

Cost of Adver... Patents... 1 58 28 66... 1 34 18 76... 1 24 15 00... 1 28 16 48... 1 83 39 13... 1 39 21 12... THOMAS MATCHETT... FRED. KNOWLSON... PATENTS... WANTED... USUAL... MILLINERY...

TALKS FOR THE FARMER.

THE PRINCIPLES WHICH UNDERLIE THE SCIENCE OF BREEDING. What Breeding Is—The Principles Governing the Transmission of Heredity—Improvement of Pedigree—Money in Wintering Sheep—Value of Exercise. Breeding, strictly speaking, is the science of selecting the fittest, and, by proper coupling, producing the highest type. If it were properly understood, we should have arrived at a more advanced stage long before this. But ignorance pulls down in one direction, and the Bakers, or Bates has been year after year building up. It is perfectly possible to buy a pure-bred bull for use on a stock, for some of his lines will be of advantage. But when it comes to improving the pure-bred, then the most careful thought and experience must be brought to bear. A cardinal principle of breeding is to breed so that the results are something superior to the last. How to do this is not easily put into words, for a man may spend a fortune, and his cow have the best of care, yet there may be something wrong in the shape of a bull because he is anything but a cheap animal may ruin a life-work. But the breeder must become acquainted with every point of his cow's anatomy and character that he can call them to mind at any time. The general principles governing transmission of heredity qualities from parent to offspring are about the same in all animals, but "the force of this lies in the application," as was observed by Captain Cuttle. It was long ago laid down that "the impurities of the parents should be visited upon the children even to the third and fourth generations." This principle is one that is studied and taken advantage of, in the breeding of livestock we make better the breeds of livestock we have. Dr. Haines says, "I go always—other things being equal—for the man whose ancestors have a long pedigree and whose family traditions and the cumulative humanities of at least four or five generations." This I fully believe in. Given a dairy bull of a family that has for the past three or four generations been noted for milk and butter, and one may safely breed to him. "Heredity makes of every individual the sum or essence of that which has lived before him, and essentially a conservative force." We cannot, of course, expect all the characteristics of the sire and dam to be transmitted, for we have steps in the coming, and occasionally brings in a spirit from back of several generations and the peculiarity is not shown at all in the two individuals breeding from. If we could get all the characteristics, as we do when we plant a kernel of corn or wheat, we would have the very ideal of breeding. Very much depends upon feed, care, climate, and all the environments. Breed only to pedigree stock. What is pedigree? Simply genealogy; but by this we mean the value of the ancestors. We must reject where, from any cause, the dam is deficient in the lines it is desired to be transmitted, for we desire to breed from her. Pedigree directs attention to the sire or dam, if inbred, just the state. It must be understood that all animals of pedigree as breeding stock are recorded in the books of record established for the respective breeds. By reference to these we ascertain the exact status of an animal. In cases where there are any doubts as to the authenticity of a pedigree, it is best to write to the secretary and find out, unless a certificate can be shown emanating from the proper authority. It is never safe to take anyone's word, "that animal is just as good." But, with an authentic pedigree, we trace it out and know.—American Agriculturist.



THE ELECTRIC INVENTOR HAS APPLIED THE SUBTLE CURRENT TO ANOTHER PRACTICAL PURPOSE, WHICH HE CLAIMS IS BOTH EFFECTIVE AND HEALTHFUL. The application in this case is to the reins on an ordinary set of harness so that a whip to urge the horse along is not needed. The reins for a portion of their length, where they are over the horses' backs, are wrapped with copper wire. The wires are carried up to a little battery, which can be put under the seat. When it becomes necessary to urge this horse a little, by pressing a button a current is sent through the reins to the horse's back, and he feels a sharp, though not painful, pricking sensation and wakes up to business in an instant. The inventor claims that small quantities of electricity so administered are healthful and that the invention is humane and harmless.—St. Louis Post Dispatch.

TREND OF PROGRESS.

IT IS INDICATED IN BRIEF BUT SIGNIFICANT PARAGRAPHS. A recent invention is a camera in the form of an opera glass. Neither St. Pau or Minneapolis has a single horse-car line. The zone system of fares is to be employed on the Berlin street cars. A \$300,000 union railway station has just been opened in Louisville. Electric soldering irons are extensively used in canning establishments. Damascus is to be lighted by electricity, while Smyrna is to have an electric railway. The local Board of Underwriters of Kansas City, maintain an electric-light inspection bureau. Cars run by storage batteries connect The Hague with Scheveningen, a watering-place about two miles distant. It is estimated that one-fourth of the street railways of this country are operated wholly or in part by electricity. An arc lamp of about 2000 candle power will, when placed about 35 feet above the earth, light up an area of 400 feet radius. The first electric road in Brazil will be built at Bahia, where a narrow road one and a half miles in length is under construction. In building a sewer between Pontypridd and Ystradfordwg, Wales, it was found necessary to cross the Taff river seven times. To do this, inverted siphons of cast iron were used. Works devoted to various electro-metalurgical processes will utilize 6,000 of the 30,000 horse-power that it is estimated is going to waste from the Vallorette Falls, near St. Michel, France. No existing method of electro-plating is entirely satisfactory since the adhesion of the film is not perfect and the protection afforded by the film is not adequate. A London firm has, however, invented an alloy of silver which is said to avoid both these disadvantages. The new compound ten-wheeled engines built for the Mexican Central Railroad by a Rhode Island concern were found too large to pass the Raton tunnel of the Santa Fe road, and they had to be shorn of every projecting part. Even then they just managed to pass through. The variations in the electrical conductivity of selenium when exposed to light is the basis of a Yankee invention for automatically extinguishing gas in stores where it has been allowed to burn all night. At the first gray streaks of dawn the selenium is acted upon, and the result is that the gas is turned off. Electric Ventilator and Heater. A French electrical paper has a description of a novel electrical ventilating apparatus for supplying a building with fresh air, either warm or cold. A motor operates a ventilator, thus drawing the cold air in, but if warm air is desired, the electric current is sent through a network of fine wires which become highly heated. The air is drawn through this network by the ventilator and comes out as warm as furnace heat. It is claimed that the hygienic results of such an arrangement are excellent. Much Progress Made Since Then. The late John H. B. Latrobe, of Baltimore, accompanied Peter Cooper on the first locomotive that ran into Baltimore. This trip was in competition with a gray mare, and was expected to test the relative merits of the new and old methods of transportation. Something about the engine gave out and the horse won, and for a time steam railways were adjudged a failure. Big Fish Pond at the Big Fair. The largest aquarium in the world will be built at the World's Fair. It will be stocked with both fresh and salt water fish, and the supply of water for the latter will be furnished by evaporating sea water to one-fifth its bulk and forwarding it to the Fair, where fresh water will be added in the proper quantities. A New Treatment for Nervous Woes. A novel cure for nervous diseases is being practiced at Worsholten, Bavaria. The treatment is the outcome of the study of an old priest, and consists chiefly in spraying water over the body in various places, dressing at once without drying, and brisk walking immediately afterward. A Monster Pump. A monster pump has been built for the Nashville waterworks. It is 100 feet high. Forty feet of it is above ground, the pump being set in a stone-lined well 23 feet square and 60 feet deep. The pump has a capacity of 10,000,000 gallons per day against a head of 400 feet. The compositors on two of the Philadelphia morning papers, The Record and Enquirer, went out on strike last evening, their demands for an increase of wages from 40 to 45 cents per 1000 ems being refused. The Times and North American granted the advance. Subsequently the men returned to work on The Enquirer, pending a settlement of differences. Electricity's Latest Victim. NEW ALBANY, Ind., Dec. 23.—Louis Hagner, an electric street-railroad employe, was struck on the wrist by a charged wire and instantly killed.

THE WORLD OF FASHION.

THE PLEASANT-TO-THE-EYES GIRL WITH THE CAPE ULSTER. Swan-shaped Beds the Latest New York Novelty—Winter Styles in Paris—Russian Customs the Rage in the Gay French City—The Coming Bonnet. The girl with the cape ulster is the breeziest, jolliest, larkiest expression of femininity on record. Nobody knows just when and whence she came, but she is here, a most unique and individual type of the end-of-the-century conditions. The very sight of her would shock the beginning-of-the-century girl off into one of her favorite fancies. There is a breezy virility in the sweep and swing of the jaunty cape that indexes unmistakably the manner of girl she is, that bids conventionality go hang, and demands of honesty of purpose and sincerity of character heights of virtue undreamed of as yet by post-graduates of theological universities. You know the girl is a sport and could give you points on the football games, and is up on horses and dogs. You know, too, or you will in just a second after you try it on, that you can't offend her high mightiness more unparadically than by offering her your seat in a car. The celerity with which your vicinity of the car takes on the chill of a champagne cooler will convince you that some one has made a mistake, and when your teeth stop chattering so you can think, you will know that you are the offender. If you are not too bewitched and bewildered to analyze the girl-with-the-cape-ulster vision, you will observe, first, that the ulster is light in tint, and either gray or tan in color. You will see, too, that the material of the garment is the coarsest, shaggiest, and roughest of work, or the blanket plaids in invisible shades. It is unmistakably tailor-made and grotesquely mannish with its raw-edged pocket flaps and straps and its polished horn buttons. And as your eyes grow more accustomed to the dazzling spectacle you will observe that the boots beneath the ulster are the trimmest, shapeliest, shiniest of patent leathers; the gloves in reddish tan or neutral gray, with heavy black stitching, and that at neck and wrists is a revelation of immaculate linen in cuffs and collar whose neatness of laundry finish would drive to despair the veriest spotless in dudedom. The umbrella this girl carries as inevitably as she carries her own snugly coiffured little head is tightly rolled and plain in style, and her shekels she produces with a perfectly delicious air of nonchalance from one of the ulster's many pockets. You may be sure that the girl in the cape ulster has some purpose in life besides curling her hair. When the ulster is buttoned up tightly at the throat and all its straps and belts are fastened you will do well simply to lift your hat and give her plenty of room on the pavement, for she is pursuing her purpose and isn't to be trifled with. But if the cape have a jaunty toss over the shoulder, and the rough-edged revers are folded back from the precisely tied four-in-hand, you may, if you know her, venture to step up alongside if you don't talk nonsense about her eyes or smile. She won't take that even in sunny weather and off hours. SWAN BEDS. A Novelty as Noted in New York—A Real Swan Crib. A curious fad in the way of a white bed is shown in the picture of an up-town cabinet-maker. It is a huge swan made of white enamelled wood. The workmanship is exquisite, and as an "objet de luxe" it is very pretty. For a permanent fixture it might, one would think, become wearisome. The old rose silk bed-spread and pillow-shams are perfect in their way, and contrast particularly well with the creamy white of the wood. An English establishment in London shows the same idea as a bed for an infant, but this time it is a real swan that has been skinned and stretched over a basket frame. The snowy soft whiteness of the plumage is lovely, but it might be suggested that the curative agents employed should be engaged into, lest they become harmful to a sleeping child. Moreover, the sentiment of a dead thing used in this way is not pleasant.—New York Tribune. New Girdles. A peep into an importing house at novelities not yet exposed to public view shows a beautiful collection of the new girdles which are to be worn this winter. The star girdle is made of the petals of the chrysanthemum and fern leaves, and with white silk lacing in the back. A bunch of chrysanthemums should be worn in the hair. Another rarity is of lilacs and orchids, with two bands of silk falling from the left side to the hem of the dress. A bea of white hyacinths, with a white ribbon band passing under the arm and tying in bows on the shoulder in lieu of sleeves, has a spray of the hyacinths reaching from shoulder to elbow, where it is fastened. Another handsome girdle is of black and pink ostrich tips, with two long ends of the same falling from the left side to the hem of the dress. These will be the reigning favorites.—New York World. Electricity's Latest Victim. NEW ALBANY, Ind., Dec. 23.—Louis Hagner, an electric street-railroad employe, was struck on the wrist by a charged wire and instantly killed.

IMPURITIES IN WATER.

Rain Water Will Soon Become Foul if Not Aerated and Filtered. All natural waters contain mineral salts, some of which may be deleterious to health, but the most injurious foreign substances found in ordinary drinking water are decaying organic matter and sometimes infectious micro-organisms. All water that is used for domestic purposes has been, at some period, aerated with air, and as it fell in rains, carried with it the impurities from the air. These impurities are gases that arise from combustion, fermentation and decay, and particles of dust and decomposing organic matter. Bacteria are also removed from the air in great numbers, nearly all of which are in the stage of spores instead of adults. The spores of the fungi and other microscopic plants and the pollen of flowers and grasses are also found in rain water. So numerous are these impurities in the air that a litre of water which falls at the beginning of a storm often contains more than 200,000 micro-organisms. Half a pint of water frequently condenses out of 3,000 or 4,000 cubic feet of air, and in its condensation removes nearly all of the atmospheric impurities, concentrating them in the water. So in drinking a glass of rain water that falls at the beginning of a storm, we may swallow as much filth as we breathe from the air in more than a week. If rain water is stored in cisterns without purification these substances soon render it so foul that it cannot be used for drinking. But when rain is collected near the end of storms, and is properly filtered and aerated, it is one of our most wholesome natural water supplies. As rain falls upon the earth it washes away the accumulations of debris from the surface of the ground, and as it passes into the soil extracts from it a large amount of impurities, such as the products of decaying vegetation and animal excrement. These substances are carried down into the circulating currents, and it is not infrequent that the drainage from cesspools and privies also finds a direct entrance into surface wells.—Engineering. Stopped the Horse Meat. NEW YORK, Dec. 23.—Seventy barrels of horse meat intended for shipment to Belgium were intercepted by the health officers yesterday. \$2000.00 a year for being made by John B. Goodrich, Prop. S. S. Let work for us. Reader, you may not think us much, but we can get you quickly how to earn from \$2 to \$10 a day at the start, and more as you go on. Both sexes, all ages. In any part of the U. S. you can commence at home, give us all your spare moments only to work. All in new. Great pay SEEK for every worker. We start you, furnish everything. EASILY, SURELY, LEARNED. PARTICULARS FREE. Write to J. KNOWLSON & CO., 121 CHURCH STREET, TORONTO.

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Table with 6 columns: Year, Losses unpaid at close of each year, Cash available for paying losses at close of each year, Money Borrowed, Surplus reckoning premium notes at full face value, Investments each year. Rows for years 1885-1890.

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S. CORNELL, Agent Royal Canadian Company. Lindsay, July 22, 1891.

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