

THE AVERY MONUMENT AND STATUE.

One of the most prominent citizens of Pittsburgh, Pa., was the Rev. Charles Avery, who died two years ago. He was a gentleman of great wealth, and noted for his benevolence, both of which were directed mainly to the relief of the negroes, principally in sending them to Africa; Mr. Avery being an active colonizationist. After his death, his friends determined to erect a monument to his memory; and the execution of the work was entrusted to Louis Verhaegen, a sculptor of modest pretensions though possessing superior artistic talent, formerly of Antwerp in Belgium, but now of this city. The monument will be 21 feet in height; most of the pieces have been completed and forwarded to Pittsburgh; it is to be surmounted by a colossal statue of the deceased; the drapery of the figure is exceedingly well wrought, and represents the clothing of a past period; the height of the statue is 10 feet, and its weight about 5 tons, it is just finished and ready for shipment. Some gentlemen are trying to induce Mr. Verhaegen to have it exhibited to the public, before it is sent from this city; and we hope such an arrangement will be made. The artist's studio (310 Fourth-avenue) is not a convenient place to exhibit the statue; and Mr. Verhaegen does not like to assume the risk of having it removed until it is shipped to its destination, lest some accident might befall it. The whole monument, as well as the statue, is hewn out of blocks of Carrara marble; the former will be adorned by two female figures—one representing "Justice" and the other "Charity;" it will also be ornamented by an exquisitely wrought *bas-relief* embodying several figures, which represent Mr. Avery surrounded by negroes and pointing to a ship at anchor in the distance, as if in the act of designating the conveyance which will transport them to their native land. The face of the statue, when viewed from a proper point, is life-like, and is said (by Mr. Avery's acquaintances) to be an excellent likeness. In the massive proportions of the statue, the predominating expression is that of majesty.

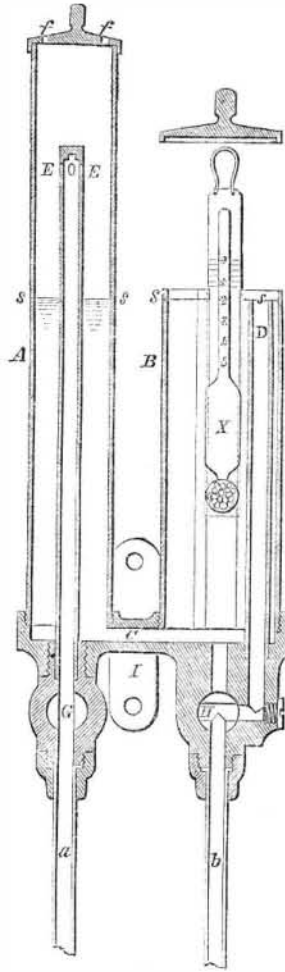
We re-iterate the hope that this genuine work of art will not be permitted to be sent from this city before all who desire to view it have had an opportunity. We will add that Mr. Verhaegen has executed, for some gentlemen of this city, several busts of distinguished statesmen; and those which we have seen are remarkable for their truthfulness of portraiture.

IMPROVED MARINE SALINOMETER

The water of the Atlantic Ocean contains about one pound of salt to 32 pounds of water, and when it is used in steam boilers, as the water is evaporated and the salt is not, of course that which remains is constantly becoming more salt, until a point is reached at which the salt begins to leave the water and form a crust on the bottom of the boiler. If the engineer knows when this point is reached, he opens the boiler and blows out this too salt water and replenishes his boiler with a fresh supply. The importance of informing the engineer of the degree of saltiness of the water in his boiler has led to the invention of instruments for measuring it, and it is an improvement in these instruments which is illustrated in the annexed cut. The saltier water the greater is its specific gravity, and this instrument is constructed on the plan of drawing some of the water from the boiler and measuring its specific gravity by an ordinary hydrometer.

In the cut, *a* represents the pipe leading from the water in the boiler, *G* a stopcock in this pipe, and *E E* openings by which the water can flow into the cylinder, *A*. From this cylinder the steam is allowed to escape through the openings, *f f*, thus reducing the temperature of the water below the boiling point. From the cylinder, *A*, the water passes through the pipe, *C*, and rises in the cylinder, *B*, to the point, *S*, when it flows over into the top of the waste pipe, *b*, and passes away. The cylinder, *B*, is entirely open at top, and has the hydrometer, *X*, floating in the water which it contains. This hydrometer is a simple glass tube with a bulb at the bottom filled with shot, by varying the quantity of which the weight of the tube may be adjusted at pleasure. As the specific gravity of the water varies with the temperature, it is necessary to take account of the latter in making the observation, and in this machine the arrangement for this purpose is of the most convenient character. The neck of the hydrometer is divided on three sides in scales for measuring the degree of saltiness of the water at three temperatures, 190°, 200° and 210°, embracing the ordinary

range of the temperature of the water in cylinder, *B*. Each of these scales is marked at the point to which the hydrometer sinks in fresh water, *O*, at the point of Atlantic Ocean water, 1-32, at the point to which the hydrometer sinks in water containing twice as much salt as ocean water, 2-32, and so on. Consequently, at the



engineer has to do is to observe the thermometer and see to which of the three points, 190°, 200° or 210°, the temperature is nearest, and then look at the corresponding scale on the neck of the hydrometer, which tells him the degree of saltiness of the water without any calculation being required. It will be understood that the hydrometer is marked and its weight adjusted to show the saltiness of the water at various specific gravities, as this has been ascertained by previous experiment. By the arrangement here described all the ebullition takes place in the cylinder, *A*, and the water in cylinder, *B*, is tranquil, allowing the hydrometer to rest in it without oscillation or disturbance.

The patent for this improvement was granted to Robert H. Long, of Philadelphia, Pa., July 12, 1859, and patents have been secured in foreign countries through the Scientific American Patent Agency. Further information in relation to it may be obtained by addressing Joseph Grice, No. 96 Wall-street, New York.

INSECT INTRUDERS.

Messrs. Editors:—Having perused, with much interest, an article entitled, "A Beetle in a Traveler's Ear," published on page 322 of the present volume of your inestimable journal, I herewith send you a simple, safe and effectual remedy or means by which insect intruders may be summarily ejected from the human ear. A few weeks back a beetle flew into my ear, and worked its way as far as it could—in fact, completely out of sight. A gentleman, commiserating my agony, took me to the nearest surgeon (Dr. Noble), who said, "I will have it out in a moment." After putting a white sheet around my neck, he told an assistant to hold the cloth, and watch for the bug when it would be forced out. He then, with a syringe, injected tepid water with force into the ear; the first push of the piston sent the water beyond the bug, and drove it with force on to the white cloth. In less than two minutes, without pain, I was relieved and had the bug before me. The surgeon then informed me that he had always been successful, and had once taken a full-sized roach from a person's ear.

Philadelphia, Nov. 26, 1859.

R. T. R.

INDIAN HEMPS.—The East Indies is a wonderful country, and to it we are now indebted for many things essential to our manufacturing interests. It furnishes us with indigo and lac for dyeing blue and scarlet colors, catechu for tanning and coloring, and manilla and jute hems for fibrous products. We import, annually, Indian hemp of all kinds to the value of \$2,688,000, manilla being by far the largest in amount. Jute is the greatest fiber-producing plant of the East Indies, of which no less than 40,000 tons are shipped annually to England. We do not use much of this hemp as yet, but its consumption is on the increase; for although it is not so strong as manilla, its low price is a great inducement to engage in its manufacture, especially as it makes excellent bed-cord and other small ropes not required to sustain great strain. Of this hemp 30,000 bales, amounting to about 4,000 tons, are now imported yearly, most of which we understand is made into cord and bagging in the vicinity of Boston. There is also one jute factory in Brooklyn, N. Y., and another in Philadelphia, Pa. The fiber of this plant is from six to ten feet long, and it is very glossy and almost white when uninjured. The town of Dundee, in Scotland, seems to be the focus of the jute manufacture, as it used up 30,000 tons of it in 1858. It is there manufactured into various fabrics of cloth as well as bagging and cordage; and as India can supply inexhaustible quantities of it, it appears to us that its consumption must greatly increase among ourselves, as the wholesale price is only about three-and-a-half cents per pound—not half the price of common cotton.

GEORGIA RAILROADS.—Governor Brown, of Georgia, says in his late message to the Legislature, that the State has derived, the past year, \$420,000 net profits from the Western and Atlantic Railroad, notwithstanding expensive repairs made upon it. He estimates the road to have cost the State \$4,441,000. To the Atlantic and Gulf Railroad, \$250,000 in State bonds have been issued, and \$50,000 more shortly will be. The State issues \$50,000 in bonds for every \$60,000 paid in by the stockholders. He thinks well of the road, and still adheres to the opinion that State aid, in the way of endorsement and guarantee, might be judiciously extended to other roads, but only under conditions sufficient to insure the State against losses. He proposes to hold the stockholders liable to the State for every deficiency to pay interest or principle not met by the sale of the road.

ARIZONIAN MINING MACHINERY.—The silver mines of Arizona seem to be extremely inviting to our people. Several companies have become interested in such operations, and quite recently two steam-engines of 25-horse each, with stampers and other machinery for grinding and amalgamating, were shipped from this city by the Sonora Exploring and Mining Company, whose mines are located at Tubac. This was the first shipment of machinery, we believe, which has been made to that distant territory, and it was sent to Port Lavaca, Texas, thence to be transported by land carriage to its destination a distance of 1,500 miles. The total weight of engines and goods amounts to 50 tons, and the cost of transport from this city to the mines, by contract, was no less than \$15,000. The profits of silver mining are said to be very great.

EXAMINATION OF INVENTIONS AT THE PATENT OFFICE.—Through the Branch Office of the SCIENTIFIC AMERICAN, located directly opposite the Patent Office, Washington, D. C., we are enabled to make special examinations into the novelty and patentability of inventions. By having the records of the Patent Office to search, and the models and drawings deposited therein to examine, we are enabled to give an inventor advice, not only as to the probabilities of his obtaining a patent, but also as to the extent of the claim that it is expedient to set up when the papers for an application for a patent are prepared. For a special examination at the Patent Office, we make a charge of Five Dollars. It is necessary that a model or drawing, and a description of the invention shall accompany the remittance. Address—MUNN & Co., No. 37 Park-row, New York.

Quite a number of iron steamers have recently been built on the Clyde of running on the rivers in South America. They are of light draft, and intended principally for carrying passengers and light goods.