CREMATION FURNACE.

We alluded last week to the subject of cremation, and in the course of our article briefly referred to Professor Brunetti's process for reducing the body to ashes. The large engraving, which we present herewith, represents the plan devised by Sir Henry Thompson, of London, which has been practically tested under the personal superintendence of that eminent gentleman. A cylindrical vessel, some seven feet long by five feet in width, is arranged in connection with a furnace, so as to be heated to about 2,000° Fah. The inner surface of the cylinder is smooth, almost polished, and nothing is visible in the receptacle but a pure almost white interior, the lining being raised to a white heat. The body, in a metal coffin, is laid upon a lattice work of fire brick, and the doors being closed, the process continues for about fifty-five minutes, reducing the body to a mass of white ashes some five pounds in weight. It is proposed to construct a cremation house, large enough to contain two or three halls and, separated from them, several powerful furnaces of the above mentioned description. The mourners are intended to assemble in an adjacent hall, where the usual funeral ceremonies could be conducted during the incineration, after which the ashes, inclosed in a suitable urn, would be taken away by the relatives of the deceased.

There is one drawback to cremation which the opponents of the process will not hesitate to bring forward in the strongest terms. We allude to the impossibility of detecting evidences of poisoning, now found by post mortem examination, in case such investigation be deferred until after burning. As a necessary result, the opening of everybody and examination of the vital portions would probably follow; but this would involve considerable expense, beside arousing the powerful opposition of the relatives of the deceased. It is very questionable whether the majority of mankind would be induced to consent first to the mutilation of the remains of those nearest to them, and then to their subsequent destruction by fire. The impossibility of otherwise proving the existence of foul play would be apt to lead to crime.

The Cremation Society, which has recently been incorporated in this State, has held a meeting and adopted a basis of organization. It binds itself to perform the act of cremation on the remains of any shareholder, provided he or she shall express such a desire before death, and in case of no opposition from immediate relatives. The strictest measures will be taken to prevent the cremation of any person who has come to his death by any other than natural causes, and the process will be furnished at as near cost as possible. It is believed that the expense will be about from $5 to $8 for each body, and the company propose to erect buildings and furnaces, at a cost of $10,000, in the suburbs of the city. The ashes will be at the disposal of friends or relatives, who may choose to bury or inurn them. At the recent meeting, Professor Barnard, Professor Seely, and other eminent gentlemen delivered addresses in favor of the system.

There is little doubt but that this movement is exciting an increasing degree of popular attention. There is a sort of morbid fascination about it akin to that which causes a person to read and calmly discuss the horrors of the dissecting room, from which, were they palpably presented to him, he would recoil in disgust and dismay. Cremation will doubtless bring forth a multitude of inventions, in the way of furnaces, urns, and similar paraphernalia, and perhaps corpse cremation companies will, in time, appear with patented processes for incinerating us in the quickest and cheapest manner. At present, however, the movement looks very like a grand sensation—to be talked about and argued—but to be scouted, we fear, when its actual practice is brought home to the masses.

The Hardness of Minerals and Metals.

In physics, one body is said to be harder than another when it is capable of scratching the specimen with which it is compared. In mineralogy, in which science the hardness is an important characteristic, ten bodies are usually taken as points of comparison—the softest being termed 1 and the hardest 10. These are: 1, talc; 2, gypsum; 3, carbonate of lime; 4, fluor spar; 5, phosphate of lime; 6, felspar; 7, quartz; 8, topaz; 9, corundum; 10, diamond. Hence, when scientific works speak of the hardness of a body being 6, 8, 4, etc., reference is made to the relative hardness expressed by the list above given.

The tenacity of metals is estimated by the resistance which wires of the same diameter experience when passed at equal temperature through the same hole of a draw bench. The following table gives the relative tenacity of various metals and alloys: Steel already drawn, 100; iron already drawn, 88; brass already drawn, 77; gold at 0·875, annealed, 73; steel annealed, 65; copper already drawn, 68; silver at 0·750, annealed, 58; silver at 0·875, 54; brass annealed, 46; iron annealed, 42; platinum annealed 38; copper annealed, 38; fine gold annealed, 37; fine silver annealed, 37; zinc, 34; tin, 11; lead, 4.

Sensitive Photo Paper.

Sensitive photo paper, which will keep for a considerable time without deterioration in any respect, is made by Mr. H. T. Anthony, of this city, as follows:

To thirty grains of nitrate of silver in an ounce of water, add two grains of citric acid. After this is dissolved, add ammonia until precipitation ceases. Then re-dissolve with nitric acid, and leave the solution so that a small proportion of the precipitated citrate of silver remains. Let that settle perfectly, and then add ten drops of nitric acid to every two quarts of solution. Sheets of the ordinary albuminized paper may be sensitized by floating for a minute and a half. No trouble from bubbles. The paper is more sensitive in printing than the ordinary paper, and tones splendidly. The paper is fumed in the usual way with strong ammonia. Paper made in this way will be found just as white at the end of five days as when first prepared.

Moritz Hermann von Jacobi.

We regret to hear of the death of this eminent scientist, which took place on March 10, at St. Petersburgh, Russia. He was born at Potsdam, Prussia; but his life was mainly spent in Russia, where his many important discoveries in the application of galvano-electricity to industrial purposes were made. He constructed a short line of telegraph in St. Petersburgh in 1830, and ten years afterward his book, entitled *Die Galvanoplastik*, was published. He was for a long time associated with Klein in the investigation of the electro-deposition of iron, already described in these columns; and he suggested to the Czar Nicholas the formation of a regiment of galvanic engineers, to be trained in the management of electricity. This idea was carried out, and the learned doctor was made colonel of the galvanic regiment.

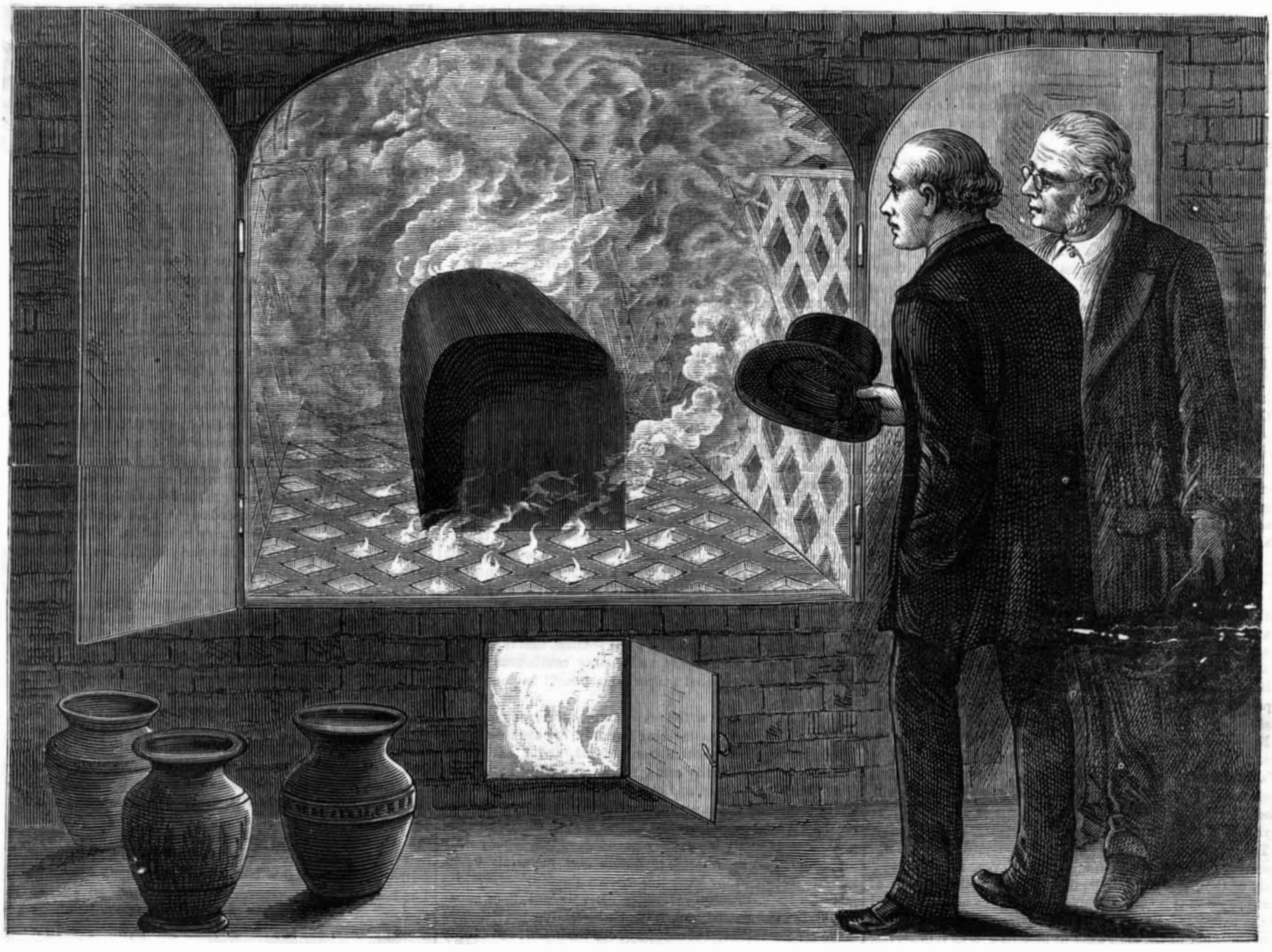
He constructed in 1834 the first electro-magnetic engine that was anything more than a model, and in 1838 he used it to propel a boat containing ten or twelve persons on the Neva. She was fitted with paddle wheels, and a speed of four miles an hour was maintained for several days. The power was supplied by a battery on the Grove principle, of 64 platinum plates, each having 36 square inches of surface.

His labors were highly appreciated in Russia, and were rewarded by many marks of imperial favor as well as by wide popularity.

A Simple Insect Catching Device.

A writer in *Les Mondes* says that he is enabled to materially reduce the number of insects which prey upon the flowers and fruits of his garden, by covering the inside of an old tub with liquid tar, and at twilight putting a lighted lantern within, leaving the whole out over night. The bugs, attracted by the light, try to reach the lantern and are caught and held fast by the tar.

DOGS AS SMUGGLERS.—Large dogs, bred and trained for the purpose, are taken across the Belgian and Swiss frontiers and are dispatched to French territory, under cover of the night, laden with tobacco and other colonial produce on which a high duty is leviable in France.



THOMPSON'S METHOD OF CREMATION.