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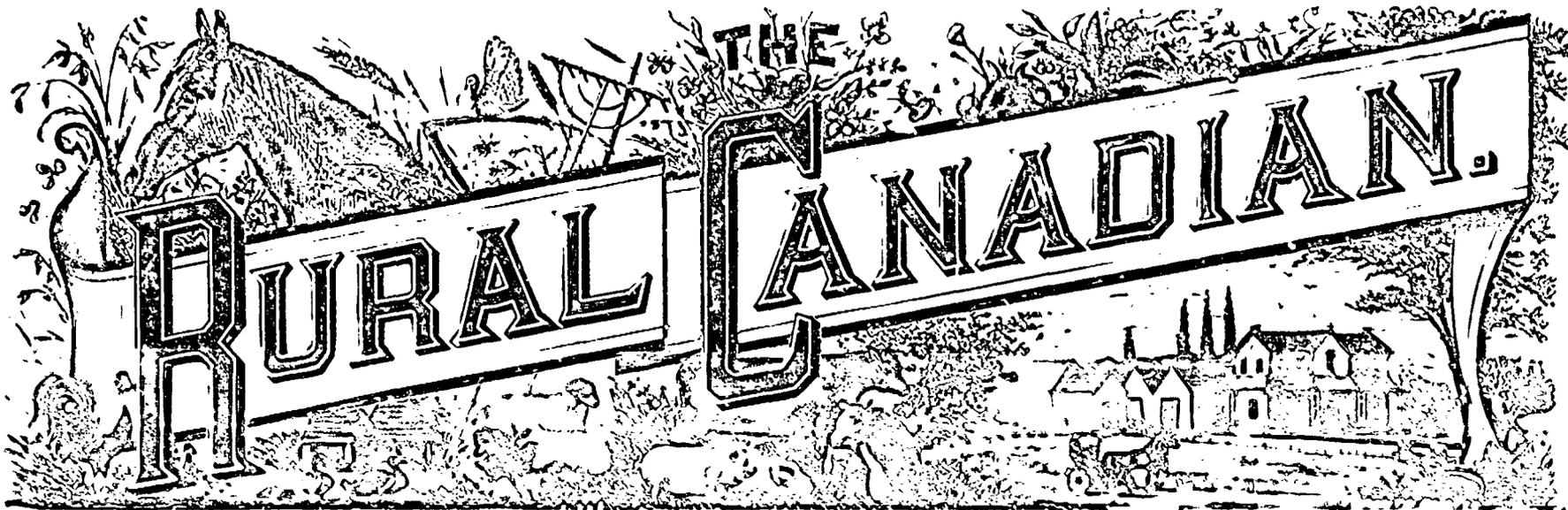
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THE RURAL CANADIAN.

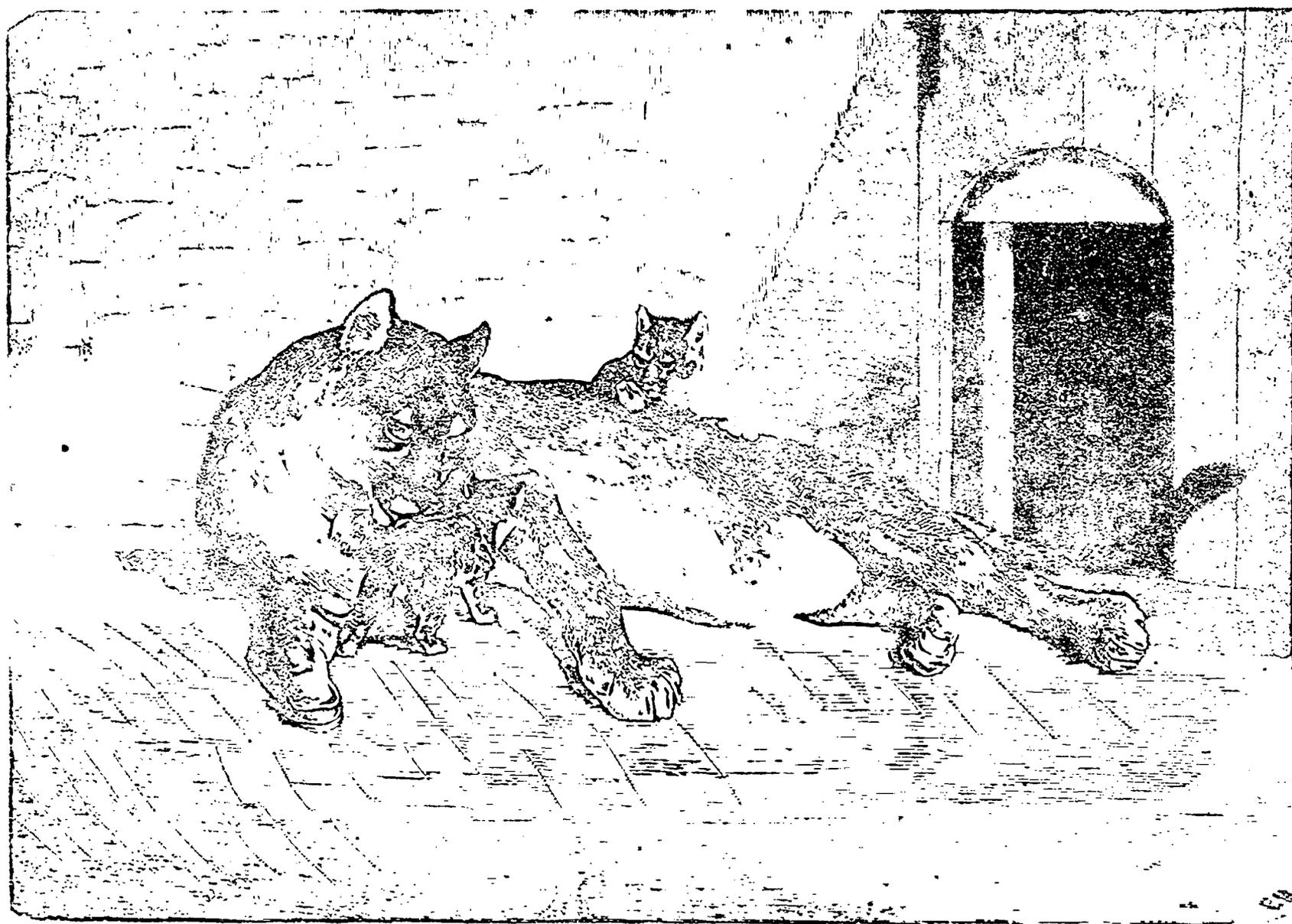


Vol. III. No. 7.

Toronto, July, 1884.

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RURAL NOTES.

Prof. Brown, of the Ontario Agricultural College, states that raw peas as pig-feed are better than cooked peas, or Indian corn in any shape, and make pork quicker and cheaper.

The drowth of last month has had a bad effect on the crop in many parts of the Province, and it is much lighter than last year. However, a large surplus has been held over, and doubtless there will be enough and to spare.

Most kinds of timber will answer for fence posts if the lower end be boiled for a few minutes in tar, and the coated part sprinkled with wood ashes or lime. Thus prepared they will last a good many years in any kind of soil.

Fluke in sheep usually has its origin from drinking the water in standing pools, in which the germs abound. As prevention is better than cure farmers should see to it that sheep are not allowed to pasture in low, wet fields; and that a plentiful supply of clear, wholesome water is furnished from wells or running streams.

Any soil that is loose and loamy is good for turnips. They may be sown from the middle to the latter part of this month, and a good plan is to have the ground ready so that the seed may be sown after a shower of rain. Turnips are much better if they can be made to grow rapidly, as they are then crisp and tender; if growth is slow they are strong and pithy. For this reason the ground should be thoroughly worked, so that growth may be continuous from the start.

Young fruit trees should be well cared for during the summer months. If the roots are allowed to become dry in a hard crusted soil, growth will necessarily be very slow, if starvation and death do not actually ensue. The ground for several feet about each tree should be kept mellow by repeated cultivation, and if the orchard be planted with corn or some other hoed crop this may be attended to with very little trouble. Young trees require to be staked securely in order to prevent injury by winds.

From a series of experiments in feeding grain to cattle while running on pasture, Prof Sanburn, of Missouri has reached the conclusion that it does not pay. In the case of cows giving milk he found that feeding them on the best grass gave the most satisfactory results; and while in the case of grain fed at the rate of four pounds per day, he found there was a greater increase of weight than when fed on grass alone, he found that the cost of the increase was 14 cents a pound or more than twice what it was worth.

In the finest qualities of butter the salt is so evenly diffused that, as appears under the microscope, every grain is surrounded by a film of clear and transparent brine. This shows the necessity of avoiding the over-working of butter before the salt is added. In the first working every particle of milk ought to be got rid of, but enough clear water should be left to dissolve every grain of salt in the twelve hours before the next working. If this is attained there is little danger of streakiness in the butter, but to get the best results the salt should be very finely ground.

How to milk a cow in fly-time and keep one's temper over it is surely worth knowing. One plan is to procure three yards of factory cotton and cut it so as to form a neat-fitting sheet to be fastened around the cow's neck and drawn close under her belly, leaving the udder free, with such a covering the flies will give but little trouble; there will be no kicking over of pails, and no switching of tails about the milker's face and neck, and the cows will give their milk in a steady flow. Three or four such sheets may be made at home, at a cost not exceeding \$1.50 for the lot, and they will last several summers, with ordinary care.

It pays to grow cabbages as fodder for cattle, sheep and pigs, and still better for the city markets if they are convenient. The one great drawback to their cultivation is the cabbage worm, but a safe remedy for this worm is common white bellebore or the Persian insect powder. Or if a larger area be sown the evil may be averted in a measure, since the greater the number of cabbages the fewer will be the number of worms to a given area. It is well to scatter a little guano or special fertilizer in the soil about the time of planting, so as to promote rapid growth. All the poor heads, or those affected by the worm, should be culled and fed to the stock, and only the prime ones sent to market.

The June Report of the United States Department of Agriculture estimates the total area of spring and fall wheat in the entire Union to be 88,500,000 or about 900,000 acres more than last year. It is pointed out that in the parts of the spring wheat region that are somewhat improved there is felt a need of variety in production which is withdrawing from wheat acreage for the extension of pasturage, and for other crops deemed more profitable than wheat. But in the newer States and Territories, there appears to be a steadily growing increase in the area of Spring wheat, the estimates for Iowa, Minnesota, Dakota and Nebraska being in excess of last year's crop by 897,000 acres. Assuming that this year's harvest will give an

average yield, which may be expected if favourable prospects continue, it is computed that the total product will be 500,000,000 bushels.

The old European enemy of the mangold wurtzel has followed this root to Canada. It is a small two-winged insect which deposits its eggs soon after the mangold crop has been sown, and when hatched out the larva feed on the tender leaves of the roots. They are voracious eaters and work their way through the leaves with astonishing rapidity. They were first heard of in Ontario last year, in the county of Grey, but this year they are covering a much larger area and are already doing a great deal of damage, we do not know whether any remedy has yet been found for this pest, but we trust that our local entomologists will study carefully its natural history with a view, if possible, of learning the best means of arresting its ravages.

The frost of the latter part of May was thought to be severe in many parts of Ontario, but the extent of permanent danger done by it was comparatively slight. In the State of Connecticut, we see by the *Boston Cultivator*, the ground was frozen on ploughed fields so that it would hold up a person in walking over it; ice formed three-eighths of an inch in thickness; and nearly all field crops were cut down. In Ontario the cloudy sky and the influence of the surrounding lakes saved us from a like disaster, if not a worse; for the cold wave came down upon us from the region of Hudson's Bay, and its effects were severely felt in all the neighbouring States to the south and south-east and to the west and south-west of us. There is in this as well as in many other respects no portion of country of equal area on the continent so highly favoured as the Province of Ontario.

Every orchard tree should have its label, so that the variety of fruit may be known. A common practice is to leave attached the label put on the trees by the nurseryman, when they are packed up for delivery, but the wires with which these are fastened cut into the bark as the tree grows, and permanent injury is done. Another plan is to make a map of the orchard, showing the class and variety of each tree. This is very satisfactory, but there are not many farmers who will take the trouble to prepare such a map. As good a way as any is to use a strip of zinc for a label, one end being coiled around a small side branch and the name written on the hanging end with a common lead-pencil. If the zinc is rusted the name will last for a great many years, and as the label will gradually uncoil as the branch grows there is no fear of injury by compression or cutting.

FARM AND FIELD.**THE SMUT OF WHEAT.**

The term smut is popularly applied to two quite different diseases of the wheat plant. In this country it generally means a disease which leaves the grain nearly its normal size and shape, but filled with a black and stinking dust; this is the one doubtless referred to by a Wyoming inquirer—accordingly it alone will be considered here. It may, however, be well to say that the wheat smut of the books, and also of the English farmers, is that which turns the whole head into a black, dusty powder, and is known in some parts of this country as blast, black blast, black blight, etc. The names under which the wheat smut is generally known in England are bunt or stinking smut, and under these it has often been described. It is a true disease, and like many of the diseases of animals and man, is the result of the growth of a parasitic plant.

This wheat parasite (known to botanists as *Tilletia caries*) consists of slender threads of microscopic size which insinuate themselves between the cells and tissues of the young wheat plant, drawing therefrom the nutrient matters, and thereby reducing considerably the general vitality of the affected plant. As is well known, an ordinary plant consists of a great number of cells each resembling a microscopic bladder, filled with protoplasm, water and some other substances. Were our eyes stronger, the interior of a young wheat plant would appear not much unlike a barrel of potatoes, the potatoes representing the cells. The cells in the plant, much as the potatoes in the barrel, have empty of vacant spaces between one another. Now, if we can imagine some slender plant growing up between the potatoes in the barrel and drawing nourishment from them, we will have a crude illustration of the way that the smut parasite attacks the wheat plant. The parasite, however, not content with growing in between the cell of the wheat plant, and so robbing them, actually penetrates them, thrusting in branches and suckers here and there in order to more certainly secure their nutritious contents.

When the wheat begins to head the parasitic threads push their way into the young kernels, and there find an abundance of food. Here the parasite reaches its highest development, and produces an abundant crop of its minute black spores, to serve as seed for the next year's crop. A wheat kernel thus filled with spores is generally a little shorter and thicker than a healthy grain, and is always of a dark-greenish colour. Upon crushing it, a most offensive odour is given off by the black dusty mass of the interior. Now if we put some of this black dust under a good microscope, we shall see that it is made up of round bodies, the individual spores, which in these low plants answer the same purpose as the seeds of the higher ones. When the smutted grains are broken, as many are in threshing, the spores adhere to the tuft of hairs on the normal grains and are thus sown with the latter. I have repeatedly examined the good kernels in wheat which was somewhat effected by smut, and found that scores of spores adhered to them, especially in the hairs and the deep fold which runs lengthwise upon the

grain. When once they had become attached they remain with great persistence, and it is very difficult indeed to separate them, so that a few crushed smut-grains may pretty thoroughly inoculate a considerable quantity of wheat.

It has been demonstrated repeatedly that the disease is propagated by the spores, and that the sowing of seed containing smut spores is followed, under favourable conditions by a new crop of smut. The spores can be readily germinated, and the process of growth watched for some distance, but, with perhaps one doubtful exception, all attempts to discover the exact mode of entrance of the parasite into the young wheat plant have signally failed. Still it can be shown that the infection must take place during the early growth of the wheat. Some years ago I made many careful examinations of smutted wheat in the field and found that the whole plant in nearly every case was affected, showing that the disease must have begun before the plant commenced branching, or "stooling out," and that it followed up the several branches as it grew. This accords with the results of investigations made some years since in Europe by Dr. Fischer von Waldheim, who found the threads of the parasite in the lower joints of the young plants.

When we come to the question of *prevention*, it is at once evident that whatever will destroy the spores or eliminate them from the seed-wheat will, in so far, lessen the liability to the disease. As the smutted grains are lighter than the normal ones they can be floated out by throwing the seed-wheat into water and violently agitating it. The common "smut-mills" of the millers may also be used, although in this case there is considerable danger of mechanical injury to the normal grains. In whatever manner the smutted grains are removed it must be borne in mind that many spores adhere to those which are not smutted, and these spores must be removed or destroyed, or but little good will come from the operation. This last may be accomplished by the use of caustic lime, which may be applied in the dry state to the wetted wheat after the washing spoken above. A solution of blue stone (copper sulphate) is also much used by English farmers for the same purpose, and appears to destroy the life of the spores without injuring the wheat.

It is utterly useless to make an application of any kind whatever to the growing wheat before "heading" by way of prevention or remedy, the disease being an internal one as shown above. So far as I am aware there is no variety of wheat which is smut-proof or even approximately so. Where a farmer is obliged to make use of seed which is considerably smutted, the best plan would be to first thoroughly wash the wheat and flood out the smutted grains, and then to sprinkle caustic lime upon the wet wheat. By so doing the danger of a recurrence of the disease will be greatly lessened. To reduce the general liability to smut in any locality, or upon a farm, care should be taken with the seed as above, and in addition there should be such a rotation of crops that a considerable interval will intervene between each succeeding wheat crop.—*C. E. Bessey.*

HEALTH ON THE FARM.

The farmer had at command every opportunity for perfect physical development and health. Pure air and water, abundant, varied and nutritious food, proper exercise, and long periods of rest and sleep. Artists should look here for models of manly strength and beauty; but too often the faces and forms of farmers showed that there was reason for the frequent appearance of the doctor's gig before their doors. Their food lacked variety and was improperly cooked. They needed more vegetables and fruit and less pork and doughnuts. They should make more of the garden and less of the frying-pan. The barn with its cattle-yard, the pig-pen, the poultry-house, the privy and the well often seem to be striving to show the utmost sociability for the kitchen door, filling the air with ill odours, and the soil with filth and and fever germs to be carried into the well by every permeating rain. Trees were planted close to the house, obstructing the sunlight and making the air damp and unwholesome. The farmer's wife suffered even more from the unsanitary condition of the house than he, and she was more often overworked. But the farmer himself too frequently overtaxes his physical powers. Severe and constant labour leaves too little time to cultivate the cheerful and better sentiments or that higher education which contributes power and stability to mind and character.—*Philadelphia Press.*

SAVE THE LIQUID MANURE.

According to the experiments of the best German chemists, the liquid manure from the horse amounts to one and a-half tons per year, which contains nitrogen and potash worth \$12.75. The cow furnishes four tons, containing \$14. worth of the same elements. These figures show the importance of saving all the liquid manure possible, even if only one-half of the whole quantity be voided at the stables. If two horses and ten cows are kept, the liquid manure they would make provided it could all be saved, would be worth \$165.50, or enough to buy about four tons of good phosphate. If but one-half of it is voided in the barn, and the half of that is wasted for the lack of absorbents, or washed away by rains, it would require a ton of phosphate to replace the loss.

If it will pay to build a silo for a herd of ten cows, will it not pay to build a cistern to hold the liquid manure of the same number of animals? If dry earth or peat be used as absorbents it would require at least its own weight in the absorbent. Would it not be easier to pump out and spread forty tons of liquid, than to draw in forty tons of dry earth and draw out eighty tons thus saturated with moisture? These are practical questions for the consideration of the farmers, and worthy of their study.

If such a cistern were built, would it not pay to allow soapsuds and all waste water from the house to run into it, thus saving whatever of fertilizing value may be in them, and at the same time disposing of a material which is too often a nuisance about the house, and which, in a few years, may so saturate the ground near where the sink pipes discharge as to drain back into the well and pollute the water supply of the house? Such a dilution of the liquid from the stables would only better fit it for application to the soil.

RAISING SEEDS.

We are asked why we do not encourage people to raise their own seeds, instead of buying them every year. Seed-raising is an art, and requires more care than the average farmer can afford to give to it. Seedsmen have their seeds raised by men who make a business of it, who grow but one variety of a kind, and avoid all chance of "mixing" or crossing. One who has a garden can hardly be persuaded to select his first ripened tomatoes or Lima beans for seed; he wishes these for the table. Unless a vegetable can be kept up to its best condition it will deteriorate. Take tomatoes for example; the plants should be raised expressly for seed. As soon as they come into bearing, every plant that does not have fruit quite up to the best of its kind in form and productiveness, is to be pulled up, and all malformed fruits on those that are left, are cut away. Then only the earliest clusters are allowed to ripen, those which set late are cut off, and the whole strength of the plant directed to ripening the first fruit that is set. Take squashes for another example, and it is the same with melons, cucumbers, and all of the family. Few who have gardens content themselves with a single variety of squash. There are few plants so likely to mix, through the agency of bees. We know of a case in which the Hubbard Squash had been grown in the same garden with other squashes for several years, and the seed was yearly saved and planted. At the time we saw the squashes, they were mostly yellow, and instead of the pointed end, so characteristic of the Hubbard, many of them had the broad, flat, blossom end belonging to other kinds; indeed there was not a typical Hubbard in the lot. If seeds are to be raised, that should be the leading object for which the plants are grown. It is poor economy to sow seeds of doubtful purity, in order to avoid a small outlay for those of good quality.—*American Agriculturist for July.*

ABOUT POTATOES.

To distinguish a good from a poor potato, take a sound one, pay no attention to its outward appearance, but divide it into two parts with a sharp knife, and examine the exposed inner surfaces. If there is much water or "juice," so that on slight pressure it would seemingly fall off in drops, you may be assured that it will be "soggy" after it is boiled. This is evidence of a poor potato, and don't you buy it.

The following are the requisites of a good potato:—When cut into, the colour should be yellowish white; if it is a deep yellow it will not cook well. There must be a considerable amount of moisture, though not enough to collect in drops and fall off, even with moderate pressure. Rub the pieces together, and if it is good a froth will appear around the edges and also upon the two surfaces after they are separated. This signifies the presence of a proper quantity of starch. The more froth the more starch, and consequently the better the potato; while the less there is the poorer it will cook. The quantity of the starchy element may also be judged by the more or less ready adherence of the two parts. If the adherence is sufficient for one piece to hold the

other up, that fact is evidence of a good article. These are the experiments usually made by experts when buying potatoes, and are the best tests that can be given short of boiling; but even they are by no means infallible.

HAVE you put down a scratching or rubbing post for your animals at pasture, where there are no trees? It is a great comfort to them. Just watch how keenly a pig enjoys a good scratch under a rail, or how a cow relishes a long rub of her neck against any corner handy.

CHEMISTS are generally agreed that plants require seven different elements from the soil in order to make a healthy growth. These are phosphorus, potash, magnesia, lime, sulphur, iron, and nitrogen. Other elements are often found, sometimes in great quantity, such as silica, soda, chlorine, etc.; but as many plants have been grown to perfection without them, their presence is not considered essential. Last year, at an English experiment station, turnips planted in a pure sand, and supplied with every thing except phosphate, merely lived, without gaining in bulk. But on ground coprolite being applied, the produce, even in that miserable soil, at once went up to twenty tons an acre.

MUCK should be highly esteemed as a vegetable fertilizer. Whether or not it is true as claimed by Prof. Dana, that two cords of muck mixed with one cord of stable dung will make three cords, which will each be of as great value for manurial purposes as the cord of pure dung, there can be no doubt of its great utility. It is especially adapted for use in composting and if mixed with ashes will make a manure somewhat resembling that of a stable. It is very beneficial for use upon all soils which are sandy or gravelly, and may be used in the barn-yard to good advantage. The ease with which it is obtained commends it to farmers who are looking for a cheap and reliable manure.

WE once experimented by hauling twenty-four large loads of best manure upon two acres of clay-loam land, had it well cultivated into the soil, which had been worked in the ordinary way, but was somewhat lumpy. This, and the adjoining two acres, were to be sown to corn for fodder. Upon the two acres no manure was put, but it was ploughed and cultivated till the soil, four inches deep, was as fine as a garden bed. One and a-half bushels of corn were drilled per acre upon each piece, drills sixteen inches apart. When the corn was in blossom and ready to cut, the unmanured two acres stood eighteen inches higher than the manured piece. On selecting two sample rods in different places upon each piece, cutting the green corn, and carefully weighing it, the manured piece gave 275 pounds per rod, and the unmanured, but finely pulverized, gave 350 pounds per rod—the manured giving twenty-two tons per acre, and the other twenty-eight tons per acre. The cost of extra working was \$2.50 per acre. Could there be any doubt that the extra labour was well paid for? It must be evident to every thoughtful farmer, that the first thing to be done in furnishing food for crops, is to work more thoroughly and give finer pulverization, and when this is accomplished, then an application of some fertilizer.—*Liverpool Stock Journal.*

HOUSEHOLD HINTS.

To prevent an iron tea kettle from rusting, keep an oyster shell in it.

USE a scrubbing brush for removing the skins from new potatoes. It saves time and hands.

KEEP a pretty strict eye upon the sources of supply of green fruits for the young children, but let them have all the ripe fruit and vegetables they want.

A tin cup with a handle to it, and with a little warm water in the bottom, is the handiest thing for holding the jar that you are filling with boiling hot fruit, in canning.

TWO ounces of oatmeal boiled thoroughly in a gallon of water, made cool, not ice cold, and a lemon added, is a better "ten o'clock lunch" for the harvest hands than the lunch itself.

IN buying dresses for children it is prudent to get a yard or so extra, to be used in mending or altering the dress next season, since to match material bought one season, on the next, is almost impossible.

IF next winter you wish a pleasant reminder of this fragrant weather, pack rose leaves now in a jar and sprinkle each layer with salt. Keep them in a fancy jar with glass stopper. Leave out the stopper a while and your parlour will smell like June.

IN picking small fruit, put on an old pair of kid gloves with the end cut from every finger; over these draw an old stocking leg with a hole cut at the lower end for the thumb; pull over the sleeve, and pin fast. In this way the hand and wrist are neither scratched nor tanned, and the sleeves cannot be pricked to pieces by thorns.

A PLEASANT drink for sick or well people is raspberry vinegar. Add enough vinegar to the berries to nearly cover them and let them stand over night. Strain the juice from them, and add a pound of sugar to each pint of juice. Boil a few minutes and skim. If boiled too long it will jelly. Put it in bottles. It may be sealed while hot, although in a cool place it should keep if simply corked. Dilute with water for use.

TO preserve a healthy growth of hair, cleanliness and friction by the comb and brush are necessary. The hair will sometimes be uncomfortably dry and crisp for a day or two after washing, especially if much soap has been used, but this should be endured until the natural oil lubricates it, for, if oil or pomatum are habitually applied to the hair, it becomes difficult to discontinue their use, since they tend to check the natural oily secretions.

THERE is one delicious vegetable which so often suffers in the hands of ignorant cooks that we need make no apology for telling how to do what seems such a simple thing. Did you ever see any one wash the shelled peas, rub the bloom off, then set them to cook well covered with perhaps cold water, and after boiling then a half-hour, or more, pour off the water; thus boiling out and throwing away a great part of the sweet, delicate flavour? Can there be anything cleaner, or more dainty than the inside of a pea pod? Then, if the hands that shelled them are clean, why should they need washing? When they are shelled, pour over them just as little boiling water as will suffice to keep them from burning. A farina kettle is nice for cooking peas, as there is then no danger of burning. Rather than have them drowned in water, they would be better steamed. Long and hard boiling makes them tasteless. They should boil gently fifteen or twenty minutes, then add salt, pepper, and butter or cream, just before taking from the fire. Their own flavour is finer than any you can add to them.

HORSES AND CATTLE.*THE IMPORTED GOVERNOR.*

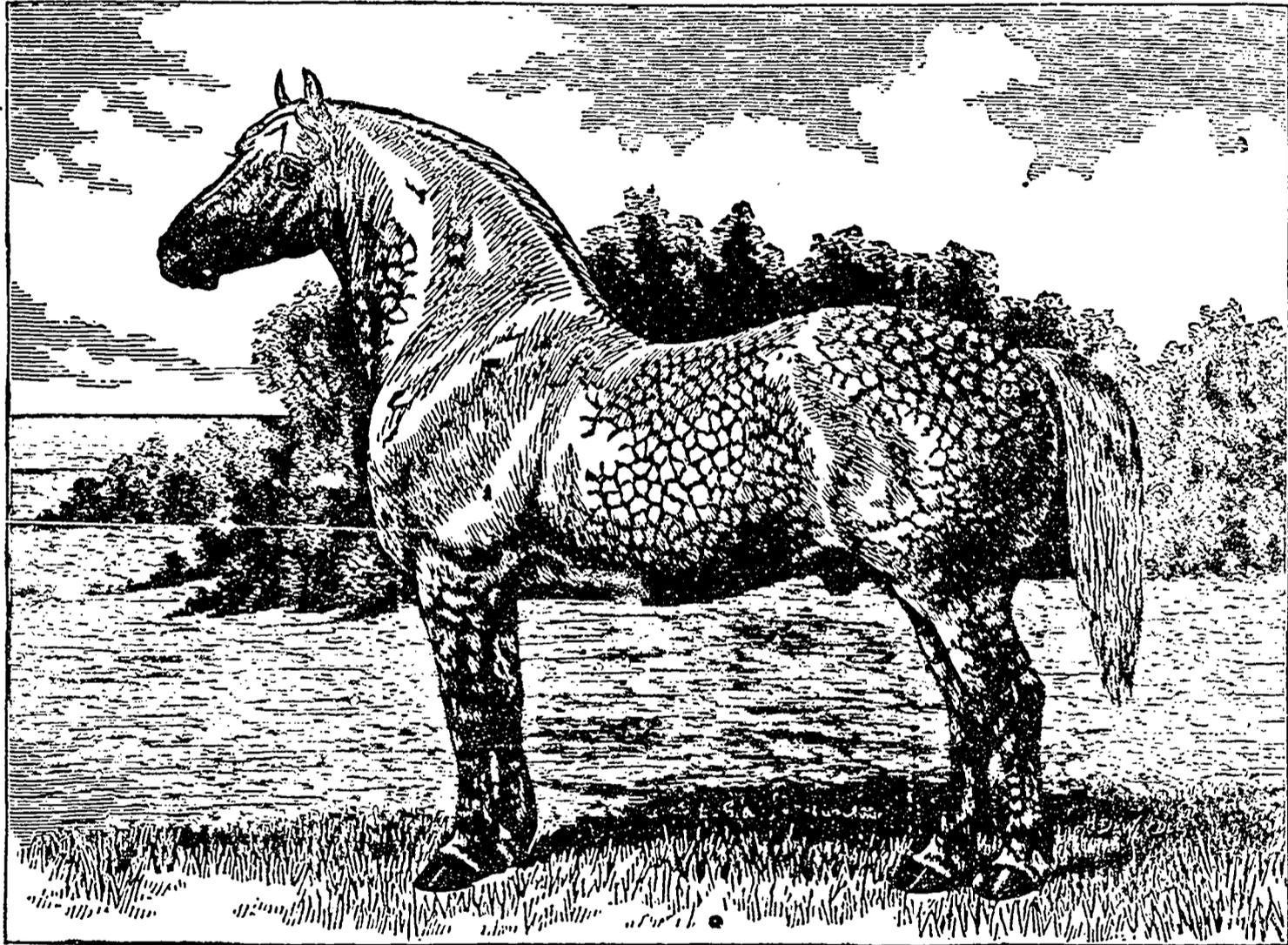
We have received from M. W. Dunham, Wayne, DuPage county, Illinois, an elegantly illustrated catalogue of 150 pages, of Percheron horses, with an instructive introduction and history of the race. One of the many wonderful enterprises the great West is noted for, and one which none favoured with opportunity should miss seeing, is the great breeding establishment of "Oaklawn," owned by Mr. Dunham, at Wayne, Ill., thirty-five miles from Chicago. His importations of Percheron horses from France, to date, have aggregated the immense sum of \$2,500,000, and at the present time at "Oaklawn," 500 head of the choicest specimens of that race can be seen, while on the Colorado ranges are 2,000 mares and

secured with a view of bringing out these latent good qualities. In fact, it is no exaggeration to say that the chief merit of the so-called common stock of to-day is due to remote crosses of good blood, and if these crosses were nearer by and more numerous their merits would be greater. It is the frequency, generally, and the nearness of these crosses which make certain individuals of the common stock better than others. But when it comes to breeding the best among the common stock to the best, it is a mistake to suppose that the materials for the great improvement desired can be found upon every farm and that every farmer can join in the work. The best are not to be found on every farm, or, indeed, in every neighbourhood. Some of the so-called common stock is very inferior, indeed, while some of it is of passable merit; and there are no two words in the English language which

should be, and in the competition between large numbers of breeders the price of acceptable sires of all the breeds is reduced to such a point that every farmer can secure whatever he needs in his business, and if he has any particular preference as to breeds can gratify that and still make but a moderate outlay. Every cross will make an improvement, and if all would but engage in the good work and leave no stragglers in the rear, the whole body of common stock would, in a very few years, be brought very close to the thoroughbred standard and merit.—*Breeder's Gazette.*

BROOD MARES.

There are several facts taught by the experiments of breeders who have made the raising of blooded colts a specialty, among them that a pacing mare always throws a trotting colt, whether



THE IMPORTED GOVERNOR.

twenty-one imported Percheron stallions in breeding.

The accompanying illustration—Imported Governor, 2,700, (1,900), shows the style of horse which must soon come into general use. We recommend our readers to send for Mr. Dunham's *Catalogue No. 35*, for all particulars regarding this wonderful stock of Percherons.

BETTER TRY A DASH OF GOOD BLOOD.

Every little while some one suggests whether the best way to improve the common stock of the country would not be, after all that has been said about the various improved breeds, to enter upon a systematic course of selection, breeding the best to the best, and so on. It is urged that for this improvement the materials exist upon every farm, and that as all could engage in the work and no stragglers be left in the rear, the improvement would be rapid and of very marked character. Undoubtedly very much might be accomplished in this way, as the common stock, so-called, already has very much of good blood, the benefit

express more of the idea of inequality, in every sense of the term, than the two words "common stock." Grant that the common stock might be bred up, is it worth any man's while who has a desire for improvement to seek it in this tedious, uncertain way? After generations of men had lived and pursued the work some effects of a durable quality would perhaps be secured; but is it supposed that when the common stock is brought to its best development and its type and character fixed the world will have animals better in any sense than the improved breeds existing to-day? There is certainly no evidence to justify any such opinion. The common stock owes its best qualities to these improved breeds, and if it should itself ever become established as a breed, its chief excellence will consist of the merits and character it has inherited from existing race; and as it will have, along with these, other characteristics less meritorious, it is fair to presume it would, at its best, fall somewhat below existing standards. Then why undertake the task of improving its character in this way? Why not take the more expeditious and satisfactory course

bred to a thoroughbred or a trotting stallion, and that mares that are kept on the turf for long periods, though excellent as performers, do not fulfil the expectations as brood mares. Aged mares sometimes produce their best colts when over twenty years old, and stallions that were failures in one district have proved very valuable when transferred to a different district. It will do no damage to work mares in foal, provided the work is not too laborious. In fact, light exercise daily is the best thing for them, and the food should always contain a large proportion of ground oats. A liberal allowance of clean timothy hay, with ground oats and fine bran, will keep the mare in first-class condition, as well as enable her to bear her colt without danger of milk fever.

STALLIONS and other animals kept for procreative service are all the more vigorous and surer breeders for doing some work. If properly handled bulls may be made to work enough to pay for their keep. This is often done in Europe where a bull harnessed to a cart is frequently used. The bull is stronger than an ox of equal

SHEEP AND SWINE.

THE SOUTHDOWN.

This is another English breed whose history is very old, probably dating from the conquest. Their native home is on the chalky soils of Sussex, the Southdowns (hence their name), a tract about twenty-six miles long and six miles wide, or about 100,000 acres. They rise from Pevensey Marsh to Beachy Head, then bend west to Shoreham, where they fall away from the coast, and run into Hampshire, their average level above the sea being 500 feet. They roll gently, are covered with short, rich grasses, wild thyme, and furze patches, and are treeless, except some artificial plantations.

The old Southdown had very fine wool, but were small, poorly shaped, thin necked, high shoulders, and loins, sharp back, narrow forequarters, tail "set on" low, and flat ribs; but they matured early, were very hardy, lived on scanty pasture, and had fine grained, well flavoured meat, held in high, even royal, favour, for Charles II. loved Banstead mutton (a Surrey variety of the breed.)

In the last quarter of the past century, Mr. Ellman, of Glynde, began improving the Southdown sheep, and was followed by Messrs. Webb, Overman, Woods, and many others. They were first crossed with Leicesters, but the result was a failure, as also was a cross with Merino blood, and the end aimed at was finally reached by careful selection from the stock in hand. Now it is about the best breed to cross upon others, and, with the Leicester, has been the means of all the improvement in sheep. In fact, twenty-five years ago, the Royal Agricultural Society of England, only admitted these two breeds to their prize-lists, all other varieties being classed as "long wools, not Leicesters," or "short wools, not Southdowns."

As early as 1829, in public auction, Southdown rams sold at an average of \$125, and have steadily increased in favour and value, for, in 1855, a ram of Jonas Webb's breeding was sold for \$2,500, and presented to the Emperor Napoleon. They are the foremost of the Short (or middle) wools, and the best mutton sheep in the world, having spread all over Great Britain, and steadily advancing in other countries, as they thrive wherever soil and locality suits, and bear close stocking on pasture. Formerly they were marketed at about four years old, but seldom reach half that age now (the age of a sheep dates from its first shearing—not from its birth—unless otherwise stated.)

April or May lambs, from Southdowns crossed on Leicesters, will weigh in December 100 pounds or over.

Southdowns are healthy, tractable, contented, and do not wander much; the ewes are prolific, and good mothers and nurses. They are active and lively, are well suited to rough or hilly land, and three Downs can be kept for the same as two Long-wools, and though their fleece is lighter, yet the average five pounds (washed) of "Down" wool, sells at about 10 cents a pound higher than the average eight pounds (washed) of long wools, and the total return is greater, while the wool is in more, and growing demand.

There is also a growing demand for the medium or Short-wool of the Gauls (from any

of the Down sheep crossed on the Long-wools,) and, if fine, medium brings a higher price relatively than the pure Down wool.

Some think the Downs too delicate for America, but they are thinking of the drizzling rains and cold, damp winds, and mists of Northern Great Britain, for even extreme cold, when dry (such as in the north-west of America), is no draw-back to sheep-raising, as has been repeatedly proved.

The Southdown is much more common in Canada than the other Down breeds, though all are rapidly extending, owing to the demand in English markets for black-face mutton, and that is where our surplus stock must go, for, as yet, Americans are not particular about breed or quality, so long as it is mutton, or lamb.

It is not necessary (for the meat market) to grow either pure breed, or even high grade Downs, but simply stamp the dark colour on face and legs, and improve the meat, for the latter is preferred by all, and the former is popular (the head and feet being left on the carcass, unskinned, in English markets, to certify to the breed.)

Southdowns of to-day are shapely and handsome, have a close fleece, impervious to rain, medium fine, excellent and useful—it used to be only two inches long, now it is three and a-half—being used in flannels, carpets, and all worsted goods, and is growing in usefulness. They are harmless, have gray faces (or speckled), dark, greyish eyes, very broad loins, deep chests, are thick through the heart, with wide saddles, wide and deep hams, with small bones and little offal. The head is small, the whole space between the ears being well protected with wool, the under jaw is fine and thin, the eyes full and bright, neck thin near the head, but enlarging toward the shoulders, where it should be broad and high. The chest is wide, and projecting forward, the shoulders level with back, ribs well sprung, making the back broad and flat, hips wide, belly straight, and well covered with wool. The legs are medium length, or short, fine (but not weak), and with the wool coming down on all four to the knees, short, close, curled, fine and free from wirey fibres.

YORKSHIRE.

Named from the county in England in which it is bred in greatest numbers and perfection. This breed is now well and favourably known, pretty much the world over. Yorkshire stands in the first rank as a pig breeding county, and has given us a pig which shares the honours of popular favour with the Berks, and sells at high prices.

The old Yorks were very long bodied, very prolific, very hardy, and very long legged, but weak loined. They were mostly of white colour, had long ears, flat sides, coarse bones, and had long, coarse, curly hair. They were fair feeders, but the flesh was coarse, flabby, and of inferior quality, though the carcass, was very heavy.

Early in this century (when the white Leicesters were introduced) the real improvement of the Yorks began, by crossing upon them the Leicesters, a large breed but with smaller heads, erect ears, and finer hair and bone.

The largest and best sows from this cross were put to small boars of the Yorks or Leicesters, (a small breed of the latter being

introduced by Mr. Wyley, of Bransby), and then the largest and best sows, and best formed boars of these litters were mated (not too nearly related, this gave the size and constitution of the large breed, and the shapely form and tendency to rapid fattening of the small.

Large Yorks reach great weights, 800 and 1,000 pounds at two and three years old, not being uncommon, while at seven months old they have dressed over 250 pounds, and at twelve months nearly 500 pounds. A prize sow at Rotherham in 1856, three years and two months old, weighed 1,315 pounds. A prize boar at the Royal Agricultural Fair in 1860, weighed (alive) 1,232 pounds, while at Northallerton in 1859, twelve sows weighed over 1,100 pounds each.

THE MIDDLE BREED.

was first classified at Keighley Agricultural Show in 1859, the exhibit being led by the famous sows "Sontag" and "Jenny Lind." They range in size about like Berks but have smaller heads, and even lighter bone, and are better breeders than small Yorks, but not as good as large Yorks.

The middle breed is one of the most popular and useful pigs in England, uniting the best points of its two extreme namesakes, and its class is about the best filled at exhibitions. It sprang from a cross of the large and small Yorks and the Cumberland (a "small" breed but larger than the small Yorks). The aim was to get the eating capacity, large litters, good nursing, and rapid weights of the large breed, in a small, very refined pig, and to increase the food while lessening all demands upon it, except for growth of meat and fat.

The most famous sow of this breed "Miss Emily" (having taken nine first prizes in succession in 1859; girthed behind the shoulders seven feet one inch.

All Yorkshire pigs are white all over, but in common with all white breeds of pigs, may have more or less pale blue spots on the skin (though the hair on these spots is white), and the spots often increase in number, with the animal's age.

Small Yorks have very little offal, the hams and shoulder are large, the side pork thick and solid, the leaf lard plentiful, and it is claimed they lay on flesh with least food of any breed. Their faces are extremely short, sometimes only two or three inches long when finely bred, and though they are low in stature, yet their bodies are long and very solid. They have short heads, small erect ears, broad backs, deep chests, short legs, fine bones, and will fatten at any age and be profitable.

One of the most eminent English breeders states that all pig crosses paid him, when the sire was of some "small breed," and experience shows that the best results are reached by using the finest, pure-bred, *small* boars on large vigorous sows, that have not been pampered. These, so called, "small" breeds of pigs are very deceiving to those not used to them, for they have just as many bones in their body (though they are finer) and just as many joints in their back-bone as any of the large breeds, but they weigh much more in proportion to looks than the latter do.

Good farming aims at boiling down, condensing raw material into handy values, and the pig offers one of the best means to that end, and small or middle breeds of them make more rapid, and certain, and larger returns, than the large do.

BEES AND POULTRY.**SPANISH FOWLS.**

Of this breed we have five main branches, of which the best-known—most widely bred, and perhaps the best, is the white-faced Black or "Black Spanish." The others are the Minorca, or Red-faced Black, the White the Blue, or Andalusian, and the Ancona (Grey or Mottled). This important breed of fowls, it is thought, really did come to us from Spain, but they have been well known in England and America for great many years. They are very handsome, and lay large white eggs—larger than any other breed except the Ta-Flèche. The White-faced Black is the only one of the family that has a special class at exhibitions, the rest being classed among "any other variety." The cock should carry himself upright and very stately—breast well forward, and the tail standing well up, but not forward. The sickle feathers perfect, and well developed, and the plumage all a deep jet black, and glossy; no white feathers should appear in pure birds. The legs blue or dark lead-colour, but not whitish; they are long but the fowl's body is plump. The cock should weigh seven or eight pounds, and the hen six or seven pounds; but both are heavier than they look. The hen is the same colour as the cock, but her feathers are not so glossy, the comb very large in both, and of a bright vermillion, the hen's should fall quite over on one side, but the cock's must stand perfectly upright, not coarse, and not twisted in front, and the indentations must be regular and even; but the face is the chief point; it should run as high above the eyes, and be as wide and deep as possible; nearly arch shaped at top, and running as near to the comb as possible; it should reach to the ear lobes and wattles, and meet under the throat, and be fine and smooth; the ears large and hanging, and white, and the face should not have any red specks. The pullets will lay at six months old, and lay well. They are a delicate breed and the chickens must be kept out of the damp, and in winter the house must be above freezing. The eggs are less certain of hatching than of either breeds; but the birds are less liable to roup, the great fowl scourge. Three hens to each cock is enough, and the eggs should not be set very early in the spring; they feather slowly, and require good care and food, but are fairly hardy, after full grown, but suffer much in moulting, and in wet or cold weather.

Such great attention has been paid to the "face of the Black Spanish that some of its good points have suffered—as size, strength and prolificacy.

MINORCAS

are like the former variety, but larger, and the legs shorter; it is a better layer, and the chickens are rather hardy, they have red faces and white ears, and the comb is rather larger; a good cock will weigh eight or nine pounds.

THE WHITE.

This is just like the Minorca in everything but the plumage which must be pure white, all over, not a black feather in it. This variety probably sprung from a white chicken thrown from the black variety, as all black fowls at times throw white chicks. The faulty points

in this variety, are yellow shade in the cocks plumage, and red blotches in the ears.

BLUE OR ANDALUSIAN.

This is said to be the hardiest of the whole breed, and the chicks are also very hardy, and feather well and quickly, a great point in breeding. The colour is dark blue, or slaty, neck hackles and tail feathers shining black, ears white, face red.

ANCONAS

are of mottled plumage, but otherwise are like the Minorcas, though smaller.

If the comb is frozen rub with snow or cold water; but be careful not to take the bird near any heat until well.

They have a peculiar disease called "black rot," the comb blackens, the feet and legs swell, and the fowl wastes. Taken early it can be cured by several doses of castor oil, with good ale for drink and warm strengthening food. Sometimes many air bladders rise under the skin, which must be pricked, and the fowl be given good food.

If Spanish fowls are to be exhibited, let them eat as much meal (corn) as they like before showing for two or three weeks. Then the day before showing wash the legs, face, comb, and wattles, and dry them with a soft towel, and if the face gets red with rubbing, keep the bird in a dark place that night, and see it doesn't take cold at any time.

BEE DIARRHOEA—ITS CAUSE.

As I am somewhat interested, with many others, in trying to find out the cause of bee diarrhoea, I will give some facts. I have 28 colonies on the summer stands, well packed in dry sawdust, all but two, which were kept without packing. Sometime ago they had a flight, and the two that were not protected showed signs of diarrhoea. The snow and covers of the hives were spotted with brownish discharges. A friend of mine (Dr. Miller) noticing the same, concluded to help me find out something in regard to the cause.

The Doctor has worked with the microscope for several years, and the facts that I shall give were developed with that instrument. In the first place, bees that had been dead twenty-four or forty-eight hours were taken, and the yellow brown matter (the same that is discharged by the live bees before death) was mixed with matter to clarify it, and when submitted to examination under the microscope, a mass of pollen grains could be plainly seen. Most of the pollen grains are so perfect that the class of plants from which they came can be identified. The contents of the bodies of many dead bees were examined carefully, and in every instance this yellowish-brown mass was pollen, and sometimes mingled with honey.

The fact that all the bees were full of this pollen, and that being in a state of partial decomposition and undigested, strongly points to the conclusion that pollen is the primary cause of the disease. It is also very singular that bees should eat a substance that will prove so destructive, especially when they were well supplied with honey.—*H. C. Whitlow, in American Bee Journal.*

For chickens hatched and raised by artificial means—put a couple of inches of earth around their drinking dish.

FEEDING-TROUGHS FOR HENS.

The practice of throwing soft feed directly on the ground should at once be abandoned by every farmer and poultry keeper. It is extremely wasteful, as well as filthy to throw their food on the ground when it is soft or covered with poultry droppings. Whole grain, however, may be scattered on clean ground, or, perhaps better, if the hens are confined, it might be slightly covered with the soil, if it is dry, or with some other clean dry material and let the fowls scratch it out, as it will give them exercise. Feeding troughs should be constructed in such a way that the fowls may eat soft food without being permitted to get into it, to scratch or foul it in any manner. These troughs may be easily and cheaply made by the exercise of a little ingenuity, and the use of a few pieces of boards, lath and a few nails.—*Ex.*

PUT a few ears of corn in the oven and let them remain until reduced to charcoal. Feed this to the fowls and notice the increased egg production.

Do not dabble in too many varieties. Keep one, or at least two, and breed up to the highest standard; also, do not think that because the fowls are yours, they are perfect; but when faults are pointed out in them by those who know, take the advice and profit by it.

CHILDREN would rather eat bread and honey than bread and butter; one pound of honey will reach as far as two pounds of butter, and has, besides, the advantages that it is far more healthy and pleasant-tasted, and always remains good, while butter soon becomes rancid, and often produces cramps in the stomach, eructations, sour vomiting and diarrhoea. Pure honey should be freely used in every family. Honey eaten upon wheat bread is very beneficial to health.

BEES love high temperatures, but in mid-summer the combined heat of the sun and their own warmth is too much for them, as is shown by their gathering on the outside of the hives. But it is only at mid-day that this heat is too great. Mornings and most nights it is just right. Hence, dense shade all the day long does more harm than good. A projecting board to protect from the mid-day sun, leaving the hive exposed mornings and afternoons, is the best kind of shade.

How often we have heard some one say, "the old hen stole her nest and hatched every egg." This should teach us something about nests. It is better not to have the hen set where she layed her eggs, because generally more than one hen lays in the same nest, and they are likely to quarrel about it. When you think a hen is broody, try her a few days on nest eggs. If she proves determined to set, prepare a nest in a box some eighteen inches square by placing a sod bottom up, scooping out the earth a little, or putting in two or three inches of moist earth, then some fine-cat straw or hay. Sprinkle in a handful of lime or sulphur, and as many eggs as the hen can cover—from ten to sixteen, according to the size of the hen. Then let her go to work and don't allow her to be disturbed by anybody or thing, for the "old hen" knows her business better than anyone can teach her.

Miscellaneous.

Vital Questions!!!!

Ask the most eminent physician
Of any school, what is the best thing in the world for quieting and allaying all irritation of the nerves, and curing all forms of nervous complaints, giving natural, childlike, refreshing sleep always?

And they will tell you unhesitatingly
"Some form of Hops!!!!"

CHAPTER I.

Ask any or all of the most eminent physicians:

"What is the best and only remedy that can be relied on to cure all diseases of the kidneys and urinary organs; such as Bright's disease, diabetes, retention, or inability to retain urine, and all the diseases and ailments peculiar to Women?"

"And they will tell you explicitly and emphatically "Buchu!!!!"

Ask the same physicians

"what is the most reliable and surest cure for all liver diseases or dyspepsia; constipation, indigestion, biliousness, malaria, fever, ague, etc.," and they will tell you:

"Mandrake! or Dandelion!!!!"

Hence, when these remedies are combined with others equally valuable,

And compounded into Hop Bitters, such a wonderful and mysterious curative power is developed, which is so varied in its operations that no disease or ill health can possibly exist or resist its power, and yet it is

Harmless for the most frail woman, weakest invalid, or smallest child to use.

CHAPTER II.

"Patients 3/12"

"Almost dead or nearly dying for years, and given up by physicians of Bright's and other kidney diseases, liver complaints, severe coughs, called consumption, have been cured."

Women gone nearly crazy!!!!

From agony of neuralgia, nervousness, wakefulness, and various diseases peculiar to women.

People drawn out of shape from excruciating pangs of rheumatism, inflammatory and chronic, or suffering from scrofula

Erysipelas!

"Salt rheum, blood poisoning, dyspepsia, indigestion, and, in fact, almost all diseases frail"

Nature is heir to

Have been cured by Hop Bitters, proof of which can be found in every neighbourhood in the known world.

None genuine without a bunch of green Hops on the white label. Shun all the vile, poisonous stuff with "Hop" or "Hops" in their name.

HENRY CLEMENT, Almonte, writes:

"For a long time I was troubled with chronic rheumatism, at times wholly disabled; I tried anything and everything recommended, but failed to get any benefit, until a gentleman who was cured of rheumatism by Dr. Thomas' Electric Oil told me about it. I began using it both internally and externally, and before two bottles were used I was radically cured. We find it a household medicine, and for group, burns, cuts and bruises, it has no equal."

CINNAMON ROLL.—Take one cup of sour cream, one cup of sugar, half a cup of melted butter, one egg, one teaspoonful of soda; mix as if you were making cookies; use flour enough to have a light dough, but stiff enough to roll; roll this out and scatter ground cinnamon over it, then roll it up as if for a jelly-cake and bake. This may be served as a pudding also, if hot wine sauce is poured over it as soon as it is taken from the oven.

MR. W. R. LAZIER, Bailiff, etc., Belleville, writes: "I find Dr. Thomas' Electric Oil the best medicine I have ever used in my stable. I have used it for bruises, scratches, wind puffs and cuts, and in every case it gave the best satisfaction. We use it as a household remedy for colds, burns, etc., and it is a perfect panacea. It will remove warts, by paring them down and applying it occasionally."

PINEAPPLE PUDDING.—Butter a pudding dish and line the bottom and sides with slices of stale sponge cake; pare and slice a large pineapple, leaving out the core; place in the dish first a layer of pineapple, then of cake, until all is used up; pour in a teacupful of water, lay slices of cake which have been dipped in cold water on the top, cover the whole with buttered paper and bake slowly for two hours. Grated pineapple is equally good.

WORMS often destroy children, but Freeman's Worm Powders destroy Worms, and expel them from the system.

Scientific and Useful.

FROSTING.—A very little cream of tartar in the frosting for a cake will hasten the hardening process. If the knife is often dipped into water while spreading the frosting, it will give a gloss or polish greatly to be desired.

MR. H. F. MCCARTHY, Chemist, Ottawa, writes: "I have been dispensing and jobbing Northrop & Lyman's Emulsion of Cod Liver Oil and Hypophosphites of Lime and Soda for the past two years, and consider that there is no better preparation of the same kind in the market. It is very palatable, and for chronic coughs it has no equal."

GREEN PEA SOUP.—Boil three pints of green peas in three quarts of water; when perfectly soft, rub them through a colander, then put back the pulp into the water, which is supposed to be still boiling, season with salt and pepper and butter, and thicken slightly with flour.

MODERN MAGIC.—The magical power over pain that Hagyard's Yellow Oil possesses, outrivels the marvels of ancient times. It acts in a natural manner to subdue inflammation; cures Rheumatism, Croup, Deafness, Sore Throat, and painful injuries.

PLUM PUDDING WITHOUT RAISINS.—Make a crust as if for baking-powder biscuit. Line a pudding-dish with the crust thus made; having rolled it out until it is about twice as thick as pie-crust, mix three tablespoonfuls of flour and the same quantity of sugar together, and spread over the crust; then fill with canned plums from which the pits have been removed; sprinkle sugar enough over them to be sure that the juice will be thick and rich. Put a crust over the top, wet the edges so that it will be impossible for the juice to escape. Two small outlets for steam may be cut in the top. Bake in a hot oven for from half to three-quarters of an hour.

MUCH distress and sickness in children is caused by worms. Mother Graves' Worm Exterminator gives relief by removing the cause.

CREAMED EGGS.—Boil six eggs twenty minutes. Make one point of cream sauce; have six slices of toast on a hot dish; put a layer of sauce on each one and then part of the whites of the eggs, cut in thin strips; rub part of the yolks through a sieve on to the toast; repeat this and finish with a third layer of the sauce; place in the oven for about three minutes; garnish with parsley and serve.

REMARKABLE RESTORATION.—MRS. ADELAIDE O'BRIEN, of Buffalo, N.Y., was given up to die by her physicians, as incurable with consumption. It proved Liver Complaint, and was cured with Burdock Blood Bitters.

FOAMY SAUCE.—A dainty foaming or puff sauce is made by beating the whites of three eggs to a stiff froth; dissolve a teacup of sugar in as little water as possible to use, let it boil for two or three minutes, take it from the fire and stir into it a small glass of wine and the whites of three eggs. This should be made just before it is needed at the table.

MOST excruciating are the twinges which rack the muscles and joints of the rheumatic. Northrop & Lyman's Vegetable Discovery and Dyspeptic Cure, by promoting increased action of the kidneys, by which the blood is more effectually depurated, removes through the natural channels certain acrid elements in the circulation which produce rheumatism and gout. The medicine is also a fine laxative antibilious medicine and general corrective.

DIAMOND PUDDING.—Make a loaf of plain cake. Put a light meringue on the top, brown this in the oven, cut the cake in diamonds, and serve warm with wine or with lemon sauce. The sauce must be at the boiling point, and it should be poured around the cake so that it will penetrate it readily. If properly made this is delicious.

MRS. A. NELSON, Brantford, writes: "I was a sufferer from Chronic Dyspepsia for eleven years. Always after eating, an intense burning sensation in the stomach, at times very distressing, caused a drooping and languid feeling, which would last for several hours after eating. I was recommended by Mr. Popplewell, Chemist, of our city, to try Northrop & Lyman's Vegetable Discovery and Dyspeptic Cure, and I am thankful to say that I have not been better for years; that burning sensation and languid feeling has all gone, and food does not lie heavy on my stomach. Others of my family have used it with best results."

A CRYING EVIL.—Children are often fretful and ill when Worms is the cause. Dr. Low's Worm Syrup safely expels all Worms.

A FIRM OPINION.—The firm of Ormand & Welsh, Druggists, of Peterboro', say Dr. Fowler's Wild Strawberry is one of their best Standard Medicines for Summer Complaints.

MERINGUE PIE.—Juice of two lemons, rind (grated) of one, two teacups of white sugar, two tablespoonfuls of cornstarch, one teacup of milk, six eggs, yolks mixed with the above. Make a light puff-paste, fill with the mixture and bake a light brown. Beat the whites of the eggs to a stiff froth, with a tablespoonful of white sugar and a little lemon juice. Spread on top of pies when they are done, and put again in the oven for a very few minutes.

HOLLOWAY'S CORN CURE destroys all kinds of corns and warts, root and branch.

THE BUSIEST PLACE IN CHICAGO.

Any person who visits the Advertising Agency of Lord & Thomas, McCormick Block, will not doubt that they are transacting an immense business with the newspapers of the country. A thorough knowledge of their business, coupled with energy and a liberal use of their own medicine, has placed them in the front rank of advertising agencies in the United States.

We will not state the exact amount, but we will say that during the past few weeks they have closed contracts which will aggregate hundreds of thousands of dollars, and this business has been secured in competition with the Eastern agencies, thus demonstrating their claim of possessing unequalled "facilities."

Their business offices are veritable hives of industry, every member of their efficient corps of employes being furnished with work enough to develop their working energies. We think this firm might well adopt as their motto "Courtesy and Energy." The Herald congratulates them on their merited success.—Chicago Herald, May 10.

IMPORTANT TO TOURISTS.

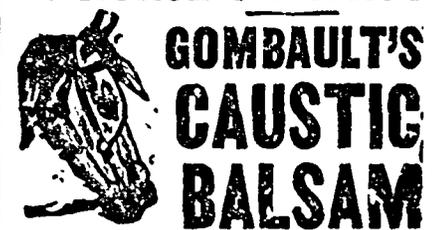
Commencing May 15th and continuing until October 1st, round trip tourist tickets, good going fifteen days from date of sale and good returning until October 31st. Can be purchased at very low rates, to Denver, Pueblo, Colorado Springs, and other Colorado Tourist Points, via the BURLINGTON ROUTE (O. B. & Q. R. R.) This famous line is the only one extending from Chicago, Peoria or St. Louis, direct to Denver, and the only one running through trains without change every day in the year between Chicago and Denver. In addition to above trains which run via Pacific Junction, it also runs over its own lines, through daily trains between Chicago, Peoria, Kansas City and Atchison; and through daily trains between Kansas City, Atchison and Denver, thereby enabling it to offer the tourist the option of purchasing tickets by a greater variety of routes than any other line. Remember these facts, and when ready to start call upon any railroad ticket agent in the United States or Canada for tickets, rates and detailed information, or address PERCEVAL LOWELL, General Passenger Agent, Chicago.

—THE—
Model Washer and Bleacher
ONLY WEIGHS 6 LBS.
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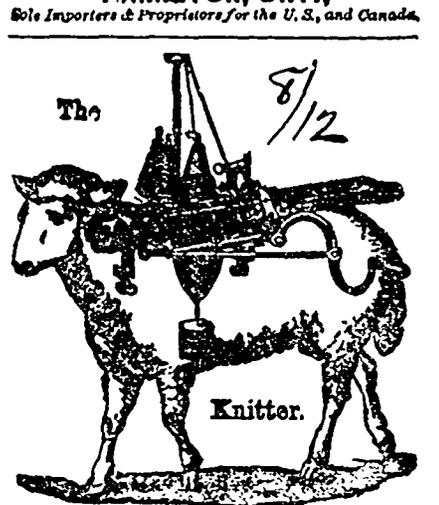
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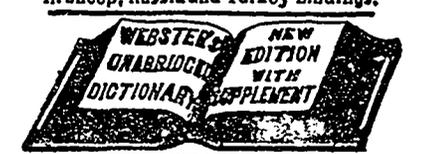
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Publisher.

The Rural Canadian.

TORONTO, JULY, 1884.

The clover midge is found to be very destructive to the first crop this year, we hear that in many localities, the clover head has been so injured by the larvæ that it has failed to blossom. There is consequently a poor lookout for a seed crop, unless in cases where the fields were pastured, or where the first crop was taken off about the middle of June.

FARMERS who complain that farming does not pay may be asked the very pertinent question: If they work to make it pay? How many of this class really work more than seven months of the year? The winter is an idle time with them, and very little of it is occupied in taking care of stock for the simple reason that the number of animals kept on the farm is small and that they receive only the most ordinary care. The farming that pays is the farming which so arranges crops and work, and feeding of stock that every available day in the year is made to count. More tillage, more live stock, and more manure are the essentials for the farming that pays. Where there is an average of one animal to every eight acres of land, it is no wonder that the manure supply is short, or that the winter months are all of idleness and unprofitableness.

An exchange urges upon farmers the liberal use of the Persian insect powder as a most effective insecticide. It is the product of a plant which grows extensively in eastern countries, the root of which is of a hot and burning character, but which is now largely cultivated in California. When dusted about stables and feed troughs it soon kills off the flies and gives to the cows and horses a gratifying rest. When blown into the air of a kitchen and dusted about window frames it acts in the same way on the house fly and the mosquito. It also has the same effect on the green lice and red spiders which feed on the leaves of plants. The powder acts by suffocating the insects, while it is perfectly harmless to animal and plant life, and the only ordinary insect which seems to be proof against it is the potato bug. We suggest that it be tried on the insect which is now attacking the mangold crop.

They profess in Nova Scotia to grow the finest apples in America. The same claim is also made for certain portions of Ontario; but there is no doubt of it that there are fine apple orchards in Nova Scotia, and that the fruit is in good demand in the English markets. We think, too, that they understand how to care for orchards down there, and possibly our Ontario farmers might learn some useful lessons from them. In his address before the Nova Scotia Fruit Grower's Association recently Dr. Bennett advised the cultivating of orchards during the whole period in which the trees are being prepared for fruiting. He would not lay down the land to grass until the trees reach full bearing, and even then there must be no failing of surface feeding or mulching. Unless this is attended to the fruit will dwindle to small size, and become spotted and fungus-marked. All of which is true. It is usually as great a piece of folly to take a grain crop off a bearing orchard as to work a mare that is heavy with foal.

FARM FIGURES.

There is obviously a tendency in Ontario to the occupying of larger farms. At any rate the census figures show that the greatest increase is taking place in the number occupying farms of the largest areas. In the following comparative table all occupiers of ten acres and under are left out of the account, as not holding a sufficiency of land to entitle them to be classed as farmers.

	1851	1861	1871	1881
No. occupying 11 acres to 50	21,814	22,305	38,442	41,437
No. occupying 51 acres to 100	47,427	64,891	71,964	75,282
No. occupying 101 acres to 200	17,515	28,336	33,984	42,476
No. occupying over 200 acres	3,404	5,027	7,674	11,613
Totals	90,160	127,559	152,964	170,768

It will be observed that in the last decade a very marked increase has taken place in this number of persons occupying farms of the two larger areas as compared with former decades, and that for the first time the increase is much greater than that of occupants of the smaller farms. Taking the occupiers of farms ranging from 11 acres to 100, it will be seen that the increase during the decade was 6,033; whereas the occupiers of farms of 101 acres and upwards was 12,431—the increase of those occupying over 200 acres 3,939. What is the cause of this tendency? and is the tendency itself desirable? We think it is due partly to the scarcity of farm labour, partly to the introduction of labour-saving implements, and partly (perhaps) to the accumulation of capital, as to the desirability of it, we think that there can hardly be two opinions. Large farms, as a rule, are poorly cultivated, and very few of them pay.

SHEEP-RAISING FOR WOOL AND MEAT.

The low price of wool leads some farmers to ask if it is not wise to go out of sheep-raising? We do not think so. Wool is by no means the most valuable product of the sheep. It pays much better to breed and feed for mutton, and the demand for lambs and sheep well fed for the butcher is practically unlimited. In the Lake Erie and the River St Lawrence counties nearly all the surplus lambs are gathered up by buyers for the American markets, and prices always run higher for good ones; while in the other counties of the Province the town and city markets take all that can be spared at prices ranging from \$2 to \$5. They are selling in Toronto at the present time at \$3.50 to \$6, according to quality. The returns are quick and handsome. The lambs are sold at all ages, from two to six months, and the cost of feeding them in the spring and early summer months is a mere trifle. If the same animals were kept for wool the farmer would be obliged to feed and wait a whole year for the first return, and assuming the clip to average five pounds and the price 25 cents per pound—a point which it has not reached for several years—it would require three years to produce a wool crop of equal value with a lamb at three months. In Ontario as well as in the markets of the neighbouring States the great demand is for sheep under one year, whereas in the English markets the demand is greatest for well-fatted two-year-olds, and over. What better could the Ontario farmer want to encourage him in sheep breeding, either for meat or wool? The lambs can be disposed of at home, and the matured sheep can be fitted for the English market after the second shearing. The number shipped from Canada to Great Britain during the calendar year 1882 was 75,905, and last year it increased to 114,352. In 1877, when the trade just commenced, the number shipped was only 9,509. Now in view of all these facts we think that Ontario farmers need not greatly care whether the price of wool runs high or low, sheep-raising for the butcher will pay much better.

ANOTHER CREAMERY SYSTEM.

Hitherto butter creameries have been managed according to two systems—by one the cream only being collected and the milk left for feeding purposes on the farm, and by the other the milk being collected and manufactured into butter and cheese. A third system is now being introduced in the State of Ohio, under which the creamery man buys the milk as is done at the combined butter and cheese factory, and after the cream is separated a *pro rata* amount of skimmed milk is returned to each patron. The advantage of this system to the manufacturer lies wholly in the better care with which the milk is set, and possibly in the greater quantity of cream that is obtained. The advantage to the farmer consists in his receiving the same price for the milk that is paid by the factory man who buys for the manufacture of both butter and cheese, while the milk is returned for feeding purposes. What the feeding value of skimmed milk may be is largely a matter of conjecture, but we have seen it estimated at not less than \$12 per cow for the season. If this system is found to work as satisfactorily for the butter-maker as for the farmer, we shall not be surprised to see it supersede both the others. At any rate it deserves a fair trial with us in Ontario, it is pretty well established that there is a considerably larger profit to the farmer realized from the cheese factory than from the creamery; but one of the serious objections to selling milk to the factory is, that the farm is being depleted of one of its most valuable supplies of nutriment. Let it be shown that the new creamery system can be conducted with profit to the butter-maker, and we undertake to say that in less than ten years there will be as many creameries as factories in the Province of Ontario. The Ohio experiment deserves to be closely watched for results.

REQUIREMENTS FOR A FARM HOUSE.

The principal requirements for a healthful and comfortable farm house are: 1. A cote from which the surface water will readily flow away from the foundations, and where the cellar is perfectly dry or can be made perfectly dry by drainage: 2. The kitchen large, well lighted and ventilated, conveniently arranged, having a large closet and store-room in connection, and provided with a range, a sink to carry off water, and if possible a pump connected with the well or the cistern. 3. A laundry with stationary tubs having connections with the boiler in the kitchen and the cistern; the latter may be constructed overhead to receive the rain from the roof, with an overflow pipe leading to a reservoir of water outside. 4. The main living-room on the south side, with plenty of window room to let in the health-giving sunshine, and a good old-fashioned fire-place. 5. The parlour on the west and north side, where there is little fear of carpets or furniture being stained by the sunshine. 6. An ample hall running through the house so as the more effectually to provide for ventilation, as well as easy access to kitchen and living-room. 7. Good sized bed-rooms, with high ceilings and ventilating flues, and commodious closets for the safe keeping of clothes; an open fire-place and large windows are greatly to be desired. 8. A broad verandah where the farmer and his family may find a cool retreat for summer evenings. 9. An ample supply of pure water, either brought into the house or within easy reach in all weathers. 10. Woodshed and other out-buildings conveniently located; and, in case of water-closets, perfect safety as regards drainage—the dry earth system with movable buckets is the best. A clump of evergreen trees on the north and west sides afford

a good protection against winter blasts, but of course every farmer of taste will take as much pride in setting out trees and keeping the grounds about his house in good shape as his wife does in caring for the interior. It don't cost much to make a farm house attractive both inside and out, and it adds largely to the comforts and the pleasures of the whole family. It is not much wonder that farmers' sons clear off to the cities when, as is too often the case, the old homestead is as uninviting in its surroundings as a county poor house. Indeed there are not a few poor houses that might be taken as a pattern of attractiveness by many of the farmers who are taxed to support them.

WALKS AND TALKS AMONG THE FARMERS.—No. II.

A neighbour of mine, whose barn accommodation was insufficient and inconvenient, has given anxious consideration to the question whether to alter and add to the old structures, or build new throughout. He has come to the conclusion to pull down his barns and build greater, and, I think, is acting wisely. Re-modelling old barns is like re-modelling old houses, it always costs more than was expected, and is never satisfactory when the job is finished. My friend is putting up a large barn, 70 x 90, which will give all the required accommodation under one roof. It will cost more, but will be far better in the end. There are several features about this new barn that are worthy of notice. First, the lower storey is of stone, advantage being taken of a side-hill facing the south. This gives large space for root-storage on the north side, then ample room for horse and cattle stables, with entrances on the level. The extensive roof makes it easy to supply a capacious cistern with rain-water, which flows into troughs located out of reach of frost. To my mind, the most interesting feature about this building is the provision for keeping all the manure under cover. Two arches twelve feet wide spring from the stone work, one side being close to the wall in which the stable doors are placed. Each of these arches is surmounted with a tablet having the initials of the owner and the year of erection carved on it, thus:

D. McD.

1884.

The manure shed is 24 x 90, and along the outer wall, beyond the open arches, are mangers and feeding racks into which feed can be thrown through openings in the barn floor above. In this roomy shed the manure will be evenly distributed, as it is wheeled out of the stables. The stock that are loose in the yard will tramp it, lie down on it, moisten it with their urine, and it will gradually decay without fire-fanging. There will be no waste from the action of sun and rain, every fertilizing element will be kept in the best possible condition, and when it is put on the land each fork-full of manure will give a good account of itself. There will be no mucky, slushy barn-yard to wade through in the rainy season; the stables can be cleaned out in comfort, let the weather be as it may, and there will be but two handlings of the manure; one when the stables are cleaned, and the other when the land is dunged. I predict that the increased values of the manure, thus housed, will go very far to pay interest on the total cost of this new barn. The waste and loss caused by throwing manure out-of-doors in the usual way are enormous. Lord Kinnaird found by actual experiment—no guess-work about it—that covered dung brought a crop of potatoes from four to five tons per acre larger than the same quantity of uncovered dung, while there was a difference of from ten to twelve bushels per acre in the yield of wheat. What

food for reflection there is in such facts as these, for those farmers who are always bewailing the scarcity of manure, and yet let so much of it get washed away by the rains of heaven, or be scattered by the four winds, in the form of ammonia, liberated by the sun.

It is so seldom the case that farmers who need more barn-room tear down their old structures, and build new throughout that one is tempted to think they are deterred by the idea that there is something wicked about pulling down one's barns and building greater. This idea, if it exists, is based on a mistaken interpretation of the passage of Scripture, out of which it arises. The sin of the man whose case is recorded in the Gospel According to Luke, did not consist in tearing down his old barns and building more capacious ones, but in that forgetfulness of God, and supreme love of worldly good which led him to say to his soul: "Soul, thou hast much goods laid up for many years; take thine ease, eat, drink and be merry." He should have rebuilt from a higher and nobler motive—that of glorifying his Maker by means of a more adequate and convenient storage of those products of the earth, which were his only in the capacity of an accountable steward.

A farmer in an adjacent township with whom I often have a friendly chat on agricultural topics, rather surprised me, the other day by the statement that he had received upwards of \$200 the present spring by the sale of about fifty lambs. In all our larger towns and cities, "spring lamb" is in demand at high figures. The present season it has brought twenty-cents a pound. Although the price of wool is low, it can hardly be said that sheep-raising does not pay, when from \$3.50 to \$4.50 a piece can be got for lambs not over two months old. A flock of sheep will surely pay their way with the wool-clip and the manure, leaving what is obtained for the lambs as clear profit. I think fifty lambs can be raised more cheaply and easily than two hundred bushels of wheat, and fifty lambs at \$4 a piece come to \$200, as surely as 200 bushels of wheat at \$1 a bushel. To get the top price in the butcher market for spring lamb, a breed of sheep must be kept that combine early maturity, hardiness, and a choice quality of meat. These requisites are found in the Down classes. A first-cross either of Southdowns, Oxford, Shropshire, or Hampshire downs on any good ewes, will bring excellent lambs for shamble purposes.

The ravages of dogs are often pleaded as a reason for not going more extensively into sheep husbandary, and they are no doubt, a great drawback to this branch of moral industry. But if our leading farmers would combine in the heroic treatment of this nuisance, it might be greatly abated, if not wholly removed. Too many farmers themselves keep useless ill-trained curs, and thus nurse the evil that needs to be eradicated. Dogs are like Jeremiah's figs, the good are very good, and the bad are very bad! fit only to be targets for the shot-gun. Let us, by all means, have a crusade against sheep-devouring canines and a combination to protect the flock's that are capable of adding so much to the wealth of our country.

I have often discussed with farmers the question raised in last month's RURAL CANADIAN—"what does it cost to grow an acre of wheat?" The estimate given is not far out of the way. There would be some diversity in the items, but the general result arrived at would be very near that stated. In the case of land prepared for wheat by summer fallowing, the cost would be somewhat more, as there would be extra ploughing to be charged, and two years' rent of land instead of one. The manure item would be omitted, which, by the way, is a very low one, being no doubt proportionate cost of manuring in

connexion with a root crop. The general conclusion is sound, and would be better stated thus:—"There is no profit in growing wheat unless the yield be more than twenty bushels per acre."

W. F. O.

ERRATUM.—Your proof-reader made a queer mistake in last month's "Walks and Talks." It is stated that my old farmer—turned townsman—made the following strange use of his garden plot, viz.—"Sowed it to ants!" I wrote "sawed it to ants," the old farmer's provincialism for "sowed it to oats."

DITCHING MACHINES.

The trial of ditching machines which was announced to be held in Columbus, Ohio, came off on the 1st, 2nd and 3rd May on the New State Fair grounds in that city. This public trial was held under the auspices of the Ohio State Board of Agriculture, who offered prizes for the most practical Ditcher. The following six machines entered for competition, viz.:—Plumb's steam ditcher of Illinois; the Mettler tile-laying machine of Ohio; the Elevator ditching machine of Toronto, Canada; the Nogar machine of Michigan; the Miller Ditcher of Ohio, and the Chamberlain tile-laying machine of Iowa. After a thorough test the judges awarded the first prize to the Elevator ditching machine, manufactured by William Rennie, of Toronto, Canada, and divided the second prize between the Plumb steam ditcher and the Nogar ditcher. The Elevator ditching machine undoubtedly deserved the first prize which it received, and was decidedly the most popular machine with the farmers, the exhibitor taking fifteen orders on the ground for delivery this season. The machine is made entirely of steel, except the truck wheels, thereby combining strength, lightness and durability. The cutting apparatus is a large wheel with a system of elevator buckets which fill with dirt and deposit into a spout, which leaves it in convenient form and distance, to be filled in again. It is a light draft machine and weighs only 1,400 lbs. One man can easily raise it entirely out of the ground, when it can be transported as easily as a waggon. It can be drawn forward and backward in the same track, cutting any depth desired by the operator, up to three inches, according to the nature of the soil. "It is the most practical machine for farmers to buy." "Any one could run that machine and do good work." "It is from \$100 to \$1,200 cheaper than the others." These were some of the expressions of the spectators in regard to this machine. One man who had used one of them for three years said he had cut 200 rods, 2½ feet deep, and left it ready for tile, in five hours. It was the almost unanimous opinion of all that it was the lightest draft machine on the grounds. The number present to witness the trial was not as large as expected, owing to the busy season of the year among farmers. Although the majority of the visitors were representative men from different parts of the United States, and who were particularly interested in underdraining.

The crowd varied from 100 to 200, some coming and going all the time, and in the aggregate, during the three days, perhaps a thousand different persons were on the grounds. The entire grounds had been surveyed and levelled, under supervision of the secretary, and stakes driven at intervals along the line of the ditches, marked with figures showing the elevation above the lowest point, and the depth of the ditch at the stake. The ditches extended across the entire grounds, 110 rods, in a straight line, and each machine was required to complete one ditch at least.

GARDEN AND ORCHARD.

PLANTING ORCHARDS.

Fruit is one of the natural foods of mankind. Naturally man was intended as a vegetarian. He shed blood and eat flesh only when he fell from his first estate of innocence and happiness, and the first man who became a flesh eater was a murderer. This may not have any practical bearing upon our subject, but it goes to show that, taking every view of the point noticed, the purest instincts of mankind incline toward fruit eating. No doubt we consume too much flesh, and because of it we suffer so much from dyspepsia, which is our national complaint, so much so, that the common pictorial representations of Uncle Sam, with his peculiar leanness and hollowness of cheeks, are typical of an ill nourished dyspeptic. And this peculiar leanness and unhealthfulness is more apparent among farmers than among other classes. Fruit is a rare dish upon a farmer's table, where it ought to be seen three times a day for every day in the year, and found in the intervals in his hands or his pockets. He grows fruit for sale, but not to eat, and therein he makes a very great mistake. There are several reasons for this. One is no doubt the wicked tree peddler, who puts off upon the easy-going farmer a lot of worthless trees, falsely represented by the flaming red and yellow pictures in the sample-book he carries as the bait for his snares. Another is the neglect of the farmer himself, who when he gets good trees—and he does at times even from the "tree agent"—plants them so badly, and cares for them afterward so carelessly, that they fail to grow and die one after the other until all have disappeared. Other causes are the many pests which infest the orchard; mice and rabbits which gnaw the bark; beetles and flies, which bore the trees—and the planter, too; moths, which destroy the fruit; worms, which consume the leaves, and blights which infect the trees and cause them to perish. But we should remember that it is the business and work and privilege of a man to strive against all these enemies and conquer them, and it is only an indication of inferiority when a man is conquered by them and submits to them.

Every farmer or owner of a piece of land should plant fruit trees, and plant them well and care for them with intelligence and industry. The first thing to be done is to get them. And in getting them he should not put every possible obstacle in his own way, which he usually does. For it is a very common, if not general, thing for him to refuse to procure trees from a nurseryman within sight of his farm, and wait until the too much abused—because encouraged—agent comes around, and pay him three prices for what could be procured close by. A friend who was once the manager of the largest nursery in the West recently declared to us that his near neighbors bought trees from the agents of Eastern nurseries for a dollar each and paid freight on them, and ran all the usual and inevitable risks, when better trees could have been bought near by for one-half the money, and no freight was to be paid. And these near-by trees could be taken from the nursery and planted within an hour, thus insuring their life and growth. Therefore, in these preliminary remarks upon planting orchards we would advise those who plant to procure their trees from the nearest nursery, and thus secure the greatest certainty of getting the varieties they intend to buy: of getting good well-grown trees; of having them moved with the least possible damage; of putting them in the ground in the best condition, with fresh tools and at the right season and when the soil is in the best

state to receive them, and to firmly, but politely, decline the attentions of the itinerant fruit pedler or ever afterward hold their peace if they are deceived or disappointed and take all the blame of it, as they deserve, themselves, unless they know a responsible nurseryman at a distance with whom they would rather deal. Another very important thing, treating upon this very point, is that locality has much to do with a choice of varieties, and a local nurseryman knows, as it is business to do, the kinds of fruit that do well in his neighborhood, and his advice in this respect, as well as his other treatment of his customer who is a neighbour, for obvious reasons will be very different from that of a stranger whom one will never see again.—*Henry Stewart, in N.Y. Times.*

TRANSPLANTING EVERGREENS

The latter end of August is one of the best seasons of the year to transplant evergreens. The young growth of the past season has got pretty well hardened, so as to permit very little evaporation—and the earth being warm, new roots push with great rapidity, and the tree becomes established in the ground before cold autumn winds begin. The chief difficulty is that the soil is usually very dry, which prevents much speed with the operation: and the weather being usually warm, the trees have to be set again in the ground almost as fast as they are taken up; so that it is not safe to bring them from a distance. It is as well, therefore, to make all ready in anticipation of a rain, when no time may be lost in having the work pushed through. Should a spell of dry weather ensue—which in September and October is very likely—one good watering should be given, sufficient to soak well through the soil and well about the roots. A basin should be made to keep the water from running away from the spot and to assist its soaking in. After being well watered, the loose soil should be drawn in lightly over the watered soil, which will then aid in preventing the water from drying out soon again.

Toward the end of the month, and in September, evergreen hedges should receive their last pruning till next summer. Last spring, and in the summer, when a strong growth required it, the hedge has been severely pruned towards the apex of the cone-like form in which it has been trained, and the base has been suffered to grow any way it pleases. Now that, in turn, has come under the shears, so far as to get it into regular shape and form. It will not be forgotten that, to be very successful with evergreen hedges, they ought to have a growth at the base of at least four feet in diameter.—*Gardner's Monthly.*

The fruit gardens and orchards now demand attention.

Suns, etc., from the kitchen are good for flowers and vegetables.

The one unfailing remedy for black knot in plum trees is—cut and burn.

Did you clean the borers out of the young trees last month? "Better late than never"—do it now.

When any crop is planted in an orchard, put on enough manure for both the trees and the extra crop.

Were the young trees planted in the spring properly staked? Were the wires with which the labels were fastened taken off? If not, attend to them to-morrow morning before the grain is dry enough to begin cutting.

Good counsel from Prof. Beal: "If you have money to fool away, weed down your young

orchard to clover and timothy, or sow a crop of wheat or oats. If you want trees to thrive, cultivate well till they are seven or ten years old. Spread ashes, manure or salt, broadcast. Stop cultivating in August, weeds or no weeds. This allows the trees to ripen for winter.

One often wishes to keep pot plants on a porch or in a dry window where the sun beats down hot during a part of the day. If set out in pots simply, the plants dry out too quickly, and they suffer under the opposite extremes of being alternately and frequently too wet and too dry. The way to proceed in such cases is to make a box just deep enough to hold the pots, and between them place earth. This earth will regulate the moisture in the pots.

DAFFODILS and jonquils are both narcissuses. The common daffodil is *Narcissus pseudo-narcissus*. The better sorts are among the most popular of "Dutch bulbs," which are every year imported in great quantities from Holland. In commerce it is often known as *Narcissus orange phoenix*, or even as "butter and eggs." Daffodils are perfectly hardy and do well in any good soil. The jonquil, *Narcissus jonquilla*, is also hardy and easy of culture. It is a native of Spain.

A CORRESPONDENT of *Farm and Fireside* says that a sure method of protecting young fruit trees from the ravages of rabbits is to place four or five pieces of cornstocks, thirty to thirty-six inches in length, about each tree, and tie them near the top and bottom with carpet twine. The stocks can remain on the tree till after spring planting. The carpet yarn is better than stronger tarred twine, as the former will be sure to rot before the tree begins to increase in diameter.

Would you not like to mark an apple with some one's initials to surprise him or her with, when it is fully ripe, an apple grown "just on purpose" for them? Cut the initials in very plain letters like this, T. A. out of tin foil, and fasten them on with any adhesive substance. The apple should be of a kind that is very red when ripe; then the letters will show finely as they will remain green, since the sun's rays, which are the painters, cannot reach them through the metal.

This bit of experience is by a correspondent of the *Maine Farmer*; "Among my native trees was one which yielded a large crop of small apples every alternate year. They were of a fine flavour, but so small in size that they were worthless for marketing. To cause them to increase in size I thinned out the small branches after the fruit had formed, taking off about half the fruit. On gathering the apples from this tree in the fall I found nearly double the size of the previous year, and about the usual quantity in bushels. I also found the tree blossomed abundantly the ensuing season, and by picking off about half the fruit when about half the size of gooseberries, the tree yields fruit every year."

An Illinois horticulturist has constructed a fruit-house, which is to be a protection alike from summer's heat and winter's cold. Two rows of posts are set in the ground, two and a half feet apart, boarded inside and out, and the intervening space filled up with straw, packed in as closely as possible. Two sets of rafters are then put on, the upper set three feet above the lower, which are boarded on the upper sides, and the space closely packed with straw, after which a cheap board roof is put on. On the 11th of last August, with the temperature 98 degrees in the shade, in it was as cold as an ice-house, and contained a quantity of apples as sound as when taken from the trees, two months before.

THE DAIRY.

THE FAMILY COW IN MIDSUMMER.

On farms where the dairy is an important part of the husbandry, provision is made by sowing soiling crops, to supplement the diminished pasturage in midsummer. Those who keep only the "family cow," or at most two or three cows, find the flow of milk to decrease, and often without any green crop provided for keeping it up. The territory of those who keep but a single cow, is often restricted to a small pasture and a vegetable garden. The garden should be made to supplement the pasture, and this may be done to some extent by securing for the cow much from the garden that usually goes to waste. Every one who has a garden, tries to have an abundance of green peas. After the vines have yielded their last profitable picking, instead of allowing them to remain upon the ground until that is wanted for another crop, feed the vines to the cows while they are still green and succulent. So with sweet corn. When the last ear is plucked from a stalk or a hill, do not wait until the whole patch or row can be cleared, but pull up the stalks that have been deprived of ears, a few at a time, and feed them while in their best condition. The outer leaves of early cabbages, and the leaves of beets, carrots, and turnips, carefully saved, will make an important item in the succulent food for the cow. If there is a space in the garden, from which an early crop has been removed, and it is not needed for a late garden crop, it should be growing something for the cow. Sweet-corn may be sown thickly in rows for "fodder-corn," and afford welcome feed. It is well to have an abundance of cabbage plants of a large late variety, and set them out wherever there is room, and far beyond the needs of the family. An occasional cabbage next winter will be a treat to the cow. Experiments made a dozen years ago with some twenty varieties of the Southern Cow Pea showed incidentally, that even, at the North, if they did not ripen their seeds, they would give an enormous weight of herbage upon a small area. This pea is highly valued for animals at the South, both fresh and as hay, and seems to be worth trying in northern localities, as a soiling plant. Where there is room, even a few square yards, it may be well to sow either Hungarian grass, or one of the plants called Millet, for late summer feed for the cow. If the soil is rich, an abundant crop may be cut. Besides summer feed in the garden, if there is room there or elsewhere, it is well to think of Jerusalem Artichokes as a winter treat. It is late now for a large crop, but with the tops, which are highly relished, the tubers, being crisp, succulent and highly nutritious, will be most acceptable as an addition to dry fodder. When one once fairly undertakes to produce the greatest possible amount of cow food from a small area of land, he will be surprised at the results that he obtains, especially those seen in the pail.—*American Agriculturist for July.*

MILK TESTERS.

The instruments used for testing milk are the thermometer, the cream gauge, the lactometer, lactoscope, the pioscope, and the lacto-butrometer. The value of milk testers has, however, according to the *Farmers' Gazette* (Dublin), been but little appreciated by British dairy farmers in the past.

"In all those countries with which British dairy farmers have to compete the farmer would be laughed at," adds the *Gazette*, "who would attempt the making of either cheese or butter without testing apparatus. A dairymaid would be sur-

prised if you proposed to make butter or cheese without a thermometer, and even a complete set of testing apparatus, to enable her to go to work scientifically and successfully." It is therefore satisfactory to note "that dairy farmers and town dairymen in England are becoming alive to their position in competition with the continent of Europe, the United States of America, and our colonies."

The proportion of cream in any sample of milk can be determined by the cream gauge, which is simply a glass tube, about five inches long, graduated from zero downward. The milk to be examined is poured into this tube up to zero, and allowed to stand about twelve hours, at the end of which time the cream will have raised to the top, and its percentage may be read off. This instrument, although very useful to those who sell cream, is not reliable in detecting the adulteration of milk.

The lactometer, or hydrometer for milk, indicates the specific gravity of milk; that is, the relative difference in weight between milk and water. The specific gravity of water is 1,000, and that of milk may be taken to average about 1,080.

The specific gravity of milk varies, however, not merely with the amount of water it contains, but with the amount of butter fat in its composition, and for this reason the lactometer, used alone is of little or no practical value. As cream is lighter than milk, and of nearly the same specific gravity as water, it follows that when milk is very rich, or contains a large proportion of butter fat, its specific gravity is less than the ordinary standard; and, if tested by the lactometer alone, might give the idea that it had been watered. A cream gauge should therefore always be used in connection with the lactometer, in order to test the amount of cream or butter fat in milk.

The best instrument for testing the value of milk hitherto invented is the so-called lactoscope. This shows, with considerable accuracy, the percentage of fat; and fat, being the most valuable constituent of milk, forms a safe gauge as to the purity and value of the milk.

The action of this instrument depends upon the fact that the opacity of milk is chiefly caused by the globules of cream. So that when water is added to milk until we can see through a certain proportion of it, we are able to do so because we separate the cream globules to that extent that light can pass through between them with a certain degree of clearness. Then, if we measure the amount of water added, we have quite an accurate gauge for comparing different samples of milk.

CLOVER hay is much better for milch cows than timothy. It produces a larger quantity of milk, and also a better quality. All butter makers know how yellow the butter is that is made from the milk of cows fed on clover hay.

It will pay to give the milch cows a pailful of water at noon, in which a quart of bran has been stirred. When cows are fed on hay they have a stronger desire for water than if fed on other kinds of food. See that they have access to it at all times. A lack of water will soon tell on the milk.

The difference of opinion among farmers as to the value of pumpkins for cows depends largely on the manner of feeding. Those who make the feeding of pumpkins a success are careful to remove the seeds. These are strongly diuretic, and with some cows operate so strongly in stimulating the kidneys that the secretion of milk is actually lessened by their use. There are, however, some cows that can eat pumpkin, seeds and all, with benefit; but it is generally safer to remove the seeds before feeding.

The disposition of milkers has much to do with the disposition of cows. In fact, the milker must study the dispositions of the different cows under his care, and learn to accommodate himself to their peculiarities. We have never known a cow to condescend to take off her bonnet and make a bow to any irate, high-tempered milker. If they incline to do anything it is to lay him on the cool, soft ground, and then smash through the yard fence in such a way as to leave three or four panels prostrate.—*American Dairyman*

The advantage of having a breed of cows that are useful for milk and butter as well as beef is very great. Its equivalent in dollars and cents is shown by a Western stockman, who figures up in this way: Interest on value of cow at 7 per cent., \$10.50; wear of cow at 10 per cent., \$15; feeding cow for the season, \$27.30; share cost of bull, \$1; interest on three-acres of land at 6 per cent., \$7.20; total, \$60, which is the value of the calf when dropped. Where, then, is the profit if a calf is fed for two years at a cost of \$80 and is sold as a steer, weighing 1,800 pounds, at 7 cents a pound on foot? Here seems to be a loss of \$14 at least, not counting the expense of attendance. But if the cow made 300 pounds of butter, or 600 pounds of cheese, in the year, besides rearing the calf, there would be \$75 to go to her credit, which would leave the account showing \$61 profit. A cow that is only good for rearing a calf, it is very clear, cannot be worth any more than \$75, and yet some such cows have been sold for thousands.—*N. Y. Times.*

A HEIFER well broken to the halter, and gentle, is worth ten dollars more.

THREE Hereford cows were recently sold in England (for America) for \$3,410, the largest price ever paid, it is said, for three Hereford females.

THE annual loss to the State of New York alone in the dairy interests, from the open sale of substitutes for butter, oleomargarine, etc., is \$5,000,000.

THERE are 156 varieties of cheese, some from skimmed milk, some from whole milk, some with a little cream added to the milk, and others made of all cream.

A FARMER who bought a cow which neither he nor his men could milk, found that he could make her profitable to suckle calves, which were very high-priced that season. Her own calf sold for \$15. Then another was left for her to rear and brought \$12. During the season the farmer sold \$65 worth of calves, reared on this kicking cow, fed her a few dollars worth of meal and turned her off for beef the following winter. This plan is well adapted for a large dairy where a number of cows calve in succession.

AN experienced daryman states as his opinion that sweet cream makes a butter that must be eaten fresh; The butter has a very delicate flavour, but not the rich, nutty flavour of that made from well-ripened and sour cream. Milk should be skimmed while it is sweet. All the cream will rise before the milk sours, if it is properly cared for. The cream is then kept in a stone jar in a cool place for three days, and stirred once a day, when the fresh cream is added. During this time it sours and ripens, and will yield the best quality of butter, and may be churned in less time than sweet cream. Sixty degrees is the best temperature in which to keep the cream.—*Exchange.*

M CIRCLE.

"WHIPPOORWILL."

When over farm and field are thrown
The twilight's mantled shades,
When silence brooding sits alone
Among the forest glades,
Like some lone spirit's misty calls
Along the dusk an echo falls
Of "Whippoorwill, poorwill, poorwill!"
That floats o'er forest, field and hill—
Whippoorwill poorwill!

The silent stars like sentries seem
To watch the world below,
And deeper over wood and stream
The dusky shadows grow,
And on the night-winds, drifting by
There comes a weird and mournful cry
Of "Whippoorwill, poorwill, poorwill!"
And through the dusk the echoes thrill—
"Whippoorwill, poorwill!"

—The Current.

CAGING A TIGER AT SINGAPORE.

The interest of the community of Singapore was lately excited by an announcement that a fine tiger had been caged in a pit situated in a Chinaman's garden near the eighth milestone on the Bukit Timah road leading to Johore. The road, usually almost deserted, became alive with spectators proceeding either by carriage, on horseback, or on foot to and from the scene of the capture.

The pit in which the tiger was caught was circular, and measured eleven feet deep by three feet in diameter, contracting slightly at the bottom. It was dug in sandy clay, and as the sides were clean cut the tiger was not able to escape by scrambling up. The situation was on the margin of a jungle forest, and the pit, along with others, had been dug for the purpose of capturing wild pig. These pits are covered over with thin sticks and grass or leaves, so that any unwary animal is quite unaware of the unsound state of the ground. It is presumed that the tiger was either in pursuit of wild pig, or was wending his way to an adjoining farm-yard, when he got into difficulties.

As soon as the owner of the pit into which the tiger had fallen was aware of his prize, he covered the mouth of the pit with strong planks, and at once looked around for a purchaser, who was soon found. The sum of \$125 (about £25) was paid for the tiger as it lay at the bottom of the pit, and it afterward cost \$50 to have him caged and conveyed to Singapore. While negotiations were being carried on, spectators were permitted to look at the magnificent animal, for which purpose the covering of planks was partially removed. He did not at all relish these visitors, and gave marked signs of disapproval by growling and springing up. He had, however, very little room for movement, but on one occasion nearly reached the top of the pit.

For nearly six days the poor captive lay in the pit (being fed very sparingly so as to reduce his energy), while preparations were being made for caging him. At first a large square hole was dug adjacent to the pit, and it was intended to place a cage into this hole, having done which the partition of earth between the hole and the pit was to have been knocked away and the tiger driven into the cage. After the hole was dug this plan, was, however, abandoned, as it was clumsy and dangerous, and the operation of caging the tiger was put in the hands of six Malays, who, as a race, are noted for their knowledge of woodcraft and of the habits of animals. I, with two other officers and a lady of the garrison, were the only Europeans who were fortunate enough to witness the rare sight of caging a wild tiger, and I will attempt to describe the operation in detail.

The manner in which the Malays worked was much to be admired. Every arrangement was

most complete, so that no accident could in all human probability occur, and when the difficult parts of the works were going on, strict silence was maintained among the operators, each of whom seemed to know his *role* with exactitude, and all worked like one machine. There seemed no fear and no hurry, while in addition to their endeavours to bring their labours to a successful conclusion, they seemed to have thorough sympathy with the victim, whom they treated as gently as possible.

The first thing done was to rig up a strong beam at a height of about nine feet over the hole, and this was supported on well-secured uprights, to which it was firmly lashed with withes. Next there were prepared two cylindrical baskets made of green rattan. One of these baskets measured two feet in diameter and eight feet long. The other was made just sufficiently large to be passed into the larger one for the purpose of giving additional strength. One end of each basket was open, while the other was closed with the exception of a hole about three inches in diameter, the use of which will be afterward explained. Having jammed the smaller basket into the larger one, the walls of both were firmly laced together throughout with withes to avoid any chance of slipping. Finally two new hemp ropes, two and three-quarter inches in circumference, were prepared with running nooses. Small pieces of stick were passed through the rope as stoppers, to prevent the loop from running before required to do so. As soon as a few long poles were cut and prepared, with a fork on some and pieces of wood lashed on others to form hooks, all was ready for the operation.

The planks covering the mouth of the pit were then slightly separated to admit of the ropes and poles being passed down. The noose of one of the ropes was lowered on to the tiger's head, which intrusion he resisted violently; but by skill and patience, the Malays managed to get the noose over the tiger's head and round his neck. This was effected by manœuvring his paws and mouth with the poles. As soon as the noose was in position, it was drawn tight enough to prevent its being removed by the prisoner. The other rope was then passed down and secured in a similar manner. The operation of placing the two nooses round the neck occupied twenty-three minutes. The ends of the ropes were then passed through the cylindrical baskets, entering at the open end, and passing out at the small hole at the other end. They were afterward passed over the overhead beam, and were held by a party of twelve coolies, ready to haul when directed to do so. The basket was then placed mouth downward over the pit, and the planks were moved just sufficiently to admit of the basket being lowered into the mouth of the pit. The exact elevation of the basket was regulated by a third rope, which was lashed to it and passed over the overhead beam and held by one man.

When all was secure and ready, the word to haul was given, and the tiger was drawn up head foremost into the basket, which was only large enough to receive him, and thus he was unable to struggle with effect. As soon as he was well into the basket the whole was drawn up and then laid on its side, when the mouth of the basket was at once laced up, leaving nothing but the tiger's tail protruding. When all was fast the nooses round his throat were slackened, so as to admit of his breathing freely. The nooses were, however, still left round his neck for after operations. The basket was now slung on a pole, and with its contents, borne down the hill to the road, where a cage was in readiness to receive him. The cage was six feet long by two and a-half feet broad, and was made of stout beams and planks, except at the ends, which were enclosed with iron

bars of an inch in diameter. Four of the bars at one end could be drawn up, and served as a door. The mouth of the basket was now firmly lashed to the end of the cage, where were the movable bars; and the ends of the ropes, which were round the tiger's neck, were by means of hooked sticks passed backward over the tiger and through the cage, where they were held by men ready to haul. The movable bars of the cage were now drawn up, and the lacing at the mouth of the basket was cut by means of a long knife, but as the tiger seemed indisposed to move out of the basket, his hind legs were lowered backward with sticks while the men in rear hauled on the ropes.

At first the backward movement was slow, but when the tiger discovered that all was apparently clear behind, he struggled out of the basket and flew to the back of the cage, here he was checked by the bars, and retained by the ropes round his neck, which were drawn in with lightning speed by the Malays, who were evidently prepared for this movement of the tiger. The movable bars were now replaced, and the basket was cut away from the cage. All that remained was to remove the ropes from his neck, which was done by means of hooked sticks; and then the poor beast, finding himself free to move, rushed frantically about the cage, although his movements were much prescribed. Covers were then put over the bars, and this soothed him. The cage having been hoisted on to a bullock cart, was removed to Singapore, where the tiger is now on view, previous to being shipped to some dealer in England or America. He is a magnificent animal, beautifully marked, and in fine condition. According to such measurements as could be made as he lay in the basket, he is nine feet long from his nose to the tip of his tail.—*Rimau, in London Field.*

THE MYSTERY OF DREAMS.

A man fell asleep as the clock tolled the first stroke of twelve. He awakened ere the twelfth stroke had died away, having in the interval dreamed that he had committed a crime, was detected after five years, tried and condemned; the shock of finding the halter around his neck aroused him to consciousness, when he discovered that all these events had happened in an infinitesimal fragment of time. Mohammed, wishing to illustrate the wonders of sleep, told how a certain man, being a sheik, found himself, for his pride, made a poor fisherman; that he lived as one for sixty years, bringing up his family and working hard, and how, upon waking up from his long dream, so short a time had he been asleep that the narrow-necked gourd bottle, filled with water, which he knew he had overturned as he fell asleep, had not had time to empty itself. How fast the soul travels when the body is asleep! Often when we awake we shrink going in the dull routine of a sordid existence, regretting the pleasanter life in dreamland. How is it that sometimes when we go to a strange place, we fancy that we have seen it before? Is it possible that when one has been asleep, the soul has floated away, and has that memory of it which so surprises us? In a word, how far dual is the life of man, how far not?

At a child's fair. Uncle Jack—"It is very good lemonade; but, Bonny, why do you sell yours for three cents a glass when Charlie gets five for his?" Miss Bonny.—"Well, you mustn't tell anybody, Uncle Jack, but the puppy fell into mine, and I thought it ought to be cheaper."

HONESTY IS THE BEST POLIOY.

A Scotch nobleman, who was very fond of farming, had bought a cow from a gentleman who lived near him. The cow was to be sent home next morning. Early in the morning, as the duke was taking a walk, he saw a boy trying in vain to drive the cow to his house. The cow was very unruly; and the boy could not manage her at all.

The boy, not knowing the duke, bawled out to him: "Hallo, man! come here and help me with this beast."

The duke walked slowly on, not seeming to notice the boy, who still kept calling for help. At last, finding that he could not get on with the cow, he cried out in distress: "Come here, man, and help me, and I'll give you half of what I get."

The duke went and lent a helping hand. "And now," said the duke, as they trudged along after the cow, "How much do you think you will get for the job?"

"I don't know," said the boy, "but I'm sure of something, for the folk up at the big house are good to everybody."

On coming to the lane near the house, the duke slipped away from the boy and reached home by a different road. Calling a servant he put a sovereign into his hand, saying, "Give this to the boy who brought the cow."

He then returned to the end of the lane where he had parted from the boy, so as to meet him on his way back. "Well, how much did you get?" asked the duke.

"A shilling," said the boy; "and there is half of it for you."

"But, surely, you got more than a shilling," said the duke.

"No," said the boy, "that is all I got; and I think it quite enough."

"I do not," said the duke; "There must be something wrong; and as I am a friend of the duke, if you return, I think I'll see that you get more."

They went back. The duke rang the bell, and ordered all the servants to be assembled. "Now," said the duke to the boy, "Point me out the person who gave you the shilling."

"It was that man there," said he, pointing to the butler.

The butler fell on his knees, confessed his fault, and begged to be forgiven; but the duke ordered him to give the boy the sovereign, and quit his service at once. "You have lost," said the duke, "both your place and your character by your deceit. Learn to remember that 'Honesty is the best policy.'"

The boy found out who it was that had helped him to drive the cow, and the duke was so pleased with the manliness and honesty of the boy that he sent him to school, and paid for him out of his own pocket.—A. K.

WHY CHILDREN SHOULD EAT HONEY.

Thousands and tens of thousands of children are dying all around us, who, because their ever-developing nature demands sweetness, crave and eagerly demolish the adulterated "candies" and "syrup" of modern times. If these could be fed on honey instead they would develop and grow up into healthy men and women.

Children would rather eat bread and honey than bread and butter. One pound of honey

will reach as far as two pounds of butter, and has besides, the advantage of being far more healthy and pleasant-tasted, and always remains good, while butter soon becomes rancid and often produces cramp in the stomach, eructations, sourness, vomiting and diarrhoea. Pure honey should always be freely used in every family. Honey eaten on wheat bread is very beneficial to health.

The use of honey instead of sugar in almost every kind of cooking is as pleasant for the palate as it is healthy for the stomach. In preparing blackberry or raspberry short-cake it is infinitely superior.

It is a common expression that honey is a luxury, having nothing to do with the life-giving principle. This is an error—honey is food in one of its most concentrated forms. True, it does not add so much to the growth of muscles as does beefsteak, but it does impart other properties no less necessary to health and vigorous physical and intellectual action. It gives warmth to the system, arouses nervous energy, and gives vigour to all the vital functions. To the labourer it gives strength—to the business man mental force. Its effects are not like ordinary stimulants, such as spirits, etc., but produce a healthy action, the results of which are pleasing and permanent—a sweet disposition and a bright intellect.

SIOUX PONIES.

"Unpromising looking! Well, they are not pretty as a rule, though I've seen some dandies," said the cow-boy. "Turn Jay-Eye-See out in a Dakota winter, and give him just what food he rustled for—cotton-wood twigs and bark and scanty buffalo grass mostly—and I don't guess he'd show up in very marvellous shape in the spring. I was at Scully once, just as retreat was sounding off—sundown, you know. An Indian rode up on a pot-bellied, scrawny-skinned, splay-footed, matted-haired calico, and gave a letter from the adjutant at Fort Hall to the Sully adjutant.

"To an interpreter who happened to be standing by, the Indian, a Brule Sioux, remarked that he had ridden a good way that day and his pony was tired. The adjutant noticed that the Hall letter was dated that morning, and his interest being aroused, asked the messenger when he left his post. He replied, just after first sergeants' call (after day-break). Subsequent investigation proved his truth. He had ridden that sorry nag 104 miles in less than thirteen hours, and much of the way the road would have been hard on a bird. I tell you we treated that mangy-looking brute as if he had the bluest blood of all the barbs in his veins."

SOME PRE-ADAMITE BREVITIES.

Adam never in a fit of abstraction sat down upon a coil of barbed fence wire.

Adam never lived next door to a man who was trying to learn to play on an accordion.

Adam never fell over a rocking chair while groping around in the dark after the bottle of paregeric.

Adam never had to fasten one of his suspenders with a shingle nail and the other with a hair pin.

Adam never had to rock the cradle while Eve ran across the street to borrow a cup of sugar from a neighbour.

Adam never had to keep the baby while Eve went out with a determined cast of countenance to reform the world.

Adam never had his only pair of gum shoes eaten up by a dog while he was spending an evening with a friend.

Adam never sat up till five o'clock in the morning to get the returns from Ohio, and to at last learn that the other fellows had carried it.

Adam never came home at a very late hour from the lodge to discover that he had left his latch key in a pocket of his other pair of pants.

Adam never had a tight bureau drawer at which he was tugging come out so suddenly and set him down with such vehemence as to knock four square feet of plastering off the ceiling.

Adam never went down town trying to remember an injunction to get a wash-board, a pound of soap, a ball of tape, a bottle of infant food, a spool of garnet sewing silk, a paper of hair pins, two yards of pink mosquito netting and a mouse trap.—*Middletown Transcript.*

THE SWEETS OF FLATTERY.

Sharp clerk—"There is a beautiful piece of goods, miss. It will make up very handsome, and I am sure will become either you or your sister."

Lady purchaser, blushing—"Why—ahem so it is. Yes, I think I can trust to your judgment. Suppose you cut me off 20 yards."

As they are leaving the store—"Why, mamma, why didn't you tell him I was your—"

Lady—"Hush. Do be still, Maud. You chatter so continually."

Sharp clerk to man at the lace counter—"Did you see me work her? Twenty per cent. on that. It's that stuff left over from last spring."—*Pittsburg Chronicle-Telegraph.*

A KEEN REMINDER.

"There isn't a button on this shirt," dismally observed the young husband, shaking the garment before his wife's eyes.

"I'm sorry, my love; it might have been remedied if I had had time."

"Why, you've got nothing to do. What do you mean by saying if you had had time?"

"I mean to say that if there had been no occasion for me to trim over a last spring bonnet for this spring's wear I would have had time to look after your clothes."—*Brooklyn Eagle.*

HE WASN'T THE KID.

"Boy?" he called, as he snapped his fingers at a post-office bootblack, "are you the lad I handed a dollar bill to yesterday to get changed, and you beat me out of thirteen cents?"

"No, sir."

"Look out! How do you know you ain't?"

"'Cause; do I look like a boy who'd betv you out of a shilling when I could walk off with the dollar? Stranger, you must have got hold of some poor leetle kid who's just begun bizness."—*Detroit Free Press.*

OUR DOMINION FOR EVER!

Our Do - min - ion for ev - er! our own dear land, The land of the brave and the

unison

free; Where ev - er we roam we'll think of our home, And love the old Banner, The

unison

red cross Ban - ner, Tri - um - phant by land and by sea.

CHORUS.

Then sing our Dominion for ev - er, The red cross Banner for ev - er! No cravens are we, By

unison

land or by sea, We'll sing our Do - minion for ev - er, We'll sing our Dominion for ev - er.

2.
 Our Dominion for ever! our religion and laws
 We love as our Fathers of yore;
 And as sons of the free, by land or by sea,
 We'll bear the old Banner,
 The red-cross Banner,
 Which our Fathers to victory bore.
Chorus,—Then sing, &c.

3.
 Our Dominion for ever! our hearths and our homes
 We'll ever protect with our lives;
 For with heart and with hand we are ready to stand
 And fight for the Banner,
 The red-cross Banner,
 In defence of our sweet-hearts and wives.
Chorus,—Then sing, &c.

A MEANING.

"Mistress Mary, quite contrary,
How does your garden grow?
Silver bells and cockle shells
All in a row."

Most of us children, little and big, have recited this verse; but comparatively few know there is a meaning to the last two lines. At the time this rhyme was made there were really "silver bells and cockle shells," and in rows, too, though not growing in gardens.

In those days—some hundreds of years ago—there were no coaches. Ladies travelled and visited on horseback sometimes riding on a saddle or pillion behind a gentleman or manservant, and sometimes managing their own horses, with the gentleman riding alongside, or the groom following behind. The equipments and trappings of these horses were very rich and costly. Generally, the cloth which half-covered them, and on which the lady rode, would be of finest woollen or silken material, handsomely embroidered. On grand occasions, or when the lady was very wealthy or noble, crimson velvet or cloth-of-gold would be used, edged with gold fringes and sprinkled with small pearls, called seed-pearls. The saddles and bridles were even more richly decorated, being often set with jewels or gold and silver ornaments, called "goldsmith's work." One fashion, very popular in the times of Henry the Seventh and Henry the Eighth, of England, was to have the bridle studded with a row of tiny silver cockle shells, and its edge hung with little silver bells, which, with the motion of the horse, kept up a merry jingle. Bells were also fastened to the point of the stirrup, which was formed like the toe of a shoe. And this partly explains another old nursery rhyme, made, no doubt, about the same time:

"Ride a gray horse to Danbury Cross,
To see a fine lady go on a white horse;
Rings on her fingers and bells on her toes,
So she shall have music wherever she goes."

There is a very old book preserved at Skip-ton Castle, in England, the account book of Henry Clifford, Earl of Cumberland. In this book, among a great many other entries, little and great, is one, of the purchase by the Earl, of "a saddle and bridle for my lady, embossed of silver cockle shells, and hung with silver bells;" and on the same page is another entry of "a hawk for my lady, with silken jesses, and a silver bell for the same." It was the custom for noble ladies to ride with a hawk perched upon their wrists; and this Countess of Cumberland, who is said to have been beautiful and stately, must have looked very grand when thus equipped.—*St. Nicholas.*

ONE OF ARTEMUS' BEST.

Of the countless good stories attributed to Artemus Ward, the best one, perhaps, is one which tells of the advice he gave to a southern railroad conductor soon after the war. The road was in a wretched condition and the trains, consequently, were run at a phenomenally low rate of speed. When the conductor was punching his ticket Artemus remarked, "does this railroad company allow passengers to give it advice, if they do so in a respectful manner?" The conductor replied in very gruff tones that he guessed so. "Well," Artemus went on, "it occurred to me that it would be well to detach the cowcatcher from the front of the engine and hitch it at the rear end of the train, for you see we are not liable to overtake a cow, but what's to prevent a cow from strolling into this car and biting a passenger?"

PRESIDENTIAL FAVOURITES.

SOME INTERESTING FACTS CONCERNING THE MEN WHO STAND CLOSEST TO THE CHIEF EXECUTIVE.

Visitors who, from curiosity or business, have called at the White House, must have been impressed by the courteous yet systematic manner with which they were received and escorted through the mansion. The gentlemen whose duty it is to receive all persons coming to the White House are Colonel E. S. Denmore, Mr. John T. Rickard, and Mr. T. F. Pendel, and they have occupied their present positions through the various administrations since and even during the war. M. Pendel was President Lincoln's body-guard; saw him to his carriage the fatal night on which he visited Ford's theatre, and he now has in his possession the blood-stained coat which Mr. Lincoln wore on that memorable occasion. There is not a public man in America to-day who does not know, and who is not known by, these gentlemen, and the reminiscences of public and social life which they can recount would fill a congressional volume. During the weary yet exciting years of the war; through the more peaceful times of Grant's administration; while Hayes held the reins of government, and when Garfield was shot, it was these men who stood in the executive mansion, welcoming the advent of each new administration, bowing at its departure, and receiving both martyrs through its portals.

During that long, hot and never-to-be-forgotten summer when President Garfield lay between "two worlds," the nation became aware of the deadly malarial influence which hung about White House. But all through that period these three men never deserted their posts for a single day, although each one was suffering intensely. In conversation with the writer, Colonel Denmore said:

"It is impossible to describe the tortures I have undergone. To be compelled to smile and treat the thousands of visitors who come here daily with courtesy when one is in the greatest agony requires a tremendous effort. All that summer I had terrible headaches, heart-burn and a stifling sensation that sometimes took away my breath. My appetite was uncertain and I felt severe pains in the small of my back. I was under the doctor's care with strict instructions not to go out of the house but I remained on duty nevertheless. You would be surprised to know the amount of quinine I took; on some days it was as much as sixteen grains."

"And was Mr. Rickard badly off, too?"

"I should think he was. Why, time and again we have picked him up and laid him on the mantel, here in the vestibule, he was so used up."

"Yes," exclaimed Mr. Rickard, "I was so weak I could not rise after laying down without help, and could only walk with the aid of two canes, and then in a stooping position. Oh, we have been in a pretty bad condition here, all of us."

"And yet you are all 'the embodiment of health,'" said the writer, as he looked at the three bright and vigorous men before him.

"Oh, yes," said Mr. Rickard, "we have not known what sickness was for more than a year."

"Have you some secret way of overcoming malaria and its attendant horrors?"

"I think we have a most certain way," replied Colonel Denmore, "but it is no secret. You see, about two years ago my wife began to grow blind, and I was alarmed at her condition. She finally became so she could not tell whether a person were white or black at a distance of ten feet. One of her lady friends advised her to try a certain treatment that had done wonders for her, and to make a long story short, she did so and was completely cured. This induced me to try the same means, for my own restoration and as soon as I found it was doing me good I recommended it to my associates and we have all been cured right here in the stronghold of malaria and kept in perfect health ever since by means of Warner's Safe Cure. Now I am not a believer in medicines in general, but I do not hesitate to say that I am satisfied that I should have died of Bright's disease of the kidneys before this had it not been for this wonderful remedy. Indeed, I

use it as a household medicine and give it to my children whenever they have any ailments."

"Yes," exclaimed Mr. Pendel, "I use it in my family all the while and have found it the most efficient remedy we have ever employed. I know of very many public men who are using it to-day and they all speak well of it."

"I weigh 160 pounds to-day," said Mr. Rickard, "and when my physician told me over a year ago I could not hope to recover I weighed 122 pounds. Under such influences you cannot wonder that I consider this the best medicine before the American people."

The above statements from these gentlemen need no comments. They are voluntary and outspoken expressions from sources which are the highest in the land. Were there the slightest question regarding their authenticity they would not be made public but as they furnish such valuable truths for all who are suffering, we unhesitatingly publish them for the good of all.

THE STINGING TREE.

Though the tropical plants of Australia are very luxuriant and beautiful, they are not without their drawbacks. There is one among them that is really dangerous. It is called the stinging tree. If a large portion of the body is burned by the stinging tree, death will be the result.

It would be as safe to pass through fire as to fall into one of these trees. They are found growing from two or three inches high to ten and fifteen feet. The stem of the old ones is whitish, and red berries usually grow on the top. The berry has a peculiar and disagreeable smell, but it is best known by its leaf, which is nearly round. It also has a point at the top, and is jagged all round the edge, like the nettle. All the leaves are large; some are larger than a saucer.

"Sometimes," says a traveller, "while shooting turkeys in the scrub, I have entirely forgotten the stinging tree, till warned of its close proximity by its smell, and then have found myself in a little forest of them. I was stung only once, and that very lightly. Its effects are curious. It leaves no marks, but the pain is maddening; and, for months afterward, the part, when touched, is tender in rainy weather, and when it gets wet in washing, etc.

"I have seen a man, who treated ordinary pain lightly, roll on the ground in agony after being stung; and I have seen a horse so completely mad after getting into a grove of the trees that he rushed open-mouthed at everyone who approached him, and had to be shot in the scrub. Dogs, when stung, will rush about, whining piteously, biting pieces from the affected part. The small stinging trees, a few inches high, are as dangerous as any, being so hard to see, and seriously imperiling one's ankles. The scrub is usually found growing among palm trees."

YOUNG MEN!—READ THIS.

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

ENGLAND is now receiving a plentiful supply of butter from New Zealand, which arrives in good order.

Hot milk is recommended by the medical profession as a restorative, and especially grateful to one coming in completely tired and weak, as it passes rapidly into the circulation.

YOUNG CANADA.

SAVED BY A BICYCLE.

"Four years ago," said the telegraph operator, a mere boy in appearance, but with white hair. "I was telegraph operator at a small country station on a Southwestern railroad. I had little to do, and to enable me to leave the office at will, I had attached a large tin cup to the sounder of my instrument, so I could hear my call from any part of the village. When the south-bound train arrived at noon one Saturday, I hurriedly communicated with the conductor, and, learning that he had nothing to send, I prepared to quit my office for the afternoon. I went away, leaving the train standing at the depot, hot boxes detaining it longer than usual. Luckily I did not go beyond ear shot of my instrument. I frequently left the office for hours, but always kept within hearing distance, the tin-cup sounder enabling me to distinguish my call several hundred feet away. Somehow I had misgivings on this occasion. I kept my ears open, expecting, for some reason I will not attempt to explain, to be called to the office. Before I had been absent ten minutes, and while the train still stood at the depot, I heard my familiar call repeated in what seemed to me unusually rapid succession. Instead of walking leisurely, as was my wont, I ran to the office as fast as I could, and heard as I entered: 'Hold No 4 at your station until special going north passes.'

"Involuntarily I glanced out of the window, and saw the train I was ordered to hold disappearing around a curve a short distance away. I was not told at what time the special left the station south, which was only ten miles away, and I saw in my mind's eye the two trains rapidly approaching each other. Suddenly I remembered, while tearing my hair and cursing my negligence, that No. 4 had to stop at a woodyard two miles down the road to take on fuel. That would take five minutes. My first thought was a hand-car, my second a horse, but I did not know if the first was at the station or the second was to be had in the village. Rushing out of the office I stumbled over my bicycle. Without a moment's thought I shoved it out of the door before me and was on it in less time than it takes to count ten. In my odd moments I had become quite an expert bicyclist. The country road paralleled the railroad for several miles, and the former was down grade the entire distance. I put my whole strength to the effort of propelling the machine, and had the satisfaction of attaining a speed I had never accomplished before. My hat blew off and my coat was doffed through fear that it would retard my speed. I got within perhaps fifty yards of the now stationary train when the engine whistle blew, and the train started. I redoubled my exertions and came alongside the rear platform of the last car just as the train was getting under full headway. With a falling side motion I threw my wheel against the side of the car just forward of the platform, and grasped the hand-rail as it came in reach at the same time letting go my hold on the bicycle. I caught the bell cord and

gave it one vigorous pull, and as the train came to a halt I gave the cord three jerk, the signal to back, and fainted. The conductor found me where I had fallen. Suspecting something wrong, he permitted the train to back to the station, getting there just as the special, loaded with the directors of the road and their families, swung around the curve into the station. I had brain fever, and came near dying, not regaining my reasoning faculties for five weeks after my terrible experience. But the conductor said my hair was white when he found me on the rear of his train."—*Chicago News.*

THE CAT'S SOLILOQUY.

An open cage, some feathers fair,
Two little maidens crying,
And Pussy seated on a chair,
The mournful scene espying.

Tear after tear rolls down each cheek,
Sob after sob arises,
While Puss, as well as she can speak,
Camlly soliloquizes:

"If they would keep a bird in cage,
They should not leave it undone;
For that's the tail, in every jail
From Panama to London.

"Their ducks and chicks they pet and feed;
And yet I've often noted,
They eat the very birds, indeed,
To which they're most devoted.

"Then wherefore look so cross and sour?
Why make this sad commotion?
Why should not I a bird devour
For which I've no devotion?"

—*Harper's Young People.*

HINTS FOR YOUNG HORSEMEN.

H. W. M., contributes the following interesting hints to the *American Cultivator*. They are reproduced new for the benefit of young readers of THE RURAL CANADIAN.

Never pass behind a horse in the stable nor place your hand upon him in the stall without first speaking to him. You may save life or limb by bearing this in mind. Be kind in word and manner to all horses. Do not whip even a "contrary" or balky horse; make him forget his ill or stubborn intent in some way, such as putting a little dry dirt in his mouth, or wrapping a mitten of newspaper about one or both ears; in studying to know what it means he soon forgets his notion of stopping and at the prompt decided, but not angry, voice of his master, he moves along. In the case of any accident, do not shout or appear frightened: your excitement will at once be communicated to the horse. Instead, you should pacify and reassure him with firm kind tones.

Form a habit of glancing all over your horse and harness before starting from the door. It may save life. In the winter be sure and have the bits covered with cloth or leather. On the road you may go pretty fast down hill and on level ground, if you are a good driver, but don't hurry up hill; never do so with a load; short pulls and rests by "trigging the wheels" will prolong the service of your horse.

Never feed a horse on musty hay; it may do for cows and oxen, but often brings fatal lung diseases upon horses. Hay that is dusty from ordinary road dust blown over it in a dry time, should be well shaken and sprinkled before being fed to horses.

Do not feed a horse when his blood is heated; give him a moderate drink of water and let him cool off gradually and then do not overfeed. Many a horse has been killed by not observing this injunction. Feed well when your horse is working hard, but give more grain than hay. If he is having a vacation of several days or weeks, cut his feed down from a quarter to one-half. Rake up plenty of oak leaves for bedding, if you have not straw; give your horse a good bed, but do not have sticks, pebbles or frozen manure among it; lying down on such, the horse rises and "paws" away his bedding and thus learns a bad trick.

Never run after a horse in the pasture. If he does not like to be caught, feed him a little grain in a pail, but never deceive him with an empty dish. You can soon teach the wildest horse to come to you; when he does come, let him eat a little while before you lead him off. When you "turn the horse out to pasture," do not give him a slap with the bridle; he will remember it to your regret if you do. Make a pet and a friend of your horse, it will improve him and make a better person of you. If you can't afford to feed high, give good air to your horse. Nature has provided enough of this for both of you, and transports it free; do not rob him of his share, for it "will not enrich you, but make him poor indeed." Therefore keep open a window where heaven may send a fresh supply to him!

WHAT CURED SCAMP.

Peter lived on a pretty, green dairy farm. He liked the farm because all the calves were his. They were truly his. His father did not call them Peter's, and then, when they were big enough to sell, sell them without asking Peter and put the money in his own pocket-book.

No, indeed! When the calves were sold the money was paid to Peter, and Peter went to town with his father, and put the "calf money" in the savings bank. He had a bank book like his father's and kept it in his own drawer.

Peter used to go to the pasture and salt his calves himself. He named his calves. At one time he had four. There was Star, there was Redcoat, there was Snowball, and there was Scamp.

Scamp was a scamp. He would bunt. He would come up and lick the salt out of the pan as gentle as a lamb. He would pretend to be good and quiet. And he liked to steal up behind Peter, when Peter was not looking, and bunt him over.

Once when Peter was standing by the pond looking in, Scamp came up behind, on a run, and bunted Peter over into the water, and he had run so hard he couldn't stop, and he went in too, heels-over-head, splash!

They both scrambled out, and Peter was so glad that Scamp had got a ducking too that he never cried at all. He just stood up in the water and laughed to see Scamp scramble out and shake his wet little hide, as though he didn't like it at all.

That ducking cured Scamp. He never tried the bunting joke again.

RELIABLE BREEDERS.

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No journal of its class has attracted so much attention during the past twelve months as the **TURF, FIELD AND FARM**, published weekly at 29 and 41 Park Row, New York. It has discussed breeding theories in such a way as to make a marked impression upon the thoughtful public mind and to draw out the views of many able students of the problem of reproduction. It has shed a great deal of light on an important question, and its opinions have been widely quoted. Its reports of running and trotting meetings have been models of clearness and accuracy, and its Field and Kennel Department has been better than ever. The first bench show, the first gun trial and the first field trial in America were given at the suggestion and under the direction of the **TURF, FIELD AND FARM**, and so there is a logical reason for the paper being recognized as an authority upon dogs and guns as well as horses. The athletic and aquatic champions have signed in its office articles of agreement for their important contests, and the paper is extensively read by men fond of these vigorous sports. Much space is given to the two great intellectual games, chess and checkers, and of these it speaks with authority. The dramatic department bears the stamp of scholarship and originality. The amount of fresh and original matter published by the **TURF, FIELD AND FARM** is astonishing, and it is gratifying to learn that the circulation of the paper is rapidly increasing. In ability, circulation and influence it is second only to its great rival, the *London Field*.

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WHAT IS CATARRH?

From the Toronto (Canada) "Mail."

A New Treatment

Catarrh is a mucous-purulent discharge caused by the presence and development of the vegetable parasite amoeba in the internal lining membrane of the nose. This parasite is only developed under favorable circumstances, and these are: Morbid state of the blood, as the biligmented corpuscle of tubercle, the germ poison of syphilis, mercury, toxemia, from the retention of the effeted matter of the skin, suppressed perspiration, badly ventilated sleeping apartments, and other poisons that are generated in the blood. These poisons keep the internal lining membrane of the nose in a constant state of irritation, ever ready for the deposit of the seeds of these germs, which spread up the nostrils and down the fauces, or back of the throat, causing ulceration of the throat; up the Eustachian tubes, causing deafness; burrowing in the vocal cords, causing hoarseness; usurping the proper structure of the bronchial tubes, ending in pulmonary consumption and death.

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

Some time since a well-known physician of forty years' standing, after much experimenting, succeeded in discovering the necessary combination of ingredients which never fails in absolutely and permanently eradicating this horrible disease, whether standing for one year or forty years. Those who may be suffering from the above disease should, without delay, communicate with the business managers, Messrs. A. H. DIXON & SON, 305 King Street West, Toronto, and get full particulars and treatise free by enclosing stamp.



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

Messrs. A. H. DIXON & SON: OAKLAND, ONTARIO, CANADA, March 17, 1883. Dear Sirs—Yours of the 13th inst. to hand. It seems almost too good to be true that I am cured of Catarrh, but I know that I am. I have had no return of the disease and never felt better in my life. I have tried so many things for catarrh, suffered so much and for so many years, that it is hard for me to realize that I am really better.

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

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

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

