

AGRICULTURAL.

Uses of the Smoothing Harrow.

In the olden days the chief work of the harrow was the preparation of the seedbed, and it was laid aside when planting was done. Then the weak sprout was left to crowd its way through packed or crusted soil, and when at length it reached the surface it was destined to find a mass of weeds already in possession of the land. During all of those years spent in deploring such condition as irremediable the needed implement lay on the premises unused. Now the harrow follows the planting, weeds are not allowed to get a start, and the soil is kept mellow all the time. Under these conditions the young plant has no difficulty in reaching daylight, and it has the field to itself when it gets up. The value of the work in preventing too rapid evaporation of moisture is no small item in the account. After the plant is up, the harrow is the very implement which it does to do the early cultivating, which it does rapidly and well. Here is where this tool is not used half as much as it might be with profit. Those who do not have success in this work, may trace their failure to neglect or lack of care in execution. The teeth of the harrow for best work must be small, slender and sharp, and should have a backward slant of from forty to fifty degrees. Good work can not be expected where the surface of the field is covered with coarse rubbish. Here is a matter of forethought that should receive attention in the preparation of the soil. Anything that clogs the teeth is likely to tear up the plants. If the soil is mellow and free from obstruction the teeth glide through the hill, doing the best kind of work without injury to the plants. Even in the garden I often run a light harrow over the ground when the peas, beans, beets, etc., are nearly ready to break through the soil. It helps the plants, and saves a great deal of hand work in its wholesale destruction of weeds. Here it is necessary to slant the teeth so as to do very shallow work; and I try to drive so that the horses may not step on the rows. The lever attachment with which the slant of teeth is so readily changed to any desired angle, was a great improvement on the rigid old-style harrow.

Dairy Pith.

A permanent pasture should signify permanency of good feed. Take good care of the young cows, that they may continue profitable when they are old.

Lead a cow rather than drive her. Gentleness should be the watchword to the dairy stable.

The whey following a good cheesemaker's work is poor feed for pigs, as it contains but little casein, or butter fat.

The dairyman with a good well and a windmill can feel about as independent as the one who has running water on his farm.

When you strip a cow's teats to the last drop in milking, do it not so much for the immediate gain as to keep the udder of prolific habit in the future.

The merciful dairyman when he draws calves to market puts them in a comfortable crate, instead of tying their legs and doubling them under the wagon seat.

To make the cow truly profitable, you must maintain her milk yield along natural lines of feeding. Indulgence in freaks of food stimulation does cows more harm than good.

While dairy animals need shade in summer as much as shelter in winter, it should not be so extensive in the pasture as to interfere with the natural development of nutritious grass.

The wise dairyman who does not turn his cows out to pasture in the spring till it is of sufficient growth to support them, gets quality in the feed, which is of as much importance as quantity.

The cow that must graze industriously half of the summer to recover physically what she has lost by indifferent keeping through the winter, is not apt to earn a dollar in real profit for her owner.

To Destroy Tent Caterpillars.

A correspondent gives a simple plan by which he kept his orchard of nearly 200 trees free of the tent caterpillar. He took a small rod of iron, about three-eighths of an inch in diameter, and had it drawn to a blunt point, and at about two inches from the pointed end bent it at an angle of about 45°. He wound this bent end firmly with burlap, so as to mark a conical knob extending beyond the bend of the rod. This he fastened to a pole of proper length extending beyond the bend of the rod, and perhaps one and a half or two inches in diameter at the largest part. This arrangement he fastened to a pole of suitable length, and having provided himself with some gas tar, he was ready for operations. By dipping this burlap knob slightly in the tar, and then thrusting it into a caterpillar's nest as large as a man's hat, and using a turning and rubbing motion, he could coat and collect the nest, caterpillars and all, in less than a minute's time. For small nests in the forks of the limbs it was only necessary to stroke this saturated knob over them and you have the whole concern. In such a way a man may remove thousands of nests in a day.

An Economic Dead Loss.

It is not the wealth one gathers, but that which he puts to use, which makes him rich. It is not the knowledge we acquire, but what we succeed in making application of, which makes us wise. It is not the facts of entomology we discover, but those which we persuade the farmer, the gardener, or the fruit grower to use diligently for the protection or the preservation of his crops, which make our entomology economic. To discover without publishing effectually is to waste our time as servants of the public. To publish valuable results without making sure of their appreciation and appropriation by our constituents is to fail of real usefulness and the reward of

usefulness. To bring a result to bear on the practice of one man only, when a thousand are suffering for the want of it, is to fail in 99.9 per cent. of our proper undertaking. We must first do exact, exhaustive, conclusive, practical, economic work, and then we must find means to get that work utilized or it is an economic dead loss.

Broad Tires and Low Taxes.

It has been discovered that in localities where a considerable portion of the inhabitants use the broad tires, the decreased tax keeps the road in better condition than the whole tax did when the narrow tires prevailed, and it is believed by men who are in a position to know, that when broad tires are universally used, the highways (all kinds, from the city pavement to the poorest dirt road) may be kept in very much better condition than at present with one-fourth the present cost.

Beautiful Homes.

One great trouble is, we are trying to bring city house furnishing and ways into our country homes. Farmers as a rule are tired when through their day's work and will appreciate a home furnished for comfort. The farmer's wife is tired enough not to be getting up every few moments to change dishes or serve different courses. This may be well enough when one has the means to hire it done, but is a needless burden when the wife has all to do. Let us study comfort more and fashion less; get things useful rather than ornamental, and make every part of the home as comfortable as possible and our means will permit. On the outside let us have beautiful vines, plants, etc. We can each and all plant seeds of love, patience, contentment, kindness and charity for without these no home can be beautiful.

A HERO OF MASHONALAND.

How a Boy Rescued His Grandfather from an Enraged Lioness.

Soon after the British South Africa chartered company's band of pioneers had occupied the country of the Mashonas sundry parties of prospectors, intending settlers, and others were following in their wake. Among them was an old Dutchman who had sold off his possessions in Cape Colony, and, accompanied by a grandson, was thus early to the front in looking after the advantages offered by the company.

Arrived safely at Fort Salisbury, he had outspanned his oxen close to good feeding and water, neither of which advantages obtained near the township itself. Unfortunately lung sickness had set in among his oxen, and for the safety of the majority he had drafted the actual sufferers and was grazing them on an isolated patch of grass not far from his wagons.

One evening his herdsman reported to him that one of the sick oxen was too far gone to be brought into kraal. The next morning the herdsman, up betimes, sought the sick ox and found it dead. He discovered also that some large beast of prey had made a meal off it. Off he hied back to his master, and announced that a lion had killed and partly eaten the ox.

South African Dutchmen are not prone to believe everything they hear; so our trekker in this instance poohpoohed the notion of a lion venturing so near the camp. His young grandson, aged 10 years, had a mind inflamed by the wonderful lion kills he had heard on the way up and finally persuaded the old man to "go and see." Catching up the rifle and handing his cartridge belt to the boy, off he started. True enough, the carcass of the ox had been partly eaten. Dutchmanlike, he at once looked for spoor, but the ground was too dry and hard to receive impressions. He then made a cast around, beating through several patches of long grass, but without success.

At a little distance to the right of the dead ox stood one of those large ant hills that are the subject of wondering interest to nearly everyone who sees them for the first time. Said the boy, "Gran'ther, the schellum might be behind that ant hill." Leisuredly the old man directed his steps toward the spot where he, after inspecting the ground on three sides, was about to give up his quest. "Look into that bunch of tambookie grass," suggested the boy.

Turning to do so, he was met with full onset by a splendid lioness. Her spring landed her on the old man's left shoulder, her weight carrying him to the ground, where she lay with her teeth set fast in the Dutchman's shoulder. He lay prone with his rifle thwartwise under his body. Listen, ye English lads, whose souls are fraught with histories of daring, do.

The boy, seeing the old man's plight, did not run away or set to blubbering. Not he. Down he went on his stomach and crawled near enough to catch hold of the rifle, which he drew away and then looking to see if the cartridge was all right he took the best aim he could at the lioness. His shot took effect through the loins of the beast, which half rose and, snarling savagely, somewhat unerved the lad.

He withdrew a few feet farther back, when he removed the empty shell from the rifle and, carefully reloading, took a second shot with perfect success. Shot through the heart, the animal rolled over on her side and after a tremor or two was stilled in death. By this time several natives from the wagon hearing the shots, came running up. They made a primitive kind of ambulance, on which they removed the man to the patient removed to the temporary hospital. The writer of this article was a fever patient at the time and can vouch for the truth of this act of gallantry on the part of the 10-year-old boy.

It is said that so much farm land in England has lately been allowed to lapse from cultivation that wild animals, which 10 years ago were in danger of extinction, are now flourishing and increasing. The badger and the otter, for instance, are reported to be thriving greatly on agricultural depression.

THE HOME.

The Babies in Summer.

Too many young mothers forget that their babies are susceptible to heat, and keep them dressed so warmly that if they themselves were compelled to wear the same they would almost suffocate. Many of the summer ailments of children may be traced to too much clothing and too little water.

We remember a baby five months old that kept up an almost continual fretting and crying. Asking the mother if it was not thirsty, she replied: "Thirsty? Why, I guess not, it never had a drink in its life." The little sufferer was promptly given a drink of cool, fresh water, and the eager way in which it drank was an object lesson the mother will not soon forget. She could hardly forgive herself for allowing her babe to have suffered so; but someone had told her if she did not give the baby water it would not have the colic.

Too much clothing keeps the body weakened, and the lack of fresh water weakens the stomach and digestive organs, rendering the child susceptible to disease. If the mother had used common sense in caring for the child, it might not have been even indisposed. It is true that young children need to wear wool all summer, but let it not be as heavy as for winter. The lightest of all-wool material should be made into short sleeved shirts, long enough to come well over the hips and abdomen. Light wool is good for skirts for mornings, evenings, and cool days, but do not burden babies with them during the hot days. Bring into practice the golden rule. Tennis flannel in cream or delicate colors is an admirable fabric for summer wear for skirts, slips, nightdresses, and wrappers.

When baby goes to sleep do not envelop him in a cheesecloth or comfortable, or crocheted afghan no matter how pretty it may be. Put baby out of draughts, throw over him a square of tennis flannel leaving his head uncovered and let him sleep and be happy, awakening cool and refreshed. He will not be in a perspiration and red as a lobster as so many babies are when the mother wonders, "Why doesn't baby sleep longer?" and thinks it such a hardship that baby is cross, then the probabilities are that his crossness is of his own making.

Babies are not born cross, but are coddled, rolled, jolted, trotted, roared and fed this and denied that, until they have no chance to be anything else but cross. If, by and by, they can stand their mother's ignorance no longer, but pass over to the other side the "strange dealings of Providence" are bewailed. Careful study of the child's needs and common sense in dealings with baby might have saved many a mother a life-long headache and regret.

In Cherry Time.

Cherry Charlotte.—Line a pudding-dish with thin slices of bread and butter, turn in one pound and a half of stewed cherries (sweetened) with as little of the juice as possible, cover with thin slices of bread and butter, and bake in a good oven three-quarters of an hour. Turn out on a dish, and strew with sifted sugar.

Cherry Tart.—Stem one and a half pounds of ripe cherries, and put them with two tablespoons of sugar into a pie dish that will just hold them nicely. Make a short crust, lay a border round the edge of the dish, put the crust over the top, and bake in a quick oven half an hour. Sift white sugar over before serving. This is nice hot or cold.

Cherry Ice.—Stone two pounds of ripe cherries, mash them, let them stew for a few minutes with a little water and one-half pound of sugar, and pass them through a fine sieve into an earthen pan. Pound a handful of the kernels and put them into a bowl with the juice of two lemons. Add one pound of sugar to the cherries and strain on them the juice of the lemons and kernels. Mix well together and freeze. Serve in glasses.

Cherry Roll.—Roll a nice puff-paste into a very thin sheet, spread over it a thick layer of rich stewed cherries (with as little juice as possible). Commencing at one side, roll carefully until all the fruit is enclosed in the paste. Pinch together at the ends, tie up in a strong cotton cloth, and drop into boiling water. The water must be kept boiling until the roll is done—about half an hour. Serve with sweet sauce.

Cherry Jelly for Immediate Use.—Stem and stone two pounds of sweet dark-red cherries; put them into a bowl; pound the kernels and squeeze over them the juice of four lemons. Mash the cherries with a wooden spoon, add a small tumbler of red currant jelly, the kernels, and lemon juice. Boil together one pound of sugar, two cups of water, and half an ounce of gelatine, previously dissolved in a little hot water. Put the cherries into a jelly bag, pour the sugar and gelatine over them, and run through several times till quite clear. Add sugar or lemon juice if not sweet or acid enough. Wet the mould, place it in ice, pour in the jelly, and do not turn it out until the last moment. Delicious.

Cherry Syrup.—Stone the cherries, mash them, and press out the juice in a crock or bowl; let it stand in a cool place for two days. Filter, add two pounds of sugar to one pint of juice, stir well over the fire until it boils, and bottle. Excellent with hotcakes.

Cherry Compote.—Boil together for fifteen minutes five tablespoonsful of sugar with half a pint of water; add one and a quarter pounds of ripe cherries, and let them simmer gently from five to seven minutes.

Pickled Cherries.—Put cherries into a jar and pour over them as much hot vinegar and sugar as will cover them. To each gallon of vinegar allow four pounds of sugar. It should be boiled, skimmed, and while hot poured over the fruit. Let stand a week; pour off the vinegar, and boil as before; pour hot over the cherries a second time. As soon as cold, seal closely.

Cherry Pudding.—A pint of bread crusts or soft crackers soaked in a quart of boiling milk, a piece of butter the size of an egg, a small teaspoon of salt, three eggs, one and a half teaspoons of sugar, a pinch of cinnamon, and a quart of stewed cherries. Mix well together and bake quickly.

Sugared Cherries.—Beat the white of an egg enough to break its stringiness. Dip fine stalks of cherries well into the egg, then into powdered sugar until thickly covered, and dry on a sieve.

A delicious filling for layer cakes is made of fine ripe cherries, crushed and sweetened, sprinkled with lemon juice, and placed between the cakes.

DAMPNESS AND CHOLERA.

The Disease Skirts the Sandy Deserts but Does Not Cross Them.

One who comes to consider modern Europe from the impartial standpoint of hygiene, feels alarmed over its gloomy future, says Dr. J. Hobart Egbert. In the beginning of the present century there was plenty of room in Europe, and life was more regular; now the population is increasing day by day, and the sanitary condition goes from bad to worse. The soil of all inhabited Europe is fouled. Pure water is utterly scarce. The rivers have become receptacles for all the ordures of the towns. No man of culture would risk to drink water from the Seine, from the Thames, from the Spree, or even from the Danube in Vienna. Of course, no one would use drinking water from the Moscow river—no more than from the Ganges, which, by a religious superstition, has been made a burial place for the Hindoo. The corpses rotting in the river contaminate its waters.

Still, following Surgeon-General Moore's report, we learn that the sanitary condition of the towns and villages of India favorably compares with that of Turkey, Persia or China. The condition of the latter may well be imagined. The marshes around the mouths of the Ganges and Brahmaputra are never dry—the soil is ever damp; the air is poisoned with the ill smell of the stagnant water. Right here is the birthplace of the cholera. When the season of rain comes, the cholera starts its route over the vales and plains of the country. It would not stop before the highest mountains, unless man is barred by them in his travels. It climbs as high as 3,000 feet between Shiraz and Ispahan, and even as high as 7,000 feet on the Himalayas.

But here I wish to call attention to one remarkable fact; never has anyone met cholera in the dry prairies of Asia, Africa or America. Not a single instance is known of the cholera being brought to Syria or Egypt by the caravans crossing the vast prairies and deserts. In this fact we find a suggestion as to the most efficient weapons in our struggles against the epidemics. Damp and marshy grounds must be drained, and cleanliness must be maintained by all means. This is more essential than all the quarantines and other artificial measures, which result in nothing but an immense amount of bureaucratic red tape.

BRUTAL EVICTIONS.

Men Women and Children Evicted From Their Homes—Revolted Stories of Brutality.

A Fort Smith, Ark., despatch says:—Details of a horrible state of affairs existing in the mining region in the Indian Territory have been brought here by evicted miners. When it became apparent that the men could not earn a living at the reduced rate of wages, power was given to the deputy marshal to eject them from the company's houses. Many men were thrown bodily from their homes, their wives and children beaten, and their furniture and personal effects destroyed, after which they were loaded into box cars and shipped out of the Territory. Revolting stories of brutality are told by men from the Hartshorne district. August Smith says troops came to his house and arrested him. They would not allow him to put on his shoes and coat and refused to let the family eat breakfast. The soldiers threw his furniture on a wagon, and then his wife and five children were put out. The soldiers jumped at the woman and took the baby from her breast, one of them pulling a knife. Others dragged her and threw her head first into the wagon. They were then carted to the station and put into a box car. Dozens of similar stories are told. Most of the miners and their families were thrown out before breakfast in a driving rain and no time was given them to dress. A family of four persons were evicted near Anderson. The wife of the evicted miner was struck over the head with a Winchester by the soldiers. The woman, while being taken to the railroad station gave premature birth to a child. She may die.

Sensational Russian Will Forger.

A sensational trial has been concluded at St. Petersburg. A certain Count Sollogoub was charged with having forged the will of a wealthy man, named Vladimir Gribanow, who died in 1891, leaving a fortune of 10,000,000 roubles. With him, as accessories and accomplices, were tried seven persons: M. Dabot, a Frenchman; M. Id Hiskolli, a former notary; M. Fischer, a barrister; and M.M. Tonpilsyne, Bourinsky, Anflow, and Reinitz. When the will of M. Gribanow, with whom Count Sollogoub had been acquainted, was produced after his death, it was found that the testator had left his property to his widow, conjointly with the Count. The widow, being convinced that the will was forged, although it appeared to be properly signed and attested, at once contested its validity, and investigation which was consequently made led to the arraignment of Count Sollogoub and his accomplices. In the course of the trial evidence was given regarding the mode of life of the Count, the grandson of the celebrated Russian writer of the same name. Count Sollogoub possessed at one time considerable means, but having indulged in every form of dissipation was reduced to so low an ebb that he was heard to say—"What would not a man do for 30 roubles." After a prolonged trial, in which some 60 witnesses were called, the Count, Tonpilsyne, Reinitz, and Dabot were found guilty, and sentenced to deportation to Siberia, with loss of civil rights. The other defendants were acquitted. After the sentence the son of Count Sollogoub, a young officer, shot himself with his revolver.

The orchid is now the aristocrat among flowers, its collection and cultivation being a passion in many circles.

COOKING BY ELECTRICITY.

It Presents Many Advantages Over the Old System of Cooking.

Electricity has won many triumphs over its once formidable rival, steam, during the past decade, and that, too, in departments in which the position of the latter was deemed unassailable. As a source of intense light, and as a motor-force for vehicles, as well as for machinery of all kinds, it is in extensive use, and in steadily growing demand; and now attempts are made to utilize electricity for heating purposes. An interesting apparatus of this kind—a kitchen-range—was one of the exhibits at the Vienna Exhibition in 1893, and proved to be the forerunner of similar extended and improved apparatus designed for heating by electricity.

The present system of cooking with wood, coal, or oil, or even gas, has many insurmountable disadvantages, and it was with the object of providing an efficient substitute for them that electric technicians were led to construct the electric kitchen-range which we are about to describe. Before going in to details, it will be well to direct the attention of the general readers to the fact that every conductor of an electric current opposes a certain measure of resistance, whereby a portion of the electric energy is transmuted into heat. This results in a heating of the wire, which, under certain conditions, may become red-hot. The tension of the current must be increased with the size of the wire, in order to heat it, and to maintain it at the necessary temperature while it is transmitting heat to other bodies in contact with it.

Innumerable experiments have been made with the object of determining what metal-compositions can be employed for the heating-apparatus in a cooking-range. Of course, this is an important matter for consideration, for if the metal melts there would be an interruption of the current, and failure would result.

Every electric cooking apparatus has a double bottom, supplied with a circular system of metallic threads which the electric current must cross. Between these metallic threads and the part of the apparatus to be heated there is a plate of mica, which performs the double function of insulating the wire and conducting the heat to the walls of the cooking-vessel. Between the metallic threads and that portion of the cooking-apparatus which it is not desired to heat, there is a strong layer of material which is a non-conductor



AN ELECTRIC KITCHEN.

of heat, so that there is no waste of heat among the furnishings of the range, such as tea-kettles, coffee-pots, baking-dishes, frying-pans, etc., there are tongs for bringing the above-described conduction system into the sweep of the current. As soon as this is done, a powerful resistance is set up to the passage of the current, generating great heat, which is transferred to the sides of the cooking-vessel. Our illustration presents a complete view of an electric range, such as was introduced in the United States, where, as is the case with all practical innovations, its success has been followed by numerous installations of similar apparatus. The appearance of this range produces a very favorable impression. Clean and convenient in every respect, it presents many advantages over the old system of cooking. First, there is the perfect uniformity of the heat, which admits of shortening the time and also of having a roast, for example, ready at the required moment, without any risk of burning. Further, the tea-kettle or coffee-pot, after being heated by electricity, may be placed, without danger, on the most costly piece of furniture, because it is heated only at the part necessary, the other portions of the vessel remaining quite cold. Another advantage is the much shorter time in which water can be boiled in this way than over a coal-fire. Moreover, the electric range has all the newest improvements and utensils. On the left of the illustration there is visible a hot-water reservoir with pipe-attachments, maintaining a constant supply of hot water for scullery-purposes, etc. Once brought to boiling heat the apparatus maintains the water at this heat for twenty-four hours. Near this hot-water reservoir is the roast oven, above which will be observed a funnel for carrying off the vapors generated in roasting; alongside of it is the "buffet," supplied with all necessary utensils. The kitchen is, of course, lighted by electricity.

Naturally, electric kitchens are, for the moment, confined to the homes of the wealthy; but it is safe to say that they will, ere long, pass into general use. Apart from the cleanliness and convenience of the electric range, the uniformity of results, and the ease of their attainment, it offers hygienic advantages in matter of perfect freedom from smoke and heat, which must inevitably result in its early triumph.

Parisians are intensely fond of canaries and other pet birds. It is estimated, figuring on the amount spent for bird food at the regular stores, that there are fully 100,000 pet birds in the city, or one to every twentieth individual including babies.

The ship channel from the Gulf of Mexico to the city of Mobile is soon to be lighted by electricity. The plant will be the largest so far used for a similar purpose. The channel is 30 miles long, and the alternating current system has been adopted.

Madore Cralce, aged 92, who was born in Port Huron and a resident of Detroit at the time of General Hul's surrender, and who was long employed in fur trading operations in India and Michigan, is dead at South Bend, Ind. He was a noted runner, having made the distance of 94 miles between Chicago and Bertrand, Mich., on feet in one day.