

Science and Art.

Creosote a Cure for Dysentery.

The Nashville (Tenn.) *Journal of Medicine and Surgery* contains an article on the above subject by J. W. Brown, M. D., the substance of which will be of interest to many of our readers. He states that dysentery is the principal disease with which the physician has to contend in Tennessee, Arkansas and North Louisiana, and in some localities the mortality is frightful. Drs. McMath and Weilder, of Louisville, Ark., informed him that they had treated three hundred cases of the most aggravated form with success by the use of creosote, and in every case in which it was given (if not delayed too long), a marked improvement invariably took place.

The following is the formula used by these gentlemen:—Creosotum, 10 drops; acetic acid, 20 drops; sulphate of morphine, 2 grains—all mixed in an ounce of distilled water. A teaspoonful of this is given every three or four hours to adults; smaller doses are given to children in gum arabic mucilage. Drs. McMath and Weilder consider it nearly, if not entirely, a specific in dysentery.

This disease is sometimes very fatal and prevalent in all parts of our country, and children about two years old, in the cities, are very liable to be attacked with it in the months of July, August and September. Creosote and morphine alone, we understand, are given in such cases by our New York physicians, but with what general success, we can not tell. If the above recipe is a certain remedy for the disease, a knowledge of this fact should be promulgated to the ends of the earth.

Railway Accidents and a Uniform Speed.

At a late meeting of the National Association for Promoting Social Science, held in London, Lord Brougham read a lengthy paper on the prevention of railway accidents, in which he took the ground that the speed should be fixed by law, and should be moderate, not exceeding twenty or twenty-five miles per hour. He asserted that a very small number of travelers were willing to risk life and greater danger in order to save time by a high speed in traveling, while the great majority would prefer a moderate speed and greater safety. He alluded to the immunity from accidents on the railroads in continental Europe where the speed is regulated by law, and suggested the application of the same laws to British railroads.

It is unquestionably true that there is greater safety in traveling at a low than a high speed on railroads; but safety does not altogether depend on the speed of the train, but a number of other equally important conditions, such as the solidity and construction of the road itself, also the engines and cars, and the skill and carefulness of the engineers and conductors. It is just as safe to run thirty miles per hour on our present railroads, with their heavy rails, as it was to run at the rate of fifteen miles per hour on the old flat strip rail tracks employed on our first railways.

Halos.

Luminous circles called "halos" have often been observed surrounding the sun and moon in certain conditions of the atmosphere, usually more or less colored. They are of two kinds, one kind of small dimensions, which are generally composed of two or three rings; they appear when a small quantity of aqueous vapor is diffused through the atmosphere, or when light fleecy clouds pass over the sun or moon. These are usually called *coronæ*. The second kind are much larger, some measuring from 44° to 46° in diameter. The lunar halo is a simple white luminous circle, without color, excepting a pale red, which sometimes fringes the inner edge. The solar halo is a beautiful play of colors; although not so bright as those of the rainbow, they are marked with sufficient distinctness to be seen. The red occu-

pies the inner part of the circle, the violet and indigo the outer, and they shade away until lost in the surrounding space. Sometimes a secondary circle, full of bright spots, or parhelia, is seen.

Various reasons have been assigned as the cause of these phenomena, but the most probable is that of Mariotte, who supposes they are due to the refraction of light through the transparent and prismatic crystals of ice which float in the upper regions of this atmosphere.

Photographing on Wood.

On page 390, Vol. XII, SCIENTIFIC AMERICAN, we published an article on this subject, which was copied by the London *Illustrated News*, among whose correspondents it has created much interest; one of them, however, sends us a copy of a letter from a Mr. Francis, dated April, 1839, which was published in a defunct periodical called the *Magazine of Science and School of Art*, describing the whole process, exactly similar to the one we made known. This is certainly a fact worth knowing, for we were of the opinion that our side of the Atlantic had produced the first practical process of photographing on wood. We now admit the English priority of invention, for we find that a specimen of lace, two flowers, the fool's parsley, and grass of Parnassus, had been engraved from a block thus prepared as early as 1839.

The Use of Bones.

A. E. Schmiersahl, of England, has patented an improvement in the manufacture of gelatine, glue and manure from bones. The patentee obtains bones, and separates from them blood and such other substances which are soluble in water, so as to deprive them of putrescent matters, which, according to the usual manufacture, become mingled, or partially so, with the gelatine, &c. The bones thus purified he treats with an acid, in order to dissolve the phosphate, or other salt of lime, leaving the gelatine in a solid state, which after being washed, may be used as an article of commerce, or boiled into a paste or jelly, ready for immediate use. The liquor in which the bones have been macerated he reserves, and extracts therefrom phosphorus or sal-ammoniac, and superphosphate of lime, applicable as a manure.

Scriptural Statistics.

The "book of books" has been studied in every shape and way, and yet it is not studied half enough. We hope to see the day when every family will possess one, not for the sake of its handsome binding, but for the inestimable value of its contents.

Some one has been exercising his patience in a peculiar way upon the Bible, for the "Union Bible Dictionary," published by the American Sunday School Union, contains the following information:—

The Old Testament contains 39 books, the New Testament 27; in all, 66. The Old Testament contains 929 chapters, 23,214 verses, 592,439 words, and 2,728,110 letters, while the New has 260 chapters, 7,959 verses, 181,253 words, and 838,380 letters; making a total of 1,189 chapters, 31,173 verses, 773,692 words, and 3,566,490 letters.

Mortar.

The ancients made a kind of mortar so very hard and binding that it is now found to be almost impossible to separate the parts of some of their buildings. The lime used in these harder mortars is said to have been prepared from the very hardest stones, sometimes from marble. Fine sand makes weak, and coarse sand strong mortars, and the sand should be washed before mixing, to obtain the large grains. The lime should be thoroughly burned, and perfectly white. The principle on which it hardens is, that the lime absorbs carbonic acid from the air, and hardens, forming a concrete round the grains of sand. It was customary to mix with the lime and sand chopped straw, but cow's hair has been substituted; this is only introduced to cause it to bind together, and prevent cracking in the drying. It is only used for the prime coat.

Wild Silk.

The depths of the Central American forests will probably yield some new articles of commerce. In the Olancha there is found hanging from the trees a sort of sack, some two feet in depth, which is the nest of a species of silkworm. The silk is woven over the inside of this sack. In 1844, six pounds were sent to England, where it was made into handkerchiefs of excellent quality. A profitable trade in this article might, perhaps, be established, as this material can be gathered in any required quantity. An old Mexican author speaks of wild silk as abundant in the Isthmus of Tehuantepec, and states that the natives were accustomed to gather it for exportation to Spain.—*California Paper*.

Parachute for Mines.

The method of descending into mines by ladders is very fatiguing, and in consequence baskets attached to a rope are generally used. Should the rope break, the men in the basket are, of course, killed. Many mining engineers have proposed methods of removing this evil, and among the best is the safety cage of Mr. Fourdriner, of England. A Belgian engineer has recently proposed a kind of cage, so that if the rope breaks, its top will immediately expand into a parachute, and let the men down gently. The only objection to this is that parachutes are not to be depended on, as we know from the accidents that have occurred to many aeronauts who have attempted to descend in them.

New Anesthetic Agents.

Some new bodies have been proposed to supersede chloroform, as a means of rendering a person insensible to pain during an operation. One of these is an organic compound called "amylene," a product of potato oil; another is oxyd of carbon. This is used externally on the diseased part; taken internally it is a poison, having ammonia as an antidote. The last is carbonic acid. The operation is performed under a stream of this gas, which produces insensibility in the part, and has been successfully used in the extraction of cancers, ulcers, and kindred diseases.

Electrical Illumination.

The city of Lyons, France, has been successfully illuminated by the aid of the electric light. Two pieces of apparatus were set up, at opposite extremities of the street, upon a frame crossing between the roofs of opposite houses, and so arranged that they sent their beams down the middle of the street. In one street, 550 yards long, it was usual to employ forty gas lights, which were fully replaced by the battery. It is important that the light should come from a greater height, that it may be more diffused, and less blinding to the sight than it was found to be.

"Big Ben."

This large bell, which was said to have the sweetest sound, for its size, of any bell in the world, and which was intended for the new Houses of Parliament, London, is cracked, and will have to be re-cast. It was suspended a few feet from the ground, waiting the arrival of the four quarter-bells, before it was hoisted to its resting-place in the tower, and was regularly struck at one o'clock, to keep it in tune. The accident is supposed to have arisen from the fact that too large a hammer was used before it was properly hung.

How to Harden Gypsum.

It is known that calcined gypsum, after being moistened with a solution of alum and again burnt, acquires much greater hardness and solidity. Another process is to make a solution of one pound of borax in nine pounds of water, which is formed over the calcined fragments of gypsum. They are then kept at a strong red heat for six hours, ground to a powder and worked. The effect is said to be much better if a pound of tartar and twice the quantity of water are added to the solution.

Nicotine.

This peculiar principle is a product of the leaves and seeds of tobacco, by infusing them in acidulous water, adding lime, and distilling, and then washing the product with ether, when an ethereal solution of nicotine is obtained. One drop will kill a dog. It causes the pupil of the eye to contract, has a bitterish acrimonious taste, and a pungent smell, and on the whole, is one of the nastiest things in creation. It is composed of 73.26 per cent of carbon, 9.25 per cent of hydrogen, and 17.09 per cent of nitrogen. It is related to a class of bodies called vegeto-alkalies, and is capable of uniting with an acid. On the human brain it produces a soothing effect, which is thought very pleasant, but can never be considered otherwise than unhealthy.

A Chimney.

Professor Faraday has shown the chimney to possess very important functions in sanitary economy. Thus a parlor fire will consume forty pounds of coal in twelve hours, the combustion rendering 42,000 gallons of air unfit to support life. Not only is that large amount of deleterious product carried away, and rendered innocuous by the chimney, but five times that quantity of air is also carried up by the draft, and ventilation is thus effectually maintained.

EXPENSIVE FRESHET—It is estimated that half a million dollars' worth of property has been destroyed in the western part of this State by the freshets of last week.



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