

solved in *aqua regia*, or a solution of chloride of gold, gives a light-brown color. White and opaque appearances will be given by a solution of nitrate of bismuth. All these colors are unaffected by the atmosphere, and will bear washing. They can, in fact, only be destroyed by a very high temperature. They may be discharged by treatment with strong acids, but will reappear after washing and a fresh exposure to sunlight.—*Mechanic's Magazine*.

Cutting Glass with Scissors.

THE London *Photographic News* says:—"In order to insure success, two points must be attended to; first and most important, the glass must be quite level while the scissors are applied; and second, to avoid risk, it is better to begin the cutting by taking off small pieces at the corners and along the edges, and so reduce the shape gradually to that required, for if any attempt is made to cut the glass all at once to the shape, as we should cut a piece of cardboard, it will most likely break just where it is not wanted. Some kinds of glass cut much better than others; the softer glasses cut best. The scissors need not be at all sharp, as their action does not depend much upon the state of the edge presented to the glass. When the operation goes on well, the glass breaks away from the scissors in small pieces in a straight line with the blades. This method has often proved very useful in cutting ovals, etc., which would be very expensive if ground cut; and though the edges are not so smooth as may be desired for some purposes, the method is worth knowing."

Beef-Curing by Venous Injection.

Beef curing by venous injection is practised by a firm at Corpus Christi, Texas, according to report, with perfect success. The blood is withdrawn by tapping the right ventricle of the heart—the animal having been stunned—after which the veins are forcibly injected with brine through a hose the nozzle of which is tightly inserted in an orifice in the left ventricle while the orifice in the right ventricle is closed. After filling, the right ventricle is opened, and allowed, under a continued pressure of brine, to run clear of the remaining blood. On making an incision at any point in the carcase, the brine spurts out the same as blood from the living animal, only with greater force. Even the hide is perfectly salted, and the carcase can be kept or transported whole as it stands, or skinned, cut up and packed, with perfect safety from decomposition.

Microscopic Furnace Dust.

Mr. Dancer has executed a very curious and certainly minute sort of inquiry into the composition of furnace dust, *i. e.*, the extremely fine powder which accumulates in flues from the burning of coal, apart from sooty or carbonaceous accumulations. He washed the dust carefully, to separate the purely mineral ingredients, and by placing it on a slightly inclined glass, made the spherical particles to separate themselves from those of irregular shape, by rolling down the incline. These, examined under the microscope, were found to be quite interesting

objects. Many of them appear to be perfectly spherical though less than $\frac{1}{100}$ of an inch in diameter, solid or hollow, with a brilliant polish, and in beautiful variety, crystalline, white, yellow, brown, black, agate or carnelian of various shades, and some like rusty cannon balls. Mr. Dancer supposes that these are mostly silicates, or various kinds of glass, colored, when not transparent, with different oxides, carbon, etc. He accounts for their shape by supposing that they have been thrown off in scintillations, of course in a molten state, in which by a law of matter they assume a spheroidal form. Many of them appear to be ferrous oxides or "iron ore," probably formed by the action of heat on the iron pyrites in the coal, and afterwards, in many cases, found to have been reduced to metallic iron and encased with an enamel of silicate. Hence the proportion of iron in the coal dust is much greater than is revealed by the analysis of coal ashes.

The Poison of the Cobra-di-capella.

"The melancholy accident which so lately happened with the cobra-di-capella induced me to make some experiments and observations upon the action of the reptile's poison. When a person is mortally bitten by the cobra-di-capella, molecules of living 'germinal' matter are thrown into the blood, and speedily grow into cells, and as rapidly multiply; so that, in a few hours, millions upon millions are produced at the expense, as far as I can at present see, of the oxygen absorbed into the blood during inspiration; hence the gradual decrease and ultimate extinction of combustion and chemical change in every other part of the body, followed by coldness, sleepiness, insensibility, slow breathing, and death. The cells which thus render in so short a time the blood unfit to support life are circular, with a diameter on the average of one seventeenth-hundredth of an inch. They contain a nearly round nucleus of one two thousand-eight-hundredth of an inch in breadth, which, when further magnified, is seen to contain other still more minute spherules of living 'germinal' matter. In addition to this, the application of magenta reveals a minute colored spot at some part of the circumference of the cell. This, beside, its size, distinguishes it from the limp corpuscle. Thus, then, it would seem that, as the vegetable cell requires for its growth inorganic food and the liberation of oxygen, so the animal cell requires for its growth organic food and absorption of oxygen. Its food is present in the blood, and it meets the oxygen in the lungs; thus, the whole blood becomes disorganized, and nothing is found after death but dark fluid blood, the fluidity indicating its loss of fibrine, the dark color its want of oxygen, which it readily absorbs on exposure after death. It results, then, that a person dies slowly asphyxiated by deprivation of oxygen, in whatever other way the poison may also act, and so far as the ordinary examination of the blood goes, the *post-mortem* appearances are similar to those seen after drowning and suffocation. I have many reasons for believing that the *materies morbi* of cholera is a nearly allied animal poison. I hope also to show the presence of the poison of our snakes in the blood of bitten and inoculated animals, and to make some experiments on the possibility of saving life.—Dr. G. B. Halford, in the *Melbourne Argus*, April 26th.