

back. A wire ran from each battery, one being positive and the other negative, passing down inside the sleeve to his gloves and connected with a small metallic plate covering the ball of the thumb. He had also a bridle-bit, with long reins attached. The bit was wound with coil of copper wire, which extended along each strap to a small button. With a little difficulty he got the bit in the horse's mouth, the bridle being put over his head piecemeal.

During this process Cognac fought with his mouth and forefeet as best he could, but he did not show any disposition to use his hind feet. The Professor then took the reins, one in each hand; he kept the thumb of his left hand constantly on the button of the strap; his right thumb he held over the other button, but not in contact with it, except when he wanted to give the horse a dose of lightning. When all was ready, he dropped his right thumb on the positive button, giving at first but a light charge. Cognac started as if he had been struck by a bullet. As the shocks were increased in strength the animal plunged and reared as much as his strong fastenings would permit. At length the side rope was loosened, and he had the full circuit of the ring. Tapp let on the electric fluid, and Cognac reared high in the air, endeavoring to plunge at his tormentor, but the Professor kept his eye on him, and by the slightest movement of his thumb created a wall which the horse could not cross.

It was a magnificent sight—the horse, covered with foam, fretting, chafing and panting, reared and attempted to throw himself forward upon the Professor, but the brute strength and fierceness paled before the behest of science, and Cognac was powerless to do harm. The experiment continued about twenty minutes, when the Professor concluded to test the docility of the animal. He said that the principal thing to be overcome was Cognac's disposition to bite. Tapp approached him, stroked him on the body, then on the head, and took hold of his nose. The horse having become convinced that he had found his master, permitted this, and even showed the same docility toward the Professor's assistant.

Prof. Tapp thinks the galvanic treatment a success, and in this he was concurred with by a number of horsemen in the audience, although others thought differently, as the animal exhibited his usual viciousness toward any others who approached him.

Before Cognac was taken from the ring he would come and go back at his trainer's command, and in many respects act like a good tempered horse. At last Prof. Tapp hitched Cognac up in a buggy, and the gates having been thrown open, he drove several blocks and returned. There were a great many people watching to see how the horse would acquit himself in harness; he behaved just like any other horse, and but for the fact that the "man-eater" was followed by a large crowd, no one would have suspected that he was the distinguished animal that so much had been heard about.—*San Francisco Call*.

FIREPROOF DRESS.

Mr. Oestberg, a Swede, has been conducting some sensational experiments in various parts of the Continent with his fireproof suit. This is made in two layers, the inner one of India rubber, the outer of English leather, the head being protected by a helmet resembling that worn by divers. At the girdle is fixed a piece of hose, which serves both for air and water. The air pipe, fed from two blowers, is placed inside the water pipe, and brings the air, after being cooled by the surrounding water, into the inner part of the dress. The air inflates the costume, passing away through the two small openings made for eye pieces. The current of air not only keeps the enclosed body cool, but drives smoke and flame away from the eyes. At the back the water pipe divides, one branch serving as an extinguisher, the other passing into the outer coating of the dress, the stream being distributed over the whole outer surface. With the apparatus on, the experimenter stood in the middle of a pile of burning shavings and logs without taking the least harm. If a continued use of this apparatus shows similar results, it is likely to be a useful invention.

EDUCATION, as defined by Aristotle, means an agency for the implanting of sound and virtuous habits. Nothing else would satisfy him for a moment.

CONCLUSIVE.—Lodger: "I detect rather a disagreeable smell in the house, Mrs. Jones. Are you sure the drains—" Welsh landlady: "Oh, it can't be the drains, sir, whatever. There are none, sir!"—*Punch*.

IMITATION OF WOOD MOSAICS.

Hugo Riha describes the following neat method of imitating mosaics in wood:—The smooth pine board is painted with three or four coats of dull white for a ground. When dry it is ground with *ossa sepiæ*, well dried with a piece of buckskin and left a day standing. A thin liquid paint is made by grinding the finest ivory black with turpentine on a glass plate, very fine, and mixing thoroughly with a mixture consisting of three parts of ordinary copal varnish and one part turpentine. This is applied evenly, with not too stiff a brush, upon the white tablet, and graded down very fine and delicately with a badger's hair grader. After two hours the paint dries so solid that work may be begun on it. The tablet is placed on an inclined position and the drawing of the design, the outlines of which have been pricked through the paper with a needle, is laid upon it, and reproduced on the black surface by striking it gently with a bag filled with finely ground chalk, and after removing the paper the outlines will be found in white upon the black background. The design is next painted over with a solution of calcined soda. In two or three minutes afterwards the painted part is washed with a piece of sponge, dipped in water, with a circulatory motion of the hand and arm. With a little rubbing the black paint is removed from the portions where the soda was applied. The washing with clean water and sponge is repeated until the design appears in white. This, of course, is the white ground that was under the black. This surface is then dried with a piece of buckskin. By this process the white portion is depressed while the black portion which did not come in contact with the soda remains raised. The colors are now applied to the white portion to imitate the different kinds of wood; and where two kinds of wood are to be matched together, a strip of adhesive paper is pasted along the line where they are to meet, and one kind of paint applied up to the paper. When dry the paper is removed and placed over the painted part and the other colour applied. When the design is completed it may be varnished and polished. As the paint applied does not form a thicker coat than the black which surrounds it, the work has the appearance of natural wood mosaic inlaid in a black groundwork, instead of being raised from it as in the usual method.—*Scientific American*.

HOW TO MAKE HOMES HEALTHY.—Most cases of infectious diseases have, in addition to the common epidemic influence, a direct exciting cause. This will be found, when contagion is excluded, to be poisonous emanations of some kind in the house, or on the premises, or in the drinking water; in cities generally sewer gas. Dr. Chapman, of Brooklyn, to whom we refer in another article, after experiments, has settled on the following plan as a sure relief from sewer gas: The soil pipe running from the cellar passes through the house and opens into the kitchen flue at the top story. The pipe should be four inches in diameter. It will be freely ventilated by the draft of the flue. Into this soil pipe or ventilator, the waterclosets and basins on the different floors empty through traps. The water from the upper closet, running past the opening of the lower closet, would be apt to suck its trap dry, and to prevent this a separate ventilating pipe is run from the traps of the lower closets to a point in the ventilator above the upper closet. In this manner all foul gases at once pass upwards and empty at the top of the house. In several houses where malarial disease had been frequent, since the introduction of this plan the residents have been free from all disease due to blood poisoning.

CLEANING ENGRAVINGS.—Put the engraving on a smooth board, cover it thinly with common salt finely powdered; squeeze lemon juice upon the salt so as to dissolve a considerable portion of it; elevate one end of the board, so that it may form an angle of about 45 or 50 degrees with the horizon. Pour on the engraving boiling water from a tea-kettle until the salt and lemon juice be all washed off; the engraving will then be perfectly clean and free from stains. It must be dried on the board, or on some smooth surface, gradually. If dried by the fire or sun, it will be tinged with a yellow color.

THE famine in India has quadrupled the death rate in the city of Madras. The death rate in July was 1,150 weekly. During the week ending August 17th, 1,051,000 persons were receiving relief in the Madras presidency. In thirteen affected districts the death rate in the week was equal to 483 per 1,000, signifying that if this rate continued for a year, scarcely more than half the population would survive.