

THE
RURAL CANADIAN.

The title banner is set within a decorative frame. On the left, a horse's head is visible. In the center, a butterfly is depicted. On the right, a small village with several houses and a church spire is shown. The text 'THE RURAL CANADIAN.' is written in a stylized, outlined font across the banner.

Vol. III, No. 2.

Toronto, February, 1884.

\$1 per annum, in advance.



THE DEAD SONGSTER.

Miscellaneous.

STEEL knives which are not in general use may be kept from rusting if they are dipped in a strong solution of soda—one part water to four of soda; then wipe dry, roll in flannel and keep in a dry place.

STALE buns may be made to taste as nicely as when fresh if they are dipped for a moment or so in cold water and then put in a hot oven for five or ten minutes. They will turn out as light and crisp as when first baked.

W. W. McLellan, Lyn, N. S., writes: "I was afflicted with rheumatism, and had given up all hopes of a cure. By chance I saw Dr. Thomas' Electric Oil recommended. I immediately sent (fifty miles) and purchased four bottles, and with only two applications I was able to get around, and although I have not used one bottle, I am nearly well. The other three bottles I gave around to my neighbours, and I have had so many calls for more, that I feel bound to relieve the afflicted by writing to you for a supply."

WHEN one has had a fever and the hair is falling off, take a teacup of sage, steep it in a quart of soft water, strain it off into a tight bottle. Sponge the head with the tea frequently, wetting the roots of the hair.

FREEMAN'S WORM POWDERS require no other purgative. They are safe and sure to remove all varieties of Worms.

If a lady has a book rack or table she wishes to varnish, first put on a coat of linseed oil, and then apply the shellac. The oil sinks into the pores of the wood and shows the grain. Pine, however, will not absorb it.

Mr. Henry Marshall, Reeve of Dunn, writes: "Some time ago I got a bottle of Northrop & Lyman's Vegetable Discovery from Mr. Harrison, and I consider it the very best medicine extant for Dyspepsia." This medicine is making marvellous cures in Liver Complaint, Dyspepsia, etc., in purifying the blood and restoring manhood to full vigour.

FOR suet pudding, take one cup of suet, two and one-half of flour, one of raisins, one of currants, a small cup of molasses, spice to taste, one dessert-spoonful of baking powder. Bake three-fourths of an hour.—Boston Post.

The wonders of modern chemistry are apparent in the beautiful Diamond Dyes. All kinds and colours of Ink can be made from them.

FROSTED FEET.—Rub the parts affected with kerosene every night. Use plenty of it and sit in front of a moderate fire while applying it. Three or four applications should complete the cure.

A WRONG OPINION. Many a dollar is paid for prescriptions for some disease that never troubled the patient, and when the sole difficulty was worms, which a few of Freeman's Worm Powders would remove. These Powders are pleasant, safe, and sure, contain their own cathartic, and are adapted for children or adults.

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 wet raw cotton or wet newspaper, then place in a cool spot.

PICAMAR TROCHES for coughs, colds, all forms of sore throat, bad breath, etc., used by singers and public speakers. Prepared from the prescription of L. Johnson Lennox, M.B., M.C.P.S., O. and Q., proprietor of the International Throat and Lung Institute. For sale by all druggists. Price 25 cents.

FOR FELON.—Take equal parts of gum camphor, gum opium, castile soap, and brown sugar; wet to a paste with spirits of turpentine. Prepare it, and apply a thick plaster of it.

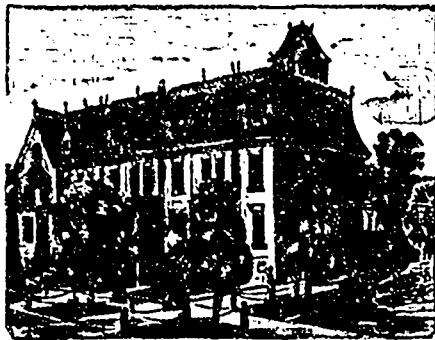
A HINT WORTH HERDING. Life loses half its zest when digestion is permanently impaired. Surely then a speedy means of restoring this essential of bodily comfort is worth trying. Every rank, every profession, bears its quota of evidence to the beneficial influence upon the stomach, and also upon the liver, bowels and kidneys, of Northrop & Lyman's Vegetable Discovery and Dyspeptic Cure, or celebrated Blood Purifier. What is the wise course suggested to the sick by this testimony? We leave them to decide.

FOR SPRAINS.—Bathe with arnica diluted with water, and bandage with soft flannel moistened with the same. A sprained wrist thus treated will grow well and strong in a few days.

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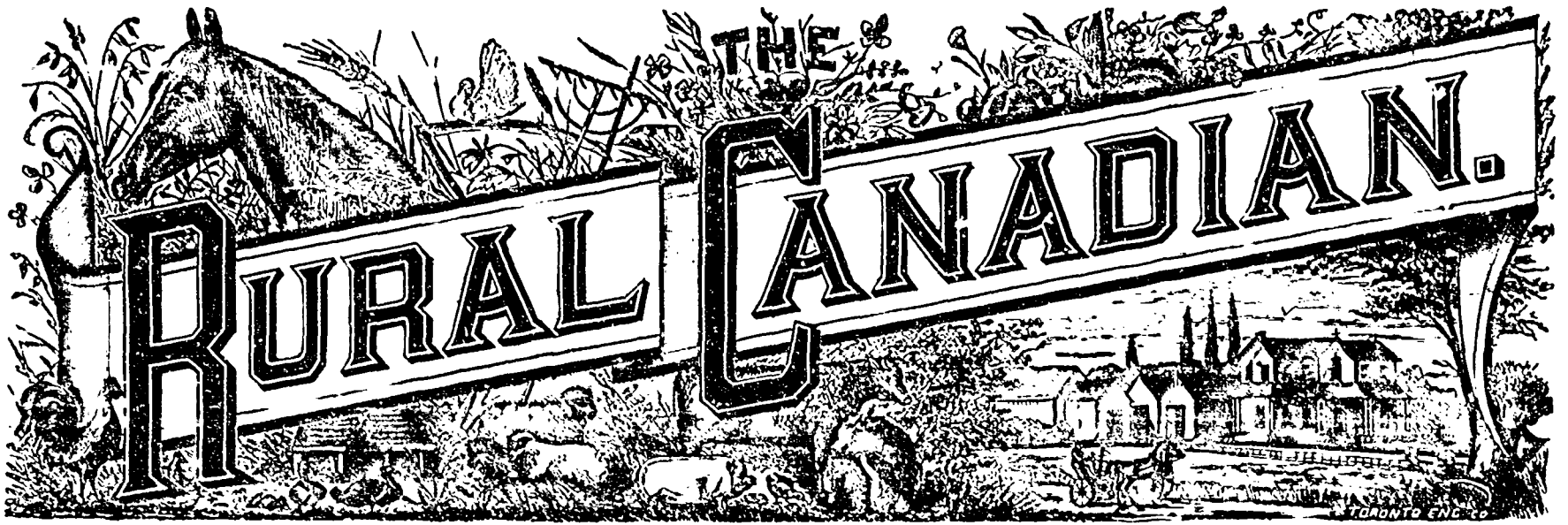
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RURAL NOTES.

WITH the use of improved machinery on the farm comes the necessity for more ability and skill in the hired help, and this means that higher wages must be paid for such help.

WITH the great depth of snow in the country this year, there is danger that fruit trees will be girdled by mice. A simple preventative is to tread the snow firmly about the trees.

DEEP underdrains deepen the soil. A drain three and a half feet deep is better than one two and a half feet, and the fact that at the greater depth the drains are effective at wider intervals settles the question of cost.

Sows farrowing in the winter are apt to become feverish and destroy their young. The cause of this tendency is said to be the lack of green food, and it is recommended that roots or bran should be fed to supply its place.

THIS is the season of lambs and calves, and great care requires to be taken both of the young one and the mother animal. Warm and cleanly quarters and plenty of nourishing food will bring the farmer a handsome reward.

IN experiments made at the New York Experimental Station last year it was discovered that corn ensilage had a marked effect in rendering churning easier, but it rather diminished than increased the quantity of butter in the milk.

IN Dundee, Scotland, seventeen persons were recently attacked with scarlet fever, four of whom died. The source of the infection was the milk brought from a dairy where the son of the owner lay sick of this disease. The incident should teach dairymen in the same line of the trade a very valuable lesson.

THE best fertilizers for strawberries are said to be phosphate of lime, potassa, and lime. Barnyard manure tends to produce a large growth of foliage and succulence of fruit, but a free top-dressing of hydrate of lime has the effect of making the fruit dry, firm and sweet and consequently of making it more marketable.

A NEW variety of celery, known in the Paris markets as *celeri blanc*, will it is thought,

revolutionize the culture of this vegetable. Its leaf stalks come naturally white and tender, without the necessity of earthing up or blanching. We should like to see this variety introduced and cultivated by our Ontario gardeners.

THE preservation of straw for feeding purposes is very important. It is best secured at or immediately after threshing time. The chaff, especially of wheat straw, is most valuable, and should, so far as possible, be distributed through the stack. That which is left in rear of the straw carrier should be put under shelter, as it rots easily.

THESE are days of fancy prices. Not very long ago we noted the sale of a cow on the other side of the lakes for \$20,000; and on our own side a celebrated Jersey was advanced in price by her owner from \$10,000 to \$20,000. These are big figures for a cow, but what are they compared with \$3,750 for a single rose plant!

MR. WRIGHT, of Essex Centre, is not deterred by the failure of his sorghum crop last year. He has thoroughly drained his farm, and has about ninety acres fall-ploughed and ready for planting as soon as the spring opens. But it may be many long years before we again have such an early visitation of frost as last fall. A frost so early and destructive has not been known in Essex for forty years.

MINNESOTA millers are seeking a market for their products in Canada. Just what measure of success they are meeting with is not known to us, but if the last proposition made by the Ontario Millers' Association to the Government is agreed to, margins, after payment of duty, will be small. The proposition contemplates a reduction of duty upon wheat to 10 cents per bushel, and an increase of duty upon flour to 25 cents per barrel.—*Milling World*.

THE number of eggs imported into the United States has increased from 110,000,000 in 1881 to 150,000,000 in the past year. Our neighbours do not seem to understand why this should be; but one reason, doubtless, is that a very large number are produced in Ontario, and another is that the United States markets are free and unrestricted as regards this commodity. The exports from this Province have increased from about 25,000,000 eggs in 1871

to more than 90,000,000, and the bulk of them goes to the United States markets.

EXPERIMENTS made with ensilage in England show that in fattening cattle it can supply the place of hay and turnips, and leave a considerable something to spare besides. Taking two lots of five animals each and feeding to each lot the same quantity of meal and cake, it was found at the end of two weeks that the lot fed on seventy-five pounds of ensilage daily to each beast showed a balance of forty-nine pounds over the lot fed on twenty-four and a half pounds best quality hay, and ninety-five pounds of turnips to each beast.

LIFE on the farm is generally supposed to be healthier than in the towns and cities; but if this is the fact how comes it that we see so many sallow complexions, sunken eyes and delicate forms on the farm, especially among the women folks? There is a great deal of undrained land in the country; there is also a more or less constant working of the soil in the growing season, and there are far too many cellars defective as regards drainage and ventilation. These are fruitful sources of malaria, and country people are hardly ever on their guard against them.

THE value of thoroughbred stock is very much underestimated by many persons. Long years (in some cases a century or more) of careful breeding has fixed certain characteristics in particular breeds to such a degree that the immediate offspring of pure blood males crossed with common females shows a marked improvement in every way. Thus the Essex, a breed of hogs easily kept, of medium size and remarkable docility, crossed with the common hog produces pigs of quick growth, taking on fat rapidly when desired, and, like the sire, with not a single white hair. The improvement in butter production by the cross of the Jersey bull and the common cow is not as well known, though it is as well marked as the improvement in flesh production resulting from the cross of a Shorthorn bull with the common cow. But in every case the best results can only be obtained from the *thoroughbred male*. While the half-breed female is valuable for the farther improvement of the stock by the same process, the half-breed male seems to lack the prepotency of his sire, and the young of the latter instead of showing an advance, will generally show the contrary.

FARM AND FIELD.

A DROP OF WATER MAGNIFIED.

The engraving below is a very faithful representation of the appearance of a drop of water, as magnified by the astonishing powers of the Hydro-oxygen Microscope. The images are projected upon a disk of about 240 feet, and magnified 2,400,640 times.

This instrument presents to our view a world of wonders. Its magnifying powers are astonishingly great. The spectators being introduced into a room adapted to the exhibition, the doors and windows are closed to exclude the solar light; the microscope is then opened and an intense light formed by the combustion of oxygen gas, irradiates the instrument, and reflects upon a sheet of canvas of two hundred and forty feet what we may truly call a new world. A single drop of water is magnified 2,400,640 times. In this ocean (for such it may be called, in comparison

with the incomprehensible diminutive tribes of animalculæ which teem in myriads through it) we see various species of living creatures, some apparently as large as a dog. To give an accurate description of their shape is a thing impossible. Some of them appear with horns, that they bend to every shape; some seem to have but one leg and a tail, others seem to have three some have bodies somewhat of the shape of a tadpole; others bear a distant resemblance to the porpoise; others exhibit the shape of a catfish with the head of a grasshopper; others resemble nothing under the sun, but are wholly *sui generis*. This drop of microscopic ocean, extends its forests far and wide; amidst their wide spreading branches, those tribes of oddities, are seen gamboling, freaking, skipping, swimming. While one stands tiptoe on some lofty branch, another is seen pouncing upon him

from above, and coming in contact, they glance off, one this way, the other that. Their habits appear to be wholly different from what characterizes the animals of the visible creation. They seem to be entire strangers to any social feelings; each one shuns the approach of another, and the slightest touch makes them spring and dart off, as if it were electric. The Hydrophilus, or Water Devil, as he is called, is seen darting through the ocean, devouring all before him.

The Skeleton Larvæ of the gnat is so pellucid that its whole internal structure is quite visible. The motion of the heart and lungs, and the circulation of the blood are all distinctly seen, together with the muscles, which are the organs of its wonderfully rapid and peculiar motion. The softest down of the thistle appears stiff and thick as the quills of a porcupine. The point of the finest needle looks like the end of a club, while the sting of the bee slopes off into imperceptibility.

SUBSCRIBE FOR THE RURAL CANADIAN.

METHODS OF RAISING POTATOES.

A correspondent of the *Country Gentleman* remarks:—I often see in your paper that there is a great variety of opinion in regard to raising potatoes, size of seed and cultivation. Some advocate large, while others prefer small potatoes for seed, thinking that they are as good or better than large ones. They may raise good crops from small seed for one or two years, but if they do not obtain their seed from those that do take pains to select large seed, I think they will soon find their potatoes run out and become small. Why do we select a nice, well-shaped ear of corn for seed, not always the largest but the best developed? Also, why screen wheat, oats, etc., to secure the plumpest and best seed to plant or sow? (At least we should if we do not.) We thereby raise a better quality of grain, and more of it, from year to year. I do not wish any one to infer that we should take the largest potatoes for seed, but those of a good marketable size, of



A DROP OF WATER MAGNIFIED.

nice shape, free from warts, scab, or other deformity.

Having my seed selected, I cut them to single eyes, or at most two, and plant them in drills three feet apart and fifteen inches apart in the drills, having the drills deep, in well-ploughed and thoroughly pulverized soil. I prefer a piece that had corn on the previous year, well manured and ploughed in for that crop, and kept under good cultivation during the season. On potatoes I use some good commercial fertilizer that has plenty of potash in it, and use it liberally—400 to 500 pounds per acre. This will help keep the wire-worms away, and will increase the potatoes in size and quality, I am quite certain. I harrow, as soon as I see the first plants breaking the ground, with a smoothing harrow, to kill all the weeds that may have started. I cultivate often, whether there are any weeds or not, until they are in blossom. I have never failed to raise a good crop of nice smooth potatoes, and there was always a ready market for them. I often get considerable more than market price for them,

which is quite an advantage in a season of plenty like this. My crop averaged about 500 bushels per acre this season.

HOW A STORY GROWS.

A farmer was once told that his turnip field had been robbed, and that the robbery had been committed by a poor, inoffensive man, of the name of Palmer, who, many of the people of the village said, had taken away a *waggon-load of turnips*. Farmer Brown, much exasperated by the loss of his turnips, determined to prosecute poor Palmer with all the severity of the law. With this intention he went to Molly Sanders, the washerwoman, who had been busy in spreading the report, to know the truth, but Molly denied ever having said anything about a waggon-load of turnips. It was but a *cart-load* that Palmer had taken, and Dame Hodson, the huckster, had told her so, over and over again. The farmer hearing this, went to Dame Hodson, who said that

Molly Saunders was always making things worse than they really were; that Palmer had only taken a *wheelbarrow full of turnips*, and that she had her account from Jenkins, the tailor.

Away went the farmer to Jenkins, the tailor, who stoutly denied the account altogether; he had only told Dame Hodson that Palmer had pulled up *several turnips*, but how many he could not tell, for that he did not see himself, but was told it by Tom Slack, the ploughman. Wondering where this would end, Farmer Brown next questioned Tom Slack, who, in his turn, declared he had never said a word about seeing Palmer pull up several turnips; he only said he had *heard said that Palmer had pulled up a turnip*, and that Barnes, the barber, was the person who had told him about it. The farmer, almost out of patience at this account, hurried off to Barnes, the barber; who

wondered much that people should find pleasure in spreading idle tales which had no truth in them! He assured the farmer all he had said about the matter, while he took off the beard of Tom Slack, was that *for all he knew, Palmer was as likely a man to pull up a turnip as his neighbours*.

FARMERS' BOOTS IN WINTER.

Farmers' boots, when damp, as they often will be in winter, and taken off at night, will often shrink in drying, and be very stiff and difficult to put on in the morning. If the boots, when taken off, are filled with oats, this will prevent shrinking, and they will dry in their proper shape.

There is probably nothing better for the farmer in doing his winter work than a heavy cow-hide boot, made pliable and water-proof by the following composition:—Melt together, tallow, four ounces; resin and bee's-wax, of each, one ounce, when melted, add a quantity of neatsfoot oil equal to the whole. Apply this to both soles and upper.

HOW TO FIGURE THE DRAFT OF A PLUGH.

By attaching a dynamometer to the end of the beam the exact force necessary to draw the plough through the ground is accurately indicated. Of course different portions of a field will offer different degrees of resistance owing to the nature and condition of the soil. An average draft, however, can be shown by setting a number of stakes—ten usually—an equal distance apart and noticing the draft at each stake. But the width and depth of the furrow will also vary, and it is necessary that the quantity of ground turned should be taken into consideration. At each stake the width and depth of the furrow are noted down, and at the end of the last stake we are ready to figure the average draft.

Below is an actual field test and the measurement shown at each stake.

	Draft	Width of Furrow	Depth of Furrow
1	250	10 inches	6 inches
2	250	11 "	5 "
3	225	11 "	5½ "
4	300	11½ "	5½ "
5	300	11½ "	6 "
6	350	12 "	7 "
7	350	14 "	6½ "
8	300	12½ "	6 "
9	350	14 "	5 "
10	375	13½ "	7 "
Total,	3050	121	59½

Dividing each of these totals by ten we get the following average: Draft 305 pounds, width of furrow, 12.1 inches; depth of furrow, 5.95 inches.

This is satisfactory, so far as it goes, but in case we wish to compare draft with some other plough, it is necessary to show what the draft would be in a common size of furrow. If we select as our standard a furrow sixteen inches wide and six inches deep, the arithmetical proposition is;

If a furrow 12.1 inches wide and 5.95 inches deep causes a draft of 305 pounds, what will be the draft with a furrow sixteen inches wide and six inches deep?

OPERATION.

$$\frac{305 \times 16 \times 6}{12.1 \times 5.95} = \frac{29280}{71.995} = 406 \frac{1}{2}$$

Reduced to a simple rule it will read as follows: Multiply the average draft by the product of the numbers showing the depth and width of the standard furrow, and divide this product of the numbers showing the average width and depth of the actual furrow.

BREAKING YOUNG ANIMALS.

The breaking, or more properly *training*—we don't like the term breaking—of our young domestic animals, as colts, steers and heifers, is one of the most interesting of all the farmer's operations, and should be commenced when the animals are very young, when they can be handled without much force or violence, and it should always be done with patience and kindness, without the least anger or harshness, they are all perfectly willing and ready to do whatever is required of them, as soon as they fairly understand what is wanted of them. Even our children, who can talk and know the meaning of all our words, require more or less time and telling before they can fairly learn all that we require of them, or before they know how to do it; much more, then, should patience

and kind care be exercised toward our young dumb brutes, in training them for the various services which we expect from them; they are far more tractable and ready to learn and obey our commands than most farmers seem to understand, if we will but be patient and painstaking, without anger, to make them comprehend what we mean.

With a young colt, for instance, when it is yet only a suckling, by using only a few plain words, in kindness so as not to make it afraid, and always frequently using the same words for the required acts or purposes, it would soon learn exactly what is required and will be perfectly willing to perform; as readily as it usually learns the meaning of "whoa," "haw," "gee," "golong," and the like. It may be readily taught when young, to walk up and put its head into a collar or halter, as easily as into a pail of water or the feed box.

Boys can do this with them, and find pleasant amusement in doing it, if they themselves first learn to exercise kindness and patience, never getting angry or cross to make the colts fear them.

The same is true of steers and heifers. When young they may be taught everything that is necessary, as well as the puppies can. Steers may be led to know and like to put their necks to the yoke, and walk up to the cart-tongue as freely as to the manger; and little heifers, when mere calves, can be handled and familiarized so as never to be afraid or inclined to kick when first required to be milked with their first calves.

Simply kindness and deliberation, never striking or hurting them, in order that they may have no fear, will make all these young animals grow up trained and handy, without ever requiring the troublesome and dangerous operation of what is called "breaking," but which should be only early rational training.

HOW PRACTICAL FARMERS MANAGE THEIR CATTLE.

A well-known firm of practical farmers give the following information of the method pursued by them: "Unless the weather is stormy, we turn our breeding bulls out for exercise half of every day, often with the cows in the pasture, when none of them are in heat. After breeding our cows we keep them in a stable, where they can not be with other cows for from ten to fifteen hours. We have a few stalls that are specially designed for cows that are due to calve during cold weather, and of course, these are made as warm as we can get them. We turn the cows out with their calves three times each day, until the calves are six to eight weeks old, then only twice a day. We rarely allow calves to run with dam in pasture, though we put the calves out to grass as soon as they have learned to eat it. Feed young calves well on shelled corn, oats and meal. Have separate pastures for bull and heifer calves and do not allow them to pasture together after the bulls are three or four months old. Our dry cows we winter principally on hay, feeding very little grain, except to young stock and those that have calves at their side, or those designed for the show-ring. We breed our heifers when about twenty months old"

HOUSEHOLD HINTS.

MAKE brooms last longer and sweep better by wetting them in boiling soap-suds once a week; and when not in use, hang them up or invert them.

PRETTY and inexpensive screens can be made by covering an ordinary clothes-horse with dark felt or plush, upon which Chinese crape pictures may be mounted.

A CARPET, especially a dark one, often looks dusty when it does not need sweeping; wet a sponge in water (a few drops of ammonia helps brighten the colour), wring it quite dry, and wipe off the dust.

SAVE pretty pictures and wood cuts, and paste in a scrap-book, to please the children. Afterward send to hospitals to give pleasure to "nobody's children." Let the gathering be pleasant work for the children, teaching them early to do kind things for others.

THE weather should have much to do in deciding as to the bill of fare. Buckwheat-cakes are just the thing for a cold morning, but not for lunch or tea on a warm rainy day. Healthfulness often demands a change in plans for the table to accord with the change in the thermometer.

ONE of the strongest cements, and easiest applied, is lime and the white of an egg. To use it, take a sufficient quantity of the egg to mend one article at a time, shave off a quantity of the lime and mix thoroughly. Apply quickly to the edges, and place them firmly together, when it will soon become set and strong. Plaster of Paris will answer in place of lime.

A SOMEWHAT novel way to trim a table scarf is to put three-cornered pieces of silk or satin on each end. Have these pieces half a yard deep at the longest side, in the corner embroider a spray of flowers; where the satin or silk end joins the centre part of the scarf put a row of fancy stitches. A dark crimson felt scarf with one end light blue, the other of crimson shaded to brown, is very handsome.

THE *American Farmer* gives the following directions for making a cheap telephone: To make a good and serviceable telephone, good from one farm house to another, only requires enough wire and two cigar boxes. First select your boxes, and make a hole about half an inch in diameter in the centre of the bottom of each, and then place one in each of the houses you wish to connect, then get five or ten pounds of common stove pipe wire, make a loop in one end and pull it through the hole in your cigar box and fasten it with a nail; then draw it *tight* to the other box, supporting it when necessary with a stout cord. You can easily run your line into the house by boring a hole through the glass. Support your boxes with slats nailed across the window, and your telephone is complete. The writer has one that is two hundred yards long, and cost forty-five cents, that will carry music when the organ is played thirty feet away in another room. Its success depends upon the tightness with which the wire is stretched. If the distance is long it may be supported on intermediate poles. Such an apparatus from the stable to the house would keep the farmer aware whether matters are all right out there.

GARDEN AND ORCHARD.

FOR THE RURAL CANADIAN.

A WINTER GARDEN TALK.

BY ANNIE L. JACK.

A New Year! And all the gardening one can do is to water the house plants, clean up seeds ready for spring, and make plans over the catalogues. How gorgeous they are with their vivid colouring; and, as we make up our list of novelties that we intend to purchase, there is a feeling of covetousness that cannot be repressed that we cannot have *all* we admire. But Herman and I have been gardening together for nearly a quarter of a century now, and we feel too staid and experienced to be stirred by every new thing under the sun that happens to come up. We know what a temptation it is to purchase new grapes, big strawberries, or luscious raspberries, in the picture so lovely and alluring.

Just now we are chiefly employed with our winter garden, and revel in roses lillies and carnations, with plenty of Chinese primroses. The last named are very satisfactory for appearance and full, regular bloom, having only one drawback, they are not serviceable for bouquets, except the large double white, and they are too difficult to propagate to become plentiful.

We have enjoyed some lovely pots of browallia and torrina, easily propagated from seed, and set them down on our list for this year as satisfactory, *very*. And no one, in their plans for the coming summer should omit a white heliotrope. Really, they are so delicate and beautiful, that the old sorts look coarse beside them. How pleasant it is to see the children take such a delight in our flowers. Even the youngest, seeing the opening buds of a bon silene, points her finger at it and says, "Pretty yoses." But I think every one admits that of all flowers, this very one is the most difficult to bring to perfection in winter. We grow our calla, give it plenty of water and moderate warmth, and are sure of flowers: other plants the same; but the "yose" defies us. It may set its buds even, but some fine morning we find them, half formed, lying in the pot, eaten off by insects. And then we fight them with smoke, and whale-oil soap, and pyrethrum, give them air and sunshine, and once more renew our faith. There is great satisfaction just now in a clump of lily of the valley, and another of polyanthus that are coming into bloom. They were potted late in October, left out-doors, for the first frost, and then removed to cool but sheltered quarters. And I always find there is more pleasure in a few of our old summer favourites than in trying to grow the greenhouse pets that are always difficult to manage in a window garden.

WHERE DO INSECTS WINTER?

It is important to know the winter haunts of insects. Many times their hiding-places can be removed and the insects perish before spring. The rough bark of trees is a favourite and natural hiding-place for tree and fruit insects. Some of this bark should be removed. Great care should be exercised, however, in not removing so much of the outside dead bark as to endanger the tree to injuries from ex-

tremes of weather. An old, thin hoe, with a handle two feet long, is an excellent implement for scraping the dead bark off apple trees. With due care, enough of the shaggy bark can be removed to destroy the hiding-places of insects and not injure the trees. Do not scrape the trunk until it appears of a light-brown hue, the colour of the inner bark. This scraping should not be practised later than early autumn, in order to allow the tree to accustom itself to its thinner garb before winter sets in.

The "sap-suckers" or spotted wood-peckers, which so often attack fruit trees in winter are many times after the insects which are hidden there. We have known of neglected codling-moth bands which remained on apple trees over winter to be riddled with holes, and every larva taken, by sap-suckers during winter. It does not harm insects to freeze when they are in their dormant state. It is known that cut-worms burrowed in the soil will freeze and thaw several times without injury. The practice of late ploughing gardens for the purpose of freezing cut-worms is of little or no avail.

Insects exist in three different forms or stages at different times—the larva or "worm" state, hatched directly from the egg; the pupa or inactive state, and the imago or mature state, in which they appear as bees, flies, bugs, moths, butterflies, ants, etc. In the pupa or dormant state they lie in a cocoon, or burrow in the ground, or sleep in a cell of a honeycomb. The insect is then making its wonderful transformation from the worm to the butterfly or beetle. They are frequently seen in this intermediate stage with the abdomen developed and the half-formed wings pressed close to their sides. In this dormant condition nearly all insects pass the winter. The codling moth and many others always, or at least generally, retain the worm form during winter, and the change is made in the spring. The larva of the tomato moth passes the cold weather in the ground in its transition or proper pupa state. It is often dug up in early spring, when it is easily recognized by its large size—two inches or more in length—is dark brown colour, and the peculiar "jug-handle" proboscis, which descends from the head, and is joined to the thorax. A deep and thorough overturning of the garden soil in early spring will reveal many of these pupæ, and they are then easily destroyed.

Insects harbour in rubbish. For this and many other reasons farmers should insist upon clean culture and tidiness. Although the tidiest farmer cannot hope to remove all the hiding-places of insects, he can, nevertheless, decrease such places in a wonderful degree. Codling moths are not infrequently bred in cellars; they hide away in the crevices of barrels and boxes, and with the early days of spring escape through open windows and doors. For this reason cellar windows should be furnished with iron screens. Those who use these screens will be surprised to find how many moths they catch. All old rags, etc., should be removed from the orchard if they should accumulate there. We have frequently seen a cloth, which was carelessly thrown in the crotch of an apple tree, sheltering no less than a hundred apple worms. Although as a rule all insects pass the winter in the cocoon or in the pupa state, one of our common pests

forms a marked exception to the rule. This is the antiopa butterfly, the parent of the black, forbidding willow and elm worms. This butterfly lives over winter in barns and sheds clinging to the roof and rafters in a semi-conscious condition. In early spring it comes forth, deposits eggs for the season's crop of pests, and dies.

HOW TO FERTILIZE FRUIT TREES.

Here and there on all farms and in most fruit gardens will be seen an occasional tree or grape-vine which seems to lack vigour—does not grow well, and yet seems to have no particular disease. The probabilities are that the tree is dying of starvation and needs a liberal supply of food. When you give it this ration do not pile a load of manure around the trunk of the tree or the body of a grape-vine. That is just the place where it will do the least good. Nearest the trunk of the tree the roots are all large; the fibrous roots—the feeders—are further off, near the ends of the roots. These only can take up the nutriment. It is always safe to assume that the roots extend as far from the trunk in every direction as do the limbs of the trees, and to properly fertilize, spread the manure all over that area. Then fork it in, and you have done a good work and done it well. If some disease has begun its work on the tree, you will put the tree in a healthy, vigorous condition, the better enabling it to successfully contend against its enemies. We have seen numerous old pear and apple trees, bearing poor and gnarled fruit, which the owners consider of no value, which such treatment as we have outlined above would restore to their original usefulness.—*Orange County Farmer.*

A CORRESPONDENT calls attention to the fact that young orchard trees are often ruined by the mice in winter, and recommends a neat mound around each tree as a safe and sure remedy for the pests.

A CORRESPONDENT of the *Kansas Farmer* gives the following directions for planting and cultivating walnuts, based on his own experience of over twenty years: First, plant the nuts in fall when fresh; select good ripe ones, and plant two in hill, or check if for timber; but if for wind-brake, in rows about as corn, and drill a few feet apart in the rows. For timber, some seven to eight feet apart, and put other crops for two or three years in the rows between the walnut trees, and the fall of the first year, if there are two, take out one, and cut the whole top off of the other at the ground and let two sprouts start out in spring, and when hardened take off one, leaving the one on the south side of the root, and cultivate in the best way possible with hoe crops, as potatoes, beans, and other vines, if possible; if not, put in corn and cultivate and keep trimmed nicely, and you will have nice straight stalks that will continue to make nice trees.

A young lady graduate read an essay entitled "Employment of Time." Her composition was based on the text: "Time wasted is existence; used, is life." The next day she purchased eight ounces of zephyr of different shades, and commenced working a sky-blue dog, with sea-green ears and a pink tail, on a piece of yellow canvas. She expects to have it done by Christmas.

BEES AND POULTRY.**TURKEYS—COCK AND HEN.**

One of the most useful and beautiful domestic birds is the turkey. It ranks next in value to the common fowl. What we could do, or how we could keep Thanksgiving or Christmas without the turkey, is a question we hope never to be forced to investigate. The turkey is a native of North America, and Buffon says it was unknown before the discovery of America, and it has no name in the ancient language. Its range is from the Isthmus of Darien on the south, to the fifteenth degree north; and east and west, the Atlantic Ocean and the Rocky Mountains. It has never been seen south of Panama, and is unknown beyond Lake Superior. The wild turkey is far more beautiful than the domesticated bird. The plumage of the wild turkey is generally described as being compact, glossy, with metallic reflections; feathers double, as in other gallinaceous birds, generally oblong or truncated; tips of the feathers almost conceal the bronze colour. The plumage of the male is very brilliant; that of the female is not so beautiful. When strutting about, with tail spread, displaying himself, this bird has a very handsome and stately appearance, and seems sensible of the admiration he excites. The domestic turkey, as before observed, is less beautiful than the wild, but yet is a very proud and handsome bird. The prevailing colours are black, copper-colour, and white. They require a little care while young being rather delicate, but when they get a fair hold of the world, nothing in the poultry yard is more interesting than a flock of young turkeys; and the pleasure of beholding them is not lessened by the fact that when six or seven months old, each one will give ten or twelve pounds of as delicious and delicate flesh as ever graced the board of a prince.

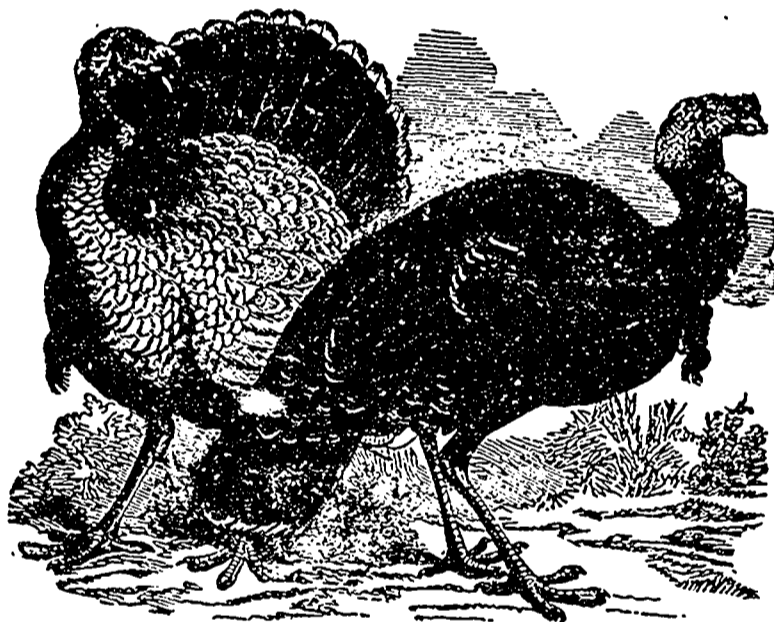
TRIBUTE TO A CANADIAN.

The N. Y. *Times*, perhaps the ablest American newspaper, has the following appreciative notice of a well-known apiarist: There are men who are great in various ways. They are born to be great, because they are made with a tendency to fall on their feet wherever fortune may drop them. Their chief peculiarity is that they give their whole mind to their business, whatever it may be, into which they have become thrown by circumstances; it may be making butter or cheese, keeping sheep, poultry, or bees, or growing hops, or onions, or flowers, or fruits. There are men in all these branches of farming who have made a shining mark. We have given instances from time to time, and now another occurs to us. It is the case of Mr. Jones, of Beeton, in Canada, and his success is with bees, and a sweet experience he has had. * * * Mr. Jones has made his name noted all over the continent, simply because he has given his whole mind to his work and has made a success of it. There are other men equally well-known as cabbage-growers, onion-growers, growers of melons, pickles, sweet

herbs, breeders of sheep, pigs, and poultry; and their success has been attained simply by industry, perseverance, patience, and persistence; and let us say, it is common sense to believe that there can never be too much of a good thing. When the first cheese factory was built at Rome, in New York, no one dare build another for fear there would be too much cheese made, but now there are some thousands of them, and at one factory cheeses are made six tons in weight, and one of ten tons is to be made, and yet all the cheese is sold, and it is a popular by-word that cheese makes the farm—and the farmer necessarily rich. There is abundant room for enterprise in agriculture and invention as well, for it is an invention to find an opening for enterprise, and we take pleasure in giving instances of this truth now and then.

FEED THE BEES.

Those who have stocks of bees in doubtful conditions, as regards supply of food for the winter, should take advantage of the first spell of moderate weather to give them an extra



TURKEYS—COCK AND HEN.

supply. Even if they have already enough, a little candy fed to them will do good and help them in raising broods, as we believe a variety is equally good for them as for any other of our live stock.

The best feed for our bees for midwinter is candy made of grape sugar and coffee. A sugar, mixed in proportions of three pounds grape sugar to one of coffee.

Put the grape sugar in a tin dish or iron pan on a slow stove. Do not put any water to it (the grape sugar holds enough water, as you will soon find). Keep well stirred until all is melted, then add the coffee sugar and mix thoroughly. Allow the mixture to cool until it begins to stiffen, then pour into shallow wooden trays (ours are about five or six inches, and one and a half inches deep) filling within half an inch of the top. In twenty-four or thirty-six hours the candy will be ready to invert over the cluster of bees in the hive. Replace the enamelled cloth and chaff-cushion over it, tucking all down snug, and they will be safe for some time.

For feeding in spring, say after the first of March, add to the mixture a half pound of wheat flour; this will stimulate brood rearing, and in place of using shallow trays, take a broad frame and tack a piece of wood on one

side, making a tray of that, and fill with the candy; it can then be hung in the hive like a frame of comb at the outer edge of the brood nest, and will do more toward encouraging the bees in raising a brood than anything else you can do.

CULLING OUT.

Don't be afraid to cull out your flocks of young birds closely, reserving for use in your own breeding yards or for sale only those which are first-class birds, even if you have to condemn the greater part of the flock for table use or market purposes. In no other way can you foster improvement in a greater degree, and insure increasing sales yearly.

The majority of our breeders and fanciers make three cullings or sortings of their young birds, supplementing these three general ones with others when desired. Those fit only for market purposes, owing to having disqualifications which make them undesirable to either keep or sell for breeding purposes, are first sorted out and put into a separate and special yard, where they are fattened to suit the needs of the breeder. The next culling is picking out all that you will need for your own breeding purposes next year, and a few more to make sure. These should never be sold, no matter how tempting the offer may be, and the remaining good birds can be left to have free range until sold. In this way you not merely make sure of the very best for your own yards, but prevent the possibility of sending customers poor birds.—*The Monitor*.

FEEDING poultry must be conducted on proper principles to secure the greatest profit. While there are many who feed too lavishly, there are far more who do not feed enough, or who feed too irregularly, and the result is a poor lot of fowls.

THERE is no doubt that a well-kept flock of poultry is the most profitable of all farm stock. But a little flock well kept, like a little farm well tilled, brings the most profit to the farmer. Just so many as can be kept without crowding, and with ease and convenience, will be the most profitable. Poultry will not bear crowding any more than sheep or pigs or people, and it is well known that when any of these are too closely kept disease appears and works mischief. It is a necessity of the case, because cleanliness must be sacrificed to necessity.

"As busy as a bee," is one of our most common expressions, but there are few people who know how much labour the sweet hoard of the hive represents. Every head of clover contains about sixty distinct flower-tubes, each of which holds a bit of sugar not exceeding the five-hundredth part of a grain. The proboscis of the bee must therefore be inserted into five hundred clover-tubes before one grain of sugar can be obtained. There are 7,000 grains in a pound, and as honey contains three-fourths of its weight of dry sugar, each pound of honey represents 2,500,000 clover tubes sucked by bees.

HORSES AND CATTLE.**WINTER FOODS AND FEEDING.**

The cold season is upon us, and every farmer is obliged to give to his stock the food elements which he has accumulated during the growing season. A consideration of the nature of some of the foods is therefore not out of place. The factors which determine the value of a food are its composition and its digestibility. A food may be a rich one and not be as valuable as another which has the elements within ready reach of the organs of digestion.

The composition of a food is divided into four groups of substances, namely, the carbohydrates, fats, albuminoids, and ash constituents. The last group includes the small portion of hay, straw, etc., which is left after the fodder has been burned. Though only a very small portion is ash, it is nevertheless essential, for out of these elements much of the bone of the animal is built up. The ash differs greatly in amount and quality among the various foods. In meadow hay there is about six pounds in every hundred, while in turnips there is less than one pound. Cotton seed with the husk removed has nearly eight per cent. of ash elements, while corn has between one and two per cent.

The albuminoids are the compounds which contain the nitrogen, and this is one of the most essential elements for all living tissue. The value of a food is almost in proportion to the amount of albuminoid contained. The cottonseed contains over 40 per cent. of these constituents, and on this account it is a most concentrated food, and needs to be given in small quantities and in connection with other foods containing a comparatively small per cent. of these elements. Beans are very rich in albuminoid, and it is on this account mainly that they are so "heartly," as they are termed, and will almost take the place of meats in human diet. Malt dust contains about the same per cent. as beans, mainly twenty to twenty-four per cent., and is therefore a valuable adjunct in stock feeding. Clover hay is richer in albuminoids (twelve per cent) than corn (ten per cent.) or wheat (eleven per cent.), but is led by oats (thirteen per cent.). In wheat straw the amount falls to eight per cent., and in potatoes to two per cent., while mangels and turnips have only about one per cent. of albuminoids. It must be remembered that there is a large amount of water to be reckoned in with the root crops, and this reduces the percentage of the other substances. Let us make this emphatic by taking meadow grass and meadow hay. The former contains eighty per cent. of water and three and one-half per cent. of albuminoids, while meadow hay has about fifteen (or less) per cent. of water and ten per cent. of albuminoids. The cotton-seed cake, which is nearly half albuminoids, has only ten per cent. of water, while the beet and turnip roots contain from eighty-eight to ninety-one per cent. of water. If the water was removed from the roots by a process of drying as is the case in the making of hay, they would yield a dry albuminoid return of no inferior value.

The fat varies greatly. This is strikingly shown in the analysis of the two grains, oats and wheat. The former has four times as much fat as the latter. Linseed cake has

twelve per cent., which is about double that of oats, and the hulled cotton-seed cake leads the list by a percentage of fourteen. Turnips have only one-fifth of one per cent.

The carbohydrates include the starch, sugar, and other substances easily made soluble by the process of digestion. Corn leads with 68.5 per cent.; wheat, 68; oats, 53; beans, 46; clover hay, 38; wheat straw, 33; linseed cake, 30; potatoes, 20; turnips, 5 per cent.

There still remains the crude fibre, as it is termed, and this is often very indigestible, and therefore serves mainly to distend the organs of digestion. Wheat straw leads with 44 per cent.; meadow hay and clover, 26; wheat bran, linseed cake and oats, 11; beans, 9; meadow grass, 4.5; potatoes, turnips and beets, 1 per cent.

An important item in judicious feeding is to so arrange the foods that the animal may receive all that it needs of each of the above mentioned group. The two classes or groups placed in contrast are the albuminoids and the carbohydrates (the fat being calculated into starch by multiplying it by 2½). This relation of the two groups is known as the albuminoid or nutritive ratio. This ratio varies with different kinds of live stock, and depends largely upon the demand made upon the animals. One of the albuminoid to five, six or seven of the other elements, expresses the range of a good ration in a general way.

WINTER CARE OF CALVES.

Mature cattle in good health will stand a great deal of exposure to cold with little perceptible injury. They will get along fairly well even with comparatively poor food. But calves from five to eight or nine months old often suffer much on the approach of winter; losing flesh and strength rapidly. Valuable calves, it may be assumed, will be well cared for. But those of only ordinary value, being reared for beef animals or dairy cows, are not so certain to receive proper attention.

First of all, we count it important that the calves be kept separate from the older cattle. Even when there is an abundance of food, calves are often crowded away and really suffer because of the tyranny of the older cattle. The same is true as regards water. So, too, they may be driven from shelter and compelled to stand exposed to severe storms, although there may be plenty of shed room, if equally distributed.

It is not essential that there should be very warm quarters. It is desirable that the calves have a dry place, with good litter and protection from the winds. We have seen comfortable shelter for calves made with poles covered with straw.

As to food, good hay, better if part clover, and oats and shelled corn will do nicely, if there be no convenient means of grinding. Young cattle will often more thoroughly masticate unground grain than will older ones. We think highly of oats as food for calves. In severe cold weather some corn is advisable.

As to quantity, much depends on the plans for the future. It is not worth while to give calves all they will eat of grain, if liberal feeding is not kept up afterward. For heifers perhaps it is even better they should not have full grain food.

It is important that exercise be given whenever this is practicable. But this does not mean keeping the young things in driving storms.

BE HUMANE TO YOUR HORSE.

It is not humane to refuse your horse sufficient good water; to give him decaying or insufficient food; to let him go ungroomed; to scratch his skin with an iron or wire-tooth curry-comb; to shear his mane or tail; to use over-check or blinkers; to put frosted bits into his mouth; to work him when his shoulders are sore, or ride him when his back is galled by a cruel saddle; to ride or drive him when he is lame; to drive him upon stone pavements or icy roads, with smooth shoes; to drive him in a storm, or let him stand in one without protection; to let him stand in the cold without blankets or other warm covering; to neglect to furnish him good and sufficient bedding at all times; to drive him too fast; to jerk him by the bits; to whip him up hill, or to raise ridges upon him with the whip; to strike him if he shies; to strike him if he stumbles; to whip or beat him if he balks; to work him more than twelve hours a day; to turn him out, when old, to die of neglect and starvation.—*DeWitt in Humane Journal.*

BREAKING COLTS.

The *Breeder's Gazette* says it is wonderful how easy it is to gentle and accustom a weanling to harness as compared with the work if delayed until older. A small harness made to fit them, a little skeleton sleigh with straight out shafts and a level piece of snow path complete the necessities. A few days in the stable with bit and harness, then a few days of education out of doors without the sleigh, and then ten or a dozen times hitched up, with from half a mile to two miles of a gentle drive, gives the best foundation possible for a safe and well-broken road horse.

CROSS BULL.

Whenever a bull becomes vicious he is sent to the shambles and a younger one substituted. It is like changing for a brief time only, for the younger one is soon made to give place to another and thus are farmers prohibited, by their own unwise methods, from using the more mature bull instead of those not fully grown. A bull will always be cross at times, and to attempt to procure one that is gentle is a difficult undertaking. If a farmer has a first class animal that he wishes to keep in service all that is necessary is to ring him properly, and he will then be easily manageable, but it is wrong to destroy him unless no longer serviceable.

TRAINING COLTS.

Some one is quoted as saying that early in 1900 a horse will make his mile near down to two minutes. We do not doubt this, and possibly we have as good material to get this low-down speed out of now as we will have then. Do we not err in waiting for the colt to come to the speed? Should we not make a more vigorous effort to bring the speed to the colt? The young deer is taught to reach out beside its dam, and soon equals the dam in speed and bottom.—*Country Gentleman.*

SHEEP AND SWINE.**GENERAL RULES FOR BREEDING.**

In breeding hogs there are certain rules to be observed, the familiarity with which gives the breeder greater control over his stock. The Hon. Cassius M. Clay, who made the breeding of stock a science, claims that sex follows the most vigorous parent. At all events the following will serve as a guide to those who are not familiar with the rules that make stock breeding a success.

- 1.—Like begets like.
- 2.—The pure breed predominates over the mixed breed, and most affects the issue.
- 3.—When the male and female have a similar defect that defect is increased in the progeny, and the reverse is the case when good-points are needed.
- 4.—The mixed breeds can be continually improved by the use of pure bred males.

paramount rule, as "like not only begets like," but has a tendency either to revert or advance.

15.—Early maturity is a prime quality, and is always desirable.

16.—The fewer the number of females the more vigorous the offspring.

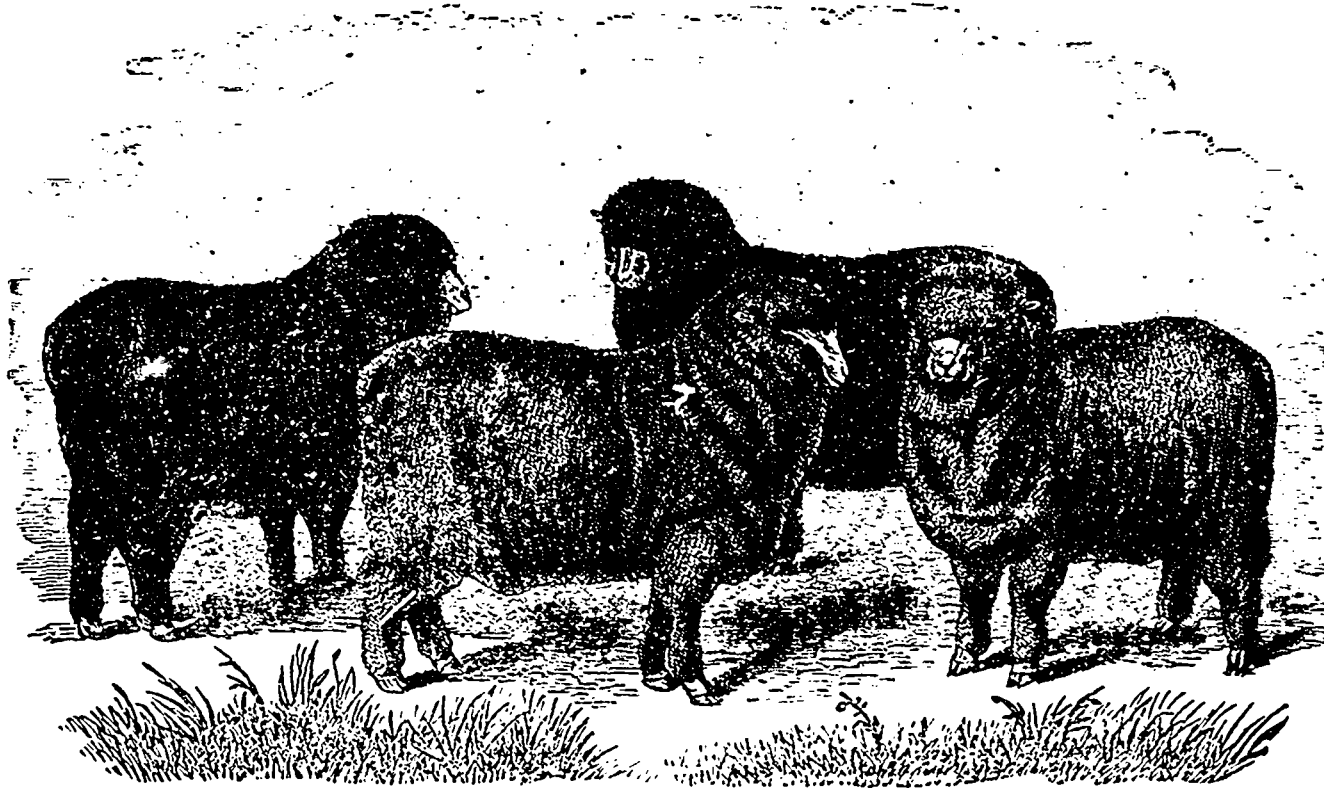
17.—In domestic animals no standpoint can be reached, as domestication either retards or advances them, but wild animals, free from man's care, are fixed in type.

18.—The regard for certain colours and families may often be an obstacle to improvement, from close breeding.

19.—The largest animals are not always the most profitable, but the animal that "gives the greatest weight on the smallest amount of feed, in the shortest possible time" is the coming one.

20.—Animals suited to one section may be unfit for another, as climate, surface, soil, crops, etc., control the selection.

will always be farmers who will try to do the best they can, upon the common-sense principle that when two dollars can be made just as well as one, it is better to make the two. Such men, if they happen to be engaged in sheep husbandry, will make a study of European systems of breeding, feeding and management. The Englishman has made sheep-raising profitable to a very high degree. He has shown us how to improve our sheep by careful breeding, and he can show us how to manage them with profit. Of course it is not practical for us to follow European systems of feeding literally, but in these systems we can find the principle of success. In England roots are largely fed, and there is a question if they are not fed to too large an extent, especially those that contain such a large amount of water as turnips. But in this country, as a rule, we do not feed enough. In the work on Feeding Animals, by Prof. Stewart, it is stated, as the result of careful experi-



MERINO SHEEP.

MERINO SHEEP.

5.—A mixed blooded male cannot be used, for there is no telling what may crop out in his offspring.

6.—If a scrub male be continually bred on pure blooded females the scrub blood finally predominates.

7.—In-and-in breeding fixes the type, whatever it may be, but the same result may be attained by the use of males from herds of similar stock.

8.—When mind and energy are required, as in man, or even the race horse, in-and-in breeding is injurious, but, in animals where fat is desirable, as with hogs, the practice is sometimes admissible.

9.—Breeding animals without sufficient maturity deteriorates them, as fruit trees are exhausted by fruitage.

10.—Generous feeding and security from unpleasant surroundings favour excellence in all types.

11.—Over-feeding is not favourable to improvement in breeding.

12.—The laws of health must be observed to produce the highest development.

13.—Animals should not be changed from generous to poorer fare, and the laws of acclimation must also be regarded.

The Merino is a very important breed of sheep, originally Spanish, but now widely found in Europe and America, and forming a large part of the wealth of Australia. The Merino has large limbs, and the male has large spiral horns, which do not rise above the head; the skin of the neck is loose and pendulous; the cheeks and forehead bear wool; the fleece is fine, long, soft and twisted in silky spiral ringlets. This fleece is extensively used in the manufacture of "merino" goods, though some so-called have little if any of the real merino wool in them.

ROOTS FOR SHEEP.

It is possible for us to learn very much from the farmers of Europe. They are under the necessity of making the utmost profit that any branch of agriculture will yield. Consequently their farming operations are reduced to a science. Ours ought to be, but while we have so much land that is practically exhausted in fertility, we shall not bend our energies to make every foot of land and every animal produce to the extent of its ability. They

ment, that ten pounds of turnips with one and a half pounds of corn will fatten a young sheep or lamb faster than three pounds of corn alone. The feeding of roots in England—although we believe it is too extensive—is the secret of successful sheep feeding in winter there. It will be more widely adopted here. Prof. Stewart says that this will be the case unless the silo shall preserve better green food at a less price. Well, the silo will never do it, we do not believe. It could preserve better food if the crop to be ensilaged was carefully selected, but we cannot get rid of our doubts that the cost will more than outweigh its superiority. Roots are good enough for sheep and they are cheap.

THE English flockmaster has settled two points in British experience:—First, that mutton is more profitable than wool; and second, that among English mutton consumers there is a decided preference for Down or black-faced mutton. Tender, juicy flesh; with a fine grain and a rich flavour, ripe and yet carrying plenty of lean meat, is that which suits the English market. A combination of these qualities is found to most perfection in some of the black-faced muttons.

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The Rural Canadian.

TORONTO, FEBRUARY, 1884.

THE RURAL CANADIAN FOR 1884.

THIRD YEAR OF PUBLICATION!

THE RURAL CANADIAN has now entered on its third year, and, we are pleased to be able to say, with very encouraging prospects for the future. It is unnecessary to specify the features of the paper for the coming year. No efforts will be spared to make its visits interesting and useful to those who farm, to those who grow fruit, to those who raise poultry, to those who breed stock, to those who make butter and cheese, and to those who keep house. The young ladies of the household will find in each issue, a piece of music which, during the year will be worth a good deal more than the subscription; while "Young Canada," a favourite department in the past, will be continued. Illustrations will only be inserted as found necessary to add value to the letter press. Single copy one year, \$1. The publisher offers the following

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5 Jordan Street, Toronto. Publisher.

THE DOG QUESTION.

What ought to be done with the dogs? We have a very large number in town and country; many of them are vicious; and all consume a large pile of food every day of the year. Are they worth their keep, and ought their keeping to be encouraged? The question in the main ought to be considered on its economical side, and not merely as a tradition. In the early settlement of our country, the faithful watch-dog was a very valuable animal, especially in guarding the farm against the depredations of his not very distant relative, the wolf. But the wolf is now extinct in almost every part of the Province, and as a matter of fact there are more sheep killed at the present time by dogs every year, than there ever was by wolves. It is a common thing to see in the newspapers an account of some farmer losing fifteen or twenty sheep of a night, especially in the neighbourhood of the towns and cities. How much the aggregate yearly loss is, we do not know, but we know that it is very large. Then there is the cost of feeding dogs. This a large item—probably not less than \$3,000,000 a year in Ontario. Are

they worth it? We think not. In the towns in particular they have no value, and in too many instances they are nothing but a dangerous nuisance. We believe it would be largely for the good of the country, if the keeping of dogs in towns was absolutely prohibited, and if in rural sections the dog tax was doubled. Three million dollars expended in feeding sheep would give an infinitely better return than the same amount expended in feeding dogs.

FEED THE LAND.

One of the common mistakes of farmers is, or take crop after crop off the land without any suitable feeding of the land in return. If the horse is worked and not fed, very little time is needed to exhaust his strength, and to recuperate an animal in that condition is a slow and costly process. So it is with the land. Impoverish it by regular cropping and no manuring, and years of careful cultivation will scarcely restore it to the condition of virgin fertility. The farmer who produces grain, hay and other forage to be sold off the farm in their unchanged form, misses the true policy which should govern him. The soil elements contained in these products are given their highest value when they go into beef, mutton and pork, wool, cheese or milk. It is with the raw material of the farm as with the raw material of the factory. There is an increased value of product, and a business profit in the operation, when the saw-log is converted into lumber; and there is a further increase of value and another margin of profit when the lumber is converted into—say furniture or agricultural implements. So with the grain, roots and hay of the farm. Convert them into meat or milk or butter, and you get the increased value of the product, and the business profit in the operation comes to the farmer as unfailingly as to the manufacturer; in addition, the farmer is enabled to return to the land the greater part of the elements taken from it, and so maintain it in a strong and healthy state.

DISEASES OF LIVE STOCK.

Legislators at Washington appear at last to have taken hold of the subject of contagious diseases in cattle in earnest, and it is probable that an Act will be passed this session, providing for organized action throughout the country. The disease chiefly aimed at, is the lung plague, and it is proposed to obtain authority to stamp it out by destroying all animals infected with it. In our own country, thanks to care and watchfulness, the lung plague is unknown. But we have other diseases not less difficult to control, and we have no law for enabling the public to protect itself against them. Take, for instance, that incurable disease of horses, glanders. True, it is not spreading rapidly, but it has been in the country for years, and there is no law to check it, nor to punish the unscrupulous man who deliberately trades or sells a glandered horse, or brings him into contact with healthy ones on the highway, or in the hotel stable. A case of this kind was before the courts in Ontario county a few weeks ago, in which a "horse-trader" was the defendant; but nothing could be done, because there is no law to deal with the evil. This ought not to be. The glanders disease should be stamped out.

NOXIOUS WEEDS.

Had proper measures been taken twenty years ago to stamp out Canada thistles, and other noxious weeds, it is hardly to be doubted that success would have been attained. But the matter has been neglected year after year, and year after year the pests of the farm have been spreading and becoming more difficult to subdue. It is the same with the black-knot disease, which is rapidly killing off the plum and cherry orchards of the country. The Ontario Government recognize, at last, that it is necessary to do something more than has yet been attempted or acquired, and a measure is promised for the present session to consolidate all the laws, respecting noxious weeds and the diseases of fruit trees, and to make more effective provisions for stamping them out. Such a bill ought to deal with other weeds than Canada thistles, for during the past twelve or fifteen years, several varieties of noxious weeds have obtained a foothold in the country, and proved to be hardly less baneful than the thistle pest. The Bill ought also to provide in some way for its effective enforcement. The old statute was almost a dead letter in this respect, and largely because the officers authorized to enforce it could only do so by quarrelling with their neighbours. One officer for each municipality would, no doubt, give much better satisfaction.

TANBARK FOR MANURE.

"Will you or some of your readers give me some information as to the advisability of using spent tanbark for manure, if it can safely be so used, and what crops it would most benefit? Also would it be a suitable material to apply to a heavy piece of stiff clay, with the object of making it more porous and friable and if so to what extent per acre."

ENQUIRER.

Tanbark abounds in vegetable parts and cannot but be strongly impregnated with animal juices, as it lies a long time in tan vats with the skins of animals. A good authority on the subject says that one load of oak-bark, laid in a heap and rotted after the farmers have used it, will do more good to stiff cold land, and its effects will last longer, than two good loads of the richest barn-yard manure. It is of a warm nature, and will loosen and separate the earth so effectually that, by using it only three or four times, a strong and stiff soil will be rendered perfectly light and loose. A good way of applying it is to mix it with earth of a nature contrary to that which it is intended to correct, and so used it will prove a fine manure for almost any soil, converting it into a fine black mould. One-third of bark to two-thirds of sand will be a good proportion for clays, laying on about one hundred loads per acre, or considerably less if the land is not very stiff. If used on fall wheat it should be ploughed under so that the roots of the plant may not reach it until spring, for if applied to the surface it would stimulate growth all winter, and become exhausted in large measure when most required at the opening of spring. If laid as a top dressing on grass it should be spread in the fall, for if spread in the spring it is apt to burn the grass instead of improving it.

BOBCAYGEON CHEESE FACTORY.

The *Independent* says that the cheese factory has closed down after a very successful season. The delivery waggons stopped running about a week ago, but Mr. Wilson, the maker, still manufactures twice a week for the accommodation of a few of the patrons. Through the summer the factory was one of the sights for the visitors, who found a call very interesting. The rooms are kept in perfect cleanliness and order, and the curing room, when it has some three hundred cheeses laid out, is a sight to be remembered. The quantity of milk brought in this year has greatly increased over last season, and it is reasonable to suppose that, as the advantages of the co-operative plan of working force themselves on the farmers, the business of the factory will be still further increased. The return of cheese from the quantity of milk that has been obtained by Mr. Wilson has been high.

BARB WIRE FENCES.

The manufacture of barb wire for fencing has been a monopoly, but is not likely to be so hereafter, for the United States Circuit Court, at a session recently held at St. Louis, have rendered a decision which overthrows the patents of Glidden and Kelly, under which barb wire has heretofore been manufactured. This will be welcome news to the farmers, especially in the West, where ordinary fence material is scarce and high. Large areas can be cheaply fenced with barb wire which serves a good purpose. It is doubtful if the great ranches of the West could ever be fenced so as to keep cattle, because of the great expense, except for this useful invention.

Some object to its use because the cattle sometimes get injured by coming in contact with the sharp points, but it is seldom that serious damage is done. It is very useful along railway tracks to keep people from crossing where there is danger. It is often used to advantage on top of walls that are rather low, to prevent cattle from jumping over. We notice that wire without barbs is being used for fences in connection with that with barbs, two wires with barbs and two without, alternating.

In view of the decisions to which we have referred, a reduction in price of barb wire may be expected, and low prices mean the more extensive use of the article.

SEED POTATOES.

This is the best time to select the seed for next year's crops. And as the potatoes are sorted out for sale the seed should be carefully chosen. What is the reason that potatoes run out? The Early Rose has followed the old Peach Blow, as that followed the Mercer, and every year the yield decreases. I am inclined to think it is the use of small potatoes for seed. This is a costly economy. Farmers do not use the refuse of any other crop for seed. They choose the best ears of corn, the best tomatoes, and the finest wheat and oats, but the poorest potatoes. Every year we may read that some one has made experiments and has found one one thing and another another thing; that in one case large potatoes have

given the largest yield and in another small ones yielded just as well. But deterioration is a slow, although a sure, process, and it may be that, while one year's use of small potatoes does no apparent injury, yet the small tubers grown from small seed may have the original defect concentrated in them, and so year after year the crop may become as small as the seed. It is certainly safe to use the best seed, and therefore I would recommend that the smoothest, best formed, soundest, and most perfect potatoes be chosen for next year's planting. But these are not always the largest by any means.

OIL FOR WAGGON WHEELS.

A practical man says: "I have a waggon of which, six years ago, the fellies shrank so that the tires became loose. I gave it a good coat of hot oil, and every year since it has had a coat of oil or paint, sometimes both. The tires are tight yet, and they have not been set for eight or nine years. Many farmers think that as soon as waggon fellies begin to shrink they must go at once to a blacksmith shop and get the tire set. Instead of doing that, which is often a damage to the wheels, causing them to dish, if they will get some linseed oil and heat it boiling hot and give the fellies all the oil they can take, it will fill them up to their usual size and tighten to keep them from shrinking, and also to keep out the water. If you do not wish to go to the trouble of mixing paint, you can heat the oil and tie a rag to a stick and swab them over as long as they will take oil. A brush is more convenient to use, but a swab will answer if you do not wish to buy a brush. It is quite a saving of time and money to look after the woodwork of farm machinery. Alternate wetting and drying injures and causes the best wood soon to decay and lose its strength unless kept well painted. It pays to keep a little oil on hand to oil fork handles, rakes, neck-yokes, whiffletrees, and any of the small tools on the farm that are more or less exposed."

DAIRY SALT.

There is a large class of farmers who yet remain to be converted to the use of fine dairy salt in the making of their butter. They are foolish enough to think they are both saving and making money by using coarse barrel salt. With the addition, preadventure, that the wife puts it on the table and rolls it with the rolling pin to reduce the size of the particles, thinking that the fineness constitutes the sole difference. It is only another illustration of the truth of the old painter's maxim: "Coarse ideas of painting never made a fine picture." The coarse salt users have coarse ideas of butter-making. They make coarse butter, get a coarse price, live coarse lives, die the death of coarseness. They belong to that class that glut the market every year with poor butter. It seems almost to require a surgical operation to get into their heads the idea that it is only fine butter that pays for the making. There are ten customers with fine critical tastes where there is but one butter-maker who comes up to their standard. The upper shelf is critical, but it is the only shelf that pays a good profit. — *W. P. H.*

CREAM

He who has a thousand friends has not a friend to spare,
And he who has one enemy will meet him every-
where.—*From Omar Chiam.*

We hear a good deal about the "rage for speculation;" but the rage generally comes after the speculation.

"You just take a bottle of my medicine," said a quack doctor to a consumptive, "and you'll never cough again." "Is it as fatal as that?" gasped the consumptive.

"You are now one," said the minister to the happy pair he had just tied together with a knot that they never could undo. "Which one?" asked the bride. "You will have to settle that for yourselves," said the clergyman.

A CYNICAL old bachelor, who firmly believes that all women have something to say on all subjects, recently asked a female friend: "Well, madam, what do you hold on this question of female suffrage?" To him the lady responded calmly, "Sir, I hold my tongue."

"HAVE you brought your gimlet with you?" "Hush, Johnny!" said Mrs. Yerger. "Go to bed, sir!" remarked Colonel Yerger. "What do you mean?" asked Gus. "I don't mean nuffin; except I heard Pa say you were coming up this evening to bore us all."

"I UNDERSTOOD you to say that your charge for services would be light," complained the client when his lawyer handed him a tremendous bill. "I believe I said my fee would be nominal," was the reply; "but"—"Oh, I see!" interrupted the client, "phenomenal."

A DEAD weasel was recently found in a farmer's barn in New Brunswick with its tongue frozen to an axe blade. The axe had been used in chopping meat, and some fragments had remained sticking to it, and the little unfortunate had made an expensive meal.

"YOUR daughter? It is impossible. Why, you look more like twin sisters." "No; I assure you, she is my only daughter," replied the pleased mother. And the polite old gentleman spoiled it all by remarking: "Well, she certainly looks old enough to be your sister."

A MAN rushed up to a woman looking in a show-window, and, grasping her by the arm angrily exclaimed, "Come on, I'm tired of waiting for you." Then noticing he had made a mistake, he drew back with, "Oh, I beg your pardon, madam, I mistook you for my wife." "I thought so," she answered with a scornful sneer, and passed on.

They had been engaged to be married fifteen years, and still he had not mustered up resolution enough to ask her to name the happy day. One evening he called in a particular frame of mind, and asked her to sing something tender and touching, something that would "move" him. She sat down at the piano and sang, "Darling, I am growing old."

"PAPA, can't I go to the store and get a new dress?" "Why, child, you have got plenty of new dresses." Yes, papa, but they are out of style." "Nonsense, girl! the trees always come out in the same style every spring, don't they?" "Yes, papa, and they always look green, too." "All right, go to the store and get a new dress." — *D. P.*

THE DAIRY.

THE DAIRY IN WINTER.

We publish below from the *Rural New Yorker*, a timely and sensible article on Winter Dairying from the pen of Mr. Henry Stewart, editor of the above-named paper. The views may not be so high-toned as those of some writers, but they will be found practicable and, will meet with general approval.

"It is the evidence of skill and intelligence in a man that he overcomes all natural obstacles of season and weather. It is for this that reason is given to mankind. It is his business to 'inherit the earth and subdue it,' and the dairyman needs to do more of this subduing of nature than any other cultivator of the soil, or keeper of stock. He must necessarily neutralize the cold and rigour of winter, both in the management of the milk and cream, if he will secure the advantages of winter dairying. It is always safe for a dairyman to judge of his animals by himself and his own feelings. That which tends to his own comfort and well-being in the rigorous winter season equally conduces to the comfort and well-being of his cows. And comfort and good feeding and warmth and health are synonymous with profit to the owner of a dairy. The dairyman, after his warm, comfortable meal, goes out into the nipping but stimulating frosty air, and feels a buoyancy and vigour which he never experiences in the heat of summer, and he is able to do more work in a few hours on such a clear, bracing day, than he could do in a whole day in July. But the poor, hungry, abandoned tramp, who comes to his kitchen-door begging a meal, shows by his blue lips and pinched features and trembling limbs that the crisp air brings no life or vigour to him, and that the cold is exhausting his vital heat and impoverishing his blood. Work is impossible to him, and just so it is with the cows in the barn.

"See the herd just filled with a rich mess of cut hay and meal moistened with warm water, that the food may not chill the stomach, and turned out from a hot stable and soft bed into the yard, into the brisk air glistening, it may be, with the fine crystals of moisture which glitter as they float in the bright sunshine. How they frolic and play, bounding with healthful vigour and strength. But then look across the road and see in another yard the poor animals which have had their meal of hay and feed wetted with water from an icy trough, and perhaps liberally mixed with pieces of ice, and which have just left the stable with frost around their muzzles, and all shrunken with the cold. There they stand against the best shelter they can find, with backs arched and heads low, shivering in the frosty air. The one herd has filled the foaming pails, the other barely pays for the labour of milking. The food of the one makes milk and cream; but that of the other is all used up to maintain the vital warmth, and, so far as profit is concerned, it might as well have been consumed in the fire. Let the dairyman judge for his cattle by himself; for as men are all made of one blood, so are all animals. So far as the animal part of a man is concerned, it differs in no respect from that of any other animals. It is unnecessary to be

more specific upon this point. Every man knows 'how it is himself,' and let him then judge of his animals by the same standard. If he does that, his own intelligence will tell him what is necessary to be done, and if he expects pay for his work he must do this.

"Then let us consider the dairy. There, too, the temperature is everything. Heat is the greatest and most powerful chemical agent that exists. We do not begin to know all the 'ins and outs' of it; but we know that no chemical change can occur in matter without the agency of heat. And the changes that take place in milk and cream and in the making of butter are chiefly chemical; so that, if these changes are to be the same day after day, as they should be to keep the product the same in quality and quantity all the time, the temperature should not vary from day to day. And the right temperature for a winter dairy where the milk is set in shallow pans, and exposed to the air, is sixty to sixty-two degrees, and forty-five degrees when it is set in water in deep pails. A question is often asked in regard to deep-setting in the winter, which may be answered just here. It is: 'Why cannot the milk in deep pails be kept in air, at the right temperature of forty-five degrees as well as in water?' The great point in this deep setting of milk is rapid cooling, by which the cream is thrown up quickly and completely. Now, when a pail of milk twenty inches deep by eight inches in diameter is set in a pool of water at forty-five degrees, and a current is passing through the pool, the whole milk will be very quickly reduced to the temperature of the water; if the pails are sunk in the water so deeply as to bring the surface of the milk lower than that of the water, one hour is sufficient to do this. But the cooling goes on very slowly in the air, and twelve hours may be required to bring the milk down to the temperature of the air. In this time the milk in the water will have thrown up all the cream, while in the air not more than one-fourth may have risen. Last winter 300 quarts of milk, 100 quarts a day, measured into ten-quart pans and set in a milk-room kept at sixty-two degrees, yielded, when the cream was churned, thirty-two and a-half pounds of butter. The next three days the temperature was kept down to fifty degrees, by letting in cold air, and the same quantity of milk produced twenty-seven pounds of butter. A few pans of the last lot of milk, which were set near the window—and in the draft of cold air—had very little cream at all upon them. The quality of the butter of the last churning, too, was not nearly as good as of the first. In short, this matter of temperature is very important, and the dairyman who is making butter in the winter cannot give too much attention to it. Thermometers are worth a good deal more than they cost, if the warnings they give are heeded, and in a winter dairy they are indispensable.

"A great deal may be said in regard to cleanliness. In the stable cleanliness is a relative and not an absolute thing. There must necessarily always be some uncleanness—in the strict sense of the term—about the stable. But this must be construed reasonably. 'Dirt is any matter out of place.' And the inevitable gathering of manure in a stable is not uncleanness except when it is

permitted in the milk. The odour of a well-kept cow-stable is not disagreeable even when it is encountered at the first entry in the morning. There is even a certain agreeable scent about it when this is not too strong. A popular toilet scent is made from fresh cow dung, and this supposed 'nasty' matter is nothing more than moistened and softened vegetable fibre, which, when fresh, gives out no unwholesome or injurious matters. But no one wants to have it in the milk, and this is all that is intended when cleanliness in the stable is suggested. It is when the waste matter decomposes that it is disagreeable and injurious and unclean; and the presence of decomposing manure is to be carefully prevented always and under all circumstances in the stable, or on the cows, or near to the dairy, and it is to be kept out of the milk by every possible precaution. And surely no thoughtful dairyman needs to be told what precautions he should take. These will be obvious."

TESTING COWS.

It is only a few years since the more advanced dairymen tested the cream capacity of each cow's milk separately in "test tubes." Not a few farmers made sport of the "peaky little glass tubes," and declared with great vehemence that the tubes and experiments were "worth nothin'." It is astonishing how much an ignorant man sometimes thinks he knows, and how sure he is of his knowledge. But the test tubes did great service. Through their aid scores of poor, unprofitable cows were weeded out of dairies; none of their heifer calves raised; more attention given to the good cows, and their stock raised, and in a few years the average standard of these dairies was materially raised. The test tube is not perfect, but it is vastly more reliable than a "guess" of the farmer, because it shows what proportion of the milk is cream, even though it does not reveal the exact value of every specimen of cream thus raised. The test tube will show just what proportion of the milk is cream. Other tests will show the exact worth of the cream for butter purposes. Hence a more recent method of testing cows is to weigh their milk—no special butter value in that, however—and then weigh their butter, so much each day, or week, or month. This point has been reached; and hence we have the remarkable records, some of which were recently given. Careful tests have been made of the amount of butter certain cows make, but as yet there has not been kept as careful an account of the amount, quality and value of the food consumed by each cow while going through the process of these butter tests. A cow is a machine for transforming grass and grain into milk and butter, and what the dairyman especially wants to know is the cow which will give him the largest amount of butter from the smallest amount of food and care. The cow is a hopper, into which the farmer is daily pouring grass, or hay and grain, and he ought to have the test complete and accurate; take just as full an account of what goes into the hopper as what comes out.

The great and rapidly growing interest in this matter of testing cows promises, another season, a series of complete, thorough, and valuable tests, conducted with care and impartiality, by which the "bottom facts" will be reached.

much fat as the latter. Linseed cake has full grain feed.

Scientific and Useful.

ROASTED coffee is one of the most powerful disinfectants.

BEESWAX and salt will make rusty flatirons as smooth as glass.

WILD mint scattered about the house will rid it of rats and mice.

SAVE your cold tea; it is excellent for cleaning grained wood.

A LITTLE sweet oil and beeswax rubbed on mahogany polishes it up beautifully.

SANDPAPER will whiten ivory knife handles that may have become yellow with use or age.

THE unpleasant odour left in the breath after eating onions is entirely removed by a cup of strong coffee.

Flowers kept in a warm room should be watered with tepid water. Very cold water is apt to freeze the roots.

PAINT spots may be removed from any kind of clothing by saturating with equal parts of turpentine and spirits of ammonia.

If you wish to pour boiling hot liquid into a glass jar or tumbler it can be safely done by putting a spoon in the dish before you pour.

HE FALLS ON THE STREET.

WHAT HAPPENED AT A WELL-KNOWN FARMER RESIDING AT AUGHBIM, NEAR ALVINSTON, LAMBTON COUNTY, ONTARIO.

Mr. John Brownlee, a farmer residing near Aughrim Post Office, County of Lambton, narrates his peculiar experience as follows: A number of years ago, while walking along the road from my farm to the village, I was suddenly seized with a peculiar dizziness in the head, and fell prostrate on the ground. It was some time before I could sufficiently recover myself to be able to rise. I thought this very strange, as I had never been so affected before; in fact, up to the time I speak of I do not suppose there was a more healthy man in all Canada, but from that day until a few months ago, I have been a perfect martyr, and it was not safe for me to move about without some one being with me, for fear that an attack might come on while I was riding or driving, as it frequently did, and had it not been for the aid of those that accompanied me, I might not now be alive to tell my story. You may be sure I had any amount of advice. What to do for my complaint this one had a never-failing remedy and the next one had a sure cure. I tried a whole host of my friends' and neighbors' remedies, but to no purpose; in fact, I was all the time getting worse. The next move was to go to the fountain head and get regular medical advice, so accordingly I went to a first-class physician; he examined me thoroughly, looked wise, and gave me some medicine, which he said, with great emphasis would cure me. Well, I hoped so, too, and gave it a faithful trial, but at last I had to stop taking it, as I found it was doing me no good whatever. My complaint having baffled the skill of one physician, I thought I would try another, but number two failed as signally as did the first one. My faith was by this time getting rather weak, and I thought my case a hopeless one, and was ready to give up, but no, I must make a final effort, and see another medical man living some distance from here. He prescribed for me after a most careful examination. Again I went on taking medicine, but still without any beneficial effect; rather the reverse, as I continued to grow worse. Evidently it was of no use my spending more money; I must give in to my disease and let it take its course; but it was ordained otherwise, and I rejoice to say that I found at last something that conquered my malady. It was Dr. Carson's Stomach Bitters that did it. Having heard one day of some wonderful cures made by the Doctor's Stomach Bitters, I got a bottle, but without the least idea of doing me any good, but I was agreeably surprised to find it the thing I had been so long looking for. I kept on taking it until I was thoroughly cured, and since then I take an occasional dose just to keep everything right in my system, and I am once more as hearty and strong as any one. All my family use it right along for biliousness, headache, and other stomach and liver troubles, and they think everything of it. My neighbors convinced of its healing power from the good they see it has done me, are using it. I got two bottles for some of my friends from Mr. McDiarmid, druggist, Alvinston, the last time I was there. Every one should know about Dr. Carson's Stomach Bitters. It is the greatest medicine I know of, and I think I ought to be a pretty good judge, having spent so much money and tried almost every remedy under the sun.

Table listing various agricultural products and their prices, including items like Beans, Beet, Corn, Onion, Squash, Tomato, Turnip, and Carrot.

ADDRESS (Carefully) JAMES RENNIE, (MARKET,) TORONTO.

Table listing various agricultural products and their prices, including items like Peas, Beans, Carrot, Turnip, and other vegetables.

Table listing various agricultural products and their prices, including items like Wheat, Oats, and other grains.

A dish or vase of fresh water should be kept in every room where there is a fire, especially an open fire. The water absorbs the gas arising from the coal and other impurities in the air.

PECTORIA. Something we all want in this season is "Pectoria" the great 25-cent cough and cold cure. Pectoria is put up in 25-cent bottles, and cures Coughs, Colds, Bronchitis, Soreness or oppression of the Chest and all affections of the Lungs and Throat. At this season of the year the great "Pectoria" should be on hand in every household. Pectoria has a large sale throughout Canada, and is acknowledged to be one of the greatest of Cough Medicines. Never say die until you have tried Pectoria, it will surely cure you. Ivory that has become yellow may be restored to its original whiteness by bleaching in hypochlorite of hydrogen. The ivory should be exposed to a strong sunlight under a glass covering.

C. A. Livingstone, Pottsville, says: "I have much pleasure in recommending Dr. Thomas' Eclectric Oil, from having used it myself, and having sold it for some time. In my own case I will say for it that it is the best preparation I have ever tried for rheumatism."

ONE of the best ways to cure sore throat is as follows:—Wring a cloth out of salt and cold water, and keeping it quite wet bind tightly about the neck. Cover this with a dry cloth. It is best to use this remedy in the night. A WONDERFUL RESULT.—A single bottle of Dr. Low's Pleasant Worm Syrup has frequently destroyed from 100 to 200 worms. It is pleasant to take—no other cathartic being required. Tape worms have also been removed by it, of 15 to 35 feet in length. It is effectual for all varieties of worms affecting both children and adults. Why go limping and whining about your corns, when a 25 cent bottle of Holloway's Corn Cure will remove them?

Dr. W. Armstrong, Toronto, writes: "I have been using Northrop and Lyman's Emulsion of Cod Liver Oil and Hypophosphites of Lime and Soda for Chronic Bronchitis with the best results. I believe it is the best Emulsion in the market. Having tested the different kinds, I unhesitatingly give it the preference when prescribing for my consumptive patients, or for throat and lung affections."

ANOTHER WITNESS. A. Chard, of Sterling, testifies to the efficacy of Hagyard's Yellow Oil, which he used for a badly injured knee joint. It is the great household remedy for inflammation, pain, soreness, lameness, etc., and is used both internally and externally with infallible success. A slightly damp cloth rubbed over a dusty carpet brightens it wonderfully and gathers up the dust. This is an excellent way to cleanse the floor of an invalid's room, where noise and dust are objectionable. Use the safe, pleasant and effectual worm killer, Mother Graves' Worm Exterminator; nothing equals it.

JAMES RENNIE, YOUR FRIENDS WERE EXCELLENT. W. KER, NIAGARA FALLS, SOTHEI, ROY. D. DAVIDSON, ED. BULFETTIN, CANADIAN FARMER, &c.

HOME CIRCLE.

ARTIE'S CHRISTMAS STAR.

It was cold, cold that December morning, and although Artie sought the sunniest place he could find by the ferry-house, the keen wind struck through his ragged garments, and made him shiver all over his small body to such an extent he could barely call out—"Here's yer mornin' papers!" Throngs of people passed to and fro through the ferry-house gate, but so far Artie had very small sales, everybody seemed too cold or in too much of a hurry this bitter morning to stop to buy papers. The pennies were too few in his pockets for him to venture home yet, for he knew by sad experience unless he had a certain amount just what his greeting would be from the drunken father.

Poor little Artie! He was only eight years old, but he had sold papers ever since—it seemed to him—he could remember anything. With his earliest memories, too, were his father's kicks and curses; yet he was not entirely hardened to his life, nor yet had lost all memory of his dead mother, who while she lived had made the poor home a little less miserable.

"Here's yer mornin' papers!" sung out Artie, as well as his chattering teeth would allow, as a gentleman passed into the ferry-house. The gentleman paused, bought a paper, and, as he paid for it, also put a brightly coloured card into Artie's rough, red hand. The bright colours struck the boy's eye, although in his early-acquired shrewdness, he might wish the gift had been an extra penny. On a vivid blue sky was depicted a glowing star, and a group of men on camels were seen directing their way toward the star. Artie gazed on it half listlessly, then as all chance of selling more papers at this quarter seemed over for the day, the extreme cold urged the boy to leave the waterside and seek some warmer locality. He hurried along the streets that were growing gay with Christmas preparation, looking in wistfully at saloons and restaurants, from whose doors warm, appetizing odours floated out, but Artie knew the waiters of such places too well to venture in.

A pleasant-faced young lady noticed him, and said kindly, "Will you come in little boy?"

"Is it warm in there?" asked Artie.

"Oh, yes, and I will get you a good seat."

So saying, she led Artie into a large well-lighted and warm hall, and, finding him a seat near a stove, set down beside him.

"This is nice," said Artie, warming his numb hands. It's awful cold this mornin', and when the wind gets inside a feller's clothes that's too big for him, like mine is, and flaps 'em about, kinder makes fans o' them, you see, it's colder'n ever."

The children began to sing, and other exercises followed, which Artie did not at all understand.

"What's it for?" he ventured to ask his new friend.

"Why, our mission class is getting ready for Christmas; you know why we keep Christmas and are so happy then?"

"No'n, I dunno's I do. I never was no happier. Father's kinder wusser at Christmas than other times—gets more to drink. A fel-

ler give me a Christmas card just now, but I dunno what it means," and Artie held up his card.

"I'll tell you what it means," and in a sweet simple way, like one child talking to another, the lady told Artie the story of Bethlehem's manger, the child Jesus, and the wise men's search.

"I knowed them was camels, 'cause I seen 'em in shows—and they found him—that baby?"

"Yes, they found him. And oh, little boy, that baby is a King in glory now, but he don't forget how poor and plain his home was once, and he loves to help poor little ones like you."

"Does he? I wish he'd help me some, and, say, does that there star—". Somebody called the young lady and she left him, smiling back, and saying:

"You must come again."

Artie felt disappointed not to hear more.

"I wanted to ask her if the star is a-shinin' yet, and showing of folks how to get to that Jesus as helps fellers like me—she said he did."

He dared not stay longer in the comfortable room, he must hurry out and dispose of the rest of his papers if he could.

The days went on; once or twice Artie slipped into the mission hall, but failed to see the lady and ask the question he so much wanted her to answer. On one unlucky morning, his father, loitering on the same street, happened to spy Artie coming out of the hall, and, with a heavy blow, forbade the boy to go there again—spending time indoors when he might be selling papers.

The weather continued bitterly cold, and poor Artie suffered not only from its keenness, but from want of food; he never dared spend a penny, unless his father was too drunk to take notice of him when he came in and demand the day's pittance.

On Christmas Eve, after a most unsuccessful day, Artie ventured back to the miserable room which was all the home he knew. The boy looked wistfully into the skies above him, wondering where might be the star which led to Jesus. A mist of snow was in the air, and there was every promise of the "white Christmas" so prized by those in sheltered homes and warm garments, but dreaded by the ill-fed and poorly-clad.

Dick Mills was in one of his worst moods, having taken liquor enough to make him cross and unreasonable.

"Is this all? You've got more there!" he shouted, as Artie turned his small pittance upon the ricketty table.

"Every cent," said the child edging nearer the door, for he saw there was a blow in readiness for him. "You've been a-sitting around that ere place I told yer to keep outer!" and Dick Mills staggered toward the boy with an empty bottle in his hand. Artie darted through the door, down the dark stairs, out into the night.

He ran wildly on for some distance before he dared look back, but no one was following him. Artie sat down in a dark doorway to take breath, and thought as to his course.

"I can't go back," half sobbed the boy. "I can't never go back; he'll kill me some day. Oh, if I just knowed where to go!"

He looked up, in his despair, and saw in the

fast-darkening sky one brightly beaming star. "Maybe that's the one as 'll show me the way."

He stamped his cold feet to get a little more warmth, and, drawing his torn jacket closer about him, started off, lifting his eyes now and again towards the star. On and on he went, poor little wanderer! Faster and faster fell the snow, the houses began to be farther apart, the city lights grew faint in the distance, but still the boy toiled on in the snow.

The last train had passed the little station at Blockton, and John Barker, after a close inspection of the depot buildings, took up his lantern, and turned towards the snug cottage a few rods away. The snow powdered his shaggy great-coat and his equally shaggy beard, but he whistled a merry tune, and strode on with long steps, for he knew that a cheery hearth and warm supper were waiting his coming. The rays of his lantern fell upon a small, dark heap in the road. John Barker stooped down to examine it, and started, exclaiming aloud: "Bless my soul! if it ain't a boy!" He gathered up the limp little body and hurried to his home.

"Here, mother," he said to the kindly-faced woman who opened the door, "I've found a frozen little creetur outside, and we've got to work pretty brisk to bring him round."

"Well, well, the poor lost lamb! I never did, in all my life I never did!" ejaculated the good woman, all the while aiding her husband as they strove to restore poor Artie to consciousness.

It was a long while ere the half-frozen, exhausted child opened his eyes, and looked languidly upon the kind couple watching him.

"I—couldn't—get—no—further," he murmured.

"Yes, sonny, we know all about it. Don't you try to talk yet awhile," said John, soothingly.

"Just to listen to that!" said Mrs. Barker, wiping her eyes on her apron, the poor child! Well, I never did—I really never did!"

"No, mother," said John, with his eyes twinkling, but also suspiciously moist. "I don't suppose you ever did, nor more did I ever pick up a frozen little chap like this before."

The Christmas Eve waned away, and still John Barker and his wife watched beside the little wanderer so strangely brought to their home, and before the Christmas morning dawned upon the snowy earth they had the satisfaction of seeing the boy in a gentle, natural slumber. Mrs. Barker tucked the blankets around him, and smoothed tenderly the thin hands, murmuring:

"The Lord only knows where the poor lost lamb came from. To think John should find him!"

When Artie opened his eyes on the Christmas morning he was bewildered to find himself in that bright, warm room, in such a soft bed, with the kind-looking man and woman looking down upon him. He remembered his flight, the long weary walk, the bitter cold, the star he watched until somehow it seemed to go out suddenly somewhere in the snow. "Did the star stop here? Is this the place where Jesus will help a little feller?" he asked weakly but eagerly.

"The child is out of his head, John. What star, dearie?" asked Mrs. Barker, feeling first Artie's pulse, then his forehead.

"I think not, mother," said John. "Take a sip o' tea, sonny, and try and tell us what you mean."

"I s'pose I'll have to go now," said Artie, when, able to walk a little, he stood looking on the snowy outside world.

"Not with two foot o' snow on the ground," said Mrs. Barker cheerily. "You'll eat your Christmas dinner with us, dearie."

"How would you like to stay all the time, Artie?" asked John Barker.

"Would you let me?" said the boy, looking eagerly first at one and then the other of the kind faces that smiled on him. "Won't I be in the way?"

"There's plenty of room; you don't take up much," said Mrs. Barker. "Anyway, I'd like to keep you until you pick up a little more flesh on your bones, for a thinner thing I never see, I'm sure I never did!"

So Artie stayed; and in the Christian home of John and Sarah Barker days of peace and childlike happiness came to the little street waif. He learned of the Saviour born in Bethlehem and gone back to Heaven's glory, but you may be sure never a Christmas came around that he failed to remember the snowy, wretched night when the star led him to John Barker's home.—*Chicago Interior.*

WASTE OF THE WORLD'S FORESTS.

When the forests of such a country as Cyprus were destroyed, said Mr. Thistleton Dyer, in a discussion in the British Society of Arts, it was like a burned cinder. Many of the West Indian Islands are in much the same condition, and the rate with which the destruction takes place when once commenced is almost incredible. In the Island of Mauritius, in 1835, about three-fourths of the soil was in the condition of primeval forest, viz., 300,000 acres; in 1879 the acreage of woods was reduced to 70,000, and in the next year, when an exact survey was made by an Indian forest officer, he stated that the only forest worth speaking about was 35,000 acres. Sir Wm. Gregory says that in Ceylon the eye, looking from the top of a mountain in the centre of the island, ranged in every direction over an unbroken extent of forest. Six years later the whole forest had disappeared. The denudation of the forests is accompanied by a deterioration in the soil, and the Rev. R. Abhay, who went to Ceylon on the eclipse expedition, calculated, from the percentage of solid matter in a stream, that one-third of an inch per annum was being washed away from the cultivated surface of the island. In some colonies the timber was being destroyed at such a rate as would soon lead to economic difficulties. In Jamaica nearly all the timber required for building purposes has already to be imported. In New Brunswick the hemlock spruce is rapidly disappearing, one manufacturer in Boiestown using the bark of 100,000 trees every year for tanning. In Demerara one of the most important and valuable trees, the greenheart, is in a fair way of being exterminated. They actually cut down small saplings to make rollers on which to roll the large trunks. In New Zealand, Capt. Walker says he fears the present gener-

ation will see the extermination of the Kauri pine, one of the most important trees. All these facts show that this is a most urgent question, which at no distant date will have to be vigorously dealt with.—*Popular Science Monthly.*

THE GOOD OLD WAY.

John Mann had a wife who was good and true,
A wife who loved him well,
She cared for the house and their only child;
But, if the truth I must tell,
She fretted and pined because John was poor,
And his business was slow to pay;
But he only said when she talked of change,
"We'll stick to the good old way."

She saw her neighbours were growing rich
And dwelling in houses grand;
That she was living in poverty,
With wealth upon every hand;
And she urged her husband to speculate,
To risk his earnings at play;
But he only said, "My dearest wife,
We'll stick to the good old way."

For he knew that money that's quickly got,
Is the money that's quickly lost;
And the money that stays is the money earned
At honest endeavour's cost.
So he plodded along in his honest style,
And he bettered himself each day,
And he only said to his fretful wife,
"We'll stick to the good old way."

And at last there came a terrible crash,
When beggary, want and shame,
Came down on the homes of their wealthy friends,
While John's remained the same;
For he had no debts and he gave no trust;
"My motto is this," he'd say—
"It's a charm against panics of every kind—
'Tis stick to the good old way."

And his wife looked round on the little house
That was every nail their own,
And she asked forgiveness of honest John
For the peevish mistrust she had shown.
And he only said, as her tearful face
Upon his shoulder lay:
"The good old way is the best way, wife;
We'll stick to the good old way."

POUNDING PIGS.

"Hello, Henny," said the grocery man to the bad boy, as he came in holding his sides to keep them from bursting with suppressed laughter, "what has occurred to cause a young man like you to laugh in that manner? Has your pa joined the police force? I saw him driving a lot of hogs to the pound yesterday."

"That's what I am laughing about," said the boy, as he put an apple on the stove to bake it. "Pa has gone to the pound after the hogs this morning. You see, I have been taking lessons in painting and drawing, and the other day I surprised pa by showing him a picture of a blue cow, with a green tail and old gold horns, and he told me he never saw anything more natural, and he advised me to turn my attention entirely to animal painting."

"Pa keeps four hogs in a pen in the back lot, and every day he turns them out in the alley and lets them run, and takes them up when they come home. The hogs are large white ones, regular beauties, and pa thinks about as much of them as he does of me."

"Well, pa told me to go and turn the hogs out yesterday, and I took my paint brush along and before turning them out I painted black spots all over the hogs. You never see a lot of speckled hogs where the spots were put on any better. The hogs looked at each other kind of astonished, and I turned them out."

"In the afternoon, pa went out to the pen and began to call, 'poig, poig,' and the pigs came running up the alley. Pa saw the strange hogs coming, and he got mad and

drove them out of the alley, and then called again, in a muscular tone of voice, and the speckled hogs came again, a little slower, and seemed to wonder what ailed pa. They acted as though they felt hurt at being received in such a violent manner. Pa met the speckled hogs with a broom, and he run them down the alley again, and the hogs stood off and looked at him as though he had gone crazy. You'd a dide to see pa drive his own hogs away and talk sassy. He got a pail of swill and then called the hogs again, and they came on a gallop, and then pa called a policeman and they drove the hogs to the pound.

"I didn't see pa last night, but the first thing this morning I told him I had taken his advice and turned my attention to animal painting, and that I had painted spots on our white hogs and made speckled hogs of them, and that speckled hogs were worth a cent a pound more than white hogs. Well, pa didn't faint away, but when it all came over him that he had driven his own hogs to the pound, he was so cross he could have bit a nail. But he didn't say anything to me 'cause I s'pose he didn't want to discourage my artistic ambitions, but he has gone down to the pound after the hogs. Maybe the rain has washed the spots off, and the man that keeps the pound will not let pa have white hogs when he left speckled ones there. However, I didn't warrant the hogs to be fast colours, anyway. Do you think it was wrong to put spots on the hogs?"—*Peck's Sun.*

AN EAGLE'S HUNT.

The Berlin Post reports that some days ago at Fürstenwald, in the province of Brandenburg, a field labourer heard a dog howling in a most dismal manner. Running in the direction whence the sounds came he saw a large bird perched on the back of the watch-dog of a neighbouring farmer, and the two were struggling, half in the air, half on the ground. At last they passed into a copse. He ran and called the bailiff of the place where he was working. Returning to the spot, they saw the bird hopping a few paces; moving with difficulty. He tried to fly, but was evidently disabled. A shot killed him. They found the dog dead; all the flesh had been literally torn off his bones by his enemy. The bird was an eagle, of the species known as *aquila imperialis*, and measured seven feet between the tips of his wings. The dark, almost black plumage, with the snow-white shoulders, gave a hint as to his age. On his left foot, just above the claws, was a ring made of a strong gold plate, on which were cut the letters, still quite visible, "H. Ks. o. k.," underneath which was the word, "Eperjes," and on the other side the date "10; 9, 1827." Eperjes is a town in Upper Hungary, not very far from the Northern Carpathians. Evidently that eagle had a history.

THE FAITHFUL FRIEND.

He might be a Swiss dog for aught we know. The house has a Swiss look about it. But any dog is faithful, if you treat him well, and win his love and deserve his devotion. How well a noble dog may love children, and how helpfully serve them, we have had numerous proofs. How truly such a friend may stand by even an undeserving man is often seen. And there can be nothing more touching, more pathetic sometimes, than the loyalty of a dumb brute.

OUR JACK'S COME HOME TO-DAY.

Allegretto con anima.

By W. J. DEVERS.

Ped. * *Ped.* * *Ped.* * *Ped.* * *Ped.* * *Ped.* *

Our Jack's come home from sea to-day, And brown and bronzed is he, For many a year he's been a-way, From his

home, his love, and me; Yet his heart is true, as it was of old, His spir - it's light and gay, You lit - tle know the

rall. *tempo.*

joy we felt, When he came home to-day, You lit tle know the joy we felt, When he came home to-day, Our

CHORUS.

Jack's come home to-day, Our Jack's come home to-day, The good ship Jane's in port a-gain, Our Jack's come home to-day.

2

Our Jack's come home from sea to-day,
 And a jovial tar is he,
 Full many a tale of storm and gale,
 He rocounts with careless glee;
 And of sights he's seen in lands he's been,
 So strange, so far away,
 All danger's past, he's safe at last,
 Our Jack's come home to-day,
 All danger's past, he's safe at last,
 Our Jack's come home to-day.

CHORUS!

8

Our Jack's come home from sea to-day,
 To make his Nell his wife,
 With loving faith she no'er despair'd,
 Tho' all hope within us died;
 Yet her eye grow dim, her cheek grow pale,
 She slowly pined away,
 But the lovely bloom's on her face again,
 Her Jack's come home to-day,
 But the lovely bloom's on her face again,
 Her Jack's come home to-day.

CHORUS.

THE STORY OF A TICKET AGENT.

"Western train's gone, ma'am," said Farmer Brown, coming into the waiting-room of the little depot.

"The train I was to take?" I said, gasping.

"Yes, ma'am. Too bad, but can't be helped. Harness will give out sometimes, you know," sympathizingly.

"When is the next Western-bound train due?"

"Not till six o'clock. You've five hours to wait. Be dreadful tiresome, ma'am. There's a nice family that live in t'other part of the house: s'pose I toto you in there. I know Mrs. Holly'll give you a bite to eat, and she'll be proud to let you rest on her spare bed. Fine woman, Miss Holly is; I know her. Won't you go in and see her ma'am?"

"No, I thank you sir. I dare say that I'll be quite comfortable here."

"Wall, jess as you please. But now I must be going. Hope you'll get to your journey's on' safe, ma'am. Good-by."

And Farmer Brown left the room, mounted his wagon, and soon disappeared down the dusty road.

I had been visiting a friend who lived in the country settlement, some five or six miles from the solitary building dignified by the name of depot, and when the time came for me to return home, she placed me in the care of a neighbouring farmer who was going to a distant village and would pass the station.

During our ride we met with an accident. Part of the harness gave away, and we were detained such a length of time that, as the reader knows, I was too late for the train.

After farmer Brown left me, I amused myself by reading a newspaper which some one had left lying on the seat.

Finishing this, I studied the design of the wallpaper, counted the panes of glass in the little window, and wondered at the tidiness of the whole apartment.

"Country depots are generally such vile, dirty places! Wonder why this is an exception?" I said to myself. Then a thought struck me. "Oh, probably the place is kept clean by Mrs. Holly, over whose virtues Farmer Brown was so enthusiastic. Wonder if this same worthy female would give me a glass of water?" and I tapped on the door communicating with the other apartment.

"Come in!" said a cheery voice, and entering, I found myself in one of the prettiest, cosiest rooms I had ever seen.

The most delicate tint of buff was on the walls, cool matting covered the floor, muslin curtains, festooned with ivy, hung at the windows, and here and there were pictures, brackets, books and flowers, and all the dainty belongings that make a room look so "homely" and pleasant.

And, most charming of all, there lay in a white-draped cradle a rosy baby, fast asleep, with rings of golden hair over his white brow, and the great, red, velvet rose clasped in his dimpled hand.

Over him bent a woman of twenty-two or three—a little mite of a woman, with a bright, dark face, vividly-coloured, big black eyes, and wondrous dark hair wound in heavy braids about her stately head.

She rose with a bright smile when I entered. "Excuse me, but may I trouble you for a glass of water?"

"No trouble at all, ma'am. Pray be seated. Excuse me;" and she left the room.

Presently she returned, bearing a salver covered with a snowy-white napkin, and containing a glass of water, a glass of creamy milk, a saucer of luscious strawberries, and a plate of yellow sponge cake, light as yellow foam.

"Pardon me," she said, smiling, "if I take too great a liberty; but, you see, Farmer Brown told me of your being obliged to wait so long, and I thought you might be hungry."

"Why, how very kind you are!" I exclaimed in pleased surprise.

"Not at all. It is pleasure to me. If you are hot and dusty, perhaps you'd like to bathe your face. If so just step in here;" and she led the way into a little white bedroom, the very heart of cleanliness and purity.

In a little while I was a different being from the cross, dusty, hungry mortal who had sat in the hot waiting-room.

I found Mrs. Holly a perfect little gem of a woman, and, after the manner of our sex, we soon became as well acquainted as if we had known each other for years.

And while I lay languidly on her comfortable sofa, and she seated in her low rocking-chair, stitched away at her baby's dress, she told me the romance of her life.

"I have lived in this depot all my days," she began, "My father was agent here, and he served the company so long and so well that when he died they kindly allowed me to remain in this place, with the same wages too. For, you see, I was seventeen, and father had long before taught me telegraphy and all the other work. About a year after father's death I became acquainted with Jack—Jack Holly—my husband;" and Mrs. Holly looked up and smiled.

"Jack was one of the best engineers on the road (and is now, too), and every one considered him an

honest, likely young fellow. He thought the world of me, and we became engaged. But you know how girls are. The weakest of them can make a strong man tremble."

"A weak, white girl held all his heart-strings in her small, white hand," I said.

"Yes, and I dare say I often pulled Jack's heart-strings rather hard; but he was gentle and kind when I flirted with the country lads, and when I was wild and wayward he didn't remonstrate. But one day there came along a city chap, who engaged board for the summer at a farm house in the neighbourhood.

"This Clarence Devarges as he was called was handsome, well-dressed, and had that polished, indescribable air that is so fascinating to most silly girls. Jack was kind and well-mannered, but he didn't have a bit of style about him, and style is what I doted on in those days so I snubbed Jack, and smiled on Mr. Devarges when he offered me his attentions. I flirted most dreadfully with him till even generous Jack was displeased.

"One morning, looking somewhat grave and sad, he came into the ticket-office. The last passenger had gone, and the train was moving out. Jack's train had stopped to take on freight.

"Well, how long is this thing going to last?" said Jack.

"What thing?" I snapped out.

"Why, this affair with Devarges. I see it is going beyond a mere flirtation."

"Pray what of it?"

"Only that I do not want my future wife's name joined with that of a—" Jack paused, then added, earnestly, "Well, I warn you against this fellow. Who knows who he is?"

"Mr. Devarges is a perfect gentleman, and that is more than I can say of some others!" I said, hotly; and then some demon prompted me to add, "And, Mr. Holly, in regard to your future wife, I believe I do not aspire to that honour—and—here is your ring." I drew off the little golden band and handed it to him.

"Nell, do you mean this?" inquired Jack, with his white lips.

"Yes, I do. I'm tired of your carping and criticising. This affair may as well be ended now and forever," pettishly.

"So be it, then. Good-by," said Jack, and without another word left the room.

"To tell the truth, I hadn't meant half I said, and every minute expected that Jack would kiss me and we'd make up. But now he was gone forever. A mist came over my eyes as I watched the fast-disappearing train, and I would have indulged in a good cry, but just then the 'special' came puffing up, and the president of the road came in. He was a kind old gentleman whom I had known since I was a wee girl.

"Good-day Miss Nellie. Every thing prosperous, I hope. Will you do a favour for me?"

"Certainly, sir, if I can."

"Well you see, when we were coming down, I met a man who owed me some money. Paid me six hundred dollars, and I don't know what to do with it, as we are going up in the woods to see about laying out a new road. We shall be gone two days. Don't want to take the money with me—will you take charge of it while I'm gone?"

"If you'll trust me."

"Bless my soul! yes, of course. Here's the money. Must hurry away. Good morning."

"Scarcely had portly Mr. Sayre trotted away, before Mr. Devarges came sauntering in.

"Got quite a little sum there, haven't you, Miss Nellie?" eying the bills in my hand.

"Yes," I replied, laughing. "Mr. Sayre has made me his banker. Look! Six hundred dollars! How rich I should feel if it were mine."

"You deserve to have much more, and doubtless that pretty face'll win it."

"Somehow his bold compliment failed to please, and so it was with coldness that I said, 'Take a chair, Mr. Devarges.'

"No, I thank you, Miss Nellie. I have an appointment. But will you allow me to call on you this evening?"

"Well, I scarcely think I shall be at home. You know mother and sister Lula are away, and a little while ago I got word from grandma saying that perhaps I had better come and stay all night with her."

"It was true that I had received such word from grandma, but I had no thought of accepting it. I had hoped that Jack would come and make up, and of course I didn't care to have Mr. Devarges all at the same time.

"What will you do with your money, Miss Nell?" carelessly inquired Mr. Devarges.

"O, I shall put it right here in this drawer. No one knows about it, and it will be perfectly secure."

"Dare say! Good morning," and with a courtly bow my admirer then left.

All that day I busied myself at my duties, and when night came I put on the dress that Jack liked best, and very anxiously waited for his coming.

"Seven o'clock! eight o'clock! the last train had come and gone, and my duties for the day were over. I put out the light of the ticket office, went into the sitting-room, and sat and waited. Ten o'clock! half-

past ten! No use waiting any longer—he would not come.

"I shivered with a nameless dread, and closed the door. Went to bed and cried myself to sleep.

"I had slept an hour, perhaps, and then awoke with a sudden start, feeling a great difficulty in breathing. A part of the quilt lay across my mouth, I thought; but, on reaching my hand to remove it, I found it was a handkerchief saturated with—what? chloroform!

"A thrill of terror passed over me. Who had done this? Was there some one in the house?"

"I silently arose, and just then almost screamed as a sudden sound smote upon my ear. It was only the clock striking the hour of midnight. I placed my hand upon my heart to soothe its fierce throbs.

"Stepping along, carefully avoiding all obstacles, I reached the door, opened it, and advanced into the sitting-room. No one was there; but some one was in the ticket-office, for I saw a light and heard a voice! What did they want? The money!—O, the money left in my charge! Somebody was stealing it, an what should I say to Mr. Sayre? My God! I might be accused of taking it myself, and thus forfeit honour and position!

"Rather lose my life!" I said to myself. "I'll defend that money until death!" and looked around for some weapon.

"Under the stove was a large iron poker. Seizing it carefully, I started toward the door.

"God aid me!" I said, with white lips; and then, opening the door of the office, I stole softly in. A man with his back towards me was at the other end of the room. He had forced open the drawer, taken out the money, and was looking gloatingly at the crisp green bills, when I stole behind him. I had just raised the poker to strike him, when he glanced around.

"My God! it was Clarence Devarges!"

"Hang it! now I suppose I'll have to kill this pretty—he seized me by the throat, and, uttering a faint cry, I sank down. Just then Jack, my own dear Jack, rushed in. I heard oaths, blows, fierce struggling—then all was dark.

"For the first time in my life I fainted away.

"When I recovered, Jack's face was bending over me, and Jack's voice uttering loving words. I put my arm about his neck and cried like a weak baby.

"Arn't you hurt, Jack?"

"Not a bit, dearest. Devarges is disabled, though, with a pistol wound in his leg. 'Tisn't very severe, but will prevent his escape."

"O, Jack, how came you here?"

"Why, you see, when we parted this morning, Nell, I thought I'd never see you again; but to-night, after I had come home, I made up my mind to come and try and 'make up.'"

"I rather thought he was a scamp, because, when I was in the city yesterday, the chief of police told me that he had reason to think that a noted gambler and 'blackleg' had come up in these parts. He gave a description, and it suited Devarges perfectly, all excepting a moustache you so admired, which was false and fell off in our scuffle."

"Well, as I said, I saw Devarges prowling about, and I thought I would see what he was up to. He looked in the window at you, and I heard him mutter, 'The deuce take it? She is at home, after all! What the deuce made her say she was going to her grandmother's? Now, I suppose I'll have to wait till my pretty bird is asleep.'"

"So he sat down under one tree, and I sat down under another. We both saw you open the door and look out. After you had been in bed about an hour, Devarges forced open the sitting-room window and crawled in. While he was in the office lighting the lamp, I also got in at the window and concealed myself in the closet, and—well, you know the rest."

"Jack," said I tearfully, "you'll forgive me for being naughty and wayward, and you'll believe me when I say that I have loved you all the time, won't you?"

"Well, ma'am, Jack said he would, and we've been happy ever since. And this is my story, ma'am, my only romance.

"There, the baby has woke up! See him stretch out his arms! I do believe he wants to go to you. Would you like to take him? He isn't a bit afraid of strangers."

THE Italian Government has been evincing in various ways a sensible desire to preserve a pacific policy; while feasting Fritz it did not forget France, but sent her a very acceptable New Year's gift and greeting in the shape of a formal and final settlement of the vexed question of consular jurisdiction at Tunis, a proceeding which has given great satisfaction.

THE ship canal between the Baltic Sea and the German Ocean will, it is estimated, save a journey of 600 miles for a vessel making a trip between either of those waters, as the circumnavigation of the peninsula of Jutland will be unnecessary. In all, the proposed canal will be only some fifty miles—or about half that of the Suez Canal—extending from Gluckstadt to Kiel.

OF all Oriental carpets the Persian are by far the best, and the test of a true Persian carpet is that used by the natives themselves, namely, to drop a piece of red-hot charcoal upon it. This leaves a singed round spot. If the carpet is a good one of the first quality, the hand can then brush off the singed wool without the least trace of the burn being afterward discernible.

YOUNG CANADA.

THE CONTRAST.

"He's such a little fellow!"

"Little or big, the boy's been stealing, and prison's the place for thieves."

"I didn't mean to steal; I only just took two rolls 'cause I was so hungry," sobbed the boy.

"But didn't you know it was wrong to take them?" asked a gentleman who was looking quietly on while the constable grabbed little Jake Melborne by the collar and shook him till the little fellow's teeth chattered in his head. Perhaps they shook from cold also, for the snow lay thick upon the ground and roofs and the old clothes which covered him let the north wind in through many a hole.

"Don't know," said the boy doggedly; "can't starve."

"Why, he's Mary Fellowes' boy," said the baker's wife, coming out of the shop, "and she's lying dead and cold in her grave. Sure he's welcome to a bite from me any time. Constable, let him go; I'll see that he's taken care of." And the kind-hearted woman took the frightened little fellow away, to warm and comfort him as his mother might have done.

But across the street stood another miserable-looking object, a man with bleary eyes and slouching gait, who only a few years ago had held Jake, then a fair little baby, in his arms, while the baby's mother looked on with delight, and thought of the time when her boy would be as fine a fellow as his father.

Now she was dead, and her poor little boy, with no one to care for him or teach him any better, wandered about the cold streets, and stole his breakfast when he could not stand his hunger any longer.

"Do you know what makes the difference?" said the gentleman, who had before spoken to his own two warmly-dressed boys at his side.

"Drink," said one of them, with an expression of contempt. "John Fellowes is a regular old sot."

"Yes, but there was a time when he was as fine and well-dressed a boy as either of you. I went to the same school with him, and there wasn't a smarter fellow in the class. But he thought it manly to smoke cigarettes and to drink cider, and then, when these were not strong enough, as he grew older, cigars and juleps. After he was married and had a boy of his own, he couldn't make money enough to support his wife and baby and pay for smoking and drinking too; so he first broke his wife's heart, and now lets his boy go round the streets neglected, while he gets more and more worthless every day. Do you wonder, when I look round my pleasant home and note the contrast, I am very unwilling that my boys should learn to smoke cigarettes or drink cider?"

HATRED stirreth up strife: but love covereth all sins.

THE BRIDGE OF SIGHS.

Most of our young readers have read descriptions of the charming city of Venice, the Queen of the Adriatic. They have read of the days of its splendour two centuries since, when as a great commercial republic, its magnificence was proverbial. They may remember the great annual ceremony, when the Doge in his grand galley, escorted by a large flotilla gaily decorated with flags, wedded Venice to the sea, casting a gold ring into its depths. The principal thoroughfares, unlike the streets with which we are acquainted, are formed by canals on which the graceful gondola constantly plies, serving the people as we are served by street-cars and wheeled vehicles. The principal of these water-ways is the Grand Canal, famous for the bridges by which it is crossed. The most interesting of these, shown in the accompanying engraving, is the Bridge of Sighs, connecting the palace of the Doges



THE BRIDGE OF SIGHS.

with the State prison. Many a poor victim of the high-handed tyranny of the irresponsible Venetian Senate made his last journey across this bridge, and never saw the light of day or the countenance of kindred again. The bridge was built by Antonio da Ponte in the sixteenth century. In "Childe Harold" Byron says:

"I stood in Venice on the Bridge of Sighs,
A palace and a prison on each hand:
I saw from out the wake her structures rise
As from the stroke of an enchanter's wand.
A thousand years their cloudy wings expand
Around me, and a dying glory smiles
O'er the far times when many a subject land
Looked to the winged Lion's marble piles,
Where Venice sat in state, throned on her hundred isles!"

THE LARGEST LIVING ANIMAL.

What a monster of contradictions!

An animal which looks like a fish, but which is not a fish; which lives always in the water, but which cannot live long under water, and which never the less will die on land; which has a mouth large enough to engulf at once a dozen readers of *St. Nicholas*, but whose throat is so small that your father's fist can fill it.

A whale! Yes, a veritable giant among giants, the largest of all living creatures.

To one who does not know the reason for it, it must seem odd to say that the whale is not a fish. But, in fact, it is no more a fish than you are. A fish has cold blood, and takes the little oxygen it needs from the water by means of gills; while the whale must take its oxygen from the atmospheric air just as you do.

You need to take oxygen into your lungs at very short intervals, so that you cannot exist for more than two or three minutes at the utmost without breathing. Of course, it would not do for the whale to have to breathe so often, for in that case he could never stay under water long enough to secure his food, and would consequently starve.

To provide against this catastrophe the whale is enabled to charge a reservoir of blood with oxygen, and thus, with an hour's supply of aerated blood, it can dive down and remain under water until the supply is exhausted. Should it be detained after the supply is gone, it will drown as surely as your own self.

The tail is set transversely to the body, and in its motion, unlike that of the same member in the fish, is up and down; and with such vigour does it move that the surrounding water is forced into a series of whirling eddies.

This tail is, moreover, the whale's chief weapon, though it occasionally does make use of its head or of its teeth, if it have the latter. Stung to fury by the harpoon, it will sometimes lash about with its tail to such purpose as to dash the stout whale boat to pieces and hurl the inmates into the sea. As a rule however the whale prefers to run.

LEARN A TRADE.

Hardly a day passes by, but we see evidence of the folly of our young men scattered here and there. They are in quest of something to do. They are willing to work for about half the pay they should be receiving. If you ask them what is their trade, they will reply that they have none, and in these days, when skilled labour is in demand, it is a shame and outrage for so many promising young men to be loitering the time away, either looking for work, or, if they have it, in a position where their pay is nothing. We have seen too many such men who expect to climb up the ladder of fame and fortune without working for it. They are looking around for pins to pick up, and then to be folded in the embrace of some wealthy bank president or philanthropic merchant, made a partner, and finally marry in the family. Such cases are not to be found every day in the present time. We read Munchausen tales, in the years gone by, that had an ending like this. But to-day the merchant who wants a young man, wants one of character and ability. Learn a trade, young man; first become proficient in some industry, so when you go forth to pastures new, you'll know within yourself that you have something to fall back on for a living.

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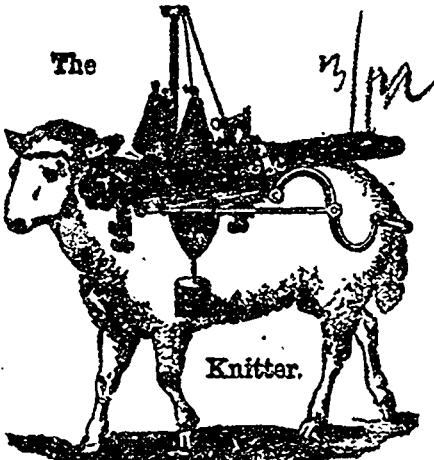
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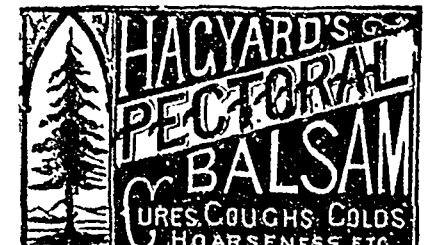
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You are at liberty to use this letter, stating that I have been cured at two treatments, and I shall gladly recommend your remedy to some of my friends who are sufferers.
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18. Superior Natural Leaf Japan	5 lbs., 1.50	44. Extra Fino " "	5 lbs., 3.00
19. Fino Cultivated Japan	5 lbs., 2.00	45. Finest Imported " "	5 lbs., 3.50
20. Superior " "	5 lbs., 2.50	46. Fino Houquas Mixture	5 lbs., 1.50
21. Extra Fino " "	5 lbs., 3.00	47. Superior " "	5 lbs., 2.00
22. Finest Imported " "	5 lbs., 3.50	48. Extra " "	5 lbs., 2.50
23. Superior Scented Orange Pekoo	5 lbs., 2.70	49. Choico " "	5 lbs., 3.00
24. Extra Fino " "	5 lbs., 3.00	50. Choico upon Choico Houquas	5 lbs., 3.50
25. Finest " "	5 lbs., 3.50	Mixture, which has no equal	5 lbs., 3.50
26. Fino Breakfast Congou	5 lbs., 1.50		

— ALSO FINEST HIMALAYAN TEA AT 45c. AND 55c. PER LB. —

Edward Lawson would also call special attention to his far-famed SOLUBLE COFFEE put up in 2, 5, 10 and 20 lb. Canisters, at 25, 30 and 35 cents per lb., all roasted on the premises.

Be kind enough to show this List to your friends, and also preserve for future reference.

EDWARD LAWSON.

The Pioneer Importer of pure Teas & Coffees, 93 King Street East, TORONTO.

We specially recommend the following Teas as extra value:—GREENS, Nos. 3, 4, 5, 13 BLACKS, Nos. 28, 29, 30; JAPANS, Nos. 20, 21, 22; MIXED, Nos. 48, 49, 50.