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Vol. I. No. 4.

Toronto, Thursday, January 19th, 1882.

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RURAL NOTES.

Try for tat will not answer for a kicking cow. "Be gentle with the erring."

"BILLY GLADSTONE" is a high-toned goat owned by the present Duke of Wellington.

A REPORTER for an agricultural paper, in giving a brief description of a country fair at which horse-racing was a special attraction, says:—"The fair consisted of a few big pumpkins, some venerable bed-quilts strung on a line, and bully horse-trots."

A MANURE spreader has been invented which pulverizes the manure, and scatters it at the rate of a given number of loads per acre; doing the work far more evenly than it can possibly be performed by hand. It is a great labour-saver, as it both unloads and spreads at one and the same operation.

ANOTHER sale of Jersey cattle has been held; and again the prices paid are unprecedented. A bull, "Farmer's Glory," brought \$3,500; a cow \$2,500, and another cow \$1,400. As the *Rural New Yorker* observes, "There is no objection whatever to this kind of business, any more than to a rich man paying his thousands for a diamond or a picture. But it is not agriculture; only playing at it."

THE *Country Gentleman*, undoubtedly the best of the agricultural weeklies, makes its appearance this year of grace 1882, enlarged from 16 to 20 pages, beautifully printed, and stored, as usual, with a miscellany of useful reading matter. Too many farmers think this journal so costly a luxury that they cannot afford it. But it may be safely affirmed that the poorest among them would find the outlay a profitable investment.

A BUREAU of Statistics is about to be established by the Ontario Government. The scheme will be a comprehensive one, taking in statistics of the products of the soil, forest and mine; shipments of cattle; dairy products; entomological research; epidemics among farm stock; injury to grain by weather, insects, &c. The information collected is to be embodied in monthly reports. A Bill constituting the Bureau will be introduced during the present Session of the Legislature. This is a move in the right direction.

THE muley fever which has now set in prompts an English journal to suggest "breeding off" the horns of native stock. It is thought this may be done by searing the horns of young calves. No doubt, by persistent repression, horns can be got rid of. A breed of dogs has been produced, lacking tails. A family of Ayrshires, in Scotland, long

marked by clipping off the ends of the ears, came to have calves in which the end of the ear was wanting. Any peculiarity will become fixed in time. A hornless bull will usually have a hornless progeny when bred to cows having horns.

It behoves our farmers to be on their guard of travelling tricksters. A great fraud was committed at the expense of farmers in Kamouraska County last fall by a well-dressed sharper, who, under the assumed profession of grain dealer, went from farm to farm to purchase oats at 50c. per bushel, to be delivered in January. Contracts were signed in duplicate, and it appears that the duplicates in the purchaser's hand were nothing else than promissory notes, which had been transferred to other parties in Montreal, who want immediate payment. It appears that over eighty car-loads of oats were ready for shipment. The farmers of St. Anne, Rivière Ouelle, St. Denis and Kamouraska have been the most imposed upon. Those having sold, for instance, 400 bushels of oats, have signed notes for \$200.

THE possibilities of agricultural life on the continent of America would seem to be far in advance of those in England. In the course of Senator Hoar's eloquent eulogy on the late lamented President Garfield, delivered at Worcester, Mass., on the 30th ult., the orator mentioned a fact which speaks volumes on this point. He stated that Garfield had said, in 1878, that he had, not long since, conversed with an English General, who had told him that, in 25 years of careful study of the agricultural class in England, he had never known one who was born and bred in the ranks of farm labourers that rose above his class and became a well-to-do citizen. The example of the late President Garfield, and of many others, proves that hard labour and poverty often pave the road to greatness in the New World.

CANADIAN cattle-feeders must go in for first-class stock if they would hold a commanding place in the British market. Mr. Speaker Brand, who is a keen agriculturist, recently made a speech at the Fat Stock Show Dinner at Lewes, near which his family estate is located, in the course of which he expressed the opinion that British farmers need not fear the competition of the New World, because "American stock is inferior to the stock produced in this country." The only reason why this need be the case is the supineness of the farmers of this continent. Here, in Canada, we have as pure-blooded animals as they have in England, and it has been proved that they do not retrograde, but improve in the Western World. The probability is, that the demand of the British market for the best will do more for the improvement of our stock than any other influence that

has yet been brought to bear upon our herds and breeders of cattle.

THE opinion seems to be very generally entertained that the Provincial Exhibition should go to Kingston next year. It was the only place that sent an invitation, backed up by deputies and guarantees, to the Annual Meeting of the Association. The rejection of Kingston, which did want the Exhibition, in favour of Toronto, which did not want it, was at once a mistake and an act of discourtesy. There is, perhaps, no spot in the Province where the Exhibition is likely to do more good as an agricultural educator than at Kingston, which is a very cogent argument in favour of this arrangement. The question of money-making is a secondary one. The Exhibition should be run for usefulness, not for pecuniary profit. This has been its chief recommendation in the past, and must be its main claim to public support in the future. A number of years have elapsed since Kingston had a visit from the Exhibition, and the people of that region have paid their quota towards the public grant. It is but fair they should have their turn. Whether the Association shall hold an Exhibition in each and every year is a question that should be laid on the table until Kingston has had it once more.

THE Pocklington grape is winning its way to public favour. Among other testimonies in its behalf, we have that of the editor of the *Farmer's Advocate*. He confesses to having been at first strongly against it. One cause of his prejudice was an opinion unwarrantably expressed by a member of the Ontario Fruit Growers' Association, who "pronounced it a humbug, and said it was a hard, poor grape, fit for bullets." It is strange that men whose official position demands of them the encouragement of new and promising fruits, will speak in such terms of a candidate for public patronage, of which they are totally ignorant. Messrs. Morris, Stone and Wellington, of the Fonthill Nurseries, sent the editor of the *Advocate* a bunch of the Pocklington. To his astonishment he found it the largest and finest-looking white out-door grape he had ever seen grown in this country. On tasting it, he found the flavour excellent, though not quite equal to his "little favourite, the Delaware." On showing it to the largest importer of foreign grapes in the city of London, Ont., Mr. H. Mountjoy, that gentleman declared it a highly saleable grape, and thought it would readily bring 15 cents per pound, which is about double the price of any other out-door grape raised in this Province. The Pocklington has captured every one who has ever seen and tasted a ripe bunch, and may justly claim to be at least put "on trial" by the Fruit Growers' Association, before being condemned by the body at large, or by any member of it.

FARM AND FIELD.

SOURCE OF NITROGEN FOR PLANTS.

A correspondent of the *Country Gentleman*, discussing the above subject, thinks the soil attracts nitrogen from the atmosphere, and that to do this most effectually, it should be "fined" and packed. We incline to think it is not the soil, but the plants growing in it, that absorb fertilizing gases from the atmosphere. "Fining" and packing the soil are favourable to the growth of plants, but it is questionable if the soil attracts much beside moisture from the air. This writer asks, "Does not the rain sometimes bring with it large quantities of ammonia?" It always contains a small percentage of ammonia, and snow a larger; but there is reason to fear that the ammonia evaporates, leaving only the moisture, unless there be plant leaves to feed on it. It is by being incorporated into the texture of plants, which decay, and give their elements to the soil, that the atmosphere contributes its stores of fertilizing material to our fields. Clover, peas, beans, and Indian corn subsist largely from the atmosphere, and these crops if ploughed under, or allowed to decay on the ground, are valuable manures. Our belief is that not the naked soil, however "fined" and packed, but a growing crop of some kind, is nature's police for arresting and fixing the fertilizers afloat in the air.

MISTAKES ABOUT GRASS.

There is hardly a field crop we grow that is worse managed than grass. When land is so impoverished that it will no longer pay to raise grain on it, we say, "it is time to seed down." We get a good catch, but the soil is too poor to admit of rapid growth; hence heat and drought swoop down on the young plants, and they die out. A rich surface, to give the grass a quick start, is one of the most important points to be secured in seeding down.

Land that is too much exhausted to yield one good crop, is expected to produce two at once. We seed down with grain, usually wheat or barley, and if both grain and grass make a miserable growth, we are disappointed and complain. Yet, in the very nature of things, no other result could reasonably be anticipated. Land should be seeded down when in good heart, which, with a proper rotation and skilful management, it will always be. There should be no ups and downs in the matter of fertility, but a steady maintenance of vigour in the soil.

After successive years of mowing or pasturing without manure, we are inconsiderate enough still to look for a fair yield of grass. If a ton or two tons of hay per acre are taken off a field, ought we not to renew the resources of the soil in some way? But even in this enlightened age, top-dressing grass land is looked upon by many as a species of fancy farming. It may do for city lawns, but who considers it necessary for a meadow or pasture field? We wonder why grass "runs out" in this country, when in Britain vast areas of land remain unbroken for half a century or more. The old country farmer treats his permanent grass fields just as he does his grain fields, manuring from time to time, and so maintaining their fertility. If he did not pursue this method, grass land would fail in Britain just as it does here. Every crop, grass included, extracts a certain proportion of fertility from the soil, and it must be given back in some shape, or impoverishment and short crops will inevitably follow.

Prof. Brown recently made the statement that if every farm in Ontario had a well-managed five-acre pasture field, the gain would be not less than \$5,000,000 annually. It would seem a perfectly feasible thing that every farm in this province should have such a field, but a rather humiliating reve-

lation would be made, if we had a faithful report as to how many,—rather how few,—of our farms have such a field. It would be a long step in the way of agricultural improvement if every farmer in the land would resolve to realize this supposition.

THE FAILURE OF SOIL ANALYSIS.

Twenty-five years ago farmers were advised to have the soil of their fields analyzed, in order to ascertain what crops could be grown on them to the greatest profit. If a plot of land was quite unproductive, an analysis was made of it to find out what kind of fertilizers to apply, in order to produce the best effects. The case of a barren garden was carefully diagnosed by a council of chemists, who afterwards recommended a course of treatment. Artemus Ward declared that some persons in his section of the country would not consent to have a post-hole dug without first having the gravel examined, to find out if it contained anything dangerous. Some cautious men would not make an offer for a farm till they saw the result of a quantitative analysis of the various soils it contained. They required this before they would consent to examine the abstract of title. Many chemists did a thriving business in analyzing soils and recommending special fertilizers. Some thought it was as important to analyze the soil of a farm before commencing to work it as it was to assay the ore of an undeveloped mine previous to beginning operations. Laboratories for analyzing soils were fitted up in various institutions, and on some farms whose owners were able to conduct chemical investigations. The analysis of soils is still conducted for scientific purposes, but for practical purposes it is rarely resorted to. Chemists now attach very little importance to soil analysis. The cost of scientific investigations is great, while practical tests of the ability of a piece of land to produce certain crops are easily and cheaply made.—*Chicago Times*.

FARMERS CLUB AT SYRACUSE.

The Farmers' Club of Onondaga county, N. Y., which holds its weekly sessions at 10 a. m. each Saturday, is widely known for the intelligence and energy which have marked its proceedings. Having an opportunity for attending on a recent occasion, we are enabled to give a few brief memoranda of the discussions. About forty members were present at the time; we were informed that the attendance sometimes numbered as many as two hundred.

The principal subject for the day was the discussion of the question whether the soils of the county were wearing out. Mr. Edwards took the affirmative, and alluded to the fact that new lands needing nothing at first, required afterwards the continued addition of fertilizers to maintain their character. He said that all things were wearing out, that there was no standing still, and most of his remarks were of a general character, and not specially applicable to Onondaga county. Contingents were formed by the wearing and disintegration of rocks, and the soils in turn were worn out by cultivation. In new countries manure was but little appreciated—he had seen the practice in Kansas of dumping manure into streams to get rid of it, but after awhile all would be needed to supply the waste.

George Geddes had no sympathy with those newspaper writers who endeavoured to make out that we were all going to the poor-house. He thought the members of the club then present were hardly a specimen of such destitution. He quoted in detail from the census reports, showing the increasing average crops per acre. He recommended the adoption of a new system of returns requiring

assessors to make yearly reports of the crops, and at present, in the absence of such returns, superficial writers could more easily make out deterioration in the products of farms.

L. T. Hawley reported his experience on a field of ten acres, the first corn crop from which, after clearing out the stumps, bushes and other rubbish, was only three bushels per acre. Ploughing deeper and giving continually good cultivation, the hay gradually increased, and the land now produces good crops. He thought much of the improvement came from gradually ploughing deeper and turning up the natural elements of fertility. W. W. Newman had observed that upland farms usually produced more the second decade than the first, and the third more than the second, and he thought the tenth decade would show a still greater improvement. New land produced straw; longer cultivated, it gave grain. He thought the farms of Onondaga county were gradually increasing in their average products, which is owing, at least in part, to the plough bringing up and mixing fertilizing elements. George Geddes, in answer to an inquiry, remarked that a portion of his farm had not received any barn manure for seventy years, and the only fertilizers were clover and plaster. This land had a bad reputation at first, but when the late J. Stanton Gould saw the grass growing on it some years ago, he said it was the biggest timothy he had ever seen.

Dr. Boynton spoke at some length, explaining the chemical operation of fertilizers. He had injured his pear trees by too heavy an application of stable manure. He had successfully applied ground bone and plaster to his young orchard of a thousand pear trees, and last year he sold \$300 worth of fruit from it, besides large numbers which were lost by premature decay.

Mr. Scott, of Clay, maintained that clover, plaster and good manure were quite sufficient to keep up the fertility of land, without resorting to the purchase of commercial fertilizers, and he urged the importance of saving all the manure of animals, liquid as well as solid, and preventing its washing away; and he particularly recommended winter spreading, and owners need not fear its washing away, as the same thawing that produced the water would thaw the surface of the soil and cause it to absorb the liquid. Well-conducted, diversified agriculture, with suitable rotation, would not carry off the mineral elements. Superphosphate, at \$35 per ton, he thought too high in price for farmers to apply largely. He had found an excellent preparation for wheat to consist of a crop of peas, fed to swine on the ground without gathering; and he recommended sheep husbandry as an important part of diversified farming.

The questions announced for the next meeting were: Whether clover was most valuable when ploughed in, or first fed to animals and the manure applied; and whether hay or cornstalks were most profitable as food for cattle; on which subjects special committees were appointed to open the discussions.—*Country Gentleman*.

I have often thought farmers made a great mistake in not salting their cattle more frequently in winter, particularly in mild weather. Perhaps the best plan is to brine good bright straw, say twice a week. I find cattle eat it greedily. They require about so much salt to keep them in good health. When the weather is extremely cold perhaps it would be best to give less salt, as they naturally would drink too much cold water. I will express the opinion that cattle well salted, winter and summer, would be less likely to get lousy, provided they have enough to eat and good care also. If I am wrong, I wish to be set right. I would like to hear from some of your readers on this salting in cold weather.—C. W. K.

THE DAIRY.

VALUE OF THE LACTOMETER.

There has been much discussion as to the degree of reliance to be placed on the lactometer as a means of testing the quality of milk. Several Canadian correspondents having written to Hon. X. A. Willard on this subject, he has replied through the *Weekly Mail*; and as the article is one of great practical value, we gladly reproduce it for the benefit of our readers who may be engaged in dairying. It will be seen that Mr. Willard takes the same ground as Prof. Arnold and other dairy experts, viz.: that the lactometer, while not absolutely infallible, is a very valuable agent in detecting the dishonest practice of milk-watering:—

GENUINE COWS' MILK

of average good quality contains from 12 to 18 per cent. of solid matter, together with about 87 per cent. of water. It is heavier than water—the proportion as generally stated by the chemists being as 1,000 to 1,082; that is to say, if we take a glass vessel that will hold just exactly 1,000 grains of pure water, and fill it with milk of average quality, it will weigh 1,082 grains. The lactometer is based upon the principle of showing the specific gravity of milk, and when correctly graduated, and properly used, it does this with certainty. The instrument, however, does not tell the causes of variation in any two samples of milk. Genuine milk, as is well known, varies in specific gravity. Dr. Fleischman, of Germany, personally inspected the milk of thirteen different dairies in the vicinity of Linden, containing in the aggregate 128 cows. He noted the specific gravity of the milk of each cow separately, and upon each day in bulk, with the following results:—

“The mean specific gravity from the 128 cows is 1.031.6908.” “The maximum specific gravity of any one of the 128 cows is 1.084900, and the minimum specific gravity from any one of the 128 cows is 1.029500.” “The milk of 9 per cent. of the cows exceeds 1.089 in specific gravity.” “The milk of 89 per cent. of the cows ranged from 1.038 to 1.030 in specific gravity, and the milk of 2 per cent. of the cows was below 1.030 in specific gravity.” “The mean specific gravity of the milk from the 13 dairies ranged between 1.03065, and 1.03285, or in round numbers between 1.031 and 1.030.”

Simon places the specific gravity of cows' milk at from 1.030 to 1.039; Sherer from 1.026 to 1.032; Mott, of New York, from 1.029 to 1.040, with an average of 1.032; Prof. Chandler, of New York, from 1.02958 to 1.0348. It will be seen, then, that genuine cows' milk varies in specific gravity from 1.026 to 1.040, water being 1.000, though in genuine good milk the specific gravity seldom falls below 1.028. But the question may occur, why this variation of specific gravity in genuine milk? It is due not only to the variable proportion of water it contains, but especially to the amount of butter-fat in its composition; for the other constituents of normal milk are tolerably constant in their proportions. Now, cream is lighter than milk, and of nearly the same specific gravity as water; hence it will be seen when milk is very rich in butter-fat, its specific gravity is less than the ordinary standard, and when tested by the lactometer alone might create the suspicion of its being watered. But the lactometer does not tell you the milk is rich in butter-fat; it only gives you warning that the specimen under examination differs in specific gravity from the ordinary or average sample of good milk, and its quality therefore must be tested by other means. This is usually determined by the cream gauge and per cent. glass, which should always be used in connection with the lactometer.

THE PERCENTAGE OF BUTTER.

Somewhat recently, Prof. Fessor, of Germany, has brought out an instrument for determining the percentage of butter-fat in milk, and from my experiments with it I find it exceedingly handy, and more reliable than the cream gauge and per cent. glass. It is operated very easily and expeditiously. If, however, the specific gravity of milk from a certain cow or herd (milk known to be pure) be taken from time to time as a standard of the milk from that particular cow or herd, then any considerable variation from that standard may justify strong suspicion that the milk has been watered, or skimmed, or in some way tampered with, for it has been found that cows treated in a uniform manner as to feed, water, and other circumstances, yield milk that is not liable to show any sudden or large variation in its specific gravity.

It is to be regretted that many of the cheap instruments in use among the factories for testing milk are imperfect, or do not agree in graduation. This is especially so with cheap thermometers, which often vary several degrees when applied to fluids of the same temperature. Now, in constructing the lactometer for factory use, the usual method for graduating the scale is to place the instrument in distilled water at a certain temperature—generally 80° Fahr.—and the point at which the stem sinks to or meets the surface of the water is marked W, for water. The instrument is then placed in milk of the same temperature, and the point where the surface of the milk touches the stem is marked at 100 for pure milk, and for skimmed milk it is marked S. The space now between the W and the 100 is graduated into 100 equal parts on a slip of paper enclosed in the stem, which is then hermetically sealed and the instrument is ready for use. Now, suppose this instrument has been carefully made and graduated correctly, and is used in connection with a thermometer that varies 10 degrees in its graduation from the true standard, we shall have a false record of the specific gravity. Prof. Chandler, of New York, who constructed a lactometer to be used as a standard by the Board of Health of that city, places the milk mark at 100, the specific gravity of pure milk being assumed at 1.029, and water mark 0, the instrument being graduated for a temperature of 60° Fahr. A sample of milk tested by him which stood at 100 by the lactometer at 80° Fahr., was found to stand 106 at 44° Fahr., and 98 at 66° Fahr., and 90 at 80° Fahr., and 74 at 100° Fahr. Now, milk tested with a lactometer constructed with milk mark of 100 on basis of specific gravity of pure milk at 1.034 would require 16.27 per cent. of water to bring it down to Chandler's standard of 1.029 specific gravity. Flint gives

THE RESULT OF A TEST

of different specimens of milk, the lactometer being used on the morning's milk at a temperature of 60° Fahr., and the lactometer scale graduated for pure milk at 100. The first pint drawn from a native cow stood at 101—stripings of same cow, 86; milk from pure bred Jersey, 95; Ayrshire, 100; Hereford, 108; and Devon, 111. These facts are not given for the purpose of undervaluing the lactometer as an instrument useful to the factory man in aiding to detect frauds in watering milk, but, on the other hand, to guard him against hasty conclusions from a careless or improper manner of using the instrument. In making tests with the lactometer, the milk should be well stirred or mingled together; for if taken from the top, the sample might contain a larger percentage of cream, and therefore show less specific gravity than if the top and bottom had been well mixed. The temperature of the milk should be carefully taken, and the lactometer allowed to sink gently

and slowly into the fluid. The sample under examination should be examined as to its opacity and colour, its taste and odour, while the amount of cream or butter-fat must also in some way be determined either by cream gauge and per cent. glass, or by other instruments like that to which I have referred.

ALLOWANCES TO BE MADE.

It will be seen that certain allowances must be made for the variation of specific gravity in milk, for if it has a very high specific gravity, or a gravity considerably above that at which the lactometer is graduated for pure milk, a certain amount of water can be added to the milk, and the fraud cannot be detected. But whatever discrepancies of this sort are to be found, the lactometer must be regarded as an exceedingly useful instrument in the hands of an expert, or in those of the factory man who understands its construction and the use for which it is intended. It is a *faithful sentinel* that gives warning of any considerable change in the condition of milk. Cases are constantly occurring where the lactometer has pointed to men who are guilty of fraud in watering milk, and they have been watched and evidence obtained which convicted such parties in the courts. If, for instance, the milk (from a herd of cows) delivered at a factory should always show by lactometer 100 when the owner was from home, and only 80 when he was at home and milked, there would be good reason to believe that the milk showing such discrepancy was watered, and unless the dairyman could explain this variation, there would be reasonable ground for setting a watch upon his operations or excluding his milk from the factory. But in all cases of variation in milk from the mark set up as a standard, the utmost care should be taken by those who make the tests to have them accurate and reliable.

TO GET A FULL MILK-PAIL.

We assume that the cow is properly fed. Lacking this condition, no cow can milk as she ought, says the *London Live Stock Journal*. But careful feeding seems to have but little influence on the milking properties of some cows; they lay on flesh instead. Yet as they have, first of all, to live before they can think of giving much milk, or in fact any milk at all worth speaking of, and as about two-thirds of the food they have an appetite for goes to sustain the offices of life, it is clear that under-feeding will not lead to a profit. This is a proposition well enough established, and it appeals alike to our judgment and interest. Yet, after all, breed is of the first importance, because without it good feeding is of small effect on the milk-pail; but if we have both breed and feed, the pail will overflow—if we let it. Breed, then, is first; food next; then good milking by hand, kind treatment, shelter from the storm, and all that.

For raising good dairy animals, there is hardly any food so good for calves as warm skim-milk, with a mixture of moderate quantities of ground oats scalded. The milk and oats contain a large amount of muscle and bone material, and contribute greatly to the development of constitutional vigour and good frame.

The German custom of having the cows milked by men is highly commended by a French agricultural paper. It declares that milking is hard work, and better done by men than women; these, on becoming fatigued, as they are apt to do, become also impatient, and their impatience affects the cow. It urges that women are as much out of place in the stable as men are in the dairy.

HORSES AND CATTLE.**THE POLLED ANGUS, OR ABERDEEN POLLED.**

The Polled Angus cattle being black, and without horns, are frequently confounded with the Galloways, although an entirely distinct breed, as may easily be observed by comparing the two. The Polled Angus are a highly improved breed, long established in Aberdeenshire, on the east coast. The Galloways are from the county bearing their name, on the western seaboard of Scotland. Very little has yet been known of the Polled Angus cattle in Canada, but what has been heard of them has generally been in their favour. A short account of their origin and history may be interesting to some who are unacquainted with either, or with the characteristics of the breed.

From the very earliest of times Aberdeenshire, in Scotland, and particularly that part of it called

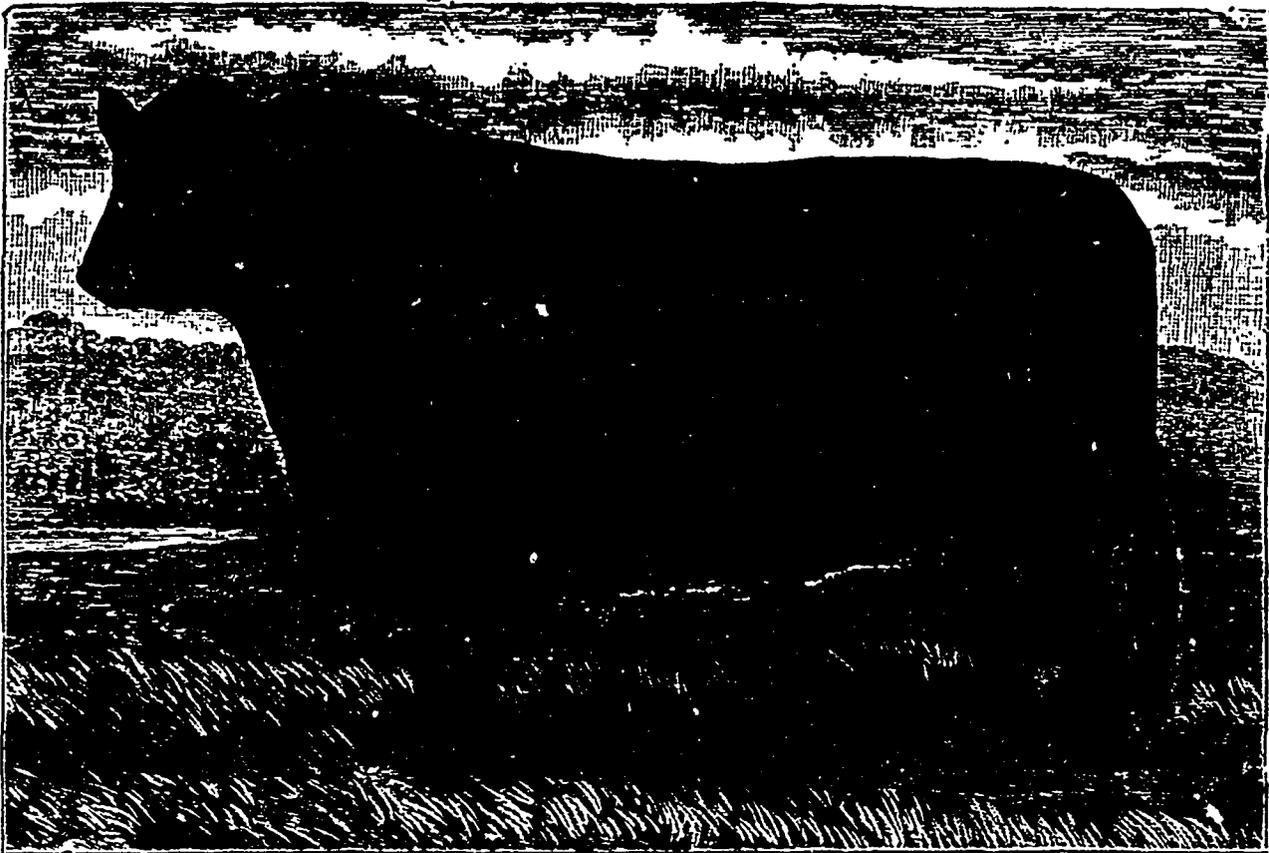
the prize ring would be too numerous to recapitulate here. Suffice it to say, it was a Polled Angus bullock that carried off Prince Albert's cup, at Poissy, in 1862, the competition being between all the breeders of the world; that a Polled Angus yearling bull won the gold medal of his class at Paris, in 1878; that a Polled Angus has repeatedly gained the chief prizes at Birmingham, and carried off the champion cup on at least three occasions at the great Christmas cattle show in London, the last of these triumphs being at the show for 1880. The Tillyfour herd now exists no longer. On the 26th of last August it was sold by auction and dispersed. The accompanying plate supplies a very excellent illustration of the Polled Angus breed, of which some very fine animals are to be seen at the Agricultural College and Model Farm at Guelph.

Professor Brown says of these Aberdeen Polled cattle:—

"I am very well acquainted with the Aberdeen Polled, and it is well known that for early maturing it is equal to the Shorthorn, though not, so far as our experience

sent out from her hills and valleys. The Morgan strain produces excellent, wiry, hardy, and unusually active and stout carriage horses of a smaller and more compact size, and such animals are in demand in the cities and larger country towns as family carriage horses. The large dray horses are the produce of crosses of Clydesdales and Percherons upon large well-built mares, and three or four crosses make a horse in every respect, except for breeding, quite equal to the thoroughbred sire.

We might, perhaps, be pardoned for remonstrating against a too common practice of retarding the growth of a colt by a somewhat mistaken, if not niggardly, economy. What advantage is there in taking the pains to procure a good colt at considerable expense, and of then sparing the food and care upon which the profits of the venture depend? Yet many persons do this very thing from mistaken motives of economy, rather than from a knowledge of the certain effect of this poor management. A colt should be kept thriving



POLLED ANGUS BULL.

"Buchan," has been famous for its breeds of cattle, the name itself, so it is said, being derived from the fact that it paid tribute to the Romans in oxen, "Buchan" being derived from the Gaelic word "bo," an ox, and "caen," the head or poll. With the three brothers known as the "stately Williamsons," the largest dealers in cattle of their day, the Aberdeen Polls were, during the last century, special favourites; and later still, they were the chosen breed of Watson, of Keillor. It was, however, chiefly by William McCombie, of Tillyfour, a member of a family whose intense enthusiasm in cattle breeding could be traced back for six or seven generations, that the Aberdeen Polls were so greatly improved and brought prominently into notice. From 1880 to the time of his death, not long since, Mr. McCombie bent all his energies to the task of making his Polled Angus herd famous in the land. His skill as a breeder, and practised judgment, were extraordinary, and enabled him, by careful selection and in-breeding of the most judicious character, to produce a race of animals that were able to send to the great shows representatives that could hold their own against all comers.

The victories won by the Polled Aberdeens in

goes, equal to it in improving other breeds or in attaining a greater weight in a certain time. At the present time we may call them our second-best beefing breed."

PROFITABLE HORSES.**THE BEST ANIMALS FOR FARMERS TO BREED.**

The history of a well-bred, sound, and well-trained work horse of style sufficient for a carriage horse, or of substance enough for a superior truck horse, is entirely in favour of its judicious breeder. Such a horse is able to begin work early in its third year, and before it is three years old can be trained to any work that may be required of it. Indeed, regular but moderate work is beneficial, because it tends to develop the muscle and fill up the form, besides giving that habit of docility, steadiness, and obedience which contributes greatly to make up its value. A good styled carriage horse is bred from a large, roomy, sound, docile mare and a stallion having a fair proportion of thoroughbred blood in him. The Hambletonian, Messenger, and Black Hawk families are renowned for the fine carriage horses sired by them, and Vermont has a high reputation for the fine animals her farmers have

and growing from its birth. The dam should be made the instrument of feeding it well at the first. The best of food and care should be given to her. Wheat or rye bran and sound oats, with good hay, will be the best food both for dam and colt, and care should be exercised that the mother is not exhausted by over-work or injured by exposure, either of which would have a bad effect upon the colt. After it has been weaned, the colt should be liberally fed from the first. The best the farm affords will cost but little more than the waste usually given to these young animals, and a warm, comfortable stable will cost no more than a poor shed or a pen under a rough barracks. A part of the stable should be provided for it where it may have the care and attention given to the other horses, and with as great regularity. The training should be begun with the feeding. The colt should be haltered, curried and brushed, and handled daily, and be made familiar with its owners and the manners of the different persons about the farm. Any farmer who will take this trouble with his colts will find that a brood mare is the best investment he can make on the farm, and that a colt will be the most satisfactory and profitable product he can raise.

A few words may be said in regard to the treatment of the dam while pregnant; and this is specially pertinent just now, because the majority of breeding mares are in a condition at this period to require some attention. Two things are specially important in the treatment of a brood mare: one is food, and the other exercise. The food should be sound, nutritious, and liberally given. No musty food of any kind is to be permitted, and as a part of the feeding the watering may be referred to. The water should be given fresh from a well, and never from a frozen trough, pail, or stream. The severe chilling caused by drinking a pail-full of ice-cold water is injurious to the fetus, and may be fatal to it. Exercise should be constant and regular. Moderate work is the best exercise for the mare, but if there is not work in the winter season a daily run in a yard is necessary. We are decidedly in favour of roomy box stalls for brood mares, in which there is room enough for the animal to turn about and roll with safety. Gentle treatment of the dam tends to make a gentle and good-natured colt, and constant work helps to give patience and steadiness to it. It must not be forgotten that the colt may inherit the form and physical character of the sire, but it certainly partakes of the disposition and mental character, so to speak, of the dam. For the whole period of its gestation the colt is nourished by the blood of the dam, and sympathizes directly with her nervous system. Therefore, the moral management of the mare will have very much to do in forming the disposition of the colt, and so a colt may be made gentle and docile before he has yet come into the world and has seen the light of day. After that his future training will be all the more easy and effective from its inherited disposition.—*Henry Stewart, in New York Times.*

CLOVER HAY FOR HORSES.

Clover hay is very nutritious food for horses, and when well cured and put up so as to be free from dust and mould, may be fed with entire safety. The principal objection to its use lies in the great care which attends its curing and preservation. Another objection is found in the fact that sometimes the second crop excites in horses an unusual and exhausting flow of saliva. When either of these objections are present, it is better to dispense with its use entirely, so far as the horses are concerned; but otherwise it is a good and safe food.

CURES FOR BALKY HORSES.

A writer in the *London Times* suggests three ways to start a balky horse?

"Jibbing is the result of a temporary mental state, and the object in view should be to divert the small mind from its one prevailing idea. I had a fine mare that now and then would jib. I would alight and jingle my keys near her ear. I would then pat her and pass my hand down the leg and lift up her fore-foot; then, with a piece of stone, my pocket knife, or a large coin, hammer on her shoe a few times, and on dropping her foot we were ready for a fresh start without further trouble. Two other modes, among many, may be adopted: 1. For the driver to be provided with a small bottle of something that a horse abhors, and which stings or irritates; by placing a small portion on the tongue of the horse, all its thought is directed to clear its mouth, and every other consideration is clean gone from its mind. 2. A small portion of something that is offensive to the sense of smell of a horse may be placed near or on its nostril. He will snort, sneeze, and think no more of his jib."

SHEEP AND SWINE.

EXCLUSIVE CORN FEEDING.

An American swine breeder says:—I know from experience that exclusive corn feeding will produce inflammation of the bowels and cause pigs to die. I lost several at one time before I discovered the cause. After they were dead they turned black under their bellies, which led me to surmise the seat of the disease. Some of those living in the same lot, upon examination, were found to be quite red beneath the bowels, and the surface under their bellies was found to be hot, which plainly indicated an inflamed condition of the stomach and bowels. These pigs were saved by a complete change of diet to wheat middlings and vegetables. The pigs were about three months old.

CHANGING FOOD FOR HOGS.

The following experiment was made by Lehmann, in Weidnitz. He fed a hog, one year and nine months old, for a long time on nothing but rye bran, and commenced to give whole grain after the animal's digestive organs had become accustomed to the exclusive bran diet. He found that of rye 49 per cent., of barley 54.8 per cent., of oats 50.6, and of peas 4 per cent. remained undigested. Therefore, if animals once accustomed to artificially prepared food have to eat whole grain, the waste will be much larger than it is if the same have received nothing else since they were weaned. Consequently a change from prepared food to whole grain is, as a rule, not advisable, while a change the other way will do better.

A DIFFERENT SYSTEM DESIRABLE.

Pure air helps to make pure blood, which in the course of nature builds up healthful bodies. Out-door pigs would not show so well at the fairs, and would probably be passed over by judges and people who have been taught to admire only the fat and helpless things which get the prizes. Such pigs are well adapted to fill lard-kegs, whereas the standard of perfection should be a pig that will make the most ham with the least waste of fat, the longest and deepest sides with the most lean meat; it should have bone enough to allow it to stand up and help itself to food, and carry with it the evidence of health and natural development in all its parts. Pigs which run in a range or pasture have good appetites—the fresh air and exercise give them this—hence they will eat a great variety of food, and much coarser than when confined in pens. Nothing need go to waste on a farm for lack of a market. They will consume all the refuse fruit, roots, pumpkins, and all kinds of vegetables, which will make them grow. By extending the root patch and planting the fodder corn thinner, so that nubbins will form on it, and by putting in a sweet variety, the number of pigs may be increased in proportion. A few bushels of corn at the end of the season will finish off the pig. The pig pastures will be ready the next year for any crop, and ten times more advantage accrue to the farm than if the pigs are confined in close pens, for, as pigs are usually managed on the farm, but little manure is ever made from them.—*Col. F. D. Curtis, in American Agriculturist.*

AGE OF SHEEP.

The following table of the periods of dentition will be found useful in determining the age of sheep:—

At one month, eight temporary front teeth and three temporary molars on each side of each jaw.

At three months, one permanent molar is added to these three.

At nine months, the second permanent molar appears.

At fourteen months, two permanent incisors appear.

At eighteen months, the third permanent molar appears.

At twenty-one months, there are four permanent incisors.

At twenty-seven months, temporary molars are changed and permanent ones appear.

At thirty months, there are six permanent incisors.

At thirty-six or forty-two months, there are eight permanent incisors.

It has been decided in an English court of law, that a lamb becomes a sheep when the first pair of permanent incisors have appeared. When the mouth is full-toothed, the sheep is considered as mature, or full grown; when the teeth begin to show signs of wear, the sheep is "aged."

There are other evidences of age to which attention may be given, such as the loss of wool on the head, legs and parts of the body; loss of vigour; lack of plumpness, and the looks of the skin; and susceptibility to changes of weather. Some idea of a Merino ram's age may be had from the appearance of the horns, which become not only larger, but more corrugated as age advances. Sheep that have been kept well will be found to "carry age" better than those subjected to privation. With ewes, the number and frequency of lambs born has an important bearing upon the appearance as age advances, as every draft upon the constitutional vigour tends to enhance the appearance of age.—*Ex.*

AFTER an afternoon's discussion at a meeting of the Michigan Sheep Breeders' and Wool Growers' Association, on the washing of sheep, the result was an almost unanimous verdict that the practice was not only useless and barbarous, but unprofitable.

Ewes whose lambs are intended for the early market should be separated from the rest of the flock, and given more than ordinary care by themselves. A sheep that is in good condition will give a good thrifty lamb, and be able to keep it strong from the start—an important point with those that are forced for the butcher. A few very early lambs, with proper attention, will bring large returns, often as much as five times the number that come at the ordinary time in spring, and receive no special care while they are young.—*American Agriculturist.*

Success in raising pigs depends upon feeding liberally till the pigs are three or four months old. Let them have the run of a grass or clover pasture, and after the harvest they will do well on the wheat stubble. The cost of raising in this way is very little. In the winter they will need richer food. They should have dry, warm quarters, with plenty of clean straw. Where cows or cattle are fed grain or oil-cake, or where the new system of ensilage is practised, the pigs will, to a considerable extent, pick up their own living. In my case, we give them warm slops twice a day during the winter. They may seem to be getting too fat, but that will not hurt them. I like to see them in good condition when turned out to grass in the spring. And until the grass is abundant and nutritious, I should feed the pigs night and morning with the same food they have had during the winter. With good pasture, well-bred pigs, that have been properly cared for during the winter, will keep fat and thrifty with little or no extra food. They will be in a healthy growing condition, and can be fattened in three or four weeks, at any time deemed desirable.—*Home and Farm.*

BEEES AND POULTRY.**POULTRY AND BEES.****BILL OF FARE FOR EGG PRODUCTION.**

"Fanny Field" reports her methods of feeding to the *Prairie Farmer* as follows:—

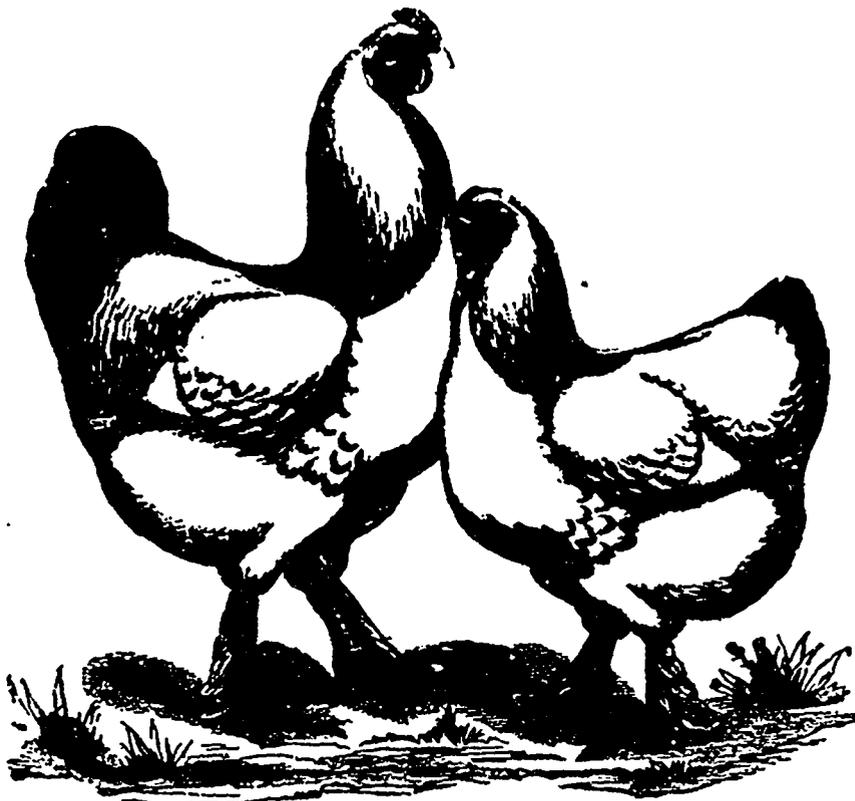
"My way of feeding fowls in winter—and it works wonderfully well—is to give them a warm breakfast every morning as soon as they can see to eat, a few handfuls of grain at noon, and a full feed of grain at night. The warm breakfast is made of vegetables, turnips, beets, carrots or potatoes, boiled and mashed up with wheat bran; or oatmeal scalded with skim milk; or refuse from the kitchen boiled up and soup thickened with bran; and when sweet apples are plenty, we boil them and mix with cornmeal—sometimes one and sometimes another; we don't believe in feeding one thing all the time, and the hens don't believe in it either. I don't think that my biddies need the noon feed because they are hungry, but I give it to them to make them scratch for exercise, and to keep them out of mischief. I scatter it around among the litter under the shed and let them dig it out. This 'lunch' is generally oats or buckwheat, and once in a while sunflower seed. At night I generally feed corn, but if I could get wheat cheap enough, I should feed that at least half of the time. My fowls have water or milk by them all the time, and green food is supplied by fastening cabbage heads up where the fowls can help themselves. Sometimes, when somebody has time to attend to it, we give them a change of green food in the shape of raw turnips or sweet apples chopped fine.

"Two winters ago I took a new departure on the meat question, and now, instead of fussing to cook it, and deal it out a little at a time I hang up a piece and let the fowls eat all they want. When they have meat within reach all the time, there is not the slightest danger of their eating too much. I get cheap meat from the butcher, and I am sure I am paid twice over for the outlay. Crushed oyster shells, gravel, charcoal, and crushed raw bones are kept in the houses all the time. This bone is an excellent thing for fowls, and would be the last article of food that I would think of dropping from my biddies' bill of fare. When the crushed oyster-shell cannot be obtained, lime in some other shape will do just as well. One of my neighbours had two of the rooms in his home plastered this fall, and he saved all the old plaster for his hens. The poultry raisers who neglected to get a supply of gravel under cover before the ground froze up, must do the next best thing—feed their broken dishes to their fowls. Break them into bits of a suitable size, and it will do just as well as gravel. I believe in salting all the soft food, and I used to put in a dash of pepper, sometimes mustard or ginger, once in

a while, and I honestly thought the fowls were benefited thereby; but doubts are creeping in, and I am very much inclined to drop everything except the salt."

WINTERING BEES.

Mr. J. B. Hall, of Woodstock, one of our most successful bee-keepers, writes the *Canadian Farmer*, under date of December 1st, 1881, on the above subject, as follows: "I will state that last winter I put forty-five stocks of bees into a cellar under the dwelling, and they wintered nicely. Size of repository, 12x12 feet and 6 feet high; a window 30x10 inches, which was loosely packed with straw, allowed fresh air to enter, but excluded all light, the sash of which I opened and closed to regulate the temperature. Near the top of the cellar was a ventilator about six inches each way; a three-inch pipe from the cellar floor to stove-pipe above to take off foul air. The glass registered from 38° to 48°. In the same repository I put 114 stocks on November 10th, and they were very uneasy. On the 19th I



LIGHT BRAHMAS.

cut a 10x10 inch ventilator near the top of the cellar to let off the hot air, and since that date all has been well. The highest the glass has been was 54° at the top and 50° at the bottom, and at these figures bees are quiet. I like the temperature as near 44° as I can keep it. The bees in my bee-house seem all O. K."

THE LIGHT AND DARK BRAHMAS.

The Report of the Ontario Agricultural Commission contains a useful chapter on "Poultry and Eggs." From it we glean the following:—

The dark Brahmas are preferred by Mr. Doel, but the light Brahmas are the choice of Mr. John Plummer. He says:—

"I tried twenty-eight varieties of fowls and ducks together, and out of the different varieties of fowls I selected the light Brahmas. Living in the city, and having small yards or gardens, I required fowls that would not only be profitable, but that would stand confinement and not trouble my neighbours, and those qualities I found in the light Brahmas.

"If I were in the country, or had a farm, I would cross them with the Games, which would make a hardier fowl, and one that would forage more for itself, while at the same

time it would be as good a layer, and better for the table, though not quite so large.

"The white Brahmas are good setters as well as layers, and for those who wish to raise poultry extensively they are good fowls."

"I would cross them with the Game for raising chickens. If the Dorkings are crossed with the Game, the result is a good fowl. Poultry-raising, if properly conducted, is a profitable business. The cross of the light Brahmas and the Game would suit our climate best."

CHARCOAL AND LIME.

These two articles, says the *American Stockman*, play a very important part in the management of fowls, whether brood 'in a fancier's yard or on a farm. Charcoal should be liberally fed, for no one thing is more conducive to health than this. It should be broken in small lumps and put where the fowls can get at it, and they will eat it with great relish. We have seen it fed to pigs with the very best of results, and those which were treated to it were never troubled with disease or sickness, while the neighbouring ones were. This helps to prove its value, not only for swine but for fowls. Where the birds are kept in confinement it is a very good plan to

keep a small trough in a sheltered place, full of small bits of charcoal, and the fowls will soon learn to help themselves.

The value of lime in the form of whitewash is well known, and the ones who use it liberally are the ones who keep their flocks healthy and cleanly. To render whitewash more effective in dislodging, driving away and destroying lice and other parasitic nuisances, the addition of a little carbolic acid is invaluable, for scarcely anything else is so distasteful to the vermin. For material for egg-shells, oyster-shell lime is the best.

WEIGHT OF TURKEYS.

Farmers frequently have occasion to sell turkeys by live weight, and wish to know what is the fair relative price between live and dead weight. In turkeys for the New York

market, where the blood and feathers only are removed, the loss is very small. For the Eastern markets the heads are taken off and the entrails are taken out. This makes a loss of nearly one-tenth in the weight. A large gobbler was recently killed, weighing 31½ pounds. After bleeding and picking he weighed 29½ lbs., a loss of two pounds, or one-fifteenth. When ready for the spit he weighed 28½ lbs., a loss of three and one-quarter pounds, which is nearly one-tenth of the weight. When the markets require the New York style of dressing, the price is fifteen cents a pound, live weight, or less, if the labour of dressing be counted anything. In the other style of dressing, if the price were twenty cents, the farmer could sell for eighteen cents or less, live weight, without loss. Farmers who never tested the loss of weight in dressing often submit to the deduction of three or four cents a pound for the middlemen, who are interested in making this large difference.

Scientific and Useful.

LIVER COMPLAINT.—For your torpid liver go without grease in your food, bathe your skin every morning on rising, and follow the bathing with sharp friction with the roughest towel, and if you can bear it, with a flesh-brush also. Beating the body in the region of the liver with the flat of the hand or with the fist is excellent. General gymnastic exercises are always advisable in what is known as liver complaint. Attacks of bilious colic would be prevented, I believe, by a little care in eating. I think an avoidance of all desserts, and eating but two meals a day, the last one somewhere in the middle of the day, would prevent all return of the trouble.

BIRDLIME.—Among the many industries in Japan is the manufacture of birdlime. It is, of course, principally employed for the snaring of birds and animals. By its means animals as large as monkeys are caught. When once they get the stuff on their paws they soon cover themselves with it, and so exhaust themselves in trying to get rid of it that they fall an easy prey. Birds also as large as ducks, and every variety of smaller ones, are taken by it. Rats are easily caught by spreading a small quantity on a piece of board or paper, and placing it near their holes. It is spread upon a bamboo leaf, and used during the summer for catching flies and other insects. Flea-traps are made for its service, and occasionally used by the Japanese in bed. Birdlime is also used by the Japanese for medicinal purposes, and is considered one of the best cures for wounds. Japan is the only country where it is regularly manufactured on a large scale, the principal tree from which it is made being a dark evergreen from the mountains in the south. —*Scientific American.*

HOW MUCH TO EAT.—Having tested a number of meals in a general way, eating more or less each time, find out as near as may be what is the proper amount for a meal. Begin with a very light breakfast of ordinary food, such as you have been accustomed to, and note the number of hours you can go without feeling a want of more food. For a very light breakfast, say one roll, a cup of coffee and a very small piece of meat, three hours or less will be found the limit. This is not offered as a rule, but as a suggestion; for it makes a vast difference what you do during those hours. A given amount of food will go further in manual labour than in mental labour, as brain work is more exhausting than hand work. The next time try a little more, and in the course of a dozen breakfasts you will learn to judge pretty closely what you require to carry on your work till the hour of the next meal. Having found out just what you need, on any consideration take no more. Never mind how nice the steak, how tempting any food may be; shut right down on the whole eating business the instant you have had enough. Too little can be repaired by eating a light lunch before the next meal. Too much cannot be repaired, and you must pay for the indiscretion. In all this there must be plain common sense. Do not imitate the invalid who kept a pair of scales on the breakfast table to weigh his daily bread. Eat and be satisfied, and then stop.

CATCHING COLD.—Colds are generally considered to be the exciting cause of a very large proportion of the diseases to which the race is prone, and therefore any light upon the subject is well worth considering. I have known a whole family to have severe colds in their heads the day after dining on roast goose, a dish of which they were especially fond. Since then I have studied the subject largely from a dietetic point of view, and with great advantage. I had always enjoyed good health, except that symptoms of dyspepsia were increasing in number and severity; for, being a "good feeder," like all the world about me, I ate as much as I wanted of all the good things found on Thanksgiving, Christmas, and other festive occasions, together with a daily fare quite up to the standard. I soon found myself entirely exempt from "colds" so long as I practised intelligent moderation in my diet, and kept clear of pastry and all indigestible substances; but so sure as I "let myself out" for a few days, so sure was I of having some sort of a cold. I found, however, that by skipping a meal or two the severe symptoms speedily abated, and then moderation would effect a complete cure. Whether these so-called colds are simply evidence of a clogged system from over-indulgence, or from eating indigestible substances, or whether unhygienic living is only a predisposing cause, and damp feet, carelessness, atmospheric changes, etc., are the exciting causes, are debatable questions. —*Journal of Chemistry.*

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DO YOU KNOW how to ascertain the rate of Exchange, buying sterling or foreign currency given and its equivalent in dollars and cents?
DO YOU KNOW the meaning of the term "General Average"?
DO YOU KNOW how to keep books so as to show your actual gain or loss?
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The Rural Canadian.

EDITED BY W. F. CLARKE.

TORONTO, THURSDAY, JANUARY 10TH, 1881.

BIRD LORE.

Everybody loves the feathered tribe, but few have any large knowledge of their peculiarities and habits. Many farmers are so ignorant of ornithology, that they cannot distinguish between their friends and their foes among birds. Here and there you find a person who has made this branch of natural history a special study, but beyond being able to distinguish a robin from an owl, there stretches a vast realm of popular ignorance. Most of the books on this subject are costly, and out of reach by the million. But little is said in our agricultural papers concerning this branch of science. It is therefore with much pleasure that we present our readers, in this issue of the RURAL CANADIAN, with the first of a series of articles, written in a simple and lively style, by a gentleman who has for many years been an observant student of bird life, and is well qualified to impart what he knows. We hope that all, and especially the young readers of this paper, will study these articles with diligent attention.

DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO.

We learn from Mr. C. E. Chadwick, the secretary, that the above-named Association will hold its annual meeting in Woodstock, Ont., on the 1st, 2nd, and 3rd days of February. The programme has not yet been issued, but arrangements are in progress to render it highly instructive and interesting. Some of the ablest and most practical dairymen and agriculturists in the United States and Canada will, no doubt, be present; and not only those engaged in the dairy business, but farmers, and the public generally, will do well to attend.

NATIONAL FARMERS' ALLIANCE.

From a report of the annual meeting of the above-named body, recently held in Chicago, the organization would seem to be assuming considerable importance. Delegates were present from nine States. The secretary reported 1,000 subordinate alliances, comprising a membership of 24,000. These alliances are distributed as follows:—Nebraska, 291; Kansas, 245; Iowa, 150; New York, 60; Wisconsin, 51; Michigan, 19; Missouri, 19; Indiana, 10; Illinois, 45; Minnesota, 50. Among others, the following resolutions were adopted:—

"Resolved, That all property, real and personal, corporate and individual, should be equally taxed, and that the holders of mortgages and other lines of property should be taxed for their lien, and the owner for the balance of his property.

"Resolved, That we favour a just income tax.

"Resolved, That the combination and consolidation of railroad capital and influence of the United States in the maintenance of an oppressive and tyrannical transportation system is an accomplished fact, demanding instant, vigorous and unceasing action on the part of the producers of the country to remedy the same; and we earnestly urge all farmers to organize through the Farmers' Alliance or other organizations for systematic and persistent political

action, and to subordinate other political questions to the emancipation of the people from this terrible oppression.

"Resolved, That the adulteration of food is as dishonest, and more injurious, than counterfeiting money, and should be punished as severely."

HOW TO PRESERVE THE "RURAL CANADIAN."

A correspondent of the *Country Gentleman* tells the readers of that journal how he manages to keep it always handy for reference, and in a way that admits of binding the yearly volume in a very cheap and simple manner. The same method will work equally well with the RURAL CANADIAN, and as it is at the outset of its career, the following suggestions may prove serviceable to those who wish to keep it from the commencement, and always have it in readable shape:—

"I have a board of the length of the *Country Gentleman*, about $\frac{3}{4}$ of an inch thick and 8 inches broad. Three-eighths of an inch from one edge of this board are made 9 holes with a bradawl. Two of these holes are about $\frac{3}{4}$ of an inch from the ends, and the other 7 holes equidistant between them. I lay this board on each number of the paper as it comes, edges and ends corresponding, and with the bradawl punch 9 holes in it—the holes in the board being the guide. I use three shoe strings to keep the numbers together during the year—the tinned ends answering same as needles. At the end of a volume I take a darning needle and fine strong twine, and by means of the holes sew all together, running from one side to the other. A slender needle will pass the twine without difficulty. I get a cheap binding put on, and my bookbinder says my stitching is as good as any that can be made. If care be exercised in matching the gauge-board and the paper when making the holes, the 52 numbers will go together as even as the regular bookbinder's stitch."

THE EARTH-WORM IN AGRICULTURE.

Long ago, the poet Cowper refused to enter on his list of friends the man "who needlessly sets foot upon a worm." But the kind-hearted poet was quite ignorant of the claims this much-despised little creature has for consideration at the hands of man. Most of us must confess to a similar degree of ignorance. It is, however, in a fair way of being dissipated. The celebrated naturalist, Darwin, has recently issued a book entitled, "The Formation of Vegetable Mould through the Action of Worms, with Observations on their Habits." This work embodies observations extending over nearly half a century. As long ago as 1837, its author produced a paper, "On the Formation of Mould," which showed that the gradual sinking of bits of burnt marl, cinders and other hard substances lying on the surface of meadows, was due to the large quantities of fine earth continually brought up by worms in the form of castings, and ever since that time, patient and close observation of the habits of these little creatures has been kept up by this gifted scientist. He has kept them in pots of earth in his library, and carried on various experiments not only in-doors but out of doors. One of these experiments is especially interesting. It has extended over 30 years, and consisted of spreading a layer of chalk over a portion of a field. After the lapse of time just specified, a trench was dug across the field, when it was found that the chalk layer had been buried seven inches below the surface of the ground. An acre of old pasture land is estimated to be tenanted by 58,700 worms, weighing 360 pounds, and throwing up annually fifteen tons of earth!

In regard to the services rendered by worms in the preparation of the soil, we have the following interesting summary:—

"Worms prepare the ground in an excellent manner for the growth of fibrous-rooted plants and for seedlings of all kinds. They periodically expose the mould to the air, and sift it so that no stones larger than the particles which they can swallow are left in it. They mingle the whole intimately together, like a gardener who prepares fine soil for his choicest plants. In this state it is well fitted to retain moisture and to absorb all soluble substances, as well as for the process of nitrification. The bones of dead animals, the harder parts of insects, the shells of land-molluscs, leaves, twigs, etc., are before long all buried beneath the accumulated castings of worms, and are thus

brought in a more or less decayed state within reach of the roots of plants. Worms likewise drag an infinite number of dead leaves and other parts of plants into their burrows, partly for the sake of plugging them up and partly as food. The leaves which are dragged into the burrows as food, after being torn into the finest shreds, partially digested, and saturated with the intestinal and urinary secretions, are commingled with much earth. This earth forms the dark-coloured, rich humus which almost everywhere covers the surface of the land with a fairly well-defined layer of mantle.

"When we behold a wide, tuft-covered expanse, we should remember that its smoothness, on which so much of its beauty depends, is mainly due to all the inequalities having been slowly levelled by worms. It is a marvellous reflection that the whole of the superficial mould over any such expanse has passed, and will again pass, every few years through the bodies of worms. The plough is one of the most ancient and most valuable of man's inventions; but long before he existed the land was in fact regularly ploughed, and still continues to be thus ploughed by earth worms. It may be doubted whether there are many other animals which have played so important a part in the history of the world as have these lowly organized creatures."

THE SNOW PLOUGH.

Digging paths in winter is a slow and laborious operation, even with the lightest and most effective snow-shovel. Few are aware how pleasantly and expeditiously the work may be done by the use of a one-horse snow plough. It is described in the following article, which is wandering among the newspapers without credit to any particular source, but is nevertheless entirely trustworthy. Not only are the suggestions it makes deserving of the attention of farmers, but town and village authorities might confer a great public benefit, at small cost, by setting one of these snow ploughs a-going through their streets, and clearing the side-walks after every snow-fall:—

"Every farmer who has not already done so, should at once provide himself with a small one-horse snow plough. But few labour-saving implements do more satisfactory work, or save the performance of more disagreeable hand labour than a snow plough, which any farmer can make in a few hours. On many farms, the labour during the winter, of frequently digging long lines of paths to the public road, and between the farm buildings, makes serious inroads on the time of the farmer, if he attempts to do it himself; and if he leaves it for the boys to do, before and after school, it makes serious inroads on their patience and good nature, and generally requires positive orders from the father every time it snows, to get them to bend their backs to the disagreeable work, if it is to be done by hand labour with a shovel. But with a horse and snow plough, how wonderful the change! The father no longer has to scold, coax, or even remind the boys that the paths are to be dug, but as soon as the snow begins to fall the boys are pleading for the privilege of getting out the horse and snow plough. The question is no longer which boy shall be required to clear the paths, but which shall be permitted the privilege of doing it. All of the paths which by hand labour required hours of hard labour to dig, are, with the horse and plough, dug in a few minutes, and the boy sits on the plough and rides, and enjoys it so well that he is not satisfied to stop until he has cleared all the paths on the farm, and also to the neighbours on either side.

"A cheap and easy way to make a snow plough is to take two boards, from twelve to fifteen inches wide and four feet long, nail the two ends together and spread the other ends thirty inches apart, making them the shape of a V; confine them in place with boards nailed across the top, and by a board across the end four or five inches narrower than the sides, so if the path is not perfectly smooth, it will not catch the stones; near the front end an iron bolt should be placed across to hitch the horse to; on the top should be placed a box for the driver to sit on, and the plough is complete. The labour is so simple and the cost so small that there is no excuse for a farmer being without a snow plough."

SCIENCE AND AGRICULTURE.

Professor Pantou, of the Ontario Agricultural College, recently gave a lecture on the above subject in the village of Ospringle, of which the following is a very brief synopsis:—

"At the outset he said the question which he desired to consider to-night was in what respect may the study of science be said to benefit the student of agriculture. His own faith in this respect was strong, and his love for the study of science great; consequently, when he appeared to advocate its claims before a farming community, he was sincere in his remarks. It was no flourish of rhetoric—no attempt at oratorical display—but what was said were the honest convictions of one who believed science would do for the farmer all that was claimed for it.

"It would be difficult to give all that was said by the lecturer, but a fair outline of his remarks can be given.

"1. Science in mental training. Under this head he showed how certain faculties are improved by the study of science. Their observation, memory, comparison, inference and method were all of great importance to a farmer, and called into requisition in the work of every day.

"2. The study of science was our aid to *intelligent reading*. Under this topic he referred to interesting scientific articles bearing upon agriculture, but which were beyond the farmer who had no knowledge of science. Agriculture was becoming more scientific every day; consequently a knowledge of science became imperative in order to keep pace with the times, and understand what was written upon the subject.

"3. A knowledge of science should make *farm life interesting*. In discussing this some most instructive remarks were made, showing how in every-day life the farmer could gather some interesting information from the book of nature which lay continually open before him. The silent processes of nature at work in the fields of grain and pasture land became a source of thought—the soil at his feet recalled stories from the fragmentary volumes of the geological records of how and whence the soil came—the storm and sunshine reminded him of atmospheric changes, while simple and more complicated compounds on every side suggested a brain of thought with reference to agricultural chemistry.

"4. The practical importance of scientific knowledge. Concerning this, the speaker said that the observations already made might be looked upon by his hearers as more theoretical than otherwise—more the dreamings of an enthusiast than of any special value. What he was about to say was really practical, and of benefit to the farmer. He then proceeded to discuss some of the advantages that have been derived from the application of science to cattle-feeding and the use of fertilizers. Some most valuable information was given which could not fail to show that science is following a pathway which will ultimately lead to an immense amount of good to agriculturists.

"The lecturer concluded by strongly urging upon his hearers to direct the young in their studies in this direction. While some hope might be placed in the old, still the greatest was in those who were to succeed them in the race. Farmers' sons must not be contented with the knowledge of the three R's alone, but add to it something from the book of nature.

"At the close a vote of thanks was tendered the lecturer."

A WISE FARMER AND HIS WIFE.

The N. Y. *Tribune* gives the following brief synopsis of a lengthy sketch which recently appeared in the columns of the *Globe* :—

"Mr. and Mrs. J. B. Carpenter are a fore-handed, hale, well-kept couple—schoolmates in childhood—who began life with very small money capital, on land, for which they went in debt, in the township of Townsend, Canada, near Simcoe village. [It should be *town* of Simcoe.—Ed. R. C.] They have ten children and ten grandchildren; he, 'save for the iron-grey beard, would pass for in the forties,' instead of sixty-two; in her placid face there is absence of that worn look so common to farmers' wives. One secret of this pleasant condition is revealed by the *Toronto Globe*, and is not unconnected with provision for hired men in such a sensible manner as is mutually advantageous to both employer and employed:

"How is the help accommodated?' 'Oh, there is where my way of farming is a pleasure. If I had to board men in the house I would not farm at all. I put up some cottages, and since have built others, and in them my men reside.' The force of labourers employed all the year round is five or six men, nearly always married, and often emigrants from the British Isles. They get \$200 a year, with house rent free, the right to keep a cow, and fuel free. Out of these wages many of the men employed by Mr. Carpenter have saved enough money to start on farms of their own. Several of them who came out as simple farm labourers are now prosperous freeholders, with the last vestige of their mortgages paid off. Under his system Mr. Carpenter is always able to get the best class of help, and, as the result of his long experience, he is fully convinced there is economy in it too."

Another item in the conduct of life that has given such agreeable results is equally worthy of thoughtful consideration:

"Mr. Carpenter prefers working with his brains and directing the labour of others to slaving with his own hands. Though himself of sinewy, tireless frame, he has never made a practice of rushing at the work after the manner of the ordinary farmer. He has husbanded his strength, and the result we now see in his possession of all his powers at an age when the average farmer is bent and bowed with toil."

Some of the minor points in Mr. Carpenter's practice, attention to which helped to win for him the gold medal given last year by the Provincial Agricultural Association to the owner of 'the best cultivated farm' in the surrounding group of counties, are thus stated:

"Not a weed was to be seen in the fence corners. The fields are large, and he thinks of making them larger. 'Why not dispense with fences altogether?' 'Well, I have a very great mind to do that. As you say, my system being already mainly a selling system, I might adopt it altogether. I know it would pay.' Getting over one of the fences the remark is made that the farm must have been newly fenced of late. 'No; all those rails were here when I came, and for how long before I cannot say; I have enough of cedar standing to fence the whole farm again.' And here he points out that every rail is laid so that the best surface to shed water is presented upward. How many farmers would take this minute care of the fences on 300 acres of land? There is a shed appropriated to implements, and every one of the farm tools has its proper place, where it is to be found, certain, when not in use. The floor of the cow stable is paved with cedar blocks, cut in six-inch sections and placed on end. If the blocks had been cut from small posts, Mr. Carpenter is satisfied it would have made a perfect floor, but as it is the sections were cut from logs eighteen inches and two feet in diam-

eter. The objection to such wide blocks is that they become slippery, and furnish no foothold for heavy and awkward animals."

THE LESSONS OF 1881.

Each year brings its lessons, and the one just past has been fruitful of instruction to observant and thoughtful minds. A correspondent of the *Country Gentleman*, writing on this theme, presents ideas equally suitable for Canadian readers, and we gladly avail ourselves of them, hoping they will be carefully pondered by all whose eye they may catch :—

"Farm work for the year is now so nearly concluded that we can review the labours of the season and note the result. In many respects the year 1881 has been a notable one to the farmers of this country, and it is certainly one which they will long remember. Drouth, wide-spread and more severe than ever before known, has shortened the crops, and, despite increased prices, has lessened the average profits of farmers. Yet the fact is undeniable that for some farmers, in some localities, the net gains the past season have been much greater than ever before. The fact is inaugurating a new era in American farming. For many years our people have supplied the markets of Europe with crops, not large as compared with European standards, but so cheaply grown that we could undersell much better farmers than ourselves. The effect of cheap and fertile lands has more than offset the benefits of thorough cultivation, not only in Europe but among ourselves. Farmers in the Eastern States who have had to feed stock, and in some cases purchase manures to keep up or increase the fertility of their land, have found it a policy of very doubtful profit, while their brother farmers in the newer States could draw on the apparently unlimited stores of fertility in the virgin soil. For years past we have had to sell crops at prices which we, on dearer lands, could not afford. Wheat at one dollar per bushel gives no profit on the average crop; but as long as western farmers could grow at eighty or ninety cents, their prices fixed those at which we had to sell. By the use of commercial fertilizers, many eastern farmers have learned how to grow twenty-five to forty bushels of wheat per acre, and this has enabled them to continue farming without loss, in the face of the most active western competition.

Now everything is changed. Prices of all products have largely advanced, and the farmers who have been working to make their land better are reaping the reward. The men who have aimed to cheaply cultivate large areas have for once been disappointed. I cannot doubt that the effect will be decidedly beneficial. We shall have in future better crops and better farming, higher manuring and more thorough culture. It is already certain that the increased demand for help will make farm labour dearer next season than it has been for two or three years past. It is the same with commercial and other fertilizers. More were used on wheat this fall than a year ago, and there is good prospect of a greater increase next spring. With prospective high prices, there is not only good but large pay in making the crops heavier. The addition of twenty to thirty cents a bushel for wheat is a stimulus to good farming which is all the more acceptable coming, as it has done, after several years of depressed prices. It will not lead to increased acreage except on the new lands of the far West, but to better cultivation of the areas usually cropped. Higher prices, with good crops everywhere, would have stimulated much larger planting with poorer culture; but we have learned the past year that only good farming certainly pays, and it is to be hoped that the lesson will remain as a compensating benefit for what might otherwise be reckoned a year of agricultural disasters."

SKETCHES OF CANADIAN WILD BIRDS.

BY WM. L. KELLS, LISTOWEL, ONT.

I begin these Sketches in Canadian ornithology with a description of such of our wild birds as, according to the Cuvierian system of classification, belong to the second order of the class *Aves*, for the following reasons: I have already given to the public, through other media, some account of our birds of prey, and a description of them now might not be so new and interesting to the general reader as those regarding which I am about to write. Neither does my knowledge of some species of the *Accipitres* enable me to discuss this part of the subject in the able manner that some Canadian naturalists have done who have written specially on "Our Birds of Prey."* However, if time and circumstances permit, I may again review, and add to what I have already written on the first order of the feathered creation. And lastly, I may remark, that in the arrangement of these Sketches I will in general follow that of Cuvier, because I think it is the most simple and natural, and therefore will be the most acceptable to the majority of

* I refer to Mr. H. G. Vennor of Montreal, Dr. Ross, etc.

readers, who little know or care how our feathered tribes may be arranged, or the causes that have led scientific investigators to separate or place them together, provided they obtain true descriptions, which latter object I shall try to aid them in accomplishing.

CLASS AVES—ORDER SECOND, PASSERINE.

This is the most numerous division of the bird tribes, embracing as it does all those which are neither Rapacious, Climbers, Gallinaceous, Waders nor Swimmers. Nevertheless, by comparing them, a strong mutual resemblance of structure is observable, so that it is in many cases difficult to establish the subdivisions, and in their general habits most of them exhibit the same traits of character. But few members of this order have the violence of the birds of prey, nor the fixed regimen and habits of the poultry and the water-frequenting species. A few of them resemble in their habits the Climbers and the Swimmers, but from these they are easily distinguished by the formation of their feet. They feed, in general, on insects, fruit, and grain, though some of them also prey on the young of other birds and small animals, as well as fish and reptiles. The formation of the bill of each genus indicates to the ornithologist the different kinds of food upon which they chiefly subsist. A short, stout bill shows a grain feeder; a long, slender bill, an insect hunter; while a strong, hooked beak indicates an approach to the birds of prey. The proportionate length of their wings, and their powers of flight, are also as varied as their habits. It is also among this order of birds that all our songsters are to be found, while the variation and beauty of plumage which they display exceeds that of all the other orders together. The different places selected for nesting purposes, the manner of constructing their nests, as well as the materials used, and the colour of their eggs, are in some cases widely diverse. While some frequent the garden and the vicinity of human habitations, as well as the streets of towns and cities, others seek the shelter of the wildest woods, or the deep solitude of some mountain glen, and while some species prefer to build their nests in the topmost boughs of lofty trees, and the crevices of high rocks, others place the cradle of their future progeny on the ground, or in boxes made by human hands. The eggs of most of these birds are spotted, or coloured, and larger at one end than at the other; and their young are hatched naked, and possess only sufficient strength to lift up their heads and open their mouths for the food with which they are well supplied by their affectionate parents. But in all, the shape of their nests and number of eggs, even though the former may be constructed of similar materials, and placed in similar positions, and though the eggs of many species may be of the same colour, so vary that the practised ornithologist may distinguish those of each bird by some difference in the formation of the nest, or some peculiarity of marking in the egg.

The feet of these birds are formed for perching, having two toes directed backward and two forward on each foot. Hence by some naturalists they are denominated *Insessores*, or *Perchers*. But while some genera, from early dawn till dusk of even, pass their time upon the wing, others remain much upon the ground; and while some move along by a series of hops, others walk; and though some species are destructive to the seeds and grain of the agriculturist, yet the greater part of them are useful in destroying the various insects which, if allowed to remain and increase, would soon render the summer months a season of torment and destroy the hopes of a harvest.

This order is divided by the Cuvierian system into five families, namely: *Dentirostres*, *Fissirostres*, *Conirostres*, *Tenuirostres*, and *Syndactylia*; and these are again subdivided into genera and

species. The distinguishing features of each division are the formation of the bill, and the general habits of each species. Those which exhibit rapacious tendencies are placed in the first family of this order, and for this reason I will place among the *Dentirosters* several species, as the crows, jays, and blackbirds, which are generally placed in the family of the *Conirosters*. Those genera which possess strong bills, in some cases curving at the point, are *Dentirosters*; those which are furnished with short, wide bills, as the swallows, are *Fisirosters*; those which have round, thick bills, as the sparrows, are *Conirosters*; those that have long, straight bills like the woodpeckers, are *Tenuirosters*; and those which are furnished with long, stout bills and short feet, as the kingfisher, belong to the family *Syndactylia*. Some ornithologists divide and sub-divide the Order Passerinae (Insectivores, or Perchers) into over twenty families; but I think the present arrangement the best, for at least young students, and for similar reasons I will also omit the scientific terms by which birds are usually designated by professional writers, and in these Sketches only use their common English names.

CHOKED CATTLE.

Probangs for choked cattle may be obtained from any outler who makes a specialty of veterinary instruments. All cattle owners ought to know that a very efficient instrument may be extemporized by taking a new inch rope six feet long, opening it out for an inch at the end, and laying the strands back and tying them down on the end of the rope, so as to make a cup-shaped end. This should be kept straight, being laid on a shelf or hung on three or four nails in the wall when not in use. When used, the mouth should be held open with a gag about three inches in diameter, and perforated in the centre by a hole large enough to receive the cup-shaped end of the rope. The nose is raised and the head brought into a straight line with the lower border of the neck, then the tongue is well drawn out, and the probang passed with steady pressure through the whole length of the gullet into the stomach. There is more danger of stopping short of the stomach by six inches than of passing it too far. Two feet extra introduced into the stomach will do no harm.—*Professor James Law, Ithaca, N. Y.*

BULLS.

Colonel F. D. Curtis, in a recent contribution to this department, urged the importance of working bulls instead of allowing them to remain the dangerous loafers of the farm, a system which is not in accord with the spirit of our civilization, outside of Utah. The *N. E. Farmer* takes up the topic, saying:

"If it were the fashion to work bulls, more might be kept. Many farmers who now keep but one bull, and that under constant fear of some sort, would keep two, and have them earn their living by their labour, leaving their service as breeders, and their carcasses when grown, as clear profit. A pair of three-year-olds in our hornless herd were yoked for the first time a few weeks since, and drew a drag load of stones a half mile at the first lesson, and ploughed a half day the second time the yoke was put on, which is certainly behaving better than some steers we have known. Although hornless cattle must be much safer than those with horns, a great deal depends on how animals are treated when young. Every calf should be halter broke before it gets too strong to be held easily, and it should be so kindly treated at all times that it will follow its keeper and allow of being handled with perfect confidence."

DON'T LET THE COWS GO DRY.

A long even season of milk is absolutely necessary to be a profitable one. There is nothing that the dairyman needs more exhortation upon than that of giving a full ration to his herd at all times during the milking season. There is less excuse for feeding a good milch cow stingily than any other farm animal. She does not ask any credit; she makes prompt daily payment; and her product is a cash article. If he has not the food at hand, prudence and good judgment, as well as humanity, requires him to furnish her full rations at all times, without regard to a favourable or unfavourable season. We always counsel dairymen to make an earnest effort to produce all the food for their herds upon their own farms, but the first principle of profitable dairying requires that they give abundant food to keep up an even flow of milk, whether they produce or purchase the food.—*Live Stock Journal.*

MILK FOR FOWLS.

Since milk is the only article of food known to contain within itself all the elements necessary to the perfection of growth and vigour in an animal, it is not strange that it should be found to be one of the very best egg-producing materials that can be supplied to poultry. Given two flocks of fowls, and treatment, location, and original stock being equal in all respects save one, it will be found that those having skimmed milk as a portion of their daily food or drink will give more eggs weekly, and for a longer term of weeks, than those whose treatment is exactly the same, with this single exception. In cases where milk is very plentiful, and only a portion is needed for fowls, it would be well, say once a week or oftener, to give the milk in form of curd, by heating it until the whey separates from the more solid portions. This is very nutritious, and its constituents so nearly resemble the white of the egg, that egg formation must naturally follow its use. Let no one hesitate to take from his waste milk whatever his hens will use, assured that they will yield five times over the returns that swine or any other stock would give for the same amount.—*American Poultry Yard.*

In Ohio earthquakes are more frequent, hot springs are appearing in many places, and the island is continually sinking.

Good milk is not to be had from half-starved cows. Those who object to high feeding may do well to remember that good, rich manure also comes only from well-fed cows.

The man who makes the business pay is the man who carefully selects his breeding ewes, annually culls out the old and inferior stock to fatten for the market, and constantly keeps at the head of his flock a thoroughbred male, if he cannot afford to start with purely bred ewes. No other kind of stock-raising pays so liberally at present as sheep growing, if properly attended to. To be a successful flockmaster you must keep your flock young, feed well, and breed with judgment.

A FARM can be stocked with sheep cheaper than with any other animals. Sheep will come nearer to utilizing everything which grows on the farm. Less labour will be required for getting feed and stock together. The returns will come in sooner and oftener than with any farm-stock except hogs. Less money is required for shelter and fencing, and less labour is required in herding, when outside pasturage is accessible and preferred. And finally a handsome income on the investment can be had without the sale of the animals themselves.—*Boston Cultivator.*

DURING 1880 there were disasters to 198 steamships. Of these 99 were stranded, 40 foundered, 30 sunk by collision, 7 burned, 11 are missing, 6 were abandoned at sea, 2 sunk by ice, 1 broke in two, and 1 was destroyed by explosion.

BOSTON spends \$18.45 a year upon its primary pupils, \$28.20 on its grammar pupils, and \$87.42 on those in its high and normal schools; 46 per cent. of its school population are in its primary schools, and 54 in its grammar and high schools.

THE threatening letters and warnings which the Czar of Russia has been continually finding in his handkerchiefs and pockets, under his pillow, and elsewhere, have been traced to a woman who has been in the service of the Empress for eight years. She was caught putting a letter in his prayer-book.

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GARDEN AND ORCHARD.

GROWING LETTUCE IN WINTER.

W. D. Philbrick writes to the *New England Farmer* :—

"Lettuce growing has come to be an important part of the gardener's work, since the demand for it is so constantly increasing. To grow good lettuce requires a temperature of 40 degrees to 50 degrees by night, and 50 degrees to 80 degrees by day; whenever these conditions are faithfully attended to, lettuce will grow rapidly; if, however, it gets frozen and mildew attacks it, it is often better to throw it away and begin over again, than to attempt to recover. Freezing slightly will not injure healthy lettuce when growing slowly, but it checks its growth for a week after freezing, and this gives the mildew time to get ahead and destroy the crop; mildew does not seriously damage quickly grown lettuce. There is, however, danger, in growing it quickly, that the tender edges of the leaves will blight or burn when a clear day with a dry wind makes it necessary to air the bed freely. This blighting usually occurs after several days of dark and cloudy weather which induce tender growth; the tender leaves are then in such a condition that they cannot endure bright sun and free circulation of dry air. The most skilful gardeners lose some lettuce from this cause, and it is very hard to avoid. Between the mildew, the blight, and the depredations of insects, probably about half of the winter lettuce planted is lost, or sold at a mere trifle as damaged stock. In consequence, the remaining half sells at good prices, which appear profitable, and would be so if the crop were a sure one; but in fact it is a rather difficult crop to grow to perfection, and even with the most skilful is very uncertain."

PLANT A GARDEN,

In the rush and hurry to do the work in the field, the garden work is postponed until a time of leisure, so it fails to receive much, if any, attention. A good garden is an indispensable requisite to the welfare of every family, especially to a farmer's family. Families in cities and large villages can better obtain a supply of garden products from the provision stores than can the farmer's family, which is usually a distance therefrom. And then vegetables fresh from the garden are worth twice as much as they are after they have been gathered one or two days. Those who never see a mess of green peas fresh from the garden do not know what a delicious dish they are. Every year they are kept after the gathering occasions as they are in flavour. So it is with many of the products of the garden.

Even plums, cherries, strawberries and the like are the best when first gathered from where they grow. Not only are the products of the garden much better when fresh, but they are also more healthful. Green peas, string beans, cucumbers, lettuce, when crisp and fresh from the garden, are healthful, yet, after having been gathered long enough to wilt, are very injurious and frequently occasion attacks of sickness. Families which are supplied with a good assortment of fresh garden fruits and vegetables will be less likely to suffer from sickness than those which have none.

In order to have a good garden, certain conditions must be complied with. First, there should be a piece of good ground suitable for the purpose, neither too wet nor too dry. Although it is a great advantage to have a suitable piece of ground for the garden, yet by care and attention a good garden can be made of an unpromising piece of land. Still, where a choice can be made, a favourable location should be preferred. Second,

the soil must be rich. Garden vegetables do not thrive unless placed in rich soil. A slow growth in poor soil greatly injures the quality of vegetables. The manure applied should be well decomposed, and thoroughly mixed with the soil. Superphosphate or guano is good to start the plants. The ground may be so laid out that a horse can be used to cultivate between the rows, and lessen the hand labour required.

Every garden should contain, besides all the usual garden vegetables, strawberries, raspberries, currants, blackberries and as many other small fruits as convenient. At least a few flowers should be sown for the "women and children," or, what is better, give them a portion of the garden to devote to floral culture. Few women are in the open air enough, and they should be encouraged to spend more time in the garden caring for the flowers or any other part of the garden which they may prefer.—*N. Y. Times*.

ON PRUNING EVERGREENS.

Many people do not understand that evergreen trees bear pruning as well as most other kinds, and in many cases need it quite as much. We often see evergreens quite too tall for their location, and making a dwelling seem too low by contrast. Others are too spreading, their branches obstructing a pathway or shutting out a good view. Where it is desirable to check the height of such trees as the Norway spruce, cut off the tip or leading shoot before it attains the full height desired; then two or three leaders will probably be developed in a year or two, and the tree will assume a dense and dwarfish form. At the same time all the side branches can be shortened as much as desired. If done before the growth takes place in spring, new buds will be formed at the cut, and several small branches in the place of each larger one removed.

Pines can also be shortened in, but these only form new shoots at the joints or wounds; hence it is best to cut at one of these. A better way still, with young pines, is to go over them in the latter part of the spring, when the new shoots have just pushed forth and are very tender and brittle, and break off with the fingers the centre shoot in each whorl, and the others also if the growth needs to be severely checked. Hemlock and arbor vitae can be pruned with knife or shears as closely as desired, and hedges or screens of all kinds should be closely clipped every spring before new growth begins.

A STORY WITH A MORAL.

The *N. Y. Tribune*—good authority—is responsible for the following:—Mr. J. C. Ashley, house-carpenter, settled on a bit of land near the pleasant village of Lakewood, N. J. The air there is salubrious; some of the soil fairly good, but his purpose was to have a garden merely, and depend for needful funds on what his trade could bring. Immigration soon fell off; wages dropped to seventy-five cents a day, and the outlook was dismal. Then he began to "think of farming," and resolved that if an honest effort in this line wouldn't average him a dollar for each day of the year he would leave Jersey—"sell out and go to the United States." The following sequel of how he found less than "THREE ACRES ENOUGH," is told in the local *Times and Journal*, and more than one moral can be drawn from it:

"Some of my neighbours said it would be a failure—farming did not pay. Many who had ten to twelve acres left it to grow up to brush and weeds and took their departure. I had buried my money here, and I was going to dig for it. I dug stumps, raked roots, and grubbed until I got the land in pretty fair condition. Then I dressed it well with fertilizers, put out the best varieties of fruit, gave

them the best of care, and I soon began to realize what I have often heard repeated: A little farm well tilled; a little home well filled; a little wife well willed; then you are on the road to prosperity. My efforts were crowned with success. I was not long in realizing my dollar a day, with an increase as the condition of my land improved, until the past season I turned off from my little 2 85-100 acres over \$500 worth of fruit, vegetables and seeds, besides keeping from one-quarter to one-third in grass. I will give you some of the items:

10,000 young onions.....	\$25 00
Spinach and pieplant.....	8 00
Plants, various kinds.....	15 00
112 bu. strawberries.....	358 40
300 qts. raspberries.....	25 00
275 qts. currants.....	22 00
15 bu. early potatoes.....	20 00
20 bu. pears.....	25 00
5 bu. onion sets.....	20 00
Other fruits.....	5 00
25 lb. sage.....	12 50
15 lb. turnip seed.....	15 00
4 lb. sage seed.....	10 00

Besides the above, not included in figures, we have canned fruit, etc.: 100 one quart cans pears; 12 do. strawberries; 12 do. crab apples; 10 qts. pear jelly; 10 qts. crab apple jelly."

DISTANCES APART FOR TREES.

Existing orchards illustrate the varied opinions of orchardists relating to the distance trees should be planted apart. Thirty feet was considered sufficient for all purposes when I planted my orchard of ten acres twenty years ago, but we are gradually learning that to grow perfect fruit in size and colour, plenty of sunshine and a free circulation of air are important essentials; and as many are now practising, thirty-five or even forty feet apart is decidedly a preferable distance for a fully matured orchard.

MAKE THE GROUND COUNT.

We have learned one mistake we have made for years past, and that is, covering too much ground with too few plants. Vacancies not only make a loss, but are expensive every way—in preparation and cultivation of soil, in extra expense for manure, and in interest and tax on land. We are too apt to be ambitious as to having a great number of acres planted, regardless of the yield, expense, etc. We will guarantee that, as a rule, persons having the least land get the most fruit from their land in proportion to the number of acres, and make the most money.—*Fruit Recorder*.

Save the soot that falls from the chimneys. A pint of soot to a pailful of water will make a liquid manure of great value for flowers and plants of all kinds.

A lady writes that she never turns her window plants, and, as a consequence, gets a great many more blossoms than when she kept turning them, trying to keep them in pretty form.

Mr. Vick is quoted as saying that the "White Worm," or any other worm, in pots, may be destroyed by sticking three or four common matches down into the soil, also one or two up into the drain opening. The phosphorus on the match is certain death to animal life, and a powerful fertilizer for plants.

Much may be saved in a year by taking care of things; by not letting the tea-kettle boil dry, and by taking thought about other matters. For instance, when you buy a broom, instead of leaving it standing in a corner of the kitchen, and so making it one-sided, bore a hole in the handle, tie a stout cord in it, and hang it up when you are through using it, or screw a staple in the top of the handle to hang it up by; the broom will last twice as long.

HOME CIRCLE.

HOW TO SPEND WINTER EVENINGS.

Daisy Eyebright, a very sprightly and sensible writer, discusses the above subject at some length in a recent number of the *Country Gentleman*. At the outset, she urges parents to devise plans of entertainment and instruction, in which the whole household can join; well observing that it is a common fault in families, both in town and country, to leave each member to go its own way. What she says on this point is so excellent as to deserve being quoted *verbatim*:

"The father reads the newspaper beside the centre table, and wishes no disturbance in his vicinity; the mother, perhaps, is busy in the nursery with the younger children, or engaged in household duties, or absorbed in the pages of a magazine or book, and takes little heed to the occupations of the older members of the family. Perhaps the young men seek amusements abroad, and are allowed to return home when they please, unquestioned concerning their method of passing the long evenings. The older girls receive their friends in the parlour, or gather around the table or piano, occupied with fancy work or music. Each one is independent of the other, and there is no community of interest, which makes the bond of home happiness and increases the love of its inmates. In families thus managed, what wonder that the sons seek questionable amusements, the daughters make ill-assorted marriages and lead unhappy lives, and the parents find little happiness in their children. In their youth they gave them shelter and food, and cared for their health; but they did not interest themselves in making *home happy*; they did not give them real heart love, and teach them that in their society they could always be entertained."

Let every father and mother note this paragraph also, for there is a world of wisdom in it:

"Every evening there should be an hour given up to the little folks, when old and young play together. 'The wise man is he who keeps his child-heart,' has been truly said; and the man who cannot frolic with his children is really to be pitied. No matter how high his station, a good romp is the best exercise for him and for his children; and the father who joins in his son's sports, plays football with him, slides down the hill and skates on the pond, is the father whose old age is the most tenderly cherished, and whose grey head is rarely dishonoured."

Music is naturally assigned a prominent place among the occupations for winter evenings. It should be introduced early enough for the little folks to have a share in it before bed-time. The simpler songs can be taken first for their benefit, and harder ones later on in the evening. But what is called "scientific music" is not needed at all. It is home songs, songs of the heart, songs embodying sentiment, moral and religious truth, songs that linger in the memory and hold the affections to the domestic hearth and altar, that are wanted. If the father cannot sing, and has no ear for music, let him not throw a wet blanket over the enjoyment, by objecting to it as a noisy disturbance. Alas! for the man "who has no music in his soul, and is not moved by concord of sweet sounds." Most men, by trying to get into sympathy with the kind of music specified, will succeed so far as to find at least a modicum of pleasure in it.

An hour of reading aloud by some member of the family is a capital suggestion made by this writer. It is fine vocal exercise for the reader, and nothing is better fitted to form a taste for choice literature in a family than assembling all in a social circle, as listeners. Indeed, reading clubs would be excellent things to introduce into a neighbourhood. Not the members of one family, but of several adjacent to each other, might thus spend many a pleasant and profitable winter evening.

There are also many quiet games which can be played in a large family, that are both instructive and amusing. Let parents take pains to find and introduce such games, and so make home life attractive.

The dreary and almost unbearable monotony which reigns in the absence of such expedients is graphically described in a closing paragraph, which draws a picture the counterpart of which may be found in thousands of households that can hardly, except by a figure of speech, or excess of charity, be called happy ones, and in which the seven evenings of the week are looked forward to with a feeling akin to dread, because they must be passed so stupidly:

"The evening paper once read, *Paterfamilias* falls asleep beside the fire, the kitten purrs upon the hearth rug and the dog sleeps on the door mat, while the mother clicks her knitting needles and sorts her wools, and chides the children if they are too noisy in their plays; and so the drill evening drags along, until the father arouses himself and thinks it is almost bed-time, and the mother puts away her knitting-bag or her mending-basket and rejoices. Are not many hours of the winter evenings wasted, or passed in such monotonous occupations that the mind fairly rusts out before the body wears out?"

ABOUT THE SUN.

Particularly impressive are the facts and examples by which Professor Young endeavours to convey to the reader some idea of the prodigious forces and activities with which the student of the sun is confronted. Speaking of the outflow of the solar heat, he says:

"The quantity of heat emitted is enough to melt a shell of ice ten inches thick over the whole surface of the sun every second of time; this is equivalent to the consumption of a layer of the best anthracite coal nearly four inches thick every single second." In regard to the distance of the sun from the earth, he says: "Though the distance can easily be stated in figures, it is not possible to give any real idea of a space so enormous; it is quite beyond our power of conception. If one were to try to walk such a distance, supposing that he could walk four miles an hour, and keep it up for ten hours every day, it would take sixty-eight and a half years to make a single million of miles, and more than sixty-three hundred years to traverse the whole. If

some celestial railway could be imagined, the journey to the sun, even if our trains ran sixty miles an hour, day and night without a stop, would require over one hundred and seventy-five years. Sensation, even, would not travel so far in a human lifetime. To borrow the curious illustration of Professor Mendenhall, if we could imagine an infant with an arm long enough to enable him to touch the sun and burn himself, he would die of old age before the pain would reach him, since, according to the experiments of Helmholtz and others, a nervous shock is communicated only at the rate of about one hundred feet per second, or sixteen hundred and thirty-seven miles a day, and would need more than one hundred and fifty years to make the journey. Sound would do it in about fourteen years if it could be transmitted through celestial space; and a cannon-ball in about nine, if it were to move uniformly with the same speed as when it left the muzzle of the gun. If the earth could be suddenly stopped in her orbit, and allowed to fall unobstructed toward the sun, under the accelerating influence of his attraction, she would reach the centre in about four months."

As to the attraction between the sun and earth: "It amounts to thirty-six hundred quadrillion of tons—in figures, 36 followed by seventeen ciphers. . . . We may imagine gravitation to cease, and to be replaced by a material bond of some sort, holding the earth to the sun and keeping her in her orbit. If, now, we suppose this connection to consist of a web of steel wires, each as large as the heaviest telegraph wires used (No. 4), then to replace the sun's attraction these wires would have to cover the whole sunward hemisphere of our globe about as thickly as blades of grass upon a lawn. It would require *nine* to each square inch."

SAVING MOTHER.

The farmer sat in his easy chair,
Between the fire and the lamplight's glare;
His face was ruddy and full and fair.
His three small boys in the chimney nook
Coned the lines of a picture book;
His wife, the pride of his home and heart,
Baked the biscuit and made the tart,
Laid the table and steeped the tea,
Deftly, swiftly, silently;
Tired and weary, and worn and faint,
She bore her trials without complaint,
Like many another household saint—
Content, all selfish bliss above
In the patient ministry of love.
At last, between the clouds of smoke
That wreathed his lips, the husband spoke:

"There's taxes to raise, an' interest to pay,
And of there should come a rainy day,
'Twould be mighty handy, I'm bound to say
T'have sumthin' put by. For folks must die,
An' there's funeral bills, an' gravestones to buy—
Enough to swamp a man, purty nigh;
Besides, there's Edward and Dick and Joe
To be provided for when we go.
So 'f I was you, I'll tell you what I'd do,
I'd be savin' of wood as ever I could—
Extra fire don't do any good—
I'd be savin' of soap an' savin' of oil,
And run up some candles once and a while;
I'd be rather sparin' of coffee an' tea,
For sugar is high,
And all to buy,

And cider is good enough for me.
I'd be kind o' careful about my clo'es,
And look out sharp how the money goes—
Gawgaws is useless; natur' knows;
Extry trimmin'
'S the bane of women.

"I'd sell the best of the cheese and honey,
And eggs is as good, nigh about, 's the money;
And as to the carpet you wanted new—
I guess we can make the old one do;
And as for the washer an' sewing machine
Them smooth-tongued agents so pesky mean,
You'd better get rid of em' slick and clean.
What do they know about woman's work?
Do they kalkilate women were born to skirk?"

Dick and Edward and little Joe
Sat in the corner in a row.
They saw the patient mother go
On ceaseless errands to and fro.
They saw that her form was bent and thin,
Her temples gray, her cheeks sunk in,
They saw the quiver of her lip and chin—
And then with a warmth he could not smother,
Outspoke the youngest, frailest brother:
"You talk of savin' wood and ile,
An' tea and sugar all the while,
But you never talk of savin' mother!"

A GOOD READER.

There is one accomplishment in particular which I would earnestly recommend to you. Cultivate assiduously the ability to read well. I stop to particularise this, because it is so very much neglected, and because it is so elegant, charming, and lady-like an accomplishment. Where one person is really interested by music, twenty are pleased by good reading. Where one person is capable of becoming a good musician, twenty may become good readers. Where there is one occasion suitable for the exercise of musical talent, there are twenty for that of good reading. The culture of the voice necessary for reading well, gives a delightful charm to the same voice in conversation. Good reading is the natural exponent and vehicle of all good things. It is the most effective of all

commentaries upon the works of genius. It seems to bring dead authors to life again, and makes us sit down familiarly with the great and good of all ages. Did you ever notice what life and power the Holy Scripture has when well read? Have you ever heard the wonderful effects produced by Elizabeth Fry on the prisoners of Newgate by simply reading to them the parable of the Prodigal Son? Princes and peers of the realm, it is said, counted it a privilege to stand in the dismal corridors among felons and murderers, merely to share with them the privilege of witnessing the marvellous pathos which genius, taste and culture could infuse into that simple story. What a fascination there is in really good reading! What a power it gives one! In the hospital, in the chamber of the invalid, in the nursery, in the domestic and in the social circle, among chosen friends and companions, how it enables you to minister to the amusement, the comfort, the pleasure of the dear ones, as no other art or accomplishment can! No instrument of man's devising can reach the heart as does that most wonderful instrument, the human voice. It is God's special gift and endowment to His chosen creatures. Fold it not away in a napkin. If you would double the value of all your other acquisitions, if you would add immeasurably to your own enjoyment and to your power of promoting the enjoyment of others, cultivate with incessant care this divine gift. No music below the skies is equal to that of pure silvery speech from the lips of a man or woman of high culture.—
John S. Hart.

HEALTHFULNESS OF MILK.

If any one wishes to grow fleshy, a pint of milk taken on retiring at night will soon cover the scrawniest bones. Although we see a good many fleshy persons nowadays, there are a great many lean and lank ones, who sigh for the fashionable measure of plumpness, and who would be vastly improved in health and appearance could their figures be rounded with good solid flesh. Nothing is more coveted by a thin woman than a full figure, and nothing will so rise the ire and provoke the scandal of the "clipper-oid" as the consciousness of plumpness in a rival. In a case of fever and summer complaints milk is now given with excellent results. The idea that milk is feverish has exploded, and it is now the physician's great reliance in bringing through typhoid patients, or those in too low a state to be nourished by solid food. It is a mistake to scrimp the milk pitcher. Take more milk and buy less meat. Look to your milkman; have large-sized, well-filled milk pitchers on the table each meal, and you will have sound flesh and save doctors' bills.—*Housekeeper.*

"I'LL TURN OVER A NEW LEAF."

It is all very well to say that you will "turn over a new leaf." But let me ask, What about the *past black leaves of guilt*? The schoolboy, after spilling the ink on the page of his copy book, turns over a new leaf, resolving that in the future he will be more careful; but "turning over a new leaf" does not remove the blotted one, and soon the teacher's eye detects the blots and punishes him for his carelessness.

It may be, dear reader, at one time you were addicted to drinking or swearing, or other bad habits; but of late you have "turned over a new leaf," and are become what the world calls a "reformed" person. This is right and proper, but don't forget that *future good conduct can never blot out past disobedience.*

ORIGIN OF NAMES IN THE WEEK.

In the museum at Berlin, in the hall devoted to Northern antiquities, they have the representations from the idols from which the names of the days of the week are derived. From the idol of the sun comes Sunday. This idol is represented with his face like the sun, holding a burning wheel, with both hands on his breast, signifying his course round the world. The idol of the moon, from which comes Monday, is habited in a short coat, like a man, but holding the moon in his hands. Tuesday, from which comes Tuesday, was one of the most ancient and popular gods of the Germans, and represented in his garments of skin, according to their peculiar manner of clothing; the third day of the week was dedicated to his worship. Woden, from which comes Wednesday, was a valiant prince among the Saxons. His image was prayed to for victory. Thor, from whence comes Thursday, is seated in a bed with twelve stars over his head, holding a sceptre in his hand. Friga, from whence we have Friday, is represented with a drawn sword in his right hand, and a bow in his left. Sater, from which is Saturday, has the appearance of perfect wretchedness. He is thin-visaged, long-haired, with a long beard. He carries a pail of water in his right hand, wherein are fruits and flowers.

WITHOUT CAPITAL.

It is bad beginning business without capital. It is hard marketing with empty pockets. We want a nest-egg, for hens will lay where there are eggs already. It is true you must bake with the flour you have, but if the sack is empty, it might be quite as well not to set up for a baker. Making bricks without straw is easy enough, compared with making money when you have none to start with. You, young gentleman, stay as a journeyman a little longer, till you have saved a few pounds; fly when your wings have got feathers; but if you try it too soon, you will be like the young rook that broke its neck through trying to fly before it was fledged. Every minnow wants to be a whale, but it is prudent to be a little fish while you have but little water; when your pond becomes the sea, then swell as much as you like. Trading without capital is like building a house without bricks, making a fire without sticks, burning candles without wicks; it leads men into tricks, and lands them in a fix.—*John Ploughman* (*Sparrow*).

WHERE SHALL BABY'S DIMPLE BE?

Over the cradle the mother hung,
Softly cooing a slumber song:
And these were the simple words she sung
All the evening long:

"Check or chin, or knuckle or knee,
Where shall the baby's dimple be?
Where shall the angel's finger rest
When he comes down to the baby's nest?
Where shall the angel's touch remain
When he awakes my baby again?"

Still as she bent and sang so low,
A murmur into her music broke,
And she paused to hear, for she could but know
The baby's angel spoke:

"Check or chin, or knuckle or knee,
Where shall the baby's dimple be?
Where shall my finger fall and rest
When I come down to the baby's nest?
Where shall my finger's touch remain
When I wake your baby again?"

Silent the mother sat and dwelt
Long on the sweet delay of choice,
And then by her baby's side she knelt,
And sang with a pleasant voice:

"Not on the limb, O angel dear!
For the charms with its youth will disappear;
Nor on the cheek shall the dimple be,
For the harbouring smile will fade and flee:
But touch thou the chin with impress deep,
And my baby the angel's seal shall keep."

—Dr. J. G. Holland.

CHARMS.

Until quite a recent date, old women in the Orkneys and Hebrides made a living by selling "fair winds" to sailors—a knotted string being given to the mariner, and a breeze, a strong wind, or a gale being supposed to follow the loosening of certain knots. Love philters could be purchased which would turn the most indifferent lover into an ardent suitor. Many persons were probably poisoned by such drinks, sometimes intentionally, sometimes unwittingly. Miss Biandy, executed in 1752 for the murder of her father, maintained to the last that she gave him the dose of poison believing it to be, as her lover (who supplied it) assured her, merely a harmless philter which would incline the old man to agree to their marriage. There is a Scotch tale of a school-master who brewed a love philter to soften the heart of an obdurate lady-love. The precious mixture being set to cool, was drunk by a passing cow. The animal immediately conceived most inconvenient affection for the luckless dominie, following him everywhere, into the school, into the church, till he was obliged to have the creature killed in order to escape its ill-timed endearments. "The Band of Glory," the dried hand of an executed criminal, with a candle composed of various ghastly ingredients stuck between the fingers, were supposed to secure immunity to burglars, no one on whom the unhallowed light fell being able to stir a limb or utter a cry, while bolts and bars yielded to the touch of the dead hand. A peculiar arrangement of straws across the threshold of a newly-wedded pair rendered the marriage childless or unhappy.

Lapland and Finland were more famed for their witches, and Norse mythology is rich in tales of charmed swords and mystic spells, and such superstitious fancies. The Swedes and Esthonians still believe in the existence of a mysterious creature called a skrat, a kind of northern Robin Goodfellow or household fairy, who will do a great deal of hard work for his owners and only expect a meal in return. Unlike poets, skrats can be made as well as born. A very efficient skrat can be manufactured out of a tin pipe, a bit of tow, part of a pair of scales, part of a harrow, and some other ingredients. This figure must be set up on three successive Thursday nights in the middle of a crossed way, with many ceremonies, and on the last night the skrat manufacturer cuts his finger and allows the blood to fall on the figure, which immediately becomes endowed with life. The manufacturer must have provided a swift horse for himself and a slow one for the skrat, as it is very important that he should succeed in outriding the figure. If he gains his house door first, he has secured a humble slave in the skrat. Skrats will do the work of three servants; they guard the house against thieves; they even steal for their owners, bringing food, vegetables, money, if required. They assume various shapes, sometimes that of a man, sometimes a cat with a fiery tail, sometimes a flea.—*London Globe.*

ABOUT STEALING.

The general idea of stealing is, taking another's property without his consent. If a man picks your pocket, he is a thief. If he robs your hen-roost, he is a thief. But if he comes to your house with some nostrum that he knows to be worthless, and persuades you to pay him a dollar for it, he claims that he is an honest man—that he gets your money in the way of business—that you give it to him freely, and all that. But if he has any sense and any conscience, he must feel that he is a thief, and the meanest kind of a thief. We call pickpockets "the light-fingered gentry." They train their hands to skilful manipulation, and so succeed in robbing you. But the vendor of a worthless article does with his tongue what the other does with his hand. Where is the difference? Is not tongue stealing just as bad as hand stealing? Is not every kind of fraud, pretence and deception, by which one gets another's property without compensation, just as bad as picking pockets or robbing hen-roosts? Are not all the tricks of trade by which an article is sold as genuine,

when it is spurious, plain and palpable violations of the eighth commandment? If coffee is worth two cents an ounce, and you put into every pound two ounces of chicory worth only a cent an ounce, you steal two cents from every one who buys a pound of your coffee. If you add a quart of water to every gallon of milk you sell, you steal the price of that quart from your customer. No matter who else does it, no matter if all the milkmen do it, it is sheer stealing and nothing else.

"Thou shalt not steal" ought to be posted up in capitals in every store and factory in the land. The man who sells shoddy for genuine cloth, who gives light weight or short measure, who puts green wood or flawy iron into the machines he makes, or slights his work, is a thief. The only difference between him and a robber of a railroad train is, that he is a coward as well as a thief. He does secretly and meanly what the other does openly. Why, a defective bolt in a new mowing machine, last spring, cost me a journey to town and the loss of a day in the busiest season of the year. The maker of that machine knew that the bolt was not good; by using it he saved twenty-five cents, and made me pay in time and money fully five dollars. Was not that just as mean and dishonest as ditching a train in order to rob the passengers?

One of my neighbors found the other day that he had a spurious coin. He did not know who paid it to him, but coolly said: "I will pass it on somebody else. If I was fool enough to take it, I'll find another fool, no doubt, who will receive it as good; and it will go on circulating nobody can tell how long." I suggested to him to apply this principle, or rather want of principle, to another case. "You say that some unknown person robbed your hen-roost a few nights ago. You were a fool not to have had the hen-roost securely locked; but probably there is some one in the neighbourhood just as foolish as you were. You go, therefore, and rob his hen-roost to-night, and send him word to rob somebody else's to-morrow night. There is no telling how long this thing will go on, and where the final loss of chickens will fall." He thought that there was a difference between passing bogus money and stealing chickens. But I cannot see it; can you, dear reader?

If I was not so busy in getting in my winter's wool, I would try and ventilate some more of these respectable and fashionable kinds of stealing. People think it is not dishonest to get the property of a corporation or of the Government without any equivalent. To cheat a railroad, or Uncle Sam, is all right. Too many men are like the boy who used to rifle his father's pockets at night, and who contended that there was no harm in that, for wasn't he the old man's son?—*Occident.*

THE OLD FARM.

Out in the meadows, the farm-house lies,
Old and gray, and fronting the west,
Many a swallow thither flies
Twittering under the evening skies,
In the old chimneys builds her nest.

Ah! how the sounds make our old hearts swell!
Send them again on an eager quest;
Bid the sweet winds of heaven tell
Those we have loved so long and well,
Come again home to the dear old nest.

When the gray evening, cool and still,
Hushes the brain and heart to rest,
Memory comes with a joyous thrill,
Brings the young children back at will,
Calls them all home to the gray old nest.

Patient we wait till the golden morn
Rise on our weariness half confessed;
Till, with the chill and darkness gone,
Hope shall arise with another dawn
And a new day to the sad old nest.

Soon shall we see all the eager cast
Bright with the Day-star, at heaven's behest;
Soon, from the bondage of clay released,
Rise to the Palace, the King's own feast,
Birds of flight from the last year's nest.

—*Christian Union.*

JUDEA FOR THE JEWS.

Judea is a land of amazing possibilities. With a good government and reasonable tillage, it could be made wonderfully fertile and prosperous. Something like its ancient glory among the peoples might come back, with vastly more than its old temporal advantage. And who, of all men, can accomplish this so well as its own long-exiled children? We believe in Judea for the Jews. Let delegations of them return thither from their world-wide dispersion—from the North, from the South, from the East and from the West. Let them carry back something of their gold, and more of their proverbial thrift, and the land will smile under their feet, and they will soon be in condition to adjust governmental matters to suit themselves.

Mr. Lawrence Oliphant's name will occur to many in this connection. He had a good scheme of this sort; but, perhaps because he was not a Jew himself, the Ottoman Government did not smile upon it, and it came to nothing.

We rejoice to learn that another movement has been set on foot which offers larger promise. Certain leading and influential Hebrews, chief among whom is M. Cazale, have made late advances to the Turkish powers, and the agent of the endeavour in Constantinople has already passed the schemes through some of the most difficult preliminary stages, so that it only waits the approval of the Council and the *irade* of the Sultan, both of which are confidently expected in due course. Grants are asked of Government land in any part of Syria at the Porte's own choice, and the im-

mediate expenditure of five millions sterling (\$25,000,000) in settling Jewish colonies and developing the resources and means of communication of the country is pledged upon the sole condition that full freedom be given for the construction of all works of public utility which may be thought indispensable to success.

It is known that some German colonies have been prospering in Syria, while even some small Jewish agricultural establishments have been doing well. And, especially with the aid of a good number of Russian Jews, who are fond of farming, little doubt is felt of the speedy realization of a large success as soon as permission shall have been gained to lay the foundations of the undertaking. A beginning once well made, it will not be strange if the eyes of Jews from all over the earth should be turned towards Palestine, and a movement take place which shall make the Holy Land, within the vision of eyes already born, another land than it has been for well-nigh two thousand years.—*Congregationalist.*

THE BOTTOM OF THE ATLANTIC.

The soundings that were made between Ireland and Newfoundland before laying the Atlantic cable, have made the bottom of the Atlantic almost as well known as the surface of Europe and America. It is covered with a fine mud, the remains of microscopic insects, which will one day, doubtless, harden into chalk. The bottom of the Atlantic is one of the widest and most prodigious plains in the world. If the sea were drained off, you might drive a wagon all the way from Valentia, on the west coast of Ireland, to Trinity Bay, in Newfoundland; and except one sharp incline, about two hundred miles from Valentia, it might never be necessary to put the skid on, so gentle are the ascents and descents upon that long route. From Valentia the road would lie down hill for about two hundred miles, to the point at which the bottom is now covered by seventeen hundred fathoms of sea water. Then would come the central plain, more than one thousand miles wide, the inequalities of the surface of which would be hardly perceptible. Beyond this the ascent on the American side commences, and gradually leads for about two hundred miles to the Newfoundland shore.

HOW THE RUSSIANS KEEP WARM.

The Russians have a great knack of making their winter pleasant. You feel nothing of the cold in those tightly-built houses, where all doors and windows are double, and where the rooms are kept warm by big stoves hidden in the walls. There is no damp in a Russian house, and the inmates may dress indoors in the lightest of garbs, which contrast oddly with the mass of furs and wraps which they don when going out.

A Russian can afford to run no risk of exposure when he leaves the house for a walk or drive. He covers his head and ears with a fur bonnet, his feet and legs with felt boots lined with wool or fur, which are drawn over the ordinary boots and trousers, and reach each up to the knees; he next cloaks himself in a top coat with a fur collar, lining, and cuffs; he buries his hands in a pair of fingerless gloves of seal or bear skin. Thus equipped, and with the collar of his coat raised all round so that it muffles him up to the eyes, the Russian exposes only his nose to the cold air; and he takes care frequently to give that organ a little rub to keep the circulation going. A stranger who is apt to forget the precaution would often get his nose frozen if it were not for the courtesy of the Russians, who will always warn him if they see his nose "whitening," and will, unbidden, help him to chafe it vigorously with snow.

In Russian cities walking is just possible for men during the winter, but hardly so for ladies. The women of the lower order wear knee boots; those of the shopkeeping class seldom venture out at all; those of the aristocracy go out in sleighs. The sleighs are by no means pleasant vehicles for nervous people, for the Kalmuck coachmen drive them at such a terrific pace that they frequently capsize.

LAYING HENS.

The advice to get this or that breed of fowls as the best of all is frequently met with. Different breeds are recommended according to the luck the writers have with them. The following practical advice is from the *American Cultivator*: "To increase egg production, mark those hens in your flock remarkable for the size or the number of their eggs, and hatch these in preference for laying stock. Choose breeds which do not sit. Do not over-feed or fatten, and keep laying hens in an active, hungry state. Do not, however, run into extremes and under-feed them. They must have plenty, and yet always be ready for food. Do not keep old hens; two years is the outside limit. Birds hatched, say in March, 1880, should, on an egg farm, be killed for table on the first signs of moult in autumn, 1881. They are then reasonably young, fetching a good price, and will not be so valuable in 1882. Laying hens should not have too much soft, fattening food. Sound grain in variety is the best diet, and plenty of green food, also a supply of oyster shells or mortar rubbish."

NOW READY.

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YOUNG CANADA.

THE STORKS OF DELFT.

The bells clanged dread in every spire,
The watchman cried: "Fire! fire! fire! fire!
Ho! men of Delft, the city flames,
Run from your labours and your games.
Ho! rich and poor, haste for your lives,
Snatch your dear children and your wives,
The bedrid, aged, sick, and blind,
The idiot and insane of mind,
Then think of household goods and gear,
Rich tapestries and flagons dear,
And plate wherewith your town makes cheer.
Run, burghers, for the flames are red;
They hiss and crackle overhead,
And high above each lane and street
Hangs our brave city's winding-sheet."
And thus it chanced in Delft of fame
Lived many storks, that went and came,
Free from all harm, protected, blessed,
Because they cleared the city's pest—
Toads, frogs, and noisome creatures foul.
So wise a bird some gave a soul,
And scarce a man but reared a hatch
Whereon the little storks might hatch.
Now, on that fatal third of May,
When lurid clouds obscured the day,
With nestling birds just out of shell,
A strange and piteous thing befel.
Soft, downy, formless wing and head
They lay within the natal bed.
The parent birds quick saw their doom,
'Mid stifling smoke and sullen boom
Of falling roof and splintering wall,
And groan, and curse, and anguish call,
'Mid swaying crowds and rushing feet,
And furnace-blasts of withering heat,
And flying sparks like living things,
That bore destruction on their wings.
And first they sought in haste to bear
Their nurslings through the heated air.
But no, their strength may not suffice;
They struggle, but they cannot rise,
And, panting back upon the nest,
They hide their young with wing and breast,
And calmly wait the fiery wave
To lay them in a common grave.
The flying crowds with wonder saw
A sight to fill the soul with awe,
Those birds that chose not life, but death,
To shield their young with latest breath;
Mounting in love a funeral-pyre
They gave their bosoms to the fire.
And thus perchance the storks that day
Taught some poor craven heart the way
To stay his feet for those in need,
To help the weak, the sick to heed,
Remembering those old words, how writ:
"Who saves his life shall forfeit it."
Amid the records of the town
This tale is truly written down.
In letters of the purest gold
Such noble story well were told,
Of birds heroic in their death
Teaching Christ's truth with failing breath,
And glazing eye, and fluttering wing—
Those storks of Delft whereof I sing.

—Augusta Larned.

THE OWL AND THE WEASEL.

SOME people would tell you that you ought to destroy stoats and weasels whenever you see them. I myself think you ought not, because, although they do sometimes treat themselves to a young leveret, or even a duckling or a chicken, they should be forgiven for this when we consider the amount of good they do by destroying such grain-eating animals as rats and mice, to say nothing of our garden pests and moles.

Even the owl is a very useful bird of prey, because he works by night, when hawks have gone to sleep. Like many human thieves and robbers, mice like to ply their pilfering avocations after nightfall, and they might do so with impunity were it not for those members of the feathered vigilance committee—the owls.

Now, so long as an owl does his duty, I

think he has a right to live, and even be protected; but even an owl may forget himself sometimes, and be guilty of indiscretion. When he does so, he has only himself to blame if evil follow.

There was a particular well-to-do and overweeningly ambitious owl lived once in an old castle, not far from the lovely village of Fern-dene.

"Oh!" he said to himself one bright moonlight night, as he sat gazing down on drowsy woodland, and the little village with its twinkling lights, "I should like a repetition of last night's feast—a tasty young weasel. Oh! I would never eat mouse again, if I could always have weasel." And he half closed his old eyes with delight as he spoke.

"And why not?" he continued brightening up; "there were five of them, and I only had one. So here I go."

And away flew the owl out of the topmost window of the tower, and flapping his great lazy wings in the air, made directly over the trees to the spot where the weasel had her nest.

"I shouldn't wonder," said one bat to another, "if our friend Mr. Owl finds more than his match to-night."

Farmer Hodge, plodding wearily homewards through the moonlight, about half an hour after, was startled by a prolonged and mournful shriek that seemed close to his ear, while at the same time he saw something dark rising slowly in the sky. He watched it for many minutes; there was another scream, but a fainter one, high up in the air; then the something grew darker and larger, and presently fell at his feet with a dull thud. What could it be, he wondered, as he stopped to examine it. Why, a great barn owl with a weasel fast on its neck. Were they dead? Yes, both were dead; but then one died bravely doing its duty, and defending its homestead; the other was a victim to unlawful ambition.

A PASSING SHOWER.

IT was sunshine over the meadow, and all through the farm-house; sunshine over the old apple orchard, and sunshine all the way down the road, as far as one could see.

Could it be possible there was a cloud in the world that day? You would hardly believe it. Yet there was one rising just at that moment, a big, black, stormy-looking cloud, while the sky was as blue as ever.

Down the garden path, and beyond the summer-house, stood a fine old oak tree; and right under its great branches the dark cloud gathered. Over two round brown faces it spread quickly, till all the sunshine fled away in fright.

Ralph and Jamie loved to play under the old oak. From its thickest bough hung a splendid swing, the gnarled roots made nice seats, and it was always cool and shady there.

"Can't find my knife, what did you do with it?" said one little voice, "Didn't have it at all," said the other little voice—"I say you did."—"I tell you I didn't!" and the little voices came very sharply now. "You had it last, you naughty boy," said Ralph; and then the cloud on Jamie's face grew darker, and big rain drops fell from the blue eyes, while the angry sobs which followed so astonished the

sparrows overhead that they stopped chirping, and hopped down on the low branches to see what was the matter. "Bad boys, go home!" chirped Mrs. Sparrow, and just then came mamma's voice from her window, "Boys, come to me."

Wee Jamie toddled off, and Ralph followed. As they passed the summer-house, there on the grass lay Cherry's doll, Lizette, in white pinafore and scarlet shoes. They peeped in, and there was Cherry herself, fast asleep on the hard bench, with her own chubby arm for a pillow. The ground was strewn with chips, from among which gleamed the lost knife, while a fat fist tightly clasped a stick of wood which she had been trying to whittle "like bruvver."

Ralph and Jamie dearly loved their little sister, and there was the precious knife, and Cherry herself had been cut. So the rain of tears stopped at once, and a bright laugh from Cherry as she woke up scattered the cloudy looks so fast that before you could turn around all was sunshine again.

Then Ralph and Jamie and rosy little Cherry ran to mamma as fast as their little feet would carry them, and told her all about it.

And mamma kissed the three puckered mouths, and said softly: "Little children, love one another."

RULES FOR HOME JOYS.

SHUT every door after you, and without slamming it.

2. Never shout, jump, or run in the house.

3. Never call to persons upstairs or in the next room; if you wish to speak to them, go quietly where they are.

4. Always speak kindly and politely to the servants, if you would have them to do the same to you.

5. When told to do or not to do a thing, by either parent, never ask why you should or should not do it.

6. Tell of your own faults and misdoings, not of those of your brothers and sisters.

7. Carefully clean the mud or snow off your boots before entering the house.

8. Never sit down at the table or in the parlour with dirty hands or disordered hair.

9. Never reserve your good manners for company, but be equally polite at home and abroad.

HOW TO BREAK OFF BAD HABITS.

UNDERSTAND the reason, and all reasons, why the habit is injurious. Study the subject until there is no lingering doubt in your mind. Avoid the places, the persons, that lead to the temptation. Frequent the places, associate with the persons, indulge in the thoughts that lead away from temptation. Keep busy; idleness is the strength of bad habits. Do not give up the struggle when you have broken your resolution once, twice, a thousand times. That only shows how much need there is for you to strive.

When you have broken your resolution, just think the matter over, and endeavour to understand why it was you failed, so that you may guard against the occurrence of the same circumstances. Do not think it an easy thing that you have undertaken. It is folly to expect to break off a habit in a day which may have been gathering strength for years.

Household Hints.

BOILED ICEING.—Mix two tablespoonfuls of cold water with a cup of granulated sugar, and boil until it ropes. Take off and stir in the white of one beaten egg and flavour with lemon juice or tartaric acid.

WHEAT MUFFINS.—One teaspoonful of melted butter, one egg, one and a half cups of flour, one teaspoonful of cream of tartar, half a teaspoonful of soda, half cup of sweet milk. Bake quickly in muffin pans.

TO CLEAN LAMP CHIMNEYS.—Hold them over the nose of the tea-kettle when the steam is free and hot. One or two repetitions of this process will make them beautifully clear and bright. Wipe upon a soft, dry cloth.

WHEN baking cake in a long tin, line the sides and ends as well as the bottom with stiff white paper; you can then lift the cake out without breaking it, and can also be perfectly sure to bake it thoroughly in the middle without burning it anywhere else.

LEMON BUTTER FOR TARTS.—Lemon butter is excellent for tarts. It is made as follows: One pound of pulverized white sugar, whites of six eggs, and yolks of two, three lemons, including grated rind and juice. Cook twenty minutes over a slow fire, stirring all the while.

APPLE FRITTERS.—Make a batter, not very stiff, with one quart of milk, three eggs, and flour to bring it to a right consistence. Pare and core a dozen apples, and chop them to about the size of small peas, and mix them well in the batter. Fry them in lard, as you would doughnuts. Sprinkle powdered sugar over them.

FOR COCONUT CANDY.—Take four cups of water, two and a half cups of fine white sugar, four spoonfuls of vinegar, a piece of butter as large as an egg; boil till thick, about three-quarters of an hour. Just before removing stir in one cup of desiccated coconut, and lay in small flat cakes on buttered plates to cool and harden.

PARSLEY SAUCE.—Wash a bunch of parsley in cold water, then boil it for six or seven minutes in salt and water; drain it, cut the leaves from the stalks and chop them fine. Have ready some melted butter and stir in the parsley; allow two small tablespoonfuls of leaves to one half pint of butter. Serve with fish, and with boiled fowls.

THE baby's night-gown should be white flannel. The red flannel many mothers fancy may poison the skin. The old-time red dyes were well enough, but the present red should not be worn next the skin by either old or young. They are particularly mischievous to the delicate skin of our little people. All the modern dyes are poisonous.

NERVOUS HEADACHE.—Dr. Ehlshlager, of Danzig, says that he has found salicylate of sodium to be a remedy of great value in the treatment of nervous headache, especially if given in a dose of one gramme (gr. xv.) in the beginning of an attack. It usually produces drowsiness, and after a few hours the patient wakes up refreshed and free from pain. It, however, often fails to produce this effect in cases dependent on anæmia.

ICEING WITHOUT EGGS.—Soak a teaspoonful of Cox's gelatine in a tablespoonful of cold water for an hour, then add a tablespoonful of boiling water and set over the tea kettle until it melts, after which stir in a cupful of sugar and let come to a boil. Take it immediately from the fire and stir until white, when it must be spread on the cake as soon as possible. It is best that the cake should be freshly baked and not completely cold.

TO MAKE CHILDREN'S PUDDING.—Grease the pan a very little, then put a layer of apples in the bottom, then a layer of crumbs, then a little sugar, and so on until the dish is filled. Pour a little water in and cover over with a plate or tin and set on the top of the stove, and let it remain until the apples are nearly cooked; then put in the oven and let it brown over nicely. The apples should be the last layer. Eat with milk or cream and sugar. This pudding will bake very quickly.

BOILED FOWL.—Take a small fowl or chicken, split it down the back and fix it open with skewers. Lay it flat in a large saucpan and put in enough water to just cover it; boil gently for a quarter of an hour, then rub over with a little butter, and place it on the gridiron, inside downwards, and keep turning it till done; pepper lightly at each turn; add a little salt at the last. Rub over with butter, and serve very hot with a little good gravy, mushroom sauce, or with tomato sauce.

BAKED APPLE CUSTARD.—Peel and core a dozen large apples, put them into a lined saucpan, with a small teaspoonful of cold water. As they heat, bruise them to a pulp,

sweeten and add the grated rind of one lemon. When cold, put the fruit at the bottom of the pie dish and pour over it a custard made with one pint of milk, four eggs and two ounces of loaf sugar. Grate a little nutmeg over the top, place the dish in a moderate oven and bake half an hour. This will make a quantity sufficient for six or seven persons.

HOUSEHOLD MATS.—Something quite elegant may be made out of odd pieces of tapestry carpet. You must unravel the yarn and wind it in a ball. Then get a pair of large knitting needles, cast on 100 stitches; close your left hand and wrap the yarn four times around it, knit off the stick, taking up all the yarn on your left hand with it. Repeat the same process at every stitch, until you have finished your needle. Knit the next row plain, and so on until you have a square. Line this with a piece of carpet, and you have the art-mats of the season.

LEMON CAKE.—A delicious lemon jelly cake which will keep well, and which is in fact better after having been kept for a week, is an easily obtained luxury. Take two cups of sugar, half a cup of butter, one cup of milk, three eggs, two and one-half teaspoonfuls of baking powder, and three cups of flour. This makes five layers. For the jelly use the grated rind of two large lemons and the juice also, one cup of sugar, one egg, half a cup of water, one teaspoonful of butter, one tablespoonful of flour mixed with a little water; boil until it thickens, and then place between the layers of cake.

TO COOK A GOOSE NICELY.—After dressing the fowl nicely, put it in a deep pan, pour boiling water over it, and let it stand till cold, all night if convenient. When cold, wash it off and wipe it dry; then put it over the fire in cold water, and let it come to a boil; take it out and wipe it again. In this way you remove nearly all the strong, oily taste. Stuff it with a dressing of bread crumbs seasoned with salt and pepper, butter (or salt pork chopped fine), sage, and a trifle of chopped onion. Tie it up and roast till tender. Fifteen minutes to a pound—weighed after it is dressed and before it is stuffed—is the rule for fowls.

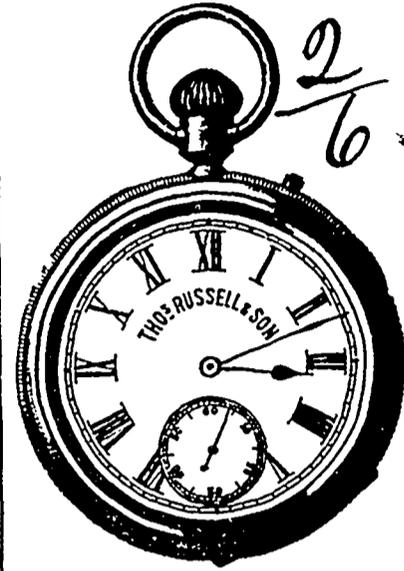
DUTCH CAKES.—Prepare a puff-paste, with a pound of flour and three-quarters of butter; give it six turns; when set, roll the paste out nearly half an inch thick, divide it into rounds of two inches diameter, or rather more, with a tin cutter channelled, as for large "bouchées." Spread a layer of powdered sugar on a table; take up the rounds of paste one by one, dip one of their sides into the flour, the other into the sugar; place them on the table with their sugared side up, and roll the rounds out again, giving them a length of four inches; arrange them on a baking-sheet on their floured side, and at little distances one from the other. Bake them in a moderate oven, giving them a nice gold colour.

VELVET PUDDING.—Take five eggs and beat them separately, then add one cup of sugar to the yolks. Take four tablespoonfuls of corn starch dissolved in a little cold milk, and add this to the yolks and sugar; boil three pints of milk and add the other ingredients while boiling; remove from the fire when it becomes quite thick; flavour with vanilla, and pour into a baking-dish; beat the whites of the eggs to a stiff froth, add half a cup of fine white sugar, turn this over the pudding and place in the oven and let brown slightly. To be eaten with sauce made of the yolks of two eggs, one cup of sugar, tablespoonful of butter; beat well, add one cup of boiling milk, set on the stove until it comes to a boiling heat; flavour with vanilla.

HONEY-MADE CANDY.—All children are fond of candy, and if pure a moderate amount is not injurious. In these days of adulteration, that made at home is safest to give them. It is a simple matter to make chocolate caramels; all that is needed is one cup of sweet milk, one cup of molasses, half a cup of sugar, half a cup of grated chocolate, a piece of butter the size of a walnut; stir constantly and let it boil until it is thick, then turn it out on to buttered plates; when it begins to stiffen, mark it in squares, so that it will break readily when cold. Coconut caramels are made of two cups of grated cocoanut, one cup of sugar, two tablespoonfuls of flour, the whites of three eggs beaten stiff; bake on a buttered paper in a quick oven. Nice white candy is easily made. Take one quart of granulated sugar, one pint of water, two tablespoonfuls of vinegar; boil just as you do molasses candy, but do not stir it; you can tell when it is done by trying it in cold water. Pull it as if it were molasses candy; have a dish near by with some vanilla in it, and work in enough to flavour it as you pull; put it in a cold room, and the next day you will have a delicious candy.

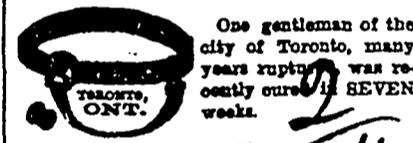
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TORONTO WHOLESALE MARKETS.

OFFICE RURAL CANADIAN, Toronto, 16th Jan., 1882.

WHEAT.—Transactions have been limited and prices firm. There has been a moderate demand for fall, but holders of round lots ask about two cents more than buyers are willing to give.

COARSE GRAINS.—Barley.—The state of the market is firm, but transactions limited. There has been a fair inquiry from the States, and some sales on p.t. Car lots on spot sold at 90c for No. 1, at 88c for No. 2 choice, at 85c to 87c for No. 2, and at 80c for No. 3.

FLOUR AND MEAL.—The Flour market has been exceedingly dull, there being no orders to fill and but little stock offering. The latter part of last week a round lot of Superior Extra and Extra, now inspected, sold together at \$5.65, and prices are now purely nominal at \$5.70 for Superior Extra and \$5.60 for Extra.

COUNTRY PRODUCE.—Apples.—There is little demand from the city trade and no export movement; holders are asking \$3 to \$3.75 for good fruit in one barrel to ten barrel lots, and \$2.90 to \$3.00 for car lots. Medium qualities are \$2.00 to 2.50.

LIVE STOCK.—The supply of cattle last week amounted to about 20 car loads. The quality as a rule was ordinary and prices steady. Holders asked high figures, which somewhat restricted business.

PROVISIONS.—Butter.—A few lots of fair quality have been bought for export at 15c to 16c, and a car of inferior for the lower provinces at 12 1/2c to 13c.

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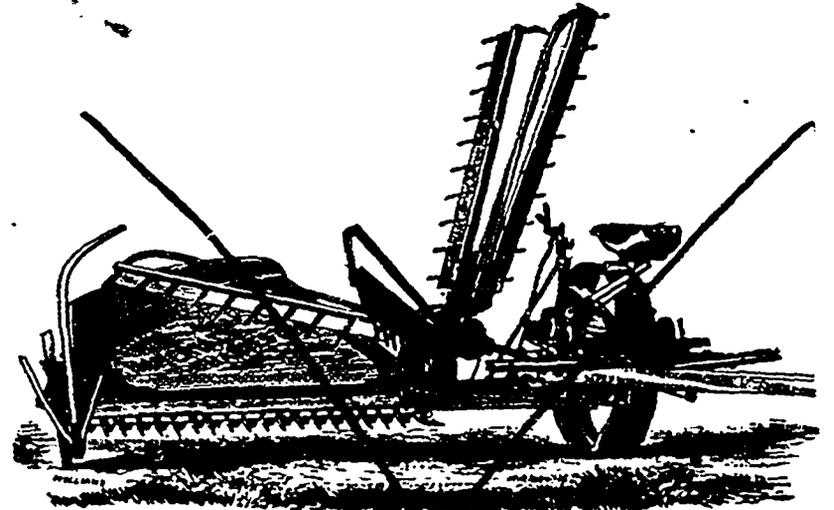
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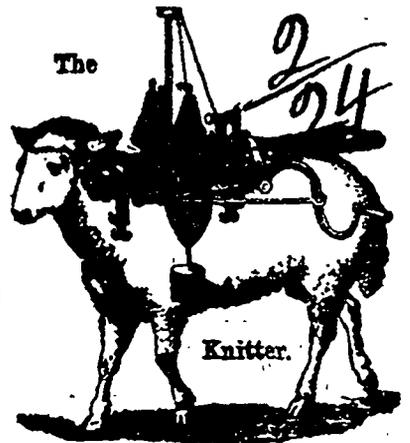
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