

AGRICULTURAL.

Winter Butter Making.

Have the following rather severe remarks from an American paper any application in Canada?

Here we are to-day with the prices of butter and cheese way up, and not one dairy farmer in a thousand in the United States is in any shape whatever to take advantage of the situation. It has been running just this way for thirty years, yet what have these men learned from it? Comparatively nothing. Here they stand facing one way, and the market facing the other. Preach to them, labour with them, try to stir them out of their unthinking ruts, and get them to see that they ought to make their farm practice act in conjunction with the market; in fact do anything we can, still there they are, handling their cows just as they did thirty years ago.

It is simply amazing that farmers who call themselves really intelligent should continue in such wasteful and unprofitable ways. We never heard of a man who was engaged in winter butter making but what was earnestly in favour of it as the most profitable way of making cows pay. This has been told and re-told for years and years. Still these men are unconvinced, or if they are convinced, they haven't energy enough to put their judgment into execution.—[Hoard's Dairyman.

A Word for the Farmer.

The Canada Presbyterian, a religious journal, speaks out unmistakably against the unfair contention of those who charge the farmer with extravagance. It says:

There is something cruelly absurd in telling farmers that if they lived now as they lived fifty years ago they would not find any difficulty in paying their way. What other classes of people live now as they lived fifteen years or even twenty years ago? Is a farmer never to be allowed to increase the comforts of his home? It may be quite true that if a farmer lives in a shanty, and drives an ox-team and makes his own boots and eats little but pork and potatoes, his expenses will be lighter. A manufacturer, or a merchant, or a doctor, or a lawyer, could easily reduce his expenses in the same way. Why should not a farmer be expected to improve his position as well as any other member of the community? Is there any reason why his wife should not dress well, or his daughter own a musical instrument or his son drive a good horse? If all the rest of the community are ready to go back and live as people lived in this young country fifty years ago, farmers may not object, but there is something cruelly absurd in asking one class to live as much like Indians as possible in order that the others may live in comfort and many of them in elegance.

This is sound sense and a practical embodiment of the doctrines of Christianity. The farmers have a just right to share in the prosperity that they largely produce.

Practical Points.

Better cultivate three acres with good crops than five with half a crop.

To be palatable a food must be varied and attractive to eye, taste and smell.

Do all work according to its organic law. If you sow rye at the same season you plant corn, you break the law of rye.

If the farmer pays for his place, and has a surplus of a few thousand dollars—\$5,000 for instance—he is a success.

In the winter care of the stallion, good health depends as much upon exercise as upon the proper food. Driving six or eight miles per day would give proper exercise.

For storing tools a long shed open to the south and if possible beside the lane is best. Let the ground be a little higher under the shed than outside, so no water will settle there.

Man in other occupations is frequently subjected to extreme want, but out of 200,000,000 people engaged in farming who ever heard of one who went to bed hungry.—[Prof. I. P. Roberts.

If it be true that it is not what we earn but what we save that makes us rich then it is equally truthful that it is not how much we raise but at how great a profit we market it that makes the farm pay.

More agricultural education should be taught in our district schools, and will be by and by, when teachers are employed who know a turnip from a thistle, or a cabbage from a crab apple.

The day of the whipping post formerly used upon the stallion has passed away. A lump of sugar, a potato, apple or some other palatable article of food is by far more effective in securing submission.

The horse quickly learns to associate a sound with a certain action. If by accident you say whoa when you don't mean it do not let him know it. When he stops you should act as if it were all right, pretend you stopped for some purpose, and then go on.

If your farm is so large that you cannot work it in good shape seed the poorest of it with some good grass mixture and have it for meadow or pasture. If the soil is much exhausted, sheep will keep down the weeds, and fertilize the soil, spreading the manure evenly on the surface of the ground.

Said the director of one of our experiment-stations the other day: "The great trouble is that so few of our farmers have any faith in their business, or care to invest a cent beyond the point where they can see an immediate prospect of selling something. They are wonderfully economical at the spile while their ultimate profits are flowing away at the bung-hole."

In connecting the laterals with the mains in underdraining they should not be at right angles to the main. If it is necessary for the laterals to run at right angles to the main a few feet before they reach the main they should be given such a direction as will make the connection at an acute angle. The lateral should enter the main in such a manner as to have the top of main and lateral on a level, or nearly so. This gives the water a fall after it leaves the lateral. It adds velocity to the flow lessening the possibility of deposit.

Remember that matter is always controlled and subject to mind and that the money you put into education and mental training can never be lost.

A horse will never stand facing wind in a pasture, but will always turn his back. A horse heated by driving can be founded in a few minutes by standing facing the wind or in a draught.

Men with small capital should beware of having too much land. The fixed charges will continue whether the crops are good or poor. A few acres well tilled will give the best satisfaction.

Little red ants may be destroyed to a certain extent by saturating small sponges with sweetened water. The ants will collect in these, which may then be dropped into boiling water, thus destroying the insects.

Trials which have been made by spreading manure on snow for the coming corn crop have resulted in fine crops and the best success. Equally favorable are the results from the winter top-dressing of meadows.

For horse feed nothing can be better than silage. It keeps their bowels in the best possible order, makes coats sleek and glossy, and makes them feel like colts. Especially is this true of treading mares and growing stocks.

Do not pour water over the ice as it is being stored. Pouring water over the whole to freeze into a solid mass will aid materially in keeping it from melting, but it will make it difficult to get the ice out in suitable chunks when it is wanted.

Farmers sharpen their intellects by reading. They get new ideas, learn all about new methods and improvements in agriculture, and the literary part of their reading makes them better writers and talkers—something greatly to be desired in this age, when our farmers are being to the front in public affairs.

If you think your boy is getting so much education that he will not be satisfied to stay on the farm, give him considerable more, and he will see that it is to his interest to stay there. To give a boy just enough education to make him a \$10-a-week clerk, or a jack-lawyer, or a "plug-doctor," is a certain way of rendering him dissatisfied with hoeing corn or mauling rails for a living.

Combined Stack Yard and Manger.

Most farmers utilize the straw more than they did twenty years ago, and many of them consider good bright oat and barley straw to be worth, for feeding purposes, quite as much as over-ripe clover, or



DEVICE FOR PREVENTING WASTE IN FEEDING.

timothy hay, and, pound for pound, worth fully half as much as any good hay. Hence, instead of wasting the straw by building flat topped stacks and allowing the cattle and other stock to have free access to them a yard is built around the stacks, and the straw fed out as regularly as hay or grain.

To make all secure, a log pen is built, like the one in the illustration from a sketch by L. D. Snook. The logs rest upon a foundation of stone or wood, the lower log being one foot from the ground, and three logs on each side, the extreme height of fence being not less than four and a half feet. On the leeward side of the stack pen a permanent and durable manger can be easily made from small poles. This may extend the entire length of the pen, and be built upon one or more sides. The straw is thrown into it directly from the stack, and, if a ration of hay or straw be fed at noon, it will prove equally as valuable, the only objection being that it is located out of doors. However it is more convenient and economical than to throw the food upon the ground or in the nearest fence corner.

The Art of Advertising.

In a recent issue the Montreal Witness had the following commonsense remarks on the art of advertising:—The past few weeks have witnessed a great development of advertising enterprise and every year gives evidence of increased intelligence devoted to that department of business. The best ingredient in advertisements is brains. Some think that if they can only get large space or very large and black type they will have accomplished their end, while others make a point of getting next the reading matter, thus confessing the weakness of advertising to draw attention as compared with the ordinary reading of the paper. There are some advertisers who understand the business. Any reader could mention their names if asked. They are those whose advertisements he reads and remembers and hears talked about. That is, if their announcements not only draw attention, but draw it to their place and wares. A big looking-glass or a big clock in the middle of a window would draw a good deal of attention, but a man might look in every day to learn the time or to see himself as others see him, without knowing whose window it was or what was sold there. In like manner, attention may be successfully drawn but yet in vain. One inch of matter that people will look for and read is worth to the advertiser more than the most aggressive spread of large type, which principally proclaims that the adviser does not expect people to read unless he forces them to. It might seem as though a newspaper was speaking against its own interest in advising advertisers to put their time or else their money into brains rather than spend money on space, but looking deeper this is not so, for it is the first interest of a newspaper to be interesting from end to end, and besides it must be remembered that unless advertising pays the advertiser the newspaper will not get it, whereas if one inch can be made worth more to the advertiser than six lines newspaper will in process of time be able to get as much for the one inch as it now does for the six or else to work up the difference in business which it does not now get. It is therefore to the interest of all parties that brains be put into advertising.

The French just now are not very kindly disposed toward the Prime Minister of Madagascar, though he is perhaps the only man in the world who has the distinction of having been the husband of three Queens. It would seem to be one of the most important duties of the Prime Minister to wed the ruler of his country if that potentate happens to be a Queen. At any rate, the elderly statesman who is the husband of the present Queen, a lady who has not yet reached middle life, was also the husband of her two immediate predecessors on the throne of the Hovas. He has become so accustomed to guard with jealous care the rights of his royal spouses that he seems to forget the fact that the island is now a French protectorate; and herein lies the grievance of which the French complain.

HOME FROM THE SOMALIS.

Capt. Dundas's Pluck—Unarmed in a Crowd of Threatening Natives.

Capt. F. G. Dundas of the Royal Navy, who has just returned to England from his expedition up the Juba River, tells of the danger he faced among the Somalis, who are perhaps the most inveterate enemies of the white race in Africa. The Captain ascended the river for 360 miles on the little steamer Kenia. It is the first time this journey has been made since August, 1865, when Baron von der Decken attained the same point. His vessel was wrecked there, and the Baron and five of his European colleagues were murdered by the Somalis, only two of the party escaping.

When the British Admiralty was conducting soundings and mapping the coast line of East Africa, the indomitable Somalis sat by thousands along the beach, silently watching operations and making no hostile movement unless the white men undertook to land. On such occasions the Somalis plainly told them that if they landed they would be killed to a man. It was the same people whom Dundas and his little party encountered as he ascended the Juba River in July last. When he reached Berdera, his furthest point, he found the whole bank swarming with natives. His crew, in terror, begged Dundas to turn back. He made the boat fast, however, to the right bank and sent a Somali interpreter to talk with the excited crowd. The natives rushed down to the landing place, brandishing their spears and threatening to kill the interpreter if he came ashore. So Dundas ordered him to return to the vessel.

That night the explorer heard that a large body of natives was to attack the vessel in a few hours. He accordingly pushed his vessel out from the shore and anchored in mid-stream. At 11 p.m. a large number of natives were seen on the shore moving among the trees. Suddenly they dashed into the river and swam toward the vessel. Just as they were clambering on board, intending doubtless to kill every man in the party, Dundas fired a sound signal, the novelty of which he hoped would intimidate the savages. The signal was most effective. It burst in midair with a loud report, and the natives made for the banks in terror.

Next morning Capt. Dundas adopted an expedient which probably not one man in many thousands would care to carry out. He suddenly landed among the Somalis at their big town. The interpreter was with him and both men were unarmed. He pushed through the threatening crowd to the sheik, expecting half dozen spears through his back every moment as the natives pressed around him with weapons poised. He walked up to the sheik, who appeared to be astonished for words. "Aman," said Dundas. The word meant "peace." He told his interpreter to tell the chief that he meant him no harm and wished to be a friend.

"How dare you come among us unarmed?" said the sheik, sternly. "Do you not know that you are completely in my power and that I can easily make an end of you?"

Capt. Dundas replied that he might do so if he liked, but he had done the chief and his people no harm, and why should they not be friends. If the Imperial East Africa Company had desired to seize the Somali country, he would have come with a large force instead of a handful of men.

The chief was apparently dumfounded by the hardness of his visitor. After a few minutes he said there should be peace, at least until he had consulted his chiefs. He bade Dundas go on board his vessel and await the result. At the end of five hours the chief sent a present on board as a token that they would be friends. He said he did not like white people, but he rather liked Dundas personally. After some days they became great friends.

Capt. Dundas went up the river a few miles to the rapids where Baron von der Decken's ill-fated vessel, the Guelph, had been wrecked twenty-seven years before. He found her lying on her starboard side, the funnel still standing and two trees growing up beside it. Dundas says the Somali people are extremely proud and that they do not on any account show the slightest astonishment at anything. Not even when the engines and Maxim guns were shown to them did any expression of wonder cross their faces. They were all armed with a long spear, a short stabbing knife, and a small shield.

Capt. Dundas says the climate is excellent, and he regards the country as admirably adapted for cultivation and European enterprise. The population along the river has increased to an enormous extent. Where formerly there were only a few hamlets there are now small towns with 600 to 1,000 people. At one village he saw cotton growing and men spinning it with a wooden loom and shuttle. The Somalis are very strict Mohammedans. The younger girls and women are mostly pretty, with large black eyes. They are jealously guarded by the men, and Europeans are hardly permitted to look at them.

FACTS IN FIGURES.

- A Vatican Bible is worth \$105,000.
- The Suez Canal cost \$100,000,000.
- Mrs. Astor possessed a \$15,000 dress.
- Police duty employs 39,000 Britons.
- Jews number less than 7,000,000 souls.
- A ton of steel makes 10,000 gross of pens.
- The U. S. used 12,000,000,000 stamps last year.
- Eleven pounds of nails will lay 1,000 laths.
- Nearly one hundred different machines have been invented for boring rock.
- Apples were worth from one to two shillings each in the reign of Henry VII.
- The most valuable bit of ore ever melted in the world, so far as is known, was a lot containing 200 pounds of quartz-holding gold at the rate of \$50,000 per ton, and was found in a mine at Ishpeming, Mich.
- A single sheet of paper six feet wide and seven and a-half miles in length has been made at the Watertown, N. Y., paper works. It weighed 2,307 pounds, and was made and rolled entire without a single break.
- Electricity, where unretarded by atmospheric influences, travels at the rate of 288,000 miles a second. Along a wire it is, of course, vastly slower; a perceptible period of time is occupied by the electric current in sending telegrams over long distances.
- Russia has decided that its soldiers shall be supplied with handkerchiefs, at the expense of the government.

NEW THEORY OF CHOLERA INFECTION.

Two New Cholera Bacilli Discovered by Russian Doctors—Possibly a Remedy.

A St. Petersburg correspondent writes: "A new theory of the origin of choleraic infection has just been expounded at a special meeting of the Russian Medical Society of St. Petersburg by Prof. Nensky. This gentleman, although not widely known, even in Russian medical or scientific circles, has for the past two years been investigating the subject from all conceivable points of view and under very propitious circumstances, for he is Director of the Bacteriological Laboratory at the Institute of Experimental Medicine which belongs to his highness Prince Olenburg. This institute despatched four physicians to Baku and Astrakhan while the cholera epidemic was at its height in those cities, with instructions to open a bacteriological station in each for the purpose of experimenting on the subject of cholera, its origin and cure. These are the cities in which, while the doctors went about preaching the necessity of killing the bacilli, the people were still more zealous and enthusiastic in propagating the necessity of killing the doctors, and one of the latter Dr. Blostein, deserves great credit for the calm industry and energy with which he persevered in his investigations till he arrived at what now seems a satisfactory result, calculated to impart a new and fruitful direction to the efforts of bacteriologists to discover the best means of doing battle with the cholera.

"Whenever Dr. Blostein inoculated animals with cholera infection by injecting an infusion of Koch's bacilli under their skin they continued to live and enjoy themselves as usual, just as Pettenkofer and so many of the opponents of the bacillus system did after they had swallowed whole colonies of Koch's cholera bacilli. But whenever, instead of the artificially cultivated bacillus, the subcutaneous injection consisted of a portion of the patient's discharges, a speedy death with all the usual symptoms of Asiatic cholera was the result. Now, as Koch's bacilli were present in the former species of injections, Dr. Blostein argued that, seeing that they were likewise active in the latter kind of injection, it followed that something else, probably some other kind of bacillus, must be present in the discharges to account for the difference of result. And it was to determine the value of that algebraical 'x' that he next directed his efforts. After a time they proved successful, and the persevering investigator discovered to his joy two perfectly new micro-organisms, the influence of which he very soon determined. Whenever he inoculated an animal with supposed cholera 'virus' consisting either of Koch's bacilli alone, or of the two newly discovered organisms, the inoculated animals went about their business as usual without a hitch, and seemed as little affected as if he had given them a lump of beet-root sugar instead of cane sugar. But he had only to unite all three bacilli in one infusion, injecting this under the animal's skin, and the latter sickened and died of Asiatic cholera in a very short time. The conclusion would seem to be that Asiatic cholera is the result of the ravages of three different microbes, which must be present in the human body simultaneously. Hence Pettenkofer, Emmerich, and many others swallowed with impunity whole colonies of Koch's bacilli unaccompanied by the other two; hence also Khavkin's inoculation of patients was absolutely fruitless.

"Experiments are now being made for the purpose of discovering whether inoculation, if the subcutaneous injection contains all three micro-organisms together, will guarantee the patient from infection, and, if so, for how long. The results of these experiments, which may possibly mean the final extirpation of Asiatic cholera, are looked forward to with impatience in the medical circles of St. Petersburg and Moscow."

Learn a Trade.

It is to be regretted that so few of our Canadian boys learn any trade, or are willing to serve as apprentices for the term of four or five years. Almost any good and smart boy can procure employment in some one of the hundred skilled industries that are carried on in this city; and the boy who serves his apprenticeship faithfully gets a training that will be advantageous to him all through life, and that will very surely enable him to earn a living as long as he lives. We should suppose that any real sensible boy would like to think of becoming a skilled workman in a good trade; would like to look forward to the time when he could stand up as an independent journeyman, for example, in the carpenter's trade, or the brassworker's, or the tailor's, or the stonemason's, or the watchmaker's, or the bookbinder's, or the fresco painter's, or the weaver's, or the printer's, or the machinist's, or the locksmith's, or the gilder's or some other trade worthy of his manhood. It is a splendid thing for a young fellow to start out in the world with a good trade. He can be as stiff as he pleases, and doesn't need to knock down to anybody, neither to the boss nor the foreman, if he minds his own business and steers clear of gallivanting. He can nearly always get a job at fair pay, and can often have a chance of travelling to some other part of the country to look for a better job at higher pay. What long-headed boy would not like to have such a show in life? Yet a vast number of our boys don't want to learn a trade. They are anxious to be office boys, or counter jumpers, or sales-stuys, or clerks, or something of that kind. Stupid fellows, when they can get a chance to become skilled mechanics! We say that boys who need to earn a living do well to learn a trade and then strike out in life, free as the air they breathe.

France drinks 4,558,000 bottles of champagne a year.

It requires a long time adequately to map a great lake like Victoria Nyanza. Its present outlines have little resemblance to those Speke gave it, and new explorers are making changes every year. When Stanley was last there he reported a prolongation of the southwest corner, which some time after was mapped by Father Schynse. Then Capt. Stuhlmann made important changes in Father Schynse's map, and that corner of the lake is at last supposed to be fairly well mapped. Last summer Dr. Baumann began his work on the southeast side, where he discovered a large gulf never heard of before, and this will further change the lake as it appears on the maps. Untiring labor and vigilance is the price of accuracy in such matters.

ELEPHANT'S IVORY AND ITS USES.

How This Costly Material is Carved Into Manifold Shapes.

There are not above eight or ten ivory carvers of approved skill on this continent. The men who do such work are paid high wages the year round, whether busy or idle. They are Frenchmen, Germans, and Italians. Of the three the Italians are perhaps the most skilful, since ivory carving has been an art in a high degree of perfection among the Italians for centuries. The most famous ivory carver living, however, is a Frenchman, Moreau Vauthier. Few of his masterpieces have been seen in this country.

The ivory carvers of this country do little or nothing in the East Indian or Japanese manner, nor do they occupy themselves with figure work. Their chief employment is in producing decorative toilet and stationary articles. The rage for stained and carved ivory is of recent growth in the United States, and the demand for such articles is not large, as they are more costly than the same articles in silver would be. They are produced to tickle the jaded aesthetic palates of the rich and luxurious, and only those who may trifle away what they will, indulge themselves to any considerable degree in carved ivory.

In all such articles the cost of the raw material is small in comparison with that of the labor. Billiard balls are costly because they contain large quantities of the finest ivory cut from the best part of the tusk. The labor cost of billiard balls is trifling, as they are turned by machinery, and rapidly. Thus it often happens that a single small article, richly stained and carved, will cost five times as much as a billiard ball containing ten times the weight of ivory. The carvers of ivory use much the same tools as the wood carvers, but of lighter and more delicate make. The work is extremely tedious and laborious. The carving is usually done in low relief, and the subjects are such as are suitable to this treatment—Persian designs in delicate curves, the cactus with some varieties of palm, and hints caught from those marvellously simple but artistic carving of the Alaskan Indians. The ivory is stained slightly so as to bring out the design, and is permitted to absorb moisture, which it readily does, in order to give it that fresh look common in newly manufactured articles of ivory. The art of staining ivory is a secret guarded well by the carvers.

Some notion of the cost of ivory carving may be had from the fact that while a hand mirror framed with plain ivory may be had for \$10 or \$12, a mirror in carved ivory may cost \$100 or more. The small articles in carved ivory cost from \$5 to \$25, and a toilet set in that material may fetch as high as \$500. The American climate, with its extremes of heat and cold, is very trying upon ivory, and ivory backed mirrors of European manufacture almost invariably crack across the back after a few months of use upon this side of the Atlantic.

A Puzzle on a Trestle.

Locomotive engineers, as is well known, are subject to many and various experiences of every nature during their trips. This was fully realized on a passenger engine on the Grand Trunk a few days ago. A train while on its way along the line approached a trestle, and had almost reached it when a mule and a horse were seen just ahead. The mule, frightened at the rumble of the train, ran into the trestle, followed by the horse, but soon fell through between the cross-ties, catching by the body, and he was hardly down when the horse was in the same predicament, down between the ties. The engineer applied his brakes and stopped at a safe distance. He could have run the stock down but it would have been at great risk; even if his engine had not derailed it would have been badly damaged. So the next consideration was to find some plan to get them off the trestle. The passengers, by this time, were all on the scene, and many were the plans proposed and discussed for clearing the road. But all were unavailable, until a passenger asked if there was a rope about the train. A bell cord was procured from the engine, and the gentleman proceeded to carry out his plan. The horse's feet were tied fast together, after considerable resistance, and they were then pulled from between the cross-ties and his body laid broadside on the track. A rope was tied several times around his body, and a dozen stout hands soon pulled him to the embankment at the head of the trestle. With the mule a more difficult experience was had owing to the stubborn nature of the brute, but finally he was secured in the same manner, and the track was cleared with only a slight delay to the train.

High Bidding for a Hindoo God.

An English gentleman at an auction sale of East Indian relics paid \$13,000 for the famous Hindoo god Lingam. Lingam is only a trifle over a foot in height, but he is said to be worth his weight in diamonds. The base of the figure is of pure hammered gold, and around it are set nine gems—a diamond, ruby, sapphire, chrysotheryl, cat's-eye, coral, pearl, hyacinth, garnet, emerald, and moonstone.

The apex of the figure, which is in the shape of a pyramid, is encircled in a plinth set with small but very fine diamonds. The pinnacle of the pyramid is a topaz one and ten-sixteenths of an inch in length and nine-sixteenths of an inch in depth; this is in the shape of a horseshoe, the centre being a cat's-eye of exceeding brilliancy.

When the "Bad Shah," last King of Delhi, was captured and exiled to the Andaman Islands, his Queen secreted this idol, and it was never seen again until recent research brought it to light, whereupon it was taken to London.

Cotton spinning mills are a comparatively new feature of Japan's industrial life. They have recently been the scene of terrible accidents, both at Nagoya and Osaka where large mills have been in operation. Fifteen months ago, when the terrible earthquake shook the central part of the largest island, the brick tower of the big cotton mill at Nagoya fell upon the crowd of operatives who were struggling to get out, killing a large number of them. Last month a spinning mill at Osaka was burned, and 125 persons, mostly young girls, were burned to death. These buildings were modelled after American mills, with plenty of the best machinery. Cotton mill owners in Japan have for some time been scouring the Orient for raw material, and unless earthquakes and fires, the curses of Japan, are too destructive, the industry promises a rapid development.