine did no good, until I used Kidney-Wort—that cured me."
HENRY WARD, Late Col. 6th Reg., N. G. S. N. Y., Jersey City, N. J.

It acts at the same time on the KIDNEYS, LIVER and BOWELS stimulating them to healthy action and keeping them in perfect order. Sold by all Druggists, Price \$1.00 Liquid or Dry. The latter can be sent by mail.

WELLS, RICHARDSON & CO.,
BURLINGTON, VERMONT, U. S. A.
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KIDNEY-WORT

A MILLION A MONTH
THE DIAMOND DYES, have become so popular that a million packages a month are being used to re-color dingy or faded DRESSES, SUITS, HOODS, STOKINGS, RIBBONS, &c. Warranted fast and durable. Also used for making inks, staining wood, coloring Photo's, Flowers, Grasses, &c. Send stamp for 21 colored samples, and book of directions.

RHEUMATISM
HUMPHREYS' HOMEOPATHIC VETERINARY SPECIFICS
CURE SORE THROAT, FROST BITES, BURNS, SCALDS, DEAFNESS

HUMPHREYS' HOMEOPATHIC VETERINARY SPECIFICS
FOR THE CURE OF ALL DISEASES OF Horses, Cattle, Sheep, Dogs, Hogs, Poultry
For 20 years HUMPHREYS' Veterinary Specifics have been used by Farmers, Stock-breeders, Horse R. H., Hippodromes, Menageries, and others with perfect success.

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These Veterinary Cases are sent free of express on receipt of the price, or any order for Veterinary Medicines to the amount of \$5.00 or more.

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DURING DECEMBER GRAND CLEARING SALE FOR CASH ONLY.

20 per cent. discount off all Stock Millinery.

Imported Pattern Mantles at Cost.

Silks, Satins, Brocades and Velveteens at Importer's Cost.

Black and Coloured Dress Goods all Reduced.

All Wool Blankets at less than Wholesale.

All Wool Flannels at 25c., worth 35c.

Hosiery and Underclothing at about half-price.

2-Buttoned Kid Gloves from 10c. per pair up.

4-Buttoned Kid Gloves at 50c. per pair, worth 90c.

4-Clasp Kid Gloves at 75c., worth \$1.15.

Gauntlet Kid Gloves at \$1.00, worth \$1.50.

\$75,000 WORTH OF DRY GOODS TO BE SLAUGHTERED

FOR CASH.

4/12

J. M. HAMILTON,

184 YONGE STREET,

TORONTO.

WHAT IS CATARRH?

(From the Toronto (Canada) "Herald")

A New Treatment

FOR THE

RAPID AND

PERMANENT

CURE OF

CATARRH

Prepared by

W. H. DIXON & SONS

103 KING ST. WEST, TORONTO-CANADA.

Catarrh is mucopurulent discharge caused by the presence and development of the vegetable parasite known in the internal lining membrane of the nose. This parasite is only developed under favorable circumstances, and these are: Moist state of the blood, as the slightest exposure of tubercle, the germ poison of syphilis, mercury, toxemia, from the retention of the effete matter of the skin, suppressed respiration, badly ventilated sleeping apartments, and other poisons that are germinated in the blood. These poisons keep the internal lining membrane of the nose in a constant state of irritation, ever ready for the deposit of the seeds of these germs, which spread up the nostrils and down the fauces, or back of the throat, causing ulceration of the throat, up the larynx, causing hoarseness, deafness, being any in the vocal cords, causing hoarseness, and the proper structure of the bronchial tubes, ending in pulmonary consumption and death.

Many attempts have been made to discover a cure for this distressing disease by the use of inhalants and other hygienic devices, but none of these treatments can do a particle of good until the parasites are either destroyed or removed from the mucous tissue.

Some time since a well-known physician of forty years' standing, after much experimenting, succeeded in discovering the necessary combination of ingredients which never fails in absolutely and permanently eradicating this horrible disease, whether standing for one year or forty years. Those who may be suffering from the above disease should, without delay, communicate with the business managers, Messrs. A. H. DIXON & SONS, 333 King Street West, Toronto, and get full particulars and to advise free by enclosing stamp.

3/12

What the Rev. E. B. Stevenson, R. D., a Clergyman of the London Conference of the Methodist Church of Canada, has to say in regard to A. H. Dixon & Sons' New Treatment for Catarrh.

Messrs. A. H. Dixon & Sons
250e Street—Years of the 13th last, to hand. It seems almost too good to be true that I am cured of Catarrh, but I know that I am. I have had no return of the disease and never felt better in my life. I have tried so many things for catarrh, suffered so much and for so many years, that it is hard for me to realize that I am really better.

I consider that mine was a very bad case. It was aggravated and chronic, involving the throat as well as the nasal passages, and I thought I would require the three treatments, but feel fully cured by the two first, and I am thankful that I was ever induced to send to you.

You are at liberty to use this letter, stating that I have been cured at two treatments, and I shall gladly recommend your remedy to some of my friends who are sufferers.

Yours, with many thanks,
REV. E. B. STEVENSON.