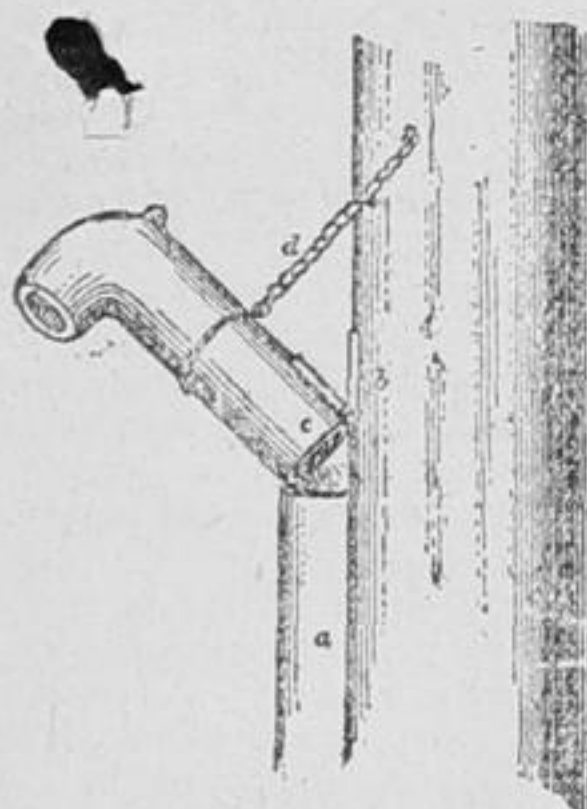


AGRICULTURAL.

To Keep The Pump Platform Dry.



The waste pipe is an oblong box as broad as spout and about an inch wide, and may be arranged to carry water back to stock or elsewhere. A hinge at b holds spout to stock. The wood at end of spout at c should be covered with rubber or leather, so as to fit tight around the aperture in pump stock. A spring at d keeps spout raised to outer edge of waste pipe. Now hang your bucket on spout and its weight presses spout against stock, allowing water to flow into bucket. Take off bucket and spring raises spout and water flows into waste pipe.

Don't Enlarge the Farm.

There seems to be a very general desire on the part of the farmers of this country to obtain a larger quantity of land. There are cases in which this is a wise ambition, but such instances are not nearly so common as is the wish to obtain larger farms. Under the present conditions of agriculture our farmers, as a rule, already have more land than they can cultivate to the best advantage.

As things are now and as things are likely to be for a long time to come, the profits of farming are to be increased by securing larger crops per acre rather than by tilling a larger number of acres. Most of the farmers who wish that they had more land, now own considerable areas which have not yet been brought nearly up to their limit of profitable production. In these cases the owners will find it much more profitable to manure their present fields more liberally and cultivate them more thoroughly than it will be to spread their work over a large number of acres.

The expense of conducting a large business, and the risk which it involves, will be much greater than will be the case with one of less magnitude. It is a popular theory that the proportion of expense decreases as a business is enlarged. Regarding some things, and even in some lines of farming, this proves true, but multitudes of farmers who have tested it have not found the theory correct when applied to their business as a whole. The fixed charges, such as taxes and fencing (and interest on the capital invested, should also be included), are enlarged considerably when the size of the farm is increased. If all the land upon which these expenses are laid is kept highly productive, the charges may be paid and still leave a good profit. But, if, as is almost sure to be the case, a good deal of the land falls far below its possible rate of production, these costs will bear very heavily, and, when added to those of the original farm, may prove quite embarrassing.

A great many men who can manage a small or a medium business profitably cannot be nearly as successful in conducting operations on a much larger scale. Numerous instances might be cited of farmers who have done well on small farms, but who, by getting more land under cultivation, have increased both their expenses and their anxieties, while their profits have been reduced.

The exceptions to the rule that farms of moderate size are much more desirable than those which are very large are very few. In almost every case the man who has money that he wishes to invest in enlarging his farm would use his capital far more wisely by putting it into improvements and rendering more productive the land that he already owns. The man who has a farm, but who has no ready money, will take a great risk in buying the land. Under such circumstances the purchase of a larger area will involve years of hard labour and a great amount of care and worry. It will subject him to the numerous inconveniences and troubles which debt always brings, and may compel him to sacrifice not only his own happiness, but also the best interests of his family. Such a man may want many things, but if he is wise he will resist the temptation to buy more land.

Scientific Feeding.

The point on which farming has made the greatest and yet least-noticed advance is the better understanding that now prevails amongst progressive farmers about the breeding of domestic animals. The advances made in improved breeds has been partially due to a proper nutritive ratio. It is an acknowledged fact that the Collinses, the Booths, Bates, and Bakewells, to whom the world is indebted for the improvements in cattle and sheep, were judicious feeders, and the development was as much due to feeding as selection. It is true that a large part of the food that used to be given to stock was either wasted or was positively injurious. It is yet, for that matter, among the large class who give little thought to their business and despise the teaching of newspapers and experimental stations. The reasoning of Bates, Booth, Collins and Darwin is that good feeding required as nearly as possible a continuation of the feeding which young animals received from their dams, the amount fed being gradually increased as the animal becomes stronger. The digestive organs, like all others in the body, are strengthened by use, and weakened or injured by abuse. What is called dyspepsia almost always results from bad feeding, alternately starving and pampering, or the giving of food that is difficult of digestion. Sometimes the trouble with digestion is that the food is not properly balanced. The natural appetite calls for the kind of food that the system requires. The analysis of food showing its different constituents has only made more plain the reasons for the success of some old-fashioned feeders, and the failure of others. How is it that if you give the same animals to different farmers, the one develops them and makes money, and the other is a failure? A proper nutritive ratio does it. By showing what rations for growth, for fattening and for milk require, it has made it possible for all to be reasonably successful.

There is far more use of fine wheat middlings as a corrective of the excessive carbonaceous cornmeal, and also as an aid to better digestion than many farmers imagine. Ground wheat is a fine thing properly managed, and now is the time for farmers to profit by grinding their wheat instead of selling for 58 cents a bushel. But wheat should be fed with plenty of coarser aliments. Farmers that are fattening animals often suppose that the more concentrated fattening food they can get eaten, the better will be the result. But skilful feeders know better. It is not what is eaten but what is digested and assimilated that benefits the animal. With a well balanced ration and some bulky food to distend the stomach the fattening animal will eat more and maintain the appetite, which it will not do if fed only on the most carbonaceous food.

Veterinary Notes.

Load your team light and go often. Eternal vigilance is the price of success in raising colts.

Bad habits formed in youth are hard to remedy in old age.

When training colts, take your time and train them thoroughly.

Extremes are dangerous; avoid them in all things pertaining to stock.

First impressions with the young colt, as with the young child, are most lasting.

The value of a horse depends upon the aggregate of all his qualities at maturity.

Let the youngsters step along on the snow path. The only way to teach a colt how to trot is to trot him.

Nothing short of persistent care and scrupulous cleanliness will eradicate that wretched and insidious disease—thrush.

A well trained colt reflects credit upon his owner, but a vicious horse is a humiliation to those responsible for his early education.

The training yard is to the colt what the nursery is to the child. What he learns there he will carry into his public performances.

Thirst is simply a sensation by which a lack of fluids in the system is made known, and in a state of health it is a generally faithful indication of the wants of the body.

The animal system uses up a certain amount of food every day, and if only that amount be given your animal he will only retain his existence, and not improve any in condition.

An excess of a good thing is no more desirable than an excess of a bad thing. Moderation should be adhered to. Feed with moderation. Exercise with moderation. Work with moderation.

The best trained horses in this country are horses used by the fire departments in the large cities. When the gong sounds for fire, they rush out of their stalls and are in their places in a second.

The man who has good judgment and breeds trotters as though he expected to race every one of them, will always make money, but the time has gone by to raise horses to fool somebody else with.

The ownership of a good horse is something which brings with it, to a man susceptible of attachment to the equine kind, a fund of delight and unalloyed pleasure which few other pastimes can equal.

Indigestion is one of the most serious disorders affecting all animals, and it gives rise to many diseased conditions that have no apparent cause to one who does not understand how a disturbed digestion affects every function of the system.

Whether you like pacers or not, the purest bred trotting sires and dams are constantly getting them. There is one consolation, however, the trotting-bred pacer generally is fast, and a fast pacer is worth more money, every time, than a slow trotter.

Never permit a check rein of the harness bridle to be hooked tight, as some drivers will persist in doing. It gives the horse great pain, especially when standing, as all may observe from seeing him constantly tossing his head up and down, and from one side to the other, seeking relief from the needles of torture.

Domestic animals will sometimes eat so much salt that they will injure themselves, but this will only happen when the attendant has been so careless of their wants that they have been for a long time deprived of it. Keep the salt where they can help themselves, and they will take only so much as is required to satisfy their actual needs.

To raise good horses and keep them looking well and in good life we must not work the life out of them, especially not load them too heavy. That is what makes old horses out of too many colts. Because they are willing and walk right off we forget and put on a heavy load. If we would just stop and think our judgment would tell us it was wrong.

The warmth of the body of an animal in the winter season is produced from the food. The more warmth created the more food necessary. The more the animal is protected from the cold the less warmth to be provided. To save food, therefore, the stock should be provided with good dry quarters, the most important point being to guard against draughts of air from cracks or crevices.

It might be well to think of winter shelter for the hogs and plan to provide something that will help save heat and feed during the winter. Study out some cheap and handy method of sheltering the hogs. There is no need of an expensive house; in fact, "hog palaces" do not, as a rule, pay. Cheapness, comfort and convenience are three things which should be kept in mind in planning for hog shelter.

Bad food, feeding and watering at an improper time or in an improper manner, filth, want of ventilation, blows, and other kinds of harsh treatment, and in some instances mistaken kindness, fashion, vanity, and a variety of other causes, all of which are under the control of man, combine to ruin the health, destroy the usefulness, and even terminate the life of the most noble animal which has been placed at the service of man.

Poultry Pointers.

Fewer eggs will be gathered if the hens are crowded.

Fowls two years old are, as a rule, best for breeding purposes.

Don't use grease on fowls. A little insect powder on the head and under the throat will rid chicks of vermin.

Medium-sized turkeys that are in good condition bring the best price.

Alum dissolved in water is recommended for diarrhoea in the early stages.

The first hatched and shortest legged chickens in the breed are the easiest to fatten.

You can never rid your poultry houses of vermin if you allow them to remain filthy.

A Gothic Christian bishop once translated the Bible into the Gothic language for the use of his people, but omitted the Books of Kings, lest the wars told of there should increase their propensity for fighting.

When cleaning the roosts, don't neglect to apply the kerosene to the bottom of the perches as well as the top. Lice are sure to gather there if you do.

Young pullets notably lay small eggs. Moral: Breed only from eggs of hens of full growth and vigor. The same rule will apply to all domestic animals.

Meat, milk, the cereal grains, with plenty of fresh bone, cut fine, will make good poultry, if they are kept free from lice and have otherwise comfortable quarters.

The size of an egg should have something to do with its value; but as a rule it is not of so much importance to the buyer as a clean, pure white shell. The appearance sells.

If you are thinking about starting into the poultry business, let us suggest that the fall is a good time for it. It is easier then to guard against vermin and disease than it is in the spring, and these are the two drawbacks always encountered by beginners.

Prince George's Visit.

The impression conveyed by the Duke of York's reply to the Australian invitation, as officially announced leaves little room for any doubt as to the intention of Prince George to visit our fellow-subjects upon the soonest available and suitable occasion that presents itself. That circumstances will not permit him to undertake a long voyage, either at the present or in the near future, will bring no feeling of disappointment to the Australians or any other branch of the British world; on the contrary, when his absence shall be granted by the royal family there can be nothing amiss in hoping that there will then be all the more reason why the enthusiasm of the people should assist in constituting the visit happier and more memorable. Naturally Canadians have felt a strong personal interest in this Australian invitation. The visits of public men which have been exchanged between the two great and, in some respects, similarly endowed dominions; the efforts that have been made—although so far without that success which might be desired—to bring about a similarity of constitutions; the tendencies on their part variously displayed to profit by our more active struggles for national advantage, these things would in themselves conduce to much of common sympathy. But other more clearly defined interests now keep Canadian eyes turned towards Australia. Upon their progress with the problems of settlement and trade arrangements depends to an extent well worthy of appreciation the advancement of Canadian influences along certain lines which our Government, our manufacturers and kindred interests are now following. The splendid direct steamships established between Sydney and Vancouver are attracting many distinguished British travellers and business men, who visit the antipodes by the old route to return home by way of Canada. Of course we expect that when Prince George goes to Melbourne and Sydney he will return across the Pacific affording Canadians one more opportunity of meeting and greeting their future king. This aspect of the royal trip round the world gives us quite as much concern as the people of England or Australia can feel in it. Indeed if the heirs to the throne were not in the habit of paying such visits as this, to which there is so much looking forward, Canadians might be able, all in good time, to transport the Prince to and from Australia so quickly over all-Canadian lines that the natural anxiety which is felt in the Royal Family and throughout England when the only son of the Prince of Wales is absent from the soil of the tight little island would be very considerably shortened. But fond as, with our inherent commercial instincts, we undoubtedly are of advertising ourselves, we must gracefully relinquish so excellent an opportunity. At the same time it is probable that the most advantage will be extracted from the visit. Look at it from whatever standpoint may be chosen and self interest is not the least comprehensible part of loyalty. No feeling of self-respect is endangered by such an admission.

A Kafir Love Letter.

Some examples of Kafir correspondence have reached the "South African Review." The latest is from a De Beers employe to a kitchen girl of colour, though a Hebrew name. It runs:—"Dear Miss Judea Moses,—My dear,—I am take the leetle time of write you this few lines hoping that it will find you in a good state of health as it leaves me here compound. My dear girl, I am very sorry that you do not write my assent back. My Dear Miss Judea Moses, be so kind and let me know how it is with you my dear girl. I mean to say that you must call out and shout thou in the habitant of zion. My dear Miss Judea glide by lawns and grassy plains. My dear friend please arner me as soon as you get this letter My dear of in sadness and in illness I have watched thy current glide till the beauty of its stillness overflowed me like a tide I steal by lawns and grassy places I slide by hazel covers I move the sweet forget-me-nots that grow for happy lovers my darling Miss Moses. Here shall I drup writing with best loves good by 2222 Kisses to you.—I remain Yours truly loves Frumyrkr Tamaly, De Beers, Kimberley."

A large elephant had to be killed in Stuttgart on account of his temper. A single bullet from a small bore rifle delivered in his forehead dropped him dead.

There has recently been disinterred among the stores of the lord chamberlain at Windsor Castle, a sedan chair belonging to Henrietta of France, wife of Charles I.

The works of Aristotle comprise more than 400 treatises on various subjects. The manuscripts which survive of his writings were accidentally discovered in an advanced stage of decay in an old chest.

A Dry Year.

There can be no doubt that since 1890 an extraordinary drought has been gradually overspreading the entire globe. Its dire effects were felt first in the old world and subsequently in America. The Russian famine of the year before last is familiar to all readers. But the crop-blighting forces of the draught which occasioned this dreadful famine have not been exhausted in Europe. M. Camille Flammarion, a French savant, says in a recently carefully prepared analysis that this year is "the driest on record." "The year 1893," he says, "has been remarkable for the draught which prevailed in every country, especially during the months of March, April, June and August," and "in France we have passed through a remarkable period, which may be described as unique in the annals of meteorology." Current weather returns fully show that the now dying year has been one of most disastrous drought, the crops having been signally deficient in almost every section, with the consequent prostration of all business. Any turn, however slight, in the tide of climatic calamity which has caused the general distress of industry should, therefore, be hailed as a happy augury of better times ahead, and should be carefully noted. The winter of 1892-93 was one of the severest yet throughout America and Europe, and especially over Asia, the abnormal cold extending last January eastward to the South China coast—even to the environs of Hong Kong (lying within the tropics), where the sight of snow was so new to the Chinese that they gathered it to sell for medicine. While the Asiatic harvest returns of last autumn have not yet been reported, we may be sure they were far below the average. For drought in an acute and calamitous degree it is an invariable concomitant and sequel of an intensely cold season. So long as the moist trade-winds which girdle the globe within the tropical zone can make their way freely into the great continents, rainfall is generally sufficient for the farmer's needs. These fertilizing winds are never debarred access to the world's principal grain-fields save when there is a preponderance of the dry and withering westerly winds which are prolific of "cold waves." It is for this reason, among others, that the failure of the icy anti-trade winds in America last week, though but temporary, is a favorable sign of relief from the long-standing drought. Just as the sun had completed his journey to the southern tropic, thus leaving us to a minimum of sunshine and to the mercy of the North-western frost king, the dry westerly gales drew back, permitting the genial, vapor-bearing trades to pour northward through the Mississippi Valley and to spread, fan-like, over the interior of the country. Brief-lived though this substitution of vernal for wintry weather may have been, it may be taken as an earnest of increasing moisture during the coming spring and of partial release from the power of the drought.

The most extensive record of great droughts, compiled by an English writer, Mr. E. J. Lowe, F.R.S., and running back more than a thousand years, reveals the fact that these severe visitations usually run their full course in two or three years. But a study of droughts in the United States seems to prove that after a year in which the drought has been general and acute the seasons of the following year are more propitious to agriculture. Thus, 1881 was a memorable epoch for its very distressing drought; wells and springs dried up, and the rivers ran drearily low from the Mississippi to the Atlantic coast. But 1882, while deficient in rainfall, was more favorable to the farming interests. In 1876 our agriculture suffered greatly and widely from the lack of rain, but in 1877, while the drought did not wholly disappear, the seasons were more moist, and in some sections the showers were unusually heavy. The very trying and quite extensive drought of 1887 was also followed the next year by weather, which, on the whole, was more showery, and more propitious for agriculture. It would be very presumptuous to infer from such facts that 1894 will be altogether auspicious for the farmer, who, as far as possible, should provide against all the ills that might result from a recurrence of last year's drought. But there is apparently a positive element of encouragement in the late developments of the season, which he may profitably take for what it may be worth.

AN EMPEROR AT THE PLOW.

Curious Rites Performed by the Ruler of China at Certain Intervals.

In order to emphasize the importance of the cultivation of the soil and to encourage his subjects to follow agricultural pursuits, the Emperor of China sometimes performs certain rites at the "emperor's field," and goes through the form of plowing and other work of the husbandman. One day recently, says the N. A. U. Cable, the emperor set out at daybreak from his place, with a numerous and magnificent train of courtiers and others. Before breakfast the emperor arrived at the shrines of the deity presiding over agriculture, and his majesty stopped to offer up his thanksgiving and sacrifices. After changing his dress the morning repast was served, at the end of which the emperor proceeded to the field, at the four corners of which were erected four pavilions where the seeds of wheat and other cereals were placed. In the center were numbers of magnificently attired courtiers, each holding aloft a many-colored flag, while on the side of the passage were scores of aged and white-haired farmers, each having in his hand some agricultural implement. Placing his left hand on the plow and holding the whip in his right hand, the emperor began the ceremony of the occasion. By prearrangement the officers did their allotted share, some wielding the agricultural implements, while others scattered seeds out of the baskets as if sowing, while the emperor was busied with the plow which was hitched to a richly caparisoned bullock, draped in yellow and led by two of the emperor's bodyguards. On the emperor finishing his round at the plow the three princes were ordered to go through the performance, and after them nine high courtiers had their turn, after which the performance closed. Having received the greeting of his officers the emperor returned to his palace.

The giraffe has a tongue almost eighteen inches long.

DUEL WITH A MONSTROUS BOA.

The Reckless Assertion of a Young Engineer, and its Accomplishment.

NEWARK, N. J., January 5.—An engineer, who has served on the engineering corps employed in the construction of the Nicaragua Canal and is home on a sort of furlough, tells the story of a duel with a boa constrictor by a fellow engineer. Life in the canal country is dreary, and various schemes are resorted to in order to relieve the monotony. One of the party stated one evening that he could kill a boa single handed. The rest of the crowd tried to convince him he was wrong, but he stuck to the assertion. Finally a handsome bet was made that he could not dispatch a boa alone if the deadly reptile was in its natural condition. The young engineer promptly accepted the terms of the wager. The next day a gang of natives were sent into the forest to find a boa. They came upon a well-grown specimen, fully 15 feet long. It had eaten heartily a few days before it was discovered, and, being torpid, was captured without difficulty and taken back to camp. It was deposited in a room, where it was securely bound, and then left until its sleep should be over.

The young engineer who was to meet the monster of the forest in a duel to the death probably repented of his rash bargain many times, but he never let anyone know it and was "dead game," as the saying goes, from first until last. Boas often remain in torpor for three weeks, and it was nearly a fortnight before the pined snake showed signs of returning activity. The engineers then appointed a night for the combat, and the young man who was to face the serpent went into active training. It had been stipulated that his only weapon was to be a knife, and the young man relied on his clear brain, iron nerve and supple wrist to carry him through the encounter in safety. When work was over on the appointed day those who were in the secret entered the room and proceeded to cut the ropes with which the serpent was bound. It had been coiled up and several bands placed about it. These were all severed but one, and the snake's opponent entered while his companions beat a hasty retreat to safe coigns of vantage from which to watch the strange battle and to give succor in a last extremity.

The young engineer was lightly clad and carried in his right hand a long knife, highly ground and sharpened. The monster, half-famished as it was, was in a most angry humor, and its horrid head, oscillating to and fro, with distended jaws and viciously shining, beady eyes, must have made the young man's flesh creep. He strode straight up to the boa, and, with a lightning stroke of his knife, cut the remaining band that bound it. He jumped back the instant the stroke had fallen with the celerity of a tiger cat, but his swiftness was snail-like compared with that of the serpent. Quicker than thought the boa descended upon his enemy. Before the man could scarcely move the snake had fallen upon his arm, had wound its way up its entire length, and was biting at his shoulder. The arm around which the snake had wound itself was the young fellow's knife arm. Luckily the hand and wrist were free. He did not wait to transfer the knife to his free hand, but summoned all his power and cut at the coil of the serpent nearest his pined hand. It was a splendid stroke—a backward cut—and it was clear through the body. The upper portion of the slimy coil dropped to the floor, and the intrepid engineer had won his bet. The entire contest lasted but a few seconds, and so quickly did it pass that the breathless onlookers scarcely realized what had happened. The young man was quite badly lacerated by the teeth of the snake. The strangest part of the episode was that the young man's arm was lame for weeks, and all up its length was a spiral black and blue mark where the snake had encircled it.

HOW TO RUN FAR AND FAST.

Keep the Knees Bent, Lean Forward and Lift the Feet Very Slightly.

Physiologists and lovers of athletics may be interested in recent experiments and researches of a French artillery captain, M. de Raoul, who, some fifteen years ago began to try and find out the most economical and least trying way of walking. There are many manners of walking, says the Popular Science News, some of which are much devoid of grace, but it may be supposed that as far as efficiency is concerned one must be better than the others. M. de Raoul has come to the conclusion that, as far as fast walking is concerned, the best method is that which he calls *marche en flexion*. The principle is to run without leaping, to raise the body above ground as little as possible, to keep the knees bent, the upper part of the body inclined forward, so that practically you are always running after your center of gravity. The feet must be raised only very slightly. M. de Raoul, who has now some years of experience, says that he can now take any man between 20 and 60 and teach him to run as long as his legs can carry him without getting out of breath. Some men can, on the very first trial of the method, run seven or eight miles without stopping, while, with the ordinary tactics, they could not have run over one mile. The first kilometer (a kilometer is five-eighths of a mile) is usually covered in seven minutes and a quarter, the second in six minutes, and the third in five minutes and forty-five seconds. An interesting feature of M. de Raoul's researches is that even after a long run, according to his method, a stiff walk is no trouble at all; the muscles which work in both cases do not belong to the same set, and while one exercise is performed the muscles which minister to the other rest.

Perils of Life in India.

The Official Gazette of India prints some interesting statistics on the lives of men and animals which annually fall a prey to savage beasts and venomous reptiles. In 1892 savage animals killed 2,963 persons and 19,625 persons were killed by serpents. Savage animals and poisonous snakes destroyed 81,668 head of sheep. In the war that is made upon this life-destroying scourge 15,988 savage animals were killed at a cost of 107,974 rupees. The serpent hunters killed 84,789 snakes, for which they paid 9,741 rupees.

Thirty-two thousand varieties of goods are made from wool.