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RURAL NOTES.

The *Kansas Farmer* says: "Without an exception, all our farmers that have made any money here, have done so by driving their products to market on legs."

The silk industry is growing rapidly in the United States, about \$16,000,000 of silk goods having been produced by the silk mills in Pater-son, N. Y., during the past year.

The *Concord Monitor* affirms that ensilage is a success as a mere auxiliary food, but "that is all there is to it." Most of those who feed it give a liberal allowance of meal along with it.

A New York doctor declares that horses ought to be treated to fruit and sugar now and then, and he agrees with Rev. Mr. Spurgeon, that, above all, one day's rest in seven is important for them.

Grapes are often over-pruned. A Maine cultivator of them gets fine crops from vines that have been permitted to climb and cover an arbour or trellis without being taken down or pruned for nearly fifteen years.

A New Jersey man says that two days' attendance at a farmer's meeting thirty years ago—which his neighbours laughed at as a waste of time—gave him information by the use of which he has since saved hundreds of dollars.

PROFESSOR SHELDON'S book on Dairy Farming is advertised by the Orange Judd Co. of New York at \$12.50. It is, no doubt, a very full, comprehensive, and useful work, but the high price is against it. If some one would boil it down, and give us the essence of it at a cost not exceeding one dollar, some thousands of dairymen in Canada and the United States might be induced to buy it.

The "New Guide to Rose Culture," issued annually by the Dingee and Conard Co. of West Grove, Pa., is not only a catalogue of the varieties of "the queen of flowers" kept for sale by this enterprising firm, but a complete hand-book of rose culture. It is sent free to all intending purchasers. The Guide for 1882, just received, is embellished with a beautiful coloured plate representing, in a life-like manner, a trio of new roses.

Referring to the excessive use of pork in farmers' families, E. P. Roe says, in a recent work of his: "In June, of all months, in sultry July and August, there arises from innumerable country breakfast tables the pungent odour of a meat into which the devils went, but out of which there

is no proof that they ever came." Beef and mutton can be produced as easily and cheaply as pork, and they are at once more palatable and more wholesome.

Will some advocate of sugar-making from the beet be kind enough to "rise and explain" why this industry does not flourish on the North American continent? Another abortive attempt at it is reported. The Delaware Co., operating near Wilmington, Del., has found the project "unprofitable in that climate." While the sorghum and amber cane sugar interests appear to be prospering both north and south, the beet sugar industry languishes. The first really successful attempt in this line on this continent has yet to be recorded.

The horse disease known among veterinary surgeons as "Epizootic Cellulitis," and commonly called "pink-eye," which has been raging for some time past in the United States, has broken out in Toronto. It first appeared in the stables of the Street Car Company on Front Street, and spread so rapidly that over thirty horses were soon laid up. The malady is not dangerous except when it assumes the rheumatic form, in which case the animal's joints swell, there is great pain, and the results are often fatal. Exposure to cold, wet weather is supposed to be the cause of the complaint. It takes from ten to thirty days to effect a cure. Shelter and warmth are the most likely precautions against it.

The *Prairie Farmer*, which is ridiculously tinctured with Anglophobia, and loses no opportunity of chronicle anything that indicates the ruin and decay of Britain, "gets off" the following sarcastic fling in a recent issue:—

The English have at last found something to fall back on. America may flood Great Britain with wheat, flour, corn, beef, pork, and canned goods; butter, cheese, but-terine, suine, oleomargarine (the latter a misnomer, chemically speaking), glucose, cotton, manufactured goods, in short any and everything but the ingredients of "alf and 'alf," and "Bass's pale." We "'aven't got the 'ops nor the barley, you know!" Hence we find a British bard sings with a satisfaction soothing to the whole nation:—

"Wheat, Rye, or Beans may flourish or may fade;
To bring them here is the importer's trade;
But Hops and Barley, Britain's boast and pride,
By foreign farmers ne'er can be supplied."

APIARIAN humbugs of one kind and another still infest the market, and bee-keepers, or those intending to become such, need to be put on their guard against them. It should be understood that there are now no "mysteries of bee-keeping," except to the class who do not read publications on apiculture. The secrets of this business are all "open secrets." Any parties who offer by mail or otherwise to make known "new methods," by which fortunes can be speedily made out of bees, merely trade on the ignorance and credulity of the public.

Patent hives, moth-traps, and all such devices for money-getting have had their day, and bee-keeping has been reduced to a business, the principles of which are the common property of all intelligent and well-informed apirians.

There is about as much difference between wild and cultivated grasses as there is between a wild crab and a good, grafted apple. Yet many farmers are satisfied with natural pasturage, and some even think it better than any other. The wild grasses are usually coarse, deficient in nutriment, and do not fill out the season. This last is a very important consideration. An Iowa farmer, writing in the *Country Gentleman* on this point, says: "With plenty of good tame grass pasture, we can lengthen out our grazing season in Iowa about two months longer than with wild grass pastures only; get more milk and butter, and have our stock in better condition." Seeding down should be done with the utmost care, and with a variety of grasses, early and late.

A CONTRIBUTOR to "Notes and Queries" has unearthed a list of agricultural implements and sundries which were in use on a farm in Warwickshire, England, in 1665. Here it is:—

"One cart bound with iron, seven yokes harnished with iron, two yokes with iron rings called copyokes with rings, six iron taws, three cock-cleaves with pins, two culcers, two plough-shares, three nagers, two muck forks, two muck hooks, one double-grained fork called a pike fork, one wain rop, one mattock, one brier sithe, two carts called tumbrils, two spades, one hopper, four rings called ox bows, two iron rings called sibe rings, four carts, one great harrow called an ox harrow, two harrows called small harrows. The above implements were estimated to be then of the value of 100s."

If this be compared with one of the handbills advertising an auction sale of farm stock and implements in these days, some idea will be got of the progress agriculture has made during the past 300 years.

It is to be hoped that "Wild Oscar, the Ass-thete," will not bring the sunflower and lily into disrepute among sensible people. They are good, old-fashioned flowers, though rather large for wearing in one's button-hole. The sunflower is a cheerful and happy-looking plant when in bloom. A grove of it around a dwelling is a counteractive of malaria. Its seeds make excellent food for fowls. The lily in all its varieties is lovely, from the modest lily of the valley to the gorgeous and mammoth *Victoria Regia*. These deserving flowers are worthy of a better fate than that of being linked with the name of a man, if man he be, who has made himself the laughing-stock of two hemispheres. There was point in the wit of the venerable poet who went about the Century Club on the night of the "Ass-thete's" visit, asking, "Where is she? Well, why not say 'she'?" I understand she's a Charlotte-Ann.

FARM AND FIELD.**"SUCCESS IN FARMING."**

The following is a synopsis of the able address before the Oshawa Farmers' Club, by Mr. John Dryden, M.P.P. for South Ontario, to which reference was made in our last issue. It is abbreviated from the *Globe's* report of the meeting at which the address was given:

Success in farming, he said, could not be attained in the highest degree except under the most favourable circumstances. In order to have success in farming, there were

THREE INDISPENSABLY NECESSARY CONDITIONS.

First, a good farm; second, the farm must be in a good locality; third, there must be sufficient capital to run it to advantage; and, having those conditions, there must be skilful and proper management. When they had the first three it would seem to be easy to add the latter, but they often saw a young man who, left in such circumstances, by-and-by became embarrassed, and was perhaps forced to leave the country as well. On the other hand, a man sometimes commenced farming in a poor location, and attained perhaps not the highest success, but the highest compatible with the circumstances, and purchased another farm, perhaps the one owned by the man first spoken of. As to the management, it was perhaps unfortunate that a rule could not be laid down which would suit every farmer, the reason being the differences in soil, climate, and other surroundings. It would be found that if a rule were laid down for one farmer it would be unsuitable for another; so a farmer must be a man of thought and judgment to make the best of his circumstances. Their fathers could scatter the seed in a rude manner upon the virgin soil and look forward to a good crop, but they could not do that now, the circumstances being changed, and they must adapt themselves to those circumstances if they would attain the highest success. The

FARMER MUST BE A MAN OF THOUGHT,

so as to lay his plans, and having laid his plans, he must work to them day by day if he would accomplish the best results. He had no sympathy with the man who would plod on and toil in the same paths in which his father had toiled, without stopping to consider whether he was taking the best course. It would be important to stop and consider whether some other plan would not be better. It had been said that there were ten ways of doing a thing—a right way and a wrong way, an easy way and a hard way, a skilful way and an awkward way, a neat way and a slovenly way, and a cheap way and an expensive way. He advised the farmer to stop and consider, and choose the first of each of the ways mentioned. Again, the

FARMER MUST BE A MAN OF LABOUR.

His business did not differ from any other business. The labouring man in every department of life was the man who succeeded. The man who would do great things must labour. He did not mean to say that in every case it would be to the advantage of the farmer to labour with his hands upon the farm. Perhaps it might not be expedient. But the farmer must have control of the labour.

He ought to have a practical knowledge of all its details. It would be better if he could handle the plough, and fork, and spade, so that he could the better direct his men. Again, the successful farmer should be a

MAN THAT IS NOT ABOVE HIS BUSINESS,

nor ashamed to be found giving attention to it. He made a strong point of this. The man who was ashamed of being found in the shop or of soiling his hands had better turn his attention to something else, as he would never succeed. He would find that obstacles would present themselves, and that man would not succeed as a farmer. They could not expect to carry on farming in Canada as they did in England. There were three classes in England—first, the landlord; second, the farmer; and third, the labourer—all distinct. In Canada they found all these combined in one—the farmer, the proprietor of the land which he tilled, giving directions, and having to put himself alongside of the labourer in accomplishing the work to which he gave his attention. The farmer should be a man who could

MAKE THE BEST USE OF THE LABOUR

at his hand, and especially so if he were undertaking to manage a large farm. It was a very easy thing to accomplish as much work by proper manipulation with six men as another man would by improper manipulation with nine men. That was a point which needed some attention. Mr. Dryden here detailed a number of little instances in which the labour could be utilized to better advantage. Another element of success in farming was to

KEEP THE WORK WELL AHEAD.

There was an old adage which they had often heard, and which was perfectly true: "Drive the work, or the work will drive you." If they got behind they were working at a disadvantage, and the work was driving them. To be sure they laboured under disadvantages; for instance, they could not control the weather. That was the time when the farmer must use his best judgment, and bring the work into the position in which he desired it should be. The Canadian farmer could not go along in the way that farmers did in other countries. In other countries they had longer seasons, but the work in Canada had to be done in a limited period, or not done at all. They must be on the alert. He would not advise a man to crowd his workmen. The chances were, that on a well-regulated farm the men would be inspired with sufficient enthusiasm to make a "spurt" when it was required, but because they could do so occasionally, he would not ask them to do so every day; because the men would get disheartened and would not work as well. He condemned the practice of racing at work, as it formed a habit of working irregularly. He made a strong point of working regular hours on the farm, as he did not see why a man working on a farm should not have regular hours of labour as well as the man who worked in a manufacturing establishment. He was among the first in his own neighbourhood to commence the practice. They ought to follow the golden rule in this matter, and put themselves in the places of the servants, and consider how they would wish to be treated. He not only put the

matter on that ground, but he guaranteed that more work would be done in regular hours than when work was done irregularly. Mr. Dryden then proceeded to speak of the

MATTER OF DRAINAGE.

He knew of nothing that would pay better than the drainage. He wished he could impress upon farmers the importance of paying more attention to this matter. He saw farm after farm whose value could be doubled, and in some cases trebled, by a proper system of drainage. While he said this, he wished to impress upon them the necessity of doing it properly, as a great deal of money had been wasted in draining because the work had been improperly done. In draining he would advise them to have as few outlets as possible, but to pay strict attention to those outlets. The farmers had no settled purpose in this matter. The work also could not be done in a year. For twenty years he had been constructing drains on his own farm, and he had not got through yet. There was scarcely a field without a drain in it. No matter how skilfully a farm was managed, if the soil were wet the results would not be such as their skill and industry would achieve if the land were properly drained. The next point to which he referred was the necessity for a

THOROUGH TILLAGE OF THE SOIL.

Some farmers studied to see how little labour they could expend upon the land and get a crop, instead of studying how much labour they could bestow upon it with the certainty of getting an ample return. They required to plough and harrow and pulverize the land a great deal more, as they had not the same virgin soil to deal with as their fathers had fifty years ago. They should take an example from the gardener, who raked and pulverized the ground so that every seed he put down grew. By following the last two points they would be able to carry out what he considered another element of success in farming, viz.,

EARLY SOWING.

He knew that some would not agree with him, but he was very decided upon it. He did not care what kind of ground it was, he wanted it sown early—as early as they could get the seed into the ground. Of course if the land were not drained it could not be done. It also showed the necessity of more thorough tillage. But it might be said that they were afraid of the frosts, that in a certain year barley was nipped. He did not believe a word of it. Farmers would say that it was no use sowing early, as there was no growth in the ground, but he knew that that was not true. To bear out his contention Mr. Dryden cited a couple of instances in his own experience, in which, after sowing, the ground had been frozen, but the seed in both instances was uninjured, and yielded good crops. There was more risk run by sowing late than early. Early sowing was a decided element of success in farming. The next matter was

ROTATION OF CROPS.

The successful farmer would be able to tell not only what he would sow this year, but for several years to come, because he would have in his mind a regular rotation of crops. A great deal was said about this matter, but a cast-iron rule could not be laid down, be-

cause of the differences of soil and circumstances. He did not follow the same rotation in every field himself, but changed them to suit circumstances. He proceeded to speak of what he conceived to be the foundation of any rotation—viz., successful grass-growing, and especially that of clover. If the rotation would not permit of the growing of a good crop of grass, no matter what the rotation was, it would not be successful. He considered this to be one of the pillars of successful grass-growing. This was a matter which baffled him more than anything else. The usual plan he found to be a complete failure, but it was when he attempted to seed down a field freshly manured that he had better success. He grew his roots on a field like that after grass, ploughed the seed under late in the fall or early in the spring, followed that with barley, then manure and wheat, and then seeded down if it needed rest. They should bear in mind that when the grass was seeded down the ground got the benefit. Of course the number of years depended upon circumstances, but three years was his aim. The idea that farmers had of barley this year, wheat next year, and something else the following year, was all wrong, and did more to ruin farmers than anything else. If they nursed their farms more, and were not so hasty in attempting to get rich, they would find in ten years that they had made more money. The plan of growing all of one article in a year, to the exclusion of other things, left them always a year behind the high-priced product. When barley would be a good price this year they would have all wheat, and so with other things. If they would work without paying so much attention to making money, they would find that they would have something that would pay well, and they would make more money in the long run. For

MANURE IN THE GROWING OF CLOVER

he depended almost entirely upon two things—plaster and barn-yard manure—as he need not look for anything better. A great many had the idea that the plaster ought to be scattered upon the leaves when damp, but that was a mistake. It ought to be got into the ground before it would have its effect. It should be sowed early in the spring, so as to get the benefit of the spring rains. As to barn-yard manure, the best was required, and stock would have to be fed pretty well in order to produce the best. He would not call him a successful farmer who devoted his attention entirely to grain-growing, and kept a few cattle just to consume his straw; or the man who could show some grand specimens of live stock, and at the same time had a field full of rubbish. Every department should receive due attention, and in this way they would be most likely to reach the success which they desired. If they kept stock, they should endeavour to keep the best. They could not all go into fancy stock raising, but it was profitable to secure good stock by using the males of those different varieties which made the best kind of animals. In this way they should endeavour to produce the best meat with which to get their share of the trade in the markets which were opening up to them in the Old World. A requisite to successful stock raising was the care of animals during their first

year. The importance of this he could not urge too strongly. And while taking good care of them, if they got a pound of flesh on the animal they should not let it off, for they would only have to put it on again, which would add to the cost of the animal. Mr. Dryden then gave some practical advice as to the manner in which all farm work ought to be done. Whatever was worth doing at all was worth doing well, and should be done in the best manner possible. If anyone supposed that a lazy, brainless fellow could make a successful farmer, he was mistaken. He did not know of any industry which required more judgment, thought, wisdom and discretion. The last element of success in a farmer to which he called attention, he did not think would be readily assented to. It was

PAST FAILURES.

They were very inconvenient and embarrassing when one had a certain sum of money to raise, but they forced people to stop and think whether they were upon the right paths, and discuss things with their neighbours, and to make comparisons. People said that there was not so much advancement made in agriculture as in other pursuits, but they must remember that it took a year to make an experiment, and almost a lifetime to come to a right conclusion in connection with every matter. And this could be remedied to a great extent by meeting and comparing notes, and thus saving themselves the trouble and expense of going through experiments themselves. He congratulated the club on the success which it had attained. He concluded by urging the members to realize the nobility of their calling, and to strive to elevate it to the position which it ought to occupy among the industries of the country; and thus they would be able to do their part in raising Canada to her proper position as first among the nations. Mr. Dryden resumed his seat amid loud applause.

POTATOES UNDER STRAW.

Several years ago there was much said about growing potatoes under straw, and we published at the time several reports from those who had tried the method with success. Interest in the subject appears to be renewed, to judge from inquiries. The method is very simple: the land is prepared in the usual manner and the rows marked off; the sets are dropped along the rows, and very slightly, or not at all, covered with soil. The whole field, or bed, is then covered with eight or ten inches thickness of old straw. Nothing more is required until digging time, unless some strong weeds should make their way through the straw, and these may be pulled. It is claimed that the yield is larger and the potatoes are much handsomer than those treated in the usual manner.—*American Agriculturist.*

GROUND for early peas is best manured in the fall. If that has not been done, plough in the manure early, letting the ground warm a day or two, then harrow and let it have a day or two more of sun in which to warm up. By this practice you will get peas earlier than if you put the seed into the cold ground as soon as ploughed.

OREAM.

Oh! a wonderful thing is a seed,
The one thing deathless over,
The one thing changeless, utterly true,
Forever old, forever new,
And fickle and faithless never.

Plant hate, and hate will spring,
Plant love, and love will grow,
To-day you may sow, to-morrow will bring
The blossom that shows what sort of a thing
Is the seed: the seed that you sow.

SHE told him that she could read his mind like an open book; and then softly added, "blank book."

THE flower which we do not pluck is the only one which never loses its beauty or its fragrance.—*W. T. Alger.*

I BELIEVE in a boy who has something of the man in him, and I believe in the man who has something of the boy in him.—*P. S. Henson.*

I would not waste my spring of youth
In idle dalliance; I would plant rich seeds,
To blossom in my manhood, and bear fruit
When I am old.—*J. A. Hillhouse.*

A LITTLE Irish boy fell down and bit his tongue. He arose from the ground, crying and sobbing, and said to his brother: "Oh! Staphen, d'ye think will I ever spake again?"

A MAN was sitting for his photograph. The operator said, "Now, sir, look kind o' pleasant—smile a little." The man smiled, and then the operator exclaimed: "Oh, that will never do! It is too wide for the instrument."

ON Sunday morning she told her little niece to put on her things and take the bundle under her shawl to the lady's house. "Nobody will see it," she said. "But is it not Sunday under my shawl, aunt?" asked the child.

"WELL, neighbour Simmons, how much shall we put you down for to get a chandelier for our church?" *Neighbour S:* "Nothing. What do we want a chandelier for? We haven't got anybody in the parish who could play on it after we get it."

MRS. PARTINGTON is thinking about keeping a carriage. She says she has thought it all over, and come to the conclusion that brooches are almost too large; that coupons are too much shut up, but a nice stylish pony phantom seems to be just the thing.

"EDWARD," said Mr. Rice, "what do I hear? that you have disobeyed your grandmother, who told you just now not to jump down these steps?" "Grandma didn't tell us not to, papa; she only came to the door and said: 'I wouldn't jump down those steps, boys;' and I shouldn't think she would—an old lady like her!"

MRS. CROSSPATCH advertised for a servant, and on one appearing whom she wished to secure, began in a roundabout way to confess her fault of impatience. Bridget interrupted, declaring, "Och, mam, it's meself as don't mind a crossh misthress at all, at all." The lady engaged this treasure forthwith, but shortly found that added to capability was a will to do as she pleased in opposition to the mistress. Calling her to account, the latter excitedly demanded, "Why do you not obey my directions?" "Sure, I tould ye at first I wouldn't mind a crossh misthress, an' now more will I, troth."

HORSES AND CATTLE.

THE GALLOWAYS.

The Galloways had their special advocate before the Commissioners in the person of Mr. McCrae, of Guelph, who has a fine herd of them, and is warm in his praises of their qualities.

The hardiness of the Galloways is undisputed, and the absence of horns may also, on shipboard, or in railway cars, be an advantage. Mr. McCrae, however, claims for them other qualities than these. He says:—

"A cross from a Galloway bull and a common native cow, if fed till it is three years old, will weigh from 1,600 to 1,700 lbs. I have five three-year-old Galloway steers at present which I have been offered \$100 apiece for, if fed for six months. I have had Galloways at two years and a-half weighing 1,500 lbs. With regard to their milking qualities, we do not breed them for milking purposes, but the best milking cows we have had of any breeds have been Galloways; still, these are exceptions, and not the rule. We use them for breeding purposes, and let them nurse their own calves, which destroys any cows for milking. I consider the Galloways a good hardy breed to be kept distinct. Their beef is reckoned to be of the very best quality—equal to that of the West Highlander. Some Galloway grades which were taken from the township of Nichol to England were sold for £3 a head more than other beasts—Durham grades—of same weight."

Remarking further that, by careful selection, good milking strains of Galloways can be secured, and on the adaptability of the Galloway to extremes of climate, Mr. McCrae says:

"I would recommend the Galloway as being adapted to farmers of the smaller class, with whom feed is an object, and farmers whose land is somewhat rough."

The reports of the Galloways from farmers who have tried them, however, are not particularly enthusiastic in their behalf.—*From Report Ontario Agricultural Commission.*

THE TROTTING BREED.

The *National Live Stock Journal* has this to say in regard to the breeding of trotters in the present day:—

It should be a matter of great encouragement to breeders of trotting horses to know that of the seventy-four trotters which, during the year 1880, dropped into the 2-25 list, or that reduced records that had previously been made within that limit, with the exception probably of nine or ten, all are the result of a deliberate purpose on the part of those who bred them to produce trotters. The quassiness of breeding for speed at the trotting gait is fast passing out of the domain of chance, and we are nearing the point where the winners of the trotting course will be bred with as much certainty as those of the running turf. We now have our well-known and clearly-established trotting strains, from which a man may select and purchase breed-

ing stock with a reasonable degree of assurance that he will not be disappointed in his purchase. In fact, we have learned how to breed trotters, and we have gone far toward fixing the trotting characteristic so that it will be transmitted with certainty.

Our progress in breeding for speed at the trotting gait has been even greater than is indicated by the records. Eight years ago only 61 horses had reached as low a mark as 2:25; last year alone the number on the turf that could beat that figure reached into the hundreds. Ten years ago, a horse that could make a mile in 2:40 was recognised as a creditable performer; and a 2:35 horse was a good one in an ordinary trotting race. Now a horse that cannot make a mile in 2:35 is scarcely regarded as a respectable roadster; and one that cannot show heats close to 2:20 is not worth paying entrance money on in the slowest classes at the leading trotting meetings.

The lines that have produced this vast number of fast trotters are now so well known that one can take the Breeders' Trotting Stud Book, and from the pedigrees therein recorded, based upon the 2:30 standard, pick out the sires and the dams of the winners that are to



THE GALLOWAYS.

come, with as much confidence as the breeder of running horses now makes his nominations for his racing stakes two or three years in advance. An occasional accidental trotter will continue to be produced outside of the standard-bred trotting lines, because the trotting leaven is scattered all over the country in unknown quantities, and it will occasionally crop out in the production of a first-class performer; but we hazard nothing in making the prediction that an overwhelmingly large proportion of the fast trotters—the winners of the future—will be descendants of animals whose names are now recorded.

THE CONTAGIOUSNESS OF GLANDERS.

It has long been known that glanders is an innoculable disease, and that it could also be produced by transfusing blood from a diseased to a healthy horse or ass, as well as by introducing the virus contained in the nasal discharge into the stomach. It is possible that all the secretions and excretions are more or less infective, the peculiar muco-purulent fluid thrown off by the Schneiderian membrane probably being most active. This discharge has been blamed as rendering the public watering troughs a source of danger, the fluid

passing into the water when glandered horses are allowed to quench their thirst at these valuable conveniences.

From a note presented to the Académie des Sciences by Professor Galtier, of the Lyons Veterinary School, it appears that he has been successful in transmitting the disease to an ass, by the hypodermic injection of saliva from a glandered horse. We know that the virulent germs find admission not only through a wound or abrasion, or a thin mucous membrane, such as the conjunctiva, but also by the digestive organs. Saliva readily mixes with water, and those who have watched horses drinking will have remarked that some of the water taken into the mouth escapes by the commissures of the lips and falls back into the trough or bucket; and when drinking has been completed, a certain quantity which has not been swallowed is also returned; so that a glandered horse may largely contaminate the water in a trough with his saliva. Not only this, but when horses drink greedily, it often happens that a portion of the water is returned through the nostrils; so that the nasal as well as the salivary secretion may find its way into the mass of water which healthy horses subsequently swallow.

Galtier's experiments also go to show that the glander virus loses its activity when the matters which contain it, whether liquids or tissues, have been completely desiccated for fifteen days. Thorough ventilation of buildings which have been tenanted by glandered horses is, therefore, a very effective means of purifying them.

THE BULL IN HARNESS.

Many farm economists contend for utilizing the bull as a beast of burden and draught. He is able and can be made willing to work. A correspondent of the *N. Y. Tribune* thus describes how to rig him out with a working dress:—

A harness for a bull may be made by opening a large horse collar at the top and putting it on the bull's neck reversed, i.e., opposite the position it would have on the horse, as a bull's neck is largest on top, while the breast of a horse is widest at the bottom. The hames should also be reversed to fit the collar; the traces being attached the same as an ordinary harness. For working in a cart there should be a broad back-pad and breeching similar to any cart harness. The bull may be driven by reins attached to a bit in his mouth, kept in position by a headstall which should extend behind the ears to avoid getting into the eyes, which it would be likely to do if put in front of the ears. Another plan which works well is to fasten the reins by snaps on to the ring in the bull's nose, the reins passing back on each side of the head through the rings in the harness. Every bull should have a strong ring in his nose, by which he should be tied, and he should also be broken to mind at the word and the motion of the whip. When this is thoroughly done he can be driven by the whip alone.

POLLED, or hornless, cattle are becoming popular.

SHEEP AND SWINE.**ORIGIN OF THE MERINO SHEEP.**

The merino sheep are descended from the ancient Tarentine sheep of the Greeks and Romans. The Greeks took especial care to breed the finest woolled sheep. They had no cotton, nor silk, and very little linen, so they took especial pains to produce the finest wool. In order to improve the fine quality of the wool of their Tarentine breed, they covered the sheep with clothes in cold weather, as it was found by experience that exposure to cold made the wool coarser. By these efforts to improve the quality of the wool, they rendered the sheep very delicate, and unable to withstand exposure or rough usage. The Roman crossed the Tarentine sheep with the best sheep of Africa, and obtained a stronger breed, and yet preserved the fineness of the fleece. These improved sheep were kept largely in the province of Spain, and some of them sold for over \$1,000 in gold per head at a time when the value of money was much greater than it is now. When the barbarians swept over the Roman Empire, most of these sheep were destroyed; but in the mountainous region of Spain some were preserved, and from these are descended the merino of the present time.

HEALTHY HOGS.

The hog of former days was hardy and healthy, but now it is said that he is handsome and helpless. It used to be that not more than five per cent. of the hogs perished by disease, but a writer tells us that now "fifty per cent. mortality is nearer correct than five. The hog problem is 'from a given amount of feed to make the greatest amount of fat, and in the shortest time.' In pursuing this idea, people have gone too far. Coming events seem likely to compel us to look a little to first principles. A blacksmith's arm is his best development. A letter-carrier's leg, a professor's brain, an alderman's stomach, are severally theirs. By parity of reasoning the development of the hog is as the alderman—all toward stomach and fat. But the comparison is incomplete unless we fatten the alderman when he is sixteen. The present hog fattens, but is seldom healthy. Scarcely any oxygen colours his blood red, as formerly, but the sluggish black blood, propelled by a heart smaller than it should be, enables him to live along with great care, until he is ready for the market. His lungs are so delicate that one 'dogging' kills him. His liver is discolored and spotted. He has kidney worms. His bones are soft and easily broken. His intestines are full of wind. He has catarrh, trichinæ, cholera."—*Farmer's Magazine.*

ALCOHOL EXPERIMENTS ON PIGS.

It may not be generally known that systematic experiments upon pigs are being made these days at Paris by a group of scientific men with the view of ascertaining the precise action of alcohol upon the processes of digestion, respiration, and secretion. In a very interesting paper upon these experiments by M. Dejardin Beaumetz we find it stated, with a touch of unconscious humour, that the pig has been chosen to be experimented upon

because, in the first place, his digestive apparatus closely resembles in all essential respects that of man; and in the next place, because the pig is the only animal (besides man, we presume) that will ungrudgingly consent to be "dosed" with alcohol. It was the intention of the National Temperance League to invite M. Beaumetz and his colleagues to an International Congress of scientific "alcoholists," which was to be held in London in August next; we learn, however, that the executive of the League resolved yesterday to abandon this idea for the present. Further, we are given to understand that the congress, at which the final results of the investigations of M. Beaumetz and his coadjutors are to be made known, will be held in the autumn at the Hague.—*Pull Mall Gazette.*

SHEEP AND WEEDS.

It is a matter not sufficiently known that sheep give material assistance in keeping land free from weeds. Many of the most pernicious weeds with which farmers have to contend are generally relished by sheep, in their early or soft state, and ultimately eradicated in this way. It may also be observed that the younger the pastures are when the sheep are put to graze, the more effectual they will be in keeping in subjection and finally killing out the weeds.—*Farmers' Magazine.*

MARY'S LITTLE LAMB.

A writer in the *Husbandman* says that one night recently he was aroused by the barking of a dog. He looked out of the window, and, as it was moonlight, he saw two dogs passing the house toward a yard in which about seventy sheep were kept. Fearing mischief, he proceeded to the door, but before he had done dressing the whole flock came rushing to the house, having broken through a panel of fence. One sheep was bitten, but the dogs had "skedaddled." Why did the sheep break through and come to the house? The owner thinks because there were in the flock two pet lambs that had been used to running in the house yard, and that led the flock home for safety. He believes it a good idea to undergo the nuisance of pet lambs to be afterward turned with the regular flock, and act as their guide in case of attack by dogs, and breaks out in this stanza of parody:

Let Mary have a little lamb
And keep it in the flock,
And when the dogs attack your sheep
The lamb will wake you up.

"BUTTERMILK poured over the back of a scurvy pig will remove the scurf." We apply this remedy *inside* of our pigs.

"SALT and charcoal fed to pigs every week will greatly benefit their health." We salt our pigs in the pork barrel—don't be afraid of giving 'em too much, and when well cured sell them and cure yourself by eating strawberries.

ELEPHANT milk is said to be 100 per cent. richer in butter than the milk of an average Jersey cow.

SEVERAL adherents of the Primitive Methodist Church will leave Toronto April 1st to take possession of their property in Qu'Appelle, where the denomination have secured land to establish a colony.

THE DAIRY.**STRINGY MILK.**

Editor RURAL CANADIAN:

We have been troubled for the past two years with cows giving milk which, if it stands for two days or more, becomes stringy when poured out. If a little warm water is put in, it becomes like starch. We thought it might be the pasture, but there is the same trouble in winter.

MILKMAN.

[It is difficult to suggest an explanation of the case above presented, without a fuller knowledge of the circumstances. From the trouble appearing in winter as well as summer, one would suspect an unfavourable atmosphere affecting the milk. Where is it set? If in a cellar or milk-house, is the air perfectly sweet and pure? Milk is extremely sensitive to atmospheric and other impurities. People often think there is something wrong with the cows or their food, when the real source of the evil is a foul, tainted, and unwholesome cellar or milk-house.—Ed. R. C.]

COMPLIMENTARY REFERENCES TO ONTARIO DAIRYMEN.

The *N. Y. Tribune* has a couple of articles containing allusions to Ontario dairymen which we reprint with pride and pleasure, feelings which we are sure will be shared by all the readers of the *RURAL CANADIAN*. It indicates no small progress in dairy matters that any of our people who are engaged in this industry should be held up as examples and quoted as authorities to those who had the start of us, and had attained celebrity in the British markets before we entered them:—

QUALITY OF CHEESE.

It is a noticeable fact that those who make the finest cheese for export, make also the quality most desired for home use. The largest and best-informed shippers call for goods with a mild and clean flavour and "plenty of quality," which means a cheese with a rich and plastic texture, meaty, smooth and silky to the feel, and melting on the tongue—as opposed to hard and dry, but not so soft and moist as to give the impression of a lack of substance when pressed between the thumb and finger. This is what suits the best British consumers, and is equally acceptable to our own people. The English are particular about having a cheese not hard, but solid. Americans will accept one that is porous, and this appears to be the main difference in the tastes of the better classes of the two nations.

A remark dropped at the recent Western Ontario Dairymen's meeting by Mr. William Gillard, of the Tavistock factory, that he annually retails to his patrons five to six tons of cheese, is confirmatory of this point. He is a judge of good cheese, and knows how to make it. His cheese is made on the "sweet curd" plan, and is remarkably even. It is of the mild, clean-flavoured, compact, but rich and plastic kind called for by Thomas Ballantyne, who is perfectly familiar with English preferences, and the largest exporter in Canada. Mr. Gillard's cheese always goes at the very top of the market for shipping, and the favour it finds with his patrons is told in the amount they consume. If every factory sold as much, it would take half the exports to

supply the factory patrons; and if only such cheese was sold by grocers, the production would have to be greatly extended to supply the home demand. While a pretty numerous class of dealers are urging upon makers that cheese for shipping to England, especially in hot weather, should be scoured down till too hard and dry for the American people, an experience like that of Mr. Gillard's is significant and worth noting.

FERTILITY FROM WHEY.

Mr. H. S. Losee, a Canadian who has for two seasons been using whey as a fertilizer, reported favourably upon the experiment at one of his recent dairy meetings in Ontario. The whey from 1,500,000 pounds of milk worked up at the factory is spouted at a safe distance to avoid bad odours, and deposited in a large vat. From this it is run into a tank on wheels prepared with suitable hose and faucets, and taken to a piece of fallow ground, upon which hogs for consuming the whey are kept, and is there run into troughs and fed. The troughs are moved from place to place occasionally, to distribute the refuse equally over the surface. Feeding on the fallow continues till time to put in wheat in the fall, when the troughs are moved to a lot which is to be fallow the next year, where they are used for the remainder of the season. In this way 150 shoats, fed during the cheese-making months on a ten-acre lot, enriched it with a very high degree of fertility. The whey from every thousand pounds of milk thus fed leaves in the refuse seven pounds of choice fertilizing material, consisting of available nitrogen and mineral matter rich in phosphate of lime and potash. The large liberty the pigs have upon the fallow, and the comparatively cleaner condition of the ground, give a better result in pork from the whey fed than when they are kept in smaller inclosures.

WHEN COWS MAY BE KEPT AT A PROFIT.

Dr E. L. Sturtevant has this article in the Springfield (Mass.) *Republican*, which is not only timely, but very instructive:

In every herd of cows there are animals which differ widely among themselves in their adaptability for profit. Each animal has a different digestive power, different tastes, different aptitudes, from every other animal. In one animal increase of food may result in the laying on of flesh rather than increase of quantity of milk yield—or, *vice versa*, one animal may keep up a uniform yield of milk under a considerable change of food, while another animal shall respond in milk yield to slight changes in food. The owner who carefully studies the aptitude of each cow in his herd will usually be able to point out such cows as can be kept profitably on coarse fodders and little grain, and such other cows as can more profitably be forced by high feeding into large yield of milk. As there exists this individual difference between cows in utilizing such food as they obtain, it follows that as a herd is usually constituted, some cows are kept at a profit, and certain other cows at a diminished profit, or perhaps at a loss.

In the fall season, while the farmer is preparing for the winter, it is well to consider

the relation between the food stored and the cattle kept, and carefully figure whether the season's crops are sufficient, or more than sufficient, to maintain the live stock already possessed. It is also well to consider whether certain crops cannot be more profitably sold outright for cash than fed on the farm, and whether, in order to do this, some of the live stock had not better be sold before winter closes in.

These two ideas—viz., the differences that exist between individual animals in economy of food and in product, and the changing relations between the values of feeding crops and the animal products—should lead the farmer to a careful study and thought in the autumn, and will usually justify the disposal of certain animals that do not respond profitably to the winter feeding, and such exist in the majority of herds. A milch cow weighing 1,000 pounds is generally calculated to require for her support and profit three per centum of her live weight daily in food, or eighty pounds of hay as its equivalent. As in this region the winter may be considered as of six months' duration, this means two and three-quarters tons of hay. In the six months' pasturing it is difficult to assign a representative value, but let us, keeping on a safe side, for the sake of even figures, calculate the cost of the yearly keep of a cow at three tons of hay. Now, when hay is at a certain cost—that is, possesses a certain cash value—it is easy to figure out the quantity of milk a cow has to annually produce in order, at a given price, to cover the value of the food, thus:

A cow must yield annually to equal the value of three tons of hay consumed:—

| When hay is worth | Quarts. at 2 cts. | Quarts. at 3 cts. |
|-------------------|-------------------|-------------------|
| \$10 a ton..... | 1,500 | 1,000 |
| 15 a ton..... | 2,250 | 1,500 |
| 20 a ton..... | 3,000 | 2,000 |
| 25 a ton..... | 3,750 | 2,500 |
| 30 a ton..... | 4,500 | 3,000 |

According to the most recent statistics available, those for 1879, the average value of hay in Massachusetts is \$16 a ton. In suburban localities hay is frequently sold at \$30 a ton. In New York State the average price is \$9.79 per ton. The average price of milk, as deducted from the cheese factory returns of New York State, is about two and one-third cents a quart, as paid to the farmer by the milk contractors for city supply about Boston, from three to three and one-half cents a quart.

We thus have presented to us the question of relations. A cow which consumes three tons of hay a year must give, on the average, in New York State, \$29.37 worth of milk, or 1,260 quarts, in order to cover the value of her food. In suburban Massachusetts, with hay at \$20, the same cow must yield 2,000 quarts at three cents, in order to cover the value of her food. Now, in New York State the average yield per cow is calculated to not exceed 1,300 quarts, while the yield of good herds is placed at 1,800 quarts. Another deduction, of value to the suburban farmer especially, is that if through the individual aptitude of the cow the 2,000 quarts required to pay for the hay at \$20 per ton can be obtained through the use of coarser fodders or changed feed equivalent to \$10 a ton for hay, then the superior skill of the chooser and feeder of the cow is equivalent to 1,000 quarts of extra yield.

These figures are but rough illustrations of certain conditions which appertain to dairy husbandry, the methods under which competition and low prices of product are to be met, and the value of intelligent calculation to the farmer.

There are certain facts which in this connection should be well apprehended: 1. That breed is superior to feed; that is, that the animal the fodder is fed out to is of more consequence, under conditions of good farming, than the money value of the food. Feed does not produce milk in the dry cow; high feeding cannot force a scant milker by inheritance into a large milker; the cow of milking habit and strong digestive power can utilize unsalable fodder, and give satisfactory and profitable flow under circumstances when the high value of salable fodder cannot justify feeding such material with the hope of profit. Hence, 2nd, whether we shall feed highly, feed food of high or low value, feed for maintenance or for milk, is a question to be determined by the character of the animal and the relation of values. 3. The cow of profitable aptitudes is the one to keep; the cow of unprofitable aptitudes should be sold off at once, and every herd contains usually more than one, and thus the herd shall be in a condition for the owner to secure profit by studying the value relations between the various unmarketable products of his farm, the various purchasable foods, and the salable products of his growth.

The failure of the crops throughout large regions of our country means high prices this winter for hay, corn, bran, and other feeding articles, and hence the pertinency of this line of thought at the present time. Cattle food will undoubtedly be at a high price; the sale value of milk will probably not be higher than in the past. Whether to feed to the cow and sell the milk; whether to feed coarse fodders, obtain less milk, but at a profit, and sell hay and grain; whether to keep the herd intact or to sell off the poorer cows; whether to meet the present conditions through changed practices—are questions each individual farmer must think out for himself; but the subject will well repay careful thought.

"NEVER milk while the cow is eating," is the advice of a bucolic contemporary. Judging from the character of the milk that comes to market, it would be more to the point never to milk while the cow is drinking.

In an Illinois cow that could not be satisfactorily fattened, and was consequently sold at a sacrifice, was found "at the small entrance of the stomach" a twelve-ounce ball of "wire, nails and phlegm," the result of having eaten threshed wheat straw, the sheaves of which were bound with wire.

A CORRESPONDENT of the *St. John Globe* warns intending emigrants to Manitoba not to leave their comfortable homes too early, for they know not what is before them in Winnipeg. The cost of living is enormous, and he advises them, if they will go, to bring tents with them or abundance of money to pay the exorbitant charges levied on strangers. Of the land boom he says: "There is, no doubt, large amounts of money being made in land, but it is, in many instances, only for speculative purposes."

BEES AND POULTRY.**FATTENING FOWLS.**

Fowls to be palatable and tender should be fattened quickly. From eight to ten days are sufficient. Place the birds in a roomy coop, in some outbuilding, where they will be free from draught and in a modified light. The morning food should be given as early as possible, and should consist of good, sweet, yellow cornmeal, mixed with one-third its quantity of heavy wheat middlings; mix with boiling water, and in the water should be chandler's scraps sufficient to make the water quite greasy. To every two quarts of feed, every other day, mix a tablespoonful of powdered charcoal before the water is poured on the feed. Let it stand covered up; after being mixed for twenty minutes then feed. At noon use the meal, leaving out the middlings, and in its place put in all the table scraps you can get and some finely-chopped cabbage. Use the charcoal only in the morning feed. At night feed corn that has been boiled until it has swollen twice its natural size. Every other day add to noon feed a little buckwheat (in grain). Give water after each feed. Warm

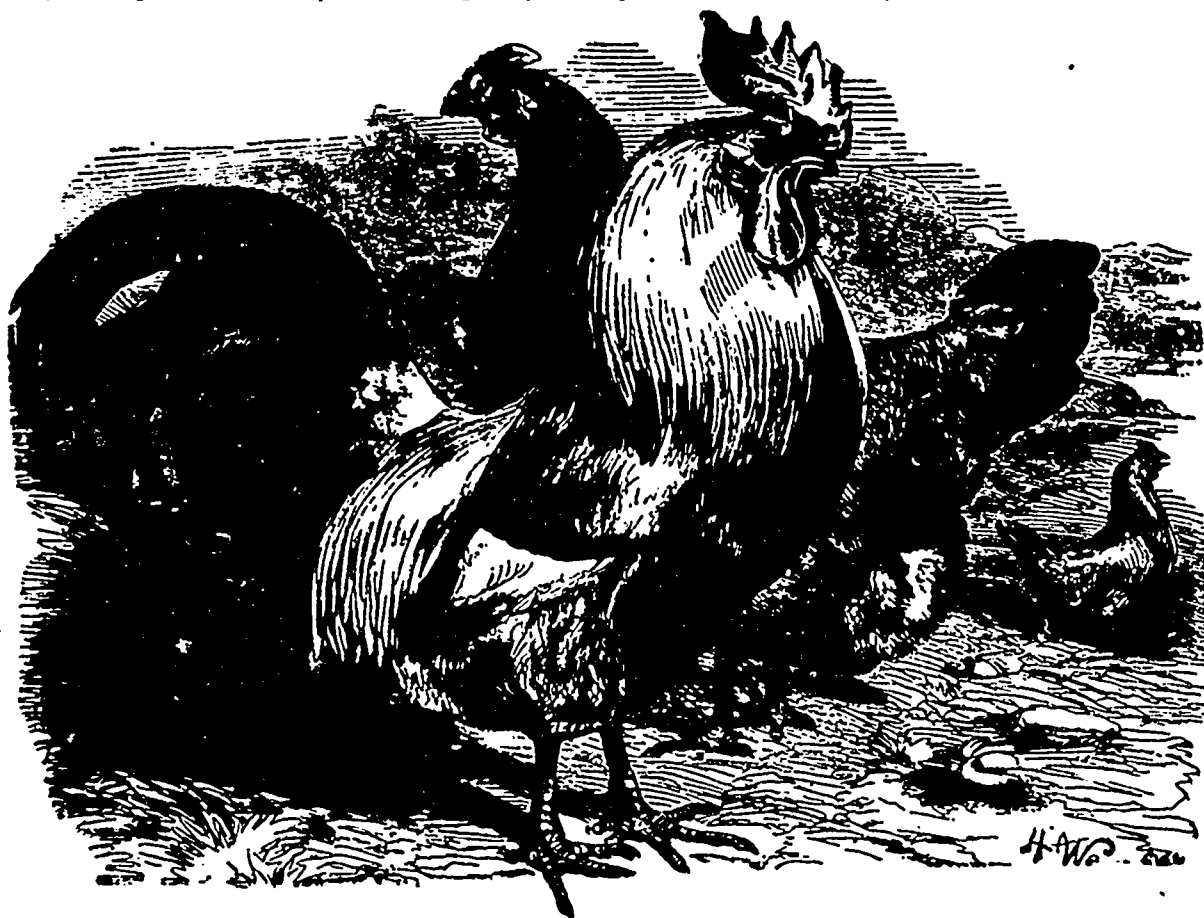
sweet milk is best, if you have it to spare. Give during the day, but always give water for drink at night. Do not feed anything for at least twelve hours before killing, and let the last feed be soft food; and if you would like a nice, gamy flavour to the meat, let it contain a good proportion of chopped celery. Fowls fed in this way fatten very rapidly, and their flesh is tender, juicy, and tempting.

APIARY.

Messrs. T. P. Hodgson & Son, of Horning's Mills, Gray County, Ontario, have an apiary which will repay anyone to visit in the summer time when their many millions of little honey gatherers are at work. They have three kinds of bees—Italian, Cyprus, and Holy Land. The Italians are the favourites. The season recently closed has been, with Messrs. Hodgson & Son, a favourable one for bee culture. They began the season with sixty-six hives or colonies, and now have one hundred and forty, after having sold some six or eight. The season's product of honey was 6,000 lbs., about one-half of which was marketed at home and the balance at Toronto. The same gentlemen recently sold two hogs to Mr. Joseph Dickey, for export, whose united weight was 1,350 lbs.

THE DORKING FOWL.

Perhaps there is no breed of fowls better adapted for general purposes than that known as the Coloured Dorkings. There is a variety of this breed which is pure white, but they do not attain the size of their coloured congeners, are somewhat more tender, and are slower in coming to maturity. These fowls have rendered the small village in the county of Surrey, England, where they originated, and after which they are named, a place of celebrity throughout "the poultry world." While fair layers, their chief excellence is as table birds. Their flesh is of fine texture and excellent quality. They have the welcome



DORKINGS.

peculiarity of being plump in the breast, giving a large proportion of what is the daintiest part of a cooked fowl. The only defect urged against the Dorkings is that the chicks are somewhat tender, and need extra care; but the same is true of some other choice breeds of fowls. As a cross with the Brahmas, and other large Asiatic breeds, they are very valuable, securing size, without losing the quality of the meat, so highly and justly prized as the distinguishing feature of this branch of the poultry family. The above illustration is engraved from the pencilling of Harrison Weir, a noted English artist, especially skilful in delineating birds.

COFFEE GROUNDS FOR FOWL.

It is well known that in many Eastern countries, and especially in Arabia, where we get our very best coffee, Mocha (unless we except the African, of which there is but little yet in the market), the entire bean is used, and in some instances the pericarp, or outer covering of the bean, also. The reason of this is that when the infusion is made and drawn off only a portion of the nutritive properties are extracted. What we get are chiefly the exhilarating and refreshing elements of the bean, which are calculated to

diminish the wear and tear of the animal frame, while we too often throw away the major part of the positively nutritious substances which remain in the grounds. The chief of these is legumine (vegetable caseine), but there are others in smaller quantity, such as sugar, gum, fatty matter, etc., all of which, if saved and given to our poultry, would be eaten by them to advantage.—*Poultry Yard.*

ROUEN DUCKS.

In plumage Rouen ducks are exactly like the Mallard or wild duck. For exhibition the drakes must have the breasts rich red-brown of darkish hue, the drake's bill yellow, with a greenish tinge, not lead nor bright yellow; the bill to come straight down from the head—long, broad; the legs rich orange, and the head rich, glossy green; and round the throat is a ring of pure white, but this must not go right round; the back is greenish black; tail, darker; wings, gray and brown, and a bar across of brilliant blue, edged with black and white, clean cut; the flights are gray and brown; the fluff and under-parts must be toned down to light gray—no white must be seen. The duck's bill, orange colour, must be nearly covered, but

not to the tip, with an irregular splash of dark colour, blackish; the ground colour dark chocolate brown, with pencilling of still darker tint. Birds for breeding are good weight at seven pounds. In the show pen they have exceeded twenty-four pounds, and were once shown over thirty-two pounds, but such fattening destroys breeding power, and the birds are useless. The eggs are not so large as the Aylesbury; they are of both colours, green and white, and are very plentiful; the flesh is as good as the Aylesbury, and they fatten equally well.

Let the honey be *thoroughly graded* as it is put on the market; let it be in clean crates, so made that every passer-by shall be enticed, as he sees through a glass, not darkly, the tempting honey; let there be no possible chance for the honey to leak, and disgust the dealer; and always see that every groceryman in the vicinity has a supply of this most beautiful and wholesome article of food constantly on hand. The best way to manage *sour honey* is to heat it till it boils, which kills the plant-germs which cause the fermentation; then feed it back to the bees. In the process of restoring, the honey seems to have regained its previous excellence.—*A. J. Cook.*

GOOD PAY TO AGENTS.

Agents wanted in every village, town, and township, to make a thorough canvass for the RURAL CANADIAN. Liberal inducements. Work to commence at once. For full particulars address

O. BLACKETT ROBINSON,

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LETTERS on business should always be addressed to the PUBLISHER; while communications intended for insertion in the paper, or relating to the Editorial department, to ensure prompt attention, must be addressed to EDITOR RURAL CANADIAN.

The Rural Canadian.

EDITED BY W. F. CLARKE.

TORONTO, MARCH 15th, 1882.

THE GLUCOSE HONEY BUSINESS.

The adulteration of honey with glucose, a cheap and unwholesome sweet, is carried on extensively in the United States. A convention of glucose-makers recently sat in Chicago with closed doors, which was befitting, for their schemes will not bear the scrutiny of public opinion. Not honey merely but sugar is largely adulterated with this substance. Every grade except the granulated is thus dealt with. Glucose will not granulate. Indeed its admixture with honey is said to have resulted from the ignorant prejudice of the mass of buyers against granulated honey. All honey, with the exception of a very few grades, like that made from the white sage of California, will granulate or crystallize under the influence of cold. It may therefore be taken as a safe general rule, that honey which becomes solid on the approach of winter is pure, while that which continues fluid is adulterated. Glucose was first used, it is believed, by dealers, to preserve the fluid condition of honey, because granulated honey was objected to by customers. It was found so profitable a mixture, that it came into extensive use as a money-making expedient.

No respectable bee-keeper will thus adulterate honey. At conventions and in bee journals there is a constant outcry against the practice. It is carried on by dealers and middlemen. It requires much skill, and is one of the occult tricks of trade. The work is done by large houses in cities. In the United States, petitions have been presented time and again, beseeching Legislatures to put down this nefarious business. Thus far, no effective measures have been adopted, and the American public is left to protect itself. This can be done easily if a knowledge of the evil and the means of avoiding it once becomes generally diffused. The fact that pure honey, save in the exceptional cases above noted, will granulate, needs to be universally known. It may be safely affirmed that all the pure honey put on the market in the Northern States and Canada will granulate. But there is another and better means of protection. Let consumers insist on having a guarantee in the name and trade mark of apiarists and dealers from whom they buy honey. Once a man or firm was detected in selling adulterated honey, and he might say, "Othello's occupation's gone."

Though there has been considerable alarm in this country in regard to glucose honey, it is questionable if any has yet found its way into the Canadian market. But there is danger that it will soon do so. Glucose factories are being started among us. Slowly

but surely, any line of business found profitable in the United States is apt to cross the border. Glucose making is enormously lucrative, and, once introduced here, will doubtless thrive, as it has done and is doing across the lines. It is important, therefore, that our people should be put on their guard, enlightened as to the matter of granulation, and earnestly counselled to buy honey only of responsible bee-keepers and dealers, who have no cause to be ashamed or afraid of putting their names on the article they sell.

Since the above was written, the following has come to hand in the *Prairie Farmer*:

"Congress is to consider a bill to tax and regulate the manufacture and sale of glucose. The bill is especially designed to suppress the present vile adulterations of sugars and table syrups. Gen. Raum, Commissioner of Internal Revenue, furnishes Congress with some startling statements. He says it is alleged that the alarming increase of that terrible malady, Bright's disease of the kidneys, is directly traceable to the use of glucose in various articles which it is used to cheapen. Glucose is manufactured by boiling corn-starch with sulphuric acid (oil of vitriol) and mixing the product with lime. A portion of the sulphuric acid, and sometimes copperas, sulphate of lime, and other noxious principles, remain in the glucose. In the analysis of seventeen samples of table syrup by Dr. Kedsie, fifteen were found to be made of glucose, one of them containing 141 grains of oil of vitriol and 724 grains of lime to the gallon, and one from a lot which sickened a whole family, containing seventy-two grains of vitriol, twenty-eight of sulphate of iron (copperas), and 363 of lime to the gallon. Analyses of the sugar sold in New York reveal the presence not only of glucose with its inherent poisons, but of muriate of tin, a formidable poison, which is employed in the bleaching process. Glucose is largely used to adulterate maple-sugar, candies, jellies, honey, and other sweet foods. There are, of course, two sides to the glucose question. The manufacturers show, by reputable chemists, that pure glucose is harmless. Without doubt it may be made entirely free from harmful elements, but the presumption, borne out by many analyses, is, that in but few cases the commercial article can be given a clear certificate. This matter of adulteration is a difficult one to regulate, but the necessity for regulation is none the less imperative. Local or State legislation proves, and always will prove, of little avail. Relief can only be obtained through National enactments."

IMPROVING THE CLIMATE.

Some of our American exchanges are poking fun at a plan propounded by Professor Shaler, of Harvard University, for improving the climate of the United States by widening Behring's Straits and causing an immense current of warm water to flow into the Arctic Ocean. The Professor states that once on a time the Japanese current flowed through these straits in far larger volume than now, and that a bigger artificial channel would result in a great amelioration of climate. We do not see anything so very ridiculous about the plan. The idea of it is founded on fact. Even now the wonderfully mild climate of

the Peace River and other districts in the far West, greatly to the north of us, is attributed to the influence of warm currents in the Northern Pacific Ocean, which temper and soften the air of those favoured regions. It might be a gigantic engineering task to blast out and widen the straits in question; but this is an era of great enterprise, and once proved to be worthy its cost, the feat could and would be accomplished.

But we only meant to use this matter as a text from which to say a few words in regard to climatic improvements that are entirely practicable. A grove of evergreens or even of deciduous trees around the farm house and steading would greatly amend the climate for man and beast during our long and severe winters, lessen the consumption of food by stock and of fuel indoors, and augment the comfort of life indefinitely. A belt of sheltering woods on the exposed side of farm and fields would so amend the climate that fall wheat could be grown on thousands of acres in which it is now useless to sow it. Tree-planting along the highways, and the preservation of enough of forest to keep up a supply of timber for lumbering and mechanical uses, would add a considerable percentage of improvement to a climate which has become needlessly rigorous through being stripped naked by the woodman's axe. Drainage of land would amend the climate, enabling the ploughman to take his team afield two weeks earlier in the spring than he can now do on the soggy and waterlogged soil which he is condemned to work. Proper drainage would also make the surroundings of homes both in town and country far more salubrious than they now are. There is also "a cheap and easy" way of improving the climate in malarious districts, and that is by planting sunflowers abundantly. These have the pleasing faculty of absorbing malaria, and changing it into dazzling yellow blooms. Perfect cleanliness about the dwelling and premises, the abatement of all nuisances, and the faithful observance of all known laws of health in and around our habitations are but minor specifications of possible and desirable climatic improvements. Many families, all winter long, breathe the foul air emanating from cellars in which there are decomposing vegetables. In fact, the climate we live in is very largely of our own production, and in a multitude of ways is capable of very considerable improvement.

GOVERNMENTAL AGRICULTURE IN THE UNITED STATES.

The American papers are having a lively discussion over the proposal to establish a National Bureau of Agriculture, to be presided over by a Cabinet officer, and the tide of public opinion seems to set pretty strongly against the movement. Leading agricultural papers oppose the scheme, and affirm that the farmers of the country neither desire nor ask that it should be carried into effect. It is urged that the Government has no call to take charge of the farming interests of the country, and that a Minister of Agriculture is no more needed than a Minister of Commerce, a Minister of Manufacture, or a Minister of Public Worship. One influential newspaper says: "There will be no legitimate occupation

for a Boss Farmer in the Cabinet until the general Government goes into business as an active tiller of the soil." There already exists in the United States a Commissioner of Agriculture, and it is boldly affirmed that the office is practically useless. The *New York Tribune* affirms that no sensible farmer will admit that the office has ever been worth the price of a pint of beans to him, and declares that neither the present Commissioner nor any of his predecessors has ever caused two blades of grass to grow in place of one. It adds in regard to the sensible farmer, "He might be content to see the concern shrivel and vanish; he certainly never would pray for any more of it."

HORTICULTURAL JUSTICE.

A man named John Harrison has been imprisoned in Newark, New Jersey, for obtaining money under false pretences, by selling the seeds of a wonderful plant which he warranted to grow into a bush that would burst into beautiful and fragrant bloom, and ultimately bear a crop of "wash-rags." The plant thus advertised is supposed to be a vine that grows wild in the West Indies, bearing a gourd-like fruit, the spongy lining of whose rough shell is used by the natives to brush out their huts, and perform various culinary services. Barring the fact that the plant is only suited to a tropical climate, the "pretences" made by this Harrison do not appear to have been equal in falsity to those of many itinerant and irresponsible vendors of trees and plants who are permitted to enjoy their liberty. The man recently exposed by Peter Henderson, who sold at \$10 a rose plant that was to bear a blue flower, is far more deserving of imprisonment. Impossible horticultural novelties are constantly being offered for sale to a public easily gulled, and, according to Baruum, fond of being humbugged. People who can read advertisements of trees, plants, and flowers with responsible names attached to them, without any desire to purchase, are seized with an irresistible impulse to buy when some vagrant impostor proclaims wonders of the vegetable world unknown even to the garden of Eden. The *New York Tribune*, in commenting on this John Harrison case, well remarks:

"When good people are solicited to invest in some horticultural eccentricity, it is a proper time for them to remember that there is no seed, plant, shrub or tree having any economic or ornamental value in this climate which cannot be procured of trustworthy seedsmen, florists and nurserymen. The enterprise of these dealers makes it certain that they will have every novelty in the trade which has any value as soon as it can be procured, besides a good many novelties which have no value. It is a pretty safe rule for one who is attacked by the planting fever to buy nothing which has not an approved and firmly established worth, and to buy exclusively of responsible and regular dealers."

JONES'S NEW HONEY KNIFE.

We have received from Mr. D. A. Jones, of Beeton, Ont., a sample of a new honey knife manufactured expressly for him in Sheffield, England. Bee-keepers of course understand,

though the general public do not, that a honey knife is used for uncapping the sealed sheets of comb in order to extract the honey. It is a delicate operation, and requires a knife of peculiar construction. There are several styles of honey knife in the market, but this is far away ahead of any that we have seen or used, and we think we have inspected, if not tried, them all. Should we have any honey to extract the coming season, we anticipate much satisfaction in operating with the new Jones knife, and we unhesitatingly recommend it to all our bee-keeping readers.

PUBLICATIONS RECEIVED.

ILLUSTRATED DESCRIPTIVE CATALOGUE OF Farm, Garden, and Flower Seeds. (William Evans, Montreal.)—Mr. Evans is a trustworthy seedsman, and those who deal with him will have no cause to regret doing so. He is agent for the Planet Jr. Farm and Garden Implements, and encloses a pamphlet concerning them with his catalogue.

DODGE'S CATALOGUE AND PRICE LIST. Bees, Apian supplies, and small fruits. (Fredonia, N. Y.)

FRUIT NOTES. (Robt. Johnston, Shortsville, Ont. Co., N. Y.)—Devoted to small fruits.

REPORT OF THE AGRICULTURAL AND ARTS ASSOCIATION OF ONTARIO FOR 1881. (Reserved for notice hereafter.)

SKETCHES OF CANADIAN WILD BIRDS.

BY W. L. KELLS, LISTOWEL, ONT.

THE CARRION CROW.

This gregarious and carrion-devouring bird is very numerous in Canada, and frequents the neighbourhood of towns and cities as well as the woodland regions. The crow is greedy and voracious, and in regard to its food represents many of the feathered race. It will feed on all kinds of dead animal matter, and sometimes attacks and destroys small animals and young birds; in fact, frogs, snakes and other reptiles, worms and insects, grain and fruit, and the eggs of wild and domestic fowl, are all eagerly devoured by this black-coated *Polyborus*. It may be daily seen, during the summer season, roaming along the roads and over the fields in quest of prey, digging up the ground where it has discovered grubs at work, pulling down ant-hills, turning over sods and stones, or hovering along the banks of creeks and rivers, in search of crabs, clams, and dead fish; and woe to the young fowl that may have become disabled! for it is soon torn in pieces and devoured by the merciless crow. When the breeding season is over and the young are able to fly, these birds often assemble in large flocks, and sometimes commit havoc in the pea fields. While thus employed, some of their number are stationed as sentinels to give an alarm in case of approaching danger, and when disturbed the whole flock rise in a body, and make for the woods, uttering loud and clamorous notes. After all, the crow is of more benefit than injury to the farmer; for most of the creatures upon which it preys, if permitted to increase, would do harm to the crops, and in some cases render vain the prospect of a harvest. Besides, the dead and decaying matter upon

which it loves to feed, if not removed, would taint the air, and become a prolific source of disease and death. Above all, the carrion-devouring propensities of the crow were given him by the Great Author of Nature, and should not therefore be disparaged by man. The crow is also a cunning and cautious bird, for the most tempting bait and pressing hunger will not allure him to the snare if there is the least appearance of danger. It is also a bold and affectionate bird, and will try to assist a wounded companion, or protect its young to the best of its ability. The eye of the crow has a fierce look; its senses of sight and hearing are keen; and when it has seized anything too large to be swallowed whole, it beats it in pieces with its large and powerful beak. Its watchfulness is remarkable; and the hunter has much difficulty in getting near enough to shoot it, for the sight of a stick, carried like a gun, is sufficient to set a thousand wings in motion. The rambling fox, as well as the owl and the larger species of the hawks, also excite its fears, and its prolonged "cawing" always indicates the presence of some of these marauders. It is very tenacious of life, and except a wing is broken or the head shattered, it will, when wounded, try to escape, so that comparatively few of them are destroyed. The plumage of the crow is dark black, the neck having a greenish glossy hue. Its length is above twenty inches. It begins to build its nest early in March, and in June the young are able to fly. When captured young, it is easily tamed, but makes a rather mischievous pet. The nest is placed in the fork, or among the thick branches of large high trees, where few would dare to climb; it is formed of sticks and mud, lined with dry grass, moss and leaves. The eggs, four to five in number, are of a greenish hue, mottled with brown spots. It does not appear to hatch more than once in the season. The crow is shy in winter, but becomes bolder as the spring approaches, and often alights to feed in the barn-yard, and in the field surrounding the farm homestead. This change of habit is caused by the desire of procuring food for its young, which are voracious enough to tax all the energies of the parents. The crow is the great and determined opponent of the hawk tribe, and may often be seen, particularly in the breeding season, as it with loud "caws" and circling flight mounts the air in pursuit of the kite-hawk. The crow, by rising above the hawk and darting downward, endeavours to drive him off; but the hawk seeming to pay little attention, except by moving aside to avoid the stroke, still continues to rise higher in the air, until the combatants are lost to sight among the clouds. It may happen that the hawk, in the absence of the crow, sometimes descends upon its nest and robs it of its young; for a fat young crow is as pleasing to the appetite of the hawk, as the oyster to the epicure. The crow knows this, and is by no means willing to gratify the carnivorous propensities of its mortal foe; hence an endless warfare is waged between these tribes. And even when the young crows are able to fly, if a hawk makes its appearance in the vicinity, the battle-cry is raised and the whole fraternity summoned to the contest. The hawk is then compelled to

retire, amid the triumphant notes of a host of exulting opponents. The humane naturalist might be inclined to sympathize with the hawk when subjected to such treatment, were he not aware that the hawk thus attacked was himself in quest of plunder, and intent on bloody deeds. The guerilla warfare thus carried on between these feathered tribes sometimes occasions amusing scenes. The crow, for some reason or other, appears to be hated by most people, and even some naturalists advocate its extermination; but it is evident, though it commits some depredations on the farmer, that it is one of his best friends, for the amount of destructive creatures and refuse matter that it removes in one year is quite sufficient to compensate the tiller of the ground for all the depredations of a life-time; and if the hum of the insect, the squeal of the rodent, and croaking of the frog—creatures upon which it feeds—were to cease forever, few would have reason for regret. Some specimens of white crows have lately been seen in Ontario.

APPLE EVAPORATOR.

Editor RURAL CANADIAN:

I am contemplating drying (or evaporating) apples on a scale that would at least keep one man constantly employed, and I would like to get information on the following points:

1. Can you give any information how to make an evaporator?
2. Are evaporators manufactured anywhere in Canada?
3. What would be the probable cost of procuring an evaporator of about the capacity I have mentioned from the United States, to include cost of apparatus, freight and duty?
4. Is there any work published on the subject especially giving instructions about the construction of an evaporator?

Missouri.

J. M. McAINSH.

[Can any of our readers give the information asked for?—ED. R. C.]

MR. E. W. CHAMBERS, of Springvale farm, East Oxford, recently sold to Mr. T. Fletcher a fine thoroughbred Durham bull, for service in Texas, U. S., and replaced the animal by purchasing from Mr. Douglas, of Onondaga, Baron Goodness, grandsire Duke of Clarence.

AN exchange says:—"A rural subscriber wants to know if it makes any difference in the lastingness of fence-posts, whether you set them 'top end up,' or the same way the trees grow, or 'top end down?' Not a bit. A fence-post will last just as long set 'top end up' or 'top end down.' In setting a hen, however, there is a vital importance in the distinction, which the careful poulterer will do wisely to observe."

ANOTHER swindle has been devised. An alleged speculator in country produce calls on a farmer, purchases \$10 or \$15 worth of eggs, butter or poultry, says he wants a receipt to show the firm he paid the money, breaks the point of his pencil before the signature is reached, then takes from his pocket a fountain pen and the farmer uses it in signing his name. The swindler then goes to town, sells the produce, erases the body of the receipt, and writes instead a promissory note for \$50 or \$100, and has it discounted at the bank.

CURRENT NEWS ITEMS.

"FIRST robin" items have commenced to appear in print.

MAPLE sugar, it is said, will be scarce this year, owing to the open weather.

ANDREW AITKING has sold his farm, north of Paris about three miles, for ninety dollars per acre.

A BLACK walnut grove which a Wisconsin farmer planted about twenty years ago on some waste land recently sold for \$27,000.

MR. ALBERT MARLATT, of Norwich, has purchased the Mambrino stallion, "Ed. Burns," from Mr. Merrill, of Tilsonburg. The price paid was \$600.

AMONG the late sales of horseflesh, we notice one of a span of horses for \$400, and a filly two years old for \$200, both bred by Stanley farmers.

It is estimated that 300,000 bushels of grain, including wheat, oats and barley, have been sold in Portage la Prairie since last fall, and only a little more than half of the grain grown in the district has yet been marketed.

MR. THOMAS TODD, commission merchant of Galt, recently purchased from Messrs. J. G. Wing & Co., New Dundee, nearly ten tons of dried apples. The value of the purchase was upwards of \$1,200. The apples were shipped for the Maritime Provinces.

GEORGE STORTZ, of the 2nd concession Arthur township, has purchased a hundred acres from his neighbour, Charles Edmuason, for \$3,400. The farm is nearly all cleared, well fenced, and improved with good buildings, and in a good state of cultivation.

In October last, as Mr. James Pyke, of Egremont, was passing through his fields, he noticed a strawberry vine in blossom, and out of curiosity dug it up and placed it in a pot in the house, the result being that there are now on the vines two fine ripe strawberries.

A MAN is busily engaged buying up cats in the neighbourhood of Hyde Park. From ten to forty cents each is paid for the animals, according to condition. He states that they are killed and skinned, and the pelts sold to the city furriers. What is done with their bodies is not stated.

THE Huron Signal tells a story of a dog which formerly lived at Seaforth, but now is domiciled at the Star salt works in Goderich. Every now and then the sagacious canine takes a trip to its former home, going both ways by the train, on which it is cunning enough to dead head its way.

FROM a return laid on the table of the House of Commons, it appears that \$22,947 was collected as excise duty on Canadian grown tobacco in 1881. The cost of collection was over one-half of that sum, or \$12,832. Ottawa and Windsor are the only Ontario districts in which tobacco was grown.

MR. JAMES BARCLAY, of Guelph, has purchased the Bechtel homestead, Blair, about four miles from Galt, at a fair figure. The farm is on the Grand River, and contains 130 acres all cleared, with the exception of ten acres of thin bush. Mr. Barclay intends to build a new residence, and reside on the farm.

THE Seaforth cheese factory received last year 752,597 pounds of milk, from which 73,915 pounds of cheese were made. The aver-

age of milk to cheese was 10.24 pounds, while the average price to patrons for each 10 pounds of milk was 8½ cents. The directors make the cheese and draw the milk for 2½ cents.

MR. TIMMINS has purchased Mr. Trow's farm of 50 acres in Howick for \$1,610. Gilbert Forgie has sold 93 acres, lot 11, con. 5, Turnberry, to James Elliott, for \$4,500. Robert McMichael has bought a farm of 100 acres in Hullett from Mrs. Charles Carter, for \$5,600. Mrs. Fitzsimmons has sold 30 acres on the 2nd concession of Hullett to D. Shanahan for \$3,000. The farm of S. Holmes, Huron road, near Clinton—70 acres—was sold recently to Keppel Disney, for the sum of \$4,000.

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GARDEN AND ORCHARD.

CAP RASPBERRIES.

The imported methods of drying fruits, and the ready market for dried berries, have given a new impetus to the culture of Cap Raspberries, or Thimble-berries, as properly they ought to be called. This classifying two so distinct species under one name has always been productive of considerable confusion, yet, as they were so denominated by our forefathers, Thimble-berries will no doubt be called Black-cap Raspberries to the end of time.

In the early history of small-fruit culture, Cap Raspberries figured prominently, and many varieties, all chance seedlings, were introduced and cultivated; but from disease and other causes most of them have become deteriorated and unreliable, creating a demand for reliable new varieties, which seems in a fair way of becoming satisfied. The following varieties are among the most promising recent introductions:

Hoosier Mammoth is evidently a seedling of the old Mammoth Cluster, and is in no way superior to it, unless it be that it is less subject to the casualties which impair the value of the latter.

Florence.—This is a large yellow or buff variety, and were it not that the so-called yellow varieties are not popular, and not in demand in the markets, would be eagerly sought after. It is almost as large as the Gregg, of strong growth, excessively prolific, and entirely hardy. It ripens in mid-season to late, and is of sweet and pleasant flavour. A dish of this and the Gregg, nicely mixed, is a most appetizing sight to all who are fond of Cap Raspberries.

Hopkins originated in Missouri, and promises to be of great value. According to an excellent authority from the State of its origin, it is as large as the Gregg, decidedly hardier, and even more productive.

Gregg.—In congenial soil, and under proper treatment, this is, perhaps, the largest raspberry of its class that has as yet been produced. Much disappointment has been encountered with this variety by planting it upon thin, light soil, where most Cap varieties succeed. The Gregg Raspberry, like the Strawberry, delights in a deep, rich, cool soil, and is so critical in this respect that it frequently refuses to respond in the least to any amount of coaxing on almost any other, and proves an utter failure upon sand. It is extra large, jet black, with a decided bloom, and, although quite good, yet not of the highest quality, being somewhat dry and meaty. In time of ripening it is a little later than the well-known Mammoth Cluster, hence late to very late. Very productive (when grown on congenial soil, and with thorough culture); and although exempt from the diseases that attack the Mammoth, and free from its weaknesses, it is not quite as hardy as that fine old kind. However, taken all in all, it is a variety of great value, and worthy of a place in all gardens suited to its culture.

Souhegan is just what everyone interested in Cap Raspberries has long been looking for: to wit, a good early variety. It has steadily, and entirely upon its own merits, made itself known, and really leaves but little to be de-

sired as an early Black-cap, either for market or the home garden. Of first importance is, that it succeeds on both light and heavy soils, and in productiveness it is simply wonderful, being, without exception, the most prolific variety of the productive Cap Raspberries that has yet come under my notice. In hardness it appears to be "iron-clad," having stood twenty degrees below zero without injury, when all others in the same plantation were killed to the ground, and is very early, ripening about a week earlier than Doolittle. It is of fair size, juicy, sweet, and rich, and, what adds much to its value as a market berry, shining jet black, without bloom.—*J. T. Lovett, in American Garden.*

KEROSENE FOR BORERS.

The following is told by one who has had some years of experience in caring for the orchards: Several of my apple trees died in one year; I did not know what caused them to do so. The next year I found it was the work of "borers" around the roots of the trees, and I had them dug out; but they soon returned, and I again had them dug out, and dug out the third time, until the trees, which were very much injured by them and the digging out process, began to show very marked signs of lack of thrift. It was plain the trees would die by this treatment, and I concluded to try another method, and so made a free application of kerosene oil, being sure to get it well into the holes. This did the work. The trees came forward and did splendidly, and I never intend to be troubled by "borers," nor lose any of my apple trees again by them. The above was a discovery by myself; still it may not be new, but it will be well at least to give it to the public, as it may do good. I have told several persons who were troubled the same as I was of the kerosene; they have used it and pronounced it first-rate.—*Maine Farmer.*

IMPROVED FRUITS.

President Wilder, in a recent address before the American Pomological Society at Boston, said:—

"Few are aware of the great benefits which have resulted from discussions of the merits of the many new varieties of fruits which are continually being brought to notice, recommending only those of promise, and discarding hundreds of kinds which would be otherwise imposed on the public as valuable sorts. Formerly it took many years to test the merits and adaptation of fruits to our several locations. We hail with pleasure the widespread interest now manifested in hybridization. The process is simple, whether by the air, insects, or the hand of man, and we have only to have due regard to the characteristics of the parents from which we breed.

"How potent the influence of this art! Little did Mr. Bull think what a blessing he was conferring on the world when he sowed the seed which produced the Concord grape—the mother of many improved varieties. See the number of white varieties which have been produced mostly from this: the Martha, Lady, Pocklington, Lady Washington, Hayes, Ann Arbor, Prentiss, Duchess, and Niagara. Plant the most mature and perfect seeds of

the most hardy, vigorous, and valuable varieties; and as a shorter process, insuring more certain and happy results, cross or hybridize your best fruits.

"From the sour crab, the puckery pear, the bitter almond, and the austere plum came the tender spicy apple, the melting juicy pear, the velvety, luscious peach, the delicious purple or golden plum, and from our rank foxy grape came the splendid varieties which now adorn our tables and 'make glad the heart of man.'

"I have placed the grape first in our roll. No other fruit, unless it be the strawberry, now attracting so much attention, and perhaps no other, if we except the apple, is of more importance as a source of revenue, or an article of luxury for our tables. No other country possesses such a vast extent of territory, or possibilities for its successful culture, and in no other section of the globe is there, at the present time, such encouragement offered.

"The progress of American Pomology, rural economy, domestic comfort, and cultivated taste, which has been developed by our association, will continue its glorious march until all shall realize that fruits are one of the most beautiful emblems of Divine beneficence—one of the most perfect and useful gifts of God to man."

It cost \$75 in California to prepare an acre of land and grow grape-vines to the period of production.

By deep ploughing I have known men to find gold. It is quite commonly found among berry bushes—elbow grease attracts it.

A FEW years ago caterpillars devastated the Maine apple orchards. Since that time the trees have regularly borne in what are elsewhere off years. This year the crop is heavy, and brings high prices.

MR. W. D. PHILBRICK makes, in the *N. E. Farmer*, these suggestions about hot-beds:—"Most of the books and almanacs advise using two or three feet of manure; eight to twelve inches is all the best gardeners need. The manure should be freshly-made horse dung with a good deal of strawy litter. One-third by bulk of cow manure to two-thirds leaves, piled up in alternate layers, six inches deep, four or five feet high, will heat up in a few days so as to answer very well. More of this sort of heat will be required than of horse dung, but there is as much danger from using too much as too little. A little experience will soon teach one how to make a hot-bed with such material as may be at hand. The depth of loam spread upon the manure should be about six to ten inches, and for a seed-bed it should be about one-third sand, the rest rich compost. The more depth of loam is used the less need there will be to water often, and the less the heat of the manure will be felt at the surface, where the seed is: therefore, for hardy seeds such as cabbage, lettuce and radishes, we use less heat and more loam, and for the tender seeds of tomatoes, peppers, cucumbers, etc., more heat and less loam. The season of the year also has much to do with the amount of heat required. Twice as much is needed in February as in April to do the same work, on account of the milder weather and greater assistance the sun gives us."

HOME CIRCLE.

LAND POOR.

I've another offer, wife, of twenty acres more
Of high and dry timber land, as level as a floor.
I thought I'd wait and see you first, as lawyer Brady said—
To tell how things will turn out best a woman is ahead.
And when the lot is paid for, and we have got the deed,
I'll say that I am satisfied—it's all the land we need.
And next we'll see about the yard, and fix the house up
some,
And manage in the course of time to have a better home.

There is no use of talking, Charles; you buy that twenty
more,
And we'll go scrimping all our lives, and always be land
poor.

For thirty years we've tugged and saved, denying half our
needs,
While all we have to show for it are tax-receipts and deeds.
I'd sell the land, if it were mine, and have a better home,
With broad light rooms, in front the street, and take life as
it come.

If we could live as others live, and have what others do,
We'd live enough sight pleasanter, and have a plenty too.
While others have amusements, and luxury and books,
Just think how stingy we have lived, and how this old place
looks.

That other farm you bought of Wells, that took so many
years

At clearing up and fencing in, has cost me many tears.
Yes, Charles, I've thought of it a hundred times or more,
And wondered if it really paid to always be land poor;
That had we built a cozy house, took pleasure as it come,
Our children, once so dear to us, had never left our home.
I grieve to think of wasted weeks, and years, and months
and days,

While for it all we never yet have had one word of praise.
They call us rich, but we are poor. Would we not freely
give

The land with all its fixtures, for a better way to live?
Don't think I'm blaming you, Charles; you are not a whit
to blame:

I've pitied you these many years, to see you tired and lame.
It's just the way we started out, our plans too far ahead;
We've worn the cream of life away, to leave too much when
dead.

'Tis putting off enjoyment long after we enjoy;
And after all, too much of wealth seems useless as a toy.
Although we've learned, alas! too late, what all must learn
at last,

Our brightest earthly happiness is buried in the past.
This life is short and full of care; the end is always nigh:
We seldom half begin to live before we're doomed to die.
Were I to start my life again, I'd mark each separate day,
And never let a single one pass unemployed away.

If there were things to envy, I'd have them now and
then,

And have a home that was a home, and not a cage or
pen;

I'd sell some land if it were mine, and fill up well the
rest:

I've always thought, and think so yet—small farms well
worked are best.

"THE 'MORTGAGE' YE SHALL ALWAYS
HAVE WITH YOU."

We worked through Spring and Winter, through Summer
and through Fall,
But the mortgage worked the hardest and the steadiest of
us all;

It worked on nights and Sundays; it worked each holiday;
It settled down among us, and it never went away.

Whatever we kept from it seemed almost as bad as theft;
It watched us every minute, and it ruled us right and left.
The rust and blight were with us sometimes, and some-
times not;

The dark-browed scowling mortgage was forever on the
spot.

The weevil and the cut-worm, they went as well as came;
The mortgage staid on forever, eating hearty all the same.
It nailed up every window, stood guard at every door,
And happiness and sunshine made their home with us no
more,

Till with failing crops and sickness we got stalled upon the
grade,

And there came a dark day on us when the interest wasn't
paid;

And there came a sharp foreclosure, and I kind o' lost my
hold,

And grow weary and discouraged, and the farm was cheaply
sold.

The children left and scattered, when they hardly yet were
grown;

My wife she pined an' perished, an' I found myself alone.
What she died of was "a mystery," an' the doctors never
knew;

But I knew she died of mortgage—just as well as I wanted
to.

If to trace a hidden sorrow were within the doctor's art,
They'd ha' found a mortgage lying on that woman's broken
heart.

"Worm or beetle, drought or tempest, on a farmer's land
may fall,

But for first-class ruination, trust the mortgage 'gains't
them all!"—*Will Carleton.*

WHAT MAKES A HOUSE BEAUTIFUL.

It is an excellent thing to have a well-kept horse, and a
beautifully appointed table; but, after all, the best cheer of
every home must come from the heart and manner of the
home mother. If that is cold, and this ungracious, all the

wealth of India cannot make the home pleasant and invit-
ing. Intelligence, too, must lend its charm, if we would
have home an Eden. The severe style of house-order
neatness seldom leaves much margin for intellectual culture.
Even general reading is considered as out of the question
for a woman so hurried and so worried with her scrub-
bing and polishing, and making up garments. A simpler
style of living and house furnishing would set many a
bonded slave at liberty, and add vastly to the comfort of all
the house.

Hospitality rarely prevails in these spotless, line and
letter houses. Company disarrange the books, and disorder
the house, which had work enough in it before. The
mother cannot throw off her household cares, and sit down
for a real heart-to-heart converse with the old friend of her
childhood. Still less can she enter into the joys and pleas-
ures right and delightful to her own children, because of the
extra work of clearing away it will be likely to make.

With all your toils to make a house beautiful, do not
neglect the first element of all, to beautify yourself, body
and soul. A sweet, loving word, and a warm clasp of
the hand, are far more to a guest than the most elaborately
embroidered lambrequins at your window, or the most
exquisite damask on your table. There are bare cabin
homes that have been remembered ever with pleasure,
because of the beautiful loving presence there; and stately
palaces, which leave the impressions of an iceberg on the
mind.

OVER THE WAY.

No fresh young beauty, laughing-eyed,
Who reckons lovers by the score,
But just a sweet old maid who died
While I was yet in pinafore.

She lived upon the shady side
Of that old-fashioned country street,
A spreading chestnut greenly tried
To screen the door of her retreat.

A tiny garden, trim and square,
A snowy flight of steps above,
And sweet suggestions in the air
Of all the flowers the poets love.

Within the trellised porch there hung
A parrot in a burnished cage—
A foolish bird, whose mocking tongue
Barlesqued the piping tones of age.

A branching apple-tree o'erspread
A rickety old garden seat;
No apples sure were e'er so red!
Or since have tasted half as sweet!

In memory's enchanted land,
I see the gentle spinster yet.
With watering-pot in mitted hand
Gaze proudly at her mignonette.

And when the Spring had grown to June,
She'd sit beneath the apple-tree,
And dream away the afternoon,
With some quaint volume on her knee—

A gray-robed vision of repose,
A pleasant thought in Quaker guise;
For truly she was one of those
Who carry Heaven in their eyes.

—*Chambers' Journal.*

THE PROMINENCE OF ATHLETICISM IN
ENGLAND.

"I care for nothing but hunting, shooting, and fishing,"
writes an ex-landlord, quite lately, while inquiring through
the columns of "The Field" for a cheap residence abroad.
You must be an Englishman to understand the exact spirit
in which this is written, and the spirit in which it will be
taken by the masses. Such a confession in the columns of
the public press in any other country would be taken as the
apology of some harmless idiot. Not so here, however.
Impossible as it may seem, an Englishman will recognise
it instantly as having a great deal more of the boastful than
the apologetic, and two-thirds of the rising generation, on
reading it, will mentally chronicle that unknown curiosity
as "a fine fellow."

The singularity, however, lies not so much in the fact of
a vast number of individuals, whom accident has made
independent of occupation as regards their living, devoting
themselves with business-like energy to self-indulgence, as
in the more than toleration, the semi-admiration, with
which the workaday world, in its intervals of labour, from
the prime minister to the agricultural labourer, looks on and
cheers the barren feasts or the school-boy gambols of grown-
up children. Physical superiority, in short, is the fashion
in England, and the public will shout louder and longer at
excellence in amusements, than they will at excellence in
those qualities which help to advance their country, and the
cause of civilization, and the good of men.

When we read, in the local paper, that at a public dinner
in the town hall Sir John Spretasch, K.C.B., occupied the
left of the chairman, and Mr. Reginald Redcoat, M.F.H.,
sat upon his right, no sense of the ridiculous is supposed to
strike us in the unconscious but still seemingly apparent
equality in importance at which these two affixes are rated.
The one marks, perhaps, the successful leader of some
campaign in which the honour of the nation and something
more has been at stake; the other, the ownership of a pack
of honours, which are as often as not intrusted to the sole
charge and management of a hired servant, who in turn,
from the mere fact of his being connected with field sports,
will be treated as an incomparably more important person
than his brother, the thrifty tradesman, and will combine in

the highest perfection all those offensive characteristics
which so often distinguish the dependents of great establish-
ments.

I think I am not wrong in saying that the title of M.F.H.
would be more deeply respected, by one-half of the rising
generation of England, than all the other letters indicative
of military or intellectual distinction that her Majesty or her
institutions could affix to a subject's name. Of course this
is very droll,—no contemptuous epithet could be found
strong enough to apply to it; but it is nevertheless a part of
our social system; it has eaten into our lives and become a
part of our traditions—so great is the human material we
have to draw upon, so great our wealth, so great the vigour
of the middle classes and the working portion of the upper
classes. This monomania is powerless to arrest for a
moment the stream of our national life and industry. It
pervades only that quiet backwater which plays around
with bats and balls and fishing-rods and guns, and which,
by an odd paradox, calls itself "the world," and by the
still stranger force of habit exacts the tribute of admiration
and respect, and whenever possible of imitation, from the
busy stream that turns the wheel that makes Great Britain
what she is.—*Atlantic Monthly.*

NORWEGIAN TABLE MANNERS.

Table manners are at a low ebb in Norway. Consistency
does not seem to be regarded as a jewel. The same people
who bow so very ceremoniously to each other, and express
sympathy and interest in the veriest trifles of life, and who
dance and grimace fully five minutes at an open door before
they can determine which shall enter first, are exceedingly
ill-bred during meal time. Their knives wander so far
down their throats that one must at least admire their
courage, though failing to appreciate its object. In these
seats they rival the professional knife swallows of Bombay.
They hold their forks like pens. Even a four-tined fork is
not considered too unwieldy to use as a toothpick. All
knives are put promiscuously into the butter dish, which
indeed is never provided with a separate implement. Also,
when spoons are furnished for a public dish, a Norwegian
generally prefers using his own. Eggs are sucked from the
shell. The people eat most voraciously, displaying the
appetites of tigers, and making disagreeable noises with
their mouths. They rise and reach across the table for
something you could readily pass them, and sometimes a
person gets up and walks to the end of the table for some
particular dish he fancies. When the plates are changed
at the end of a course, the knives and forks are apt to be
simply wiped by the waiter upon a towel in full sight, and
then complacently returned to you. And yet it was the
Scandinavians who won from Voltaire the praise of being
the "Frenchmen of the North," on account of their punc-
tilious politeness. Kind-hearted and well-meaning, but
surely somewhat deluded old man.

FARMING IN SWITZERLAND.

I have wondered if there are such awkward ways of doing
things outside of Egypt as are practised here. The farm-
ing implements would be laughable if they were not mon-
strous. Tubal-Cain certainly made better-formed scythes
than are used here. The axes are simply long sharp
wedges with a hole near the top, and a short, straight stick
in the hole for a handle. Hay-forks are big and awkward,
and twice as heavy as our stable forks. Grain is often
threshed with the old-fashioned flail than otherwise. The
ploughs are the climax of agricultural monstrosities. They
are great cumbersome things, made almost wholly of wood,
with the beam mounted on two wooden wheels big enough
for coal-carts. My friend used just such a plough yester-
day on our farm. I half deny ownership now, when I think
of it. It was pulled by six cows. Two men were driving
the cows, and two men were holding the plough up. I fol-
lowed and looked on. They were half a day ploughing
half an acre. I am glad the whole concern, ploughmen,
cow-drivers, and all, were hired, and not a part proper
of the farm. I sat on a stone wall for half an hour and re-
flected whether it were possible Americans could not make
small special farming profitable, with their soil and com-
plete implements for farming, in the face of the fact that
these people not only make a living, but save money, on a
poor soil, and with the old-fashioned tools of Egypt to work
it. I am certain the whole secret lies in economy—in the
saving of a hundred little things that shall outbalance even
the waste of these awkward implements and these slow
methods. There will not a blade of grass be seen among the
vines here, or a weed on the farm; there will not be a twig of
wood left to rot, or a potato undug. A gentleman's private
garden could not be cleaner or better kept than is the whole
farm in Switzerland, and cultivation, such as is bestowed
only on hot-houses in America, is common here to every
farm. Not one foot of ground is left uncared for.—*Harper's
Magazine.*

LITERATURE FOR BOYS.

The old-fashioned stories which the unhappy boys of the
last generation read have been succeeded by the manly and
fascinating criminal novel. In the old story-books it was
assumed that truthfulness, honesty and obedience to parents
were virtues, and that the Christian religion was not wholly
devoid of merit. If these views were not directly taught in the
juvenile literature of our fathers, at all events they were never
directly or indirectly attacked. Boys could learn nothing
from their story-books except preposterous platitudes—noth-
ing that was of any practical use, or that tended to develop
in them manly and brilliant traits. No such complaint can
be made of the dime and half-dime novels of the criminal
school, which are now read by all our boys, either openly or
secretly. In these delightful stories new forms of profanity
and slang are taught in the most effective way. The pleas-
ures of burglary and highway robbery, the manliness of gam-
bling and fighting, and the heroism of successful lying, are
set forth in what is regarded by youthful readers as glowing

eloquence; while the great truths that all parents are tyrants, that all religious people are hypocrites, and that disobedience to fathers and teachers is obedience to the nobler instincts of juvenile nature, are sedulously taught. Such stories as these develop all that is manly and lawless in our boys, and teach them lessons that cannot fail to be of immense service to them in whatever criminal career they may adopt.

There are a few old-fashioned people who denounce the new juvenile literature in unsparing terms, but that nearly all fathers approve of it is self-evident. They know that their boys are reading novels illustrative of the excellence of crime, but they make no effort to suppress that sort of literature, as they certainly would do did they disapprove of it. Nothing would be simpler than to drive those novels out of existence. All that it would be necessary to do would be to "Boycott" the newsdealers who keep them for sale. The truth evidently is that fathers either do not care what their boys read, or that they have no fault to find with "Jack Harkaway" and the "Boy Burglars." It cannot be that respectable gentlemen who dislike crime, profanity and vulgarity, willfully refuse to know what their boys are reading, or weakly hope that by some happy chance their reading will do them no harm.—*W. L. Alden, in Harper's Magazine for February.*

NO TIME LIKE THE OLD TIME.

(OLIVER WENDELL HOLMES.)

There is no time like the old time,
When you and I were young,
When the buds of April blossomed,
And the birds of Spring-time sung.
The garden's brightest glories
By summer suns are nursed,
But oh, the sweet, sweet violets,
The flowers that opened first!

There is no place like the old place,
Where you and I were born,
Where we lifted first our eyelids,
On the splendours of the morn,
From the milk-white breast that warmed us,
From the clinging arms that bore,
Where the dear eyes glistened o'er us
That will look for us no more!

There is no friend like the old friend
That has shared our morning days,
No greeting like his welcome,
No homage like his praise;
Fame is the scentless sunflower,
With gaudy crown of gold;
But friendship is the breathing rose,
With sweets in every fold.

There is no love like the old love
That we counted in our pride;
Though our leaves are falling, falling,
And we're fading side by side,
There are blossoms all around us,
With the colours of our dawn,
And we live in borrowed sunshine
When the light of day is gone.

There are no times like the old times—
They shall never be forgot!
There is no place like the old place—
Keep green the dear old spot!
There are no friends like our old friends—
May heaven prolong their lives!
There are no loves like our old loves—
God bless our loving wives!

AURORA BOREALIS.

Gassendi, a French philosopher, contemporary of Lord Bacon, first gave the classical name of Aurora Borealis. Others have called it Aurora Polaris, for there is also an Aurora Australis, similar phenomena being witnessed in the Antarctic regions. The Portuguese navigator, D'Ulloa, is the first who describes the Southern Lights, about 1743; and Captain Cook also beheld them in 1777. Sir James Ross, in his famous Antarctic exploring expedition, witnessed magnificent displays.

Many of the accounts in old chronicles and histories, describing armies in the sky meeting and contending with fiery spears and darts, sometimes attended with waves of blood, can only refer to unusual displays of the Aurora Borealis. Such references are frequent in the medieval chronicles. But before those days, Aristotle, Pliny, and other classical writers, alluded to the same mysterious lights. They were usually regarded as portents of evil foreboding. But the Shetland people called them "The Merry Dancers." The North American Indians thought they were the spirits of their departed people roaming through the spirit-world.

ONE SECRET OF SUCCESS.

Don't live a single hour of your life without doing exactly what is to be done in it, and going straight through it from beginning to end. Work, play, study, whatever it is—take hold at once and finish it up squarely and cleanly; then do the next thing, without letting any moments drop between. It is wonderful to see how many hours those prompt people contrive to make in a day; it is as if they picked up the moments that the dawdlers lost. And if you find yourself where you have so many things pressing you that you hardly know how to begin, let me tell you a secret: take hold of the first one that comes to hand, and you will find the rest all fall into file, and follow after, like a company of well-drilled soldiers; and though work may be hard to meet when it charges in a squad, it is easily vanquished if you can bring it into line. You may have often seen the anecdote of the man who was asked how he "accom-

plished so much in his life." "My father told me," was the reply, "when I had anything to do, to go and do it." There is the secret, the magic word—*now.*

EMBER FLASHES.

BY MRS. ANNIE L. JACK.

After the holidays—what? we say as we settle down to quiet and comfort. The fire of our "great expectations" burns low: only a few flashes now and then from among the embers tell of the vital spark within. The children's toys are already broken; the paint has been worn off the doll, and Charles' wonderful gun-carriage is minus a wheel. But, what matter! They have had their day. To the housekeeper it is a trying time—for where has she more worlds to conquer? Turkey and mince-pies, with an added glory of plum-pudding, have demoralized the family, and she meditates how to bring them down to the level of a good bread pudding and a small roast. But this the cook-books do not teach, and it can only be learned by personal application. And here I would enter a plea for fruit; for there is no season of the year when it so materially affects the health of a family as during the latter months of winter. Give up half the pies and puddings, tired Christmas-worn housekeeper, and purchase a supply of juicy oranges, toothsome figs and raisins, which, with the plentiful and necessary apple, can be made up easily into healthful and appetizing desserts. I hope the day is not far distant when every farmer will lay in his stock of grapes, as well as other winter supplies, and thereby add to the health, and lessen the doctor's bills of his family. But my rambling pen must say "good-night."

"Cover the embers, and put out the light—
Toil comes with the morning, and rest with the night."

SENDING A VALENTINE.

I might begin, "The rose is red"
(Though that is not so very new),
Or thus the boys all think is good:
"If you love me as I love you."

But,—seems to me,—a valentine
Is nicer, when you do not say
The same old thing that every one
Keeps saying, in the same old way.

And I asked Jane, the other night,
What grown-up people write about.
She would not answer me at first,
But laughed till I began to pout.
That stopped her, for she saw I meant
The question (and she will not tease).
"Why—love," she said, "and shining eyes,
A kiss, soft hair—just what they please."
It can't be hard, if that is all,
So I'll begin by saying this:

To my dear lady beautiful,
I send a valentine and kiss.
The valentine, because she has
The loveliest hair and gentlest eyes;
The kiss, because I love her more
Than any one beneath the skies;
Because she is the kindest, best,
The sweetest lady ever known;
And every year I'll say the same,
The very same, to her alone!

There! Now it's finished. Who will do?
I've thought of one and then another.
Who is there like it? Why, of course,
I'll send it right away to Mother!

—*Kate Kellogg, in St. Nicholas for February, 1882.*

A NEW POEM BY WHITTIER.

THE DEACON'S ADVICE TO THE SQUIRE RELATIVE TO
PROPERTY VALUATION.

The old Squire said, as he stood by his gate,
And his neighbour, the Deacon, went by,
"In spite of my bank stock, and real estate,
You are better off, Deacon, than I.

"We're both growing old, and the end's drawing near;
You have less of this world to resign,
But in Heaven's appraisal your assets, I fear,
Will reckon up greater than mine.

"They say I am rich, but I'm feeling so poor,
I wish I could swap with you even,
The pounds I have lived for and laid up in store
For the shillings and pence you have given."

"Well, Squire," said the Deacon, with shrewd common sense,
While his eye had a twinkle of fun,
"Let your pounds take the way of my shillings and pence,
And the thing can be easily done."

A MURDEROUS SEA FLOWER.

One of the exquisite wonders of the sea is called the opellet, and is about as large as the German aster, looking, indeed, very much like one. Imagine a very large double aster with ever so many long petals of light green, glossy as satin, and each one tipped with rose colour. These lovely petals do not lie quietly in their places like those of the aster in your garden, but wave about in the water; while the opellet generally clings to a rock. How innocent and lovely it looks on its rocky bed! Who would suspect that it could eat anything grosser than dew or sunshine? But these

beautiful waving arms, as you call them, have another use besides looking pretty. They have to provide food for a large open mouth, which is hidden deep down among them—so well hidden that one can scarcely find it. Well do they perform their duty, for the instant that foolish little fish touches one of the rosy tips he is struck with poison as fatal to him as lightning. He immediately becomes numb and in a moment stops struggling, and then the other beautiful arms wrap themselves around him, and he is drawn into the huge, greedy mouth, and is seen no more. Then the lovely arms unclose and wave again in the water, looking as innocent and harmless as though they had never touched a fish.—*Anon.*

NEWS GLEANINGS.

PHILADELPHIA paid \$23,220,000 for liquor last year, or \$1,000,000 more than for rent.

COPENHAGEN, in Denmark, has a population of 235,000, all of whom but 6,000 are Lutherans.

THE Lord Mayor of London advises the unemployed in that city to emigrate to Canada.

MR. BRADLAUGH has been again returned to Parliament for Northampton by a reduced majority.

It is said that Mr. Parnell has suffered a week's solitary confinement for attempting to bribe a turnkey to take out a letter.

THE amount in deposits in the British Post Office Savings Bank last year was \$8,000,000, or \$1,500,000 more than in 1880.

THE trials of the Russian Nihilists resulted in the sentence to death of ten of the prisoners as accomplices in the assassination of the Czar.

UNDER the "new departure" of the Trustees of the Prabody Fund the income is not almost entirely employed in the education of teachers.

TOBACCO dealers in Mississippi cannot sell tobacco to minors without the consent of their parents or guardians, if the bill passed by the House becomes a law.

THE Chinese merchants of San Francisco have sent a despatch to the Hong Kong Chinese merchants, urging them to stop Chinese emigration to San Francisco.

IN recent excavations at Pompeii, thirty skeletons were found, one of which was grasping to its breast a purse with gold, silver, and bronze coins and precious stones.

THE workmen in the Hudson river tunnel find that coffee is a more wholesome and continuing stimulant under the fearful pressure of the atmosphere, than ardent spirits.

ADVICES from the West Coast of Africa report that a ferry-boat, while crossing the lagoon of the Lagos, capsized, and forty-seven of the sixty persons on board were drowned.

AN Algiers cablegram reports a battle between a battalion of French troops and a party of fifteen hundred insurgents, in which the former lost twelve men and the latter one hundred.

PRINCE MILAN, of Serbia, has, at the request of the Skuptschina or Parliament of that principality, consented to assume the kingly prerogative, and will hereafter be known as King Milan.

A DESPATCH from Omaha states that the belief is spreading throughout Utah that Brigham Young is not dead, but will appear in the flesh if the anti-Mormon movement becomes very general.

IT is estimated that there are 10,000,000 men under arms in Europe at the present time, and that the annual cost, direct and indirect, of the enormous forces is not less than \$2,840,000,000.

WHILE Andover, Princeton, and our other theological seminaries have sent less than 10 per cent. of their graduates as foreign missionaries, Oberlin has sent 19 per cent., and Hartford 24 per cent.

A NOVEL danger from electricity was lately experienced in Weehawken Tunnel, when a blast that was to be exploded by a battery was prematurely fired by a flash of lightning, seriously injuring six men.

A HERD of 11,000 sheep recently arrived at Lincoln, Nebraska, having occupied two years in its journey from Washington Territory. The stockmen, it is said, often consume three years in this trip.

IT was stated in the British House of Commons last week that 201 women have been assaulted, 56 men killed, 20,000 persons rendered homeless, and property of the value of \$80,000,000 destroyed in the anti-Jewish riots in Russia.

THE Empress of Germany is among the contributors of books to the library of the New York State Charities Aid Association, her present having been a collection of reports concerning volunteer relief work during the Franco-German War.

THE "Missionary Herald" says that since the Hawaiian kingdom has joined the Universal Postal Union, Natal in South Africa is the only field in the world occupied by the American Board to which letters cannot be sent at the rate of five cents a half ounce.

IN Edinburgh Mr. Moody has been endeavouring to raise \$50,000 for the erection of new buildings for one of the public charities and reformatories of that city. One gentleman proposed to sell the contents of his wine-cellar to a medical mission, and devote the proceeds to this purpose.

A PANAMA despatch states that Lima advices, dated Feb. 16th, report a battle between Chilean and Peruvian forces at Pucara, in which the Peruvians were defeated with considerable loss. Bolivia is said to be awaiting the evacuation of the districts of Tacna and Arica by the Chilean forces to wrest them from Peru.

IN addition to the floods and consequent loss of life and destruction of property on the Lower Mississippi, comes the news that Vermont and Massachusetts have suffered severely by reason of too much water. Some serious railroad accidents have occurred, the results of wash-outs, and the record of disaster is a long one.

YOUNG CANADA.

BIG BOY AND LITTLE MAMMA.

"Mamma, my dear, if a robber should come,
A terrible robber—one might, you see—
I'd frighten him off with my sword and drum,
And you would be perfectly safe with me.

"And if you and I in a gloomy wood
Should meet a bear as we walked some day,
With my bow and arrows, like Robin Hood,
I would drive the fierce old bear away.

"But now I am tired, and sleepy too,
And I wish my mamma would lift me down."
There's a laughing look in her eyes of blue,
As they answer her boy's, so big and brown.

She feels on her lips his coaxing touch,
She clasps him fast in her loving hold,
And she murmurs, "I'll never fear robber much,
Unless he should steal this heart of gold."
—Harper's Young People.

THE BEAVER.

As beavers do not hibernate, they are compelled to provide a store of subsistence for the long Canadian winters during which their ponds are frozen over, and the danger of venturing upon the land is so largely increased as to shut them up, for the most part, in their habitations. In preparing for the winter their greatest efforts in tree-cutting are made. They commence generally in the latter part of September, and continue through October and into November the several employments of cutting and storing their winter wood, and of repairing their lodges and dams. (Our illustration shows the industrious animals at work). These months are the season of their active labours, which

are only arrested by the early snows and the formation of ice on their ponds. It is a feature of the climate of the Lake Superior region, as also that around Hudson's Bay, that the snows begin to fall before the frost has entered the ground, whence it is that throughout the winter the earth remains unfrozen under a deep covering of snow. In this we recognize a beneficent provision of the Creator for the welfare of the burrowing animals, without which many of them would perish.

It is a singular fact that these animals perform most of their work at night; but they come out early in the evening, and continue at work during the early morning hours. For the remainder of the day they are rarely seen, except in regions where they are very numerous, or are entirely undisturbed by trappers. By making a breach in their dams, you can compel them to come out, but it will be late in the night before they show themselves, and they are so wary that it is extremely difficult to conceal yourself in their immediate vicinity so as to see them work.

After ice has formed in their ponds, they

retire to their lodges and burrows for the winter, and they are not seen again either by day or night, except in rare instances, until a thaw comes, of which they take advantage to come out after fresh cuttings.

In establishing their lodges so as to adapt them to winter occupation, and in the manner of providing their winter subsistence, the beavers display remarkable forethought and intelligence. The severity of the climate in these northern latitudes lays upon them the necessity of so locating their lodges as to be assured of water deep enough in their entrances, and also so protected in other respects as not to freeze to the bottom; otherwise they would perish with hunger, locked up in ice-bound habitations. When these preparations are commenced at an unusually early date, it is a sure indication of an early, abrupt and severe winter; while, on the other hand, when these animals display leisure in their movements after the beginning of October, an open autumn invariably ensues.

During the autumn of 1876, two old



beavers were observed preparing their winter house with great leisure toward the end of October, not far from Buckingham village, on the Levis river. This was not finished by the 15th of November, and the weather still continued open and beautiful. In general, however, the winter quarters of the beaver are ready for his reception early in November. There are marked differences in the habits of the Canadian and European beavers, although it is doubtful whether the species are distinct. The European beaver is said to lead a solitary life in burrows, rarely constructing lodges or dams; whilst the Canadian beaver is pre-eminently a builder of both dams and lodges.

A very interesting fact with reference to the beaver is that of his great antiquity upon earth. A presumption to this effect would arise from his coarse subsistence and his aquatic habits; but it is confirmed by decisive evidence. Both the European and American beavers are found in a fossil state, and under conditions which establish for each of them a very ancient epoch for the first among living animals. Remains of the beaver have been found associated with those of the

mammoth, hippopotamus, rhinoceros, hyena, and other extinct mammals in the pleistocene fresh water or drift formation of the Val d'Arno; and remains were found fossil by Dr. Schmerling in the ossiferous caverns in the neighbourhood of Liege.

But the most common situation in which the remains of the beaver are found is the peat bog or moss pit. Remains of the European beaver have been found at the depth of eight feet and a half beneath peat, resting upon a stratum of clay, with much decayed and seemingly charred wood, associated with the remains of the great Irish deer, at Higby, Norfolk. Beaver-gnawed wood was found in the same cavity with, and five feet above, the skeleton of the mastodon discovered at Cohoes, near Albany, New York. It appears from the description of Professor James Hall, who personally superintended the removal of the principal bones, that this mastodon was found in a pot hole excavated in the shale rock (Hudson River group), and more than forty feet below the surface. The remains

were imbedded in clay and river ooze, resting upon gravel, and covered with an accumulation of peat. In the presence of this beaver-gnawed wood so near the mastodon, some evidence is furnished that the beaver and the mastodon were contemporaneous.

"WHY don't you hurry along?" said a teamster to a stranger who was passing him. That teamster had very kindly driven his team to one side of the street, and waited for the other to pass. This act of kindness had excited in the bosom of the

stranger emotions of gratitude, which would soon have been expressed in thanks; but just then the man of the kind act cried out in a cross tone, "Why don't you hurry along?" Ah! that spoiled it all. It swept away in an instant all grateful emotions from the bosom of the stranger, and created dislike. Thanks were no longer felt, and were never expressed. What a pity that kind acts should sometimes be spoiled by cross words!

DR. HAHN, the eminent geologist, seems to have solved the question whether celestial bodies are inhabited by animate beings, and whether the meteoric stones are emanations from incandescent or volcanic planets. In the examination of these bodies they are found to contain coralline and spongy formations, and traces of the lower forms of vegetation. All the organisms discovered by Dr. Hahn indicate that the parent world of these meteors belongs to the primary formation. The existence of water in these worlds is proved by the fact that the tiny petrified creatures revealed by the microscope in the meteors are of the subaqueous classes of animals.

Scientific and Useful.

AMONG the latest uses to which sawdust has been applied, is in the manufacture of car-wheels. A writer states that sawdust car-wheels, sawdust bricks, sawdust fence-posts, railroad ties, and even sawdust window and door frames, wainscoting and moulding, begin to appear among the possibilities of the immediate future.

CHOCOLATE CAKE—Two cups sugar, two cups butter, three and one half cups flour, five eggs, one teaspoonful cream tartar, half a teaspoonful soda, leave out the whites of two eggs for the frosting. Make this of the whites with one and one half cups sugar, and six large spoonfuls grated chocolate. Spread it on while the cake is hot.

APPLE DUMPLINGS.—Pare and core fine, juicy apples that will cook quickly; then take light bread dough, cut into round pieces half an inch thick and fold round each apple until well covered. Put them into a steamer, let them rise, then set the steamer over a pot of boiling water, and steam until done. Try them with a fork. Eat with cream and sugar, or butter and sugar, or maple syrup.

CHESHIRE SOUP.—The following is a very old Cheshire recipe for a good and an expensive soup. It dates back as far as the sixteenth century: Put a hock of beef into a gallon of cold water, simmer it gently for six hours, taking care that it is well skimmed. Put in some thyme, sweet marjoram and celery, all tied in a bunch, as also a couple of onions cut fine. Skim off all the fat, and season with pepper and salt and a little ketchup. By omitting the above seasoning this soup may be turned into all kinds of soup by adding the vegetables to give the flavour required.

SICKNESS AMONG FARMERS.—There is undoubtedly as much sickness among farmers and their families as among any other class of people. We would hardly expect this, with their advantages of fresh air and good food, rarely obtained in a large city. Why are they sick? What are the causes? Among others, a physician gives the following: 1. Farmers, as a rule, resume their labours too soon after meals. 2. Farmers generally do not pay enough attention to bathing. 3. Kitchen and other drainage is often disposed of too near the house. 4. Unclean cellars and untrapped cellar-drains are often sources of disease in the farmer's family. 5. There is a disposition on the part of some farmers to plant too many trees around the house. 6. The location of a dwelling on a malarious site is often the cause of periodical fevers.

VIRGINIA MUFFINS.—One quart flour, one teaspoon salt, one tablespoon sugar, one tablespoon butter and lard mixed, one tablespoon well mashed Irish potato, three well-beaten eggs, one-half teacup home-made yeast. Rub the butter and lard into the flour, then the mashed potato; salt and sugar should be sifted with the flour. Pour into this the eggs and yeast, and make into a soft dough with warm water in winter and cold in summer, and knead thirty minutes by the clock. If wanted for an eight o'clock winter breakfast, make up at eight the night before. At six o'clock the next morning make the dough into twelve round balls without kneading, and drop into well-greased tin baking cups. These cups should be smaller at bottom than at top, and must be three and one-half inches deep. Grease the hands and pass them over the top of each muffin; set them in a warm place for full two hours, and then bake. The depth of the cup is important, because, if properly made, they rise to the top, or nearly so, and would be heavy if baked in the shallow cups commonly used.

THE GASTROSCOPE.—Dr. Mikulicz, of Vienna, has invented an instrument for illuminating and inspecting the inside of the living human stomach. Recently he exhibited his apparatus, upon which he has bestowed the title of "gastroscope," to the leading professors of the medical faculty at the Polyklinik, and performed some interesting experiments with it upon a female hospital patient suffering from chronic dyspepsia. It consists of a tube fitted with a set of minute but powerful reflectors at one end, and connected at the other with an electric battery, by which a brilliant light is projected into the stomach requiring inspection. This tube was passed down the subject's throat, and remained there for fully twenty minutes, during which time the Viennese professors were enabled to diagnose the condition of every part of the mucous membrane thus lighted up and revealed to their gaze. The gastroscope is considered likely to render invaluable services to the cause of electro-endoscopic investigation, which for some time past has been prosecuted with ardour by eminent Austrian pathologists.



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TORONTO WHOLESALE MARKETS.

OFFICE RURAL CANADIAN, Toronto, March 14th, 1882.

CATTLE.—Receipts have been limited this week, and the demand being good, prices are higher. Only four carloads offered on Tuesday, and they were readily taken at 5 to 5 1/2 c. per lb. Ordinary butchers' cattle are worth 4 1/2 to 5 c., and the supply is much too small. Sheep are in demand, and higher, at 4 1/2 to 5 c. per lb. Lambs are also wanted, and firm at 5 to 5 1/2 c. Some choice calves sold at \$10 to \$15 a head. Hogs steady, with sales of a few store lots at 6 to 6 1/2 c.

CLOVER SEED.—Has been quiet and easier during the past week. The export demand is about over, and dealers are not anxious buyers at present prices. Sales of car lots were made on Tuesday at \$4.00, but choice re-cleaned is held higher. Alsike is quoted at \$7.75 to \$8, and Timothy seed at \$3 per bushel.

FLOUR AND MEAL.—Flour.—Stocks in store 7,648 barrels, against 7,258 barrels last week, and 9,199 barrels last year. Business continues remarkably quiet, buyers holding off on account of the irregularity of outside markets. On Friday and Saturday sales of sup-r-br-extra were made outside at equal to \$5.50 to \$5.55. On Tuesday there was some inquiry at \$5.45, but none offered. Extra and spring extra nominal at \$5.35 to 5.45. Bran is very scarce and firm, there being sales throughout the week at \$16 and \$16.50.

GRAIN.—Transactions have been few and far between the past week. Holders are not pushing sales, neither are buyers anxious while outside markets remain unsettled. Stocks of wheat are increasing, while those of barley are decreasing. Total stocks of grain in store, 639,983 bushels, against 653,856 bush. last week, and 627,169 bush. at a like time last year. Wheat.—Fall.—Stocks in store 252,918 bush., as compared with 249,220 bush. last week, and 112,737 bush. in 1881. No sales of this grain have been reported all week, and prices are purely nominal at quotations. 10,000 bushels of No. 2, May delivery, offered the other day at \$1.27, with \$1.25 bid. Wheat.—Spring.—Stocks in store 90,809 bush., against 92,630 bushels last week, and 80,719 bushels in 1881. Demand very inactive, and prices easier. On Friday No. 2 sold at \$1.25 on track. On Wednesday No. 2 offered at \$1.25, and No. 3 at \$1.22, without bids. No. 1 is nominal at \$1.26. Oats.—Stocks in store 6,223 bushels, against 4,133 bush. last week. Offerings moderate during the week, and prices easy. Western sold in car lots at 42c. delivered, and at 41c. on track, and eastern at 40c. on track. There are more sellers of the latter at the same price. Barley.—Stocks in store 254,448 bushels, as compared with 271,122 bush. last week, and 339,894 bush. at a like time in 1881. There has been a moderate movement during the week, with few changes in price. No. 1 sold on p.t., probably at 86 or 87c. There was a forced sale of No. 2 choice at 85c., but No. 2 would probably bring the same figure. Sales of No. 3 extra have been made at 76 to 78c., and of No. 3 at 73c. Peas.—Stocks in store 18,708 bush., against 18,856 bush. last week, and 81,396 bush. last year. There are none offering, and prices are purely nominal at quotations. Rye.—Stocks in store 16,877 bush., against 16,587 bush. last week, and 12,723 bush. last year. Sales were made at 82c. delivered. A round lot of feed on Wednesday, for October delivery, at 80c., with 60c. bid.

HIDES AND SKINS.—Hides are in moderate receipt, and prices unchanged at 7 1/2 c. for cows, and 8 1/2 c. for steers. Cured are steady at 8 1/2 c. Calfskins are steady at the reduction of a week ago. Sheepskins are offering slowly, and unchanged, at \$1.25 to \$1.50, the latter for the best.

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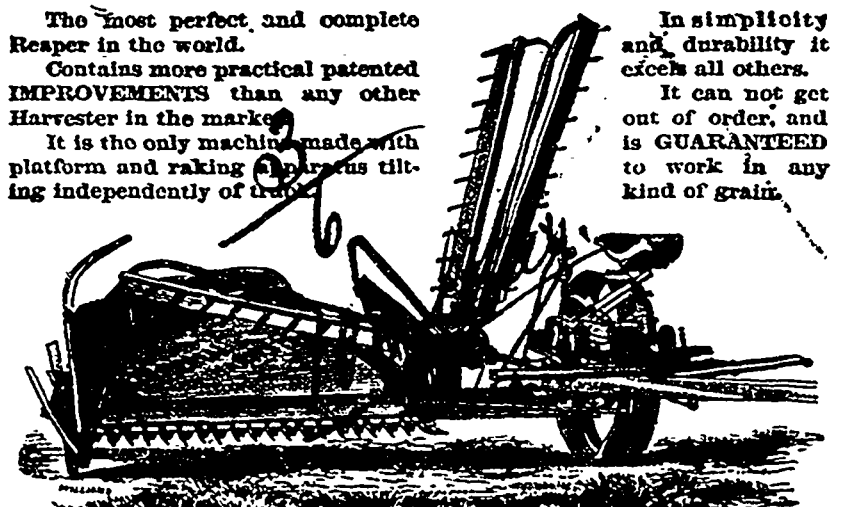
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