mound, with all the loose mortar and stones, we stand on a level floor, sixty centimeters below which was a small pile of bones, with one smoke-colored obsidian arrow head, twelve centimeters long, on each side of it. Also fragments of fine pottery, some painted blue inside, the others with vestiges of a design in white.

Though the bones had been completely protected from the air, they were so rotten that we had to handle them with care for them not to fall to dust. They seem to have belonged to a small animal with long and pointed jaws and very pointed teeth. We wrapped each bone in a separate paper, so that later some qualified person might examine them. Forty centimeters below these bones and arrowheads was a concrete floor beautifully leveled and painted bright red, which extended throughout the mound. Below this floor were loose stones without mortar to a depth of forty centimeters, then another floor painted yellow, making the seventh floor from the summit, though the upper floors were not polished like those beneath. Under the seventh floor there were more loose stones, sixty centimeters deep; then solid rock and Mother Earth. We next had the men to open further into the west or rather southwest part of the mound, in which direction the arrowheads had pointed, and after three days, reached a very solid block of masonry. Within it, about a meter and a half west of the center of the mound, was a stone seventy-five centimeters long and sixty-five wide, standing upright, its surface facing east.

The stone is deeply carved with signs that had their meaning among the Maya priesthood, and painted blue, yellow, red, and green. Further south, two other similar stones were found face downward, on the red concrete floor; they were stood up, together, and a photograph made of them. There, also, was another stone with a fish sculptured on it, the fish being surrounded by a fold of a serpent's body. No other object was found in this mausoleum, that seems to have been erected to the memory of a certain priest or wise man, called Cay Canchi, and also to conceal the remnants of some sacred temple that may have been destroyed by a great cataclysm; in which case we may presume that the apish figure was a principal and much respected object in that temple, and the property of the pontiff, since he inscribed his name (Cay Canchi) on the heel of the sandal; for we are not very ready to admit that the figure found is a likeness of a sage and philosopher—a learned man of the highest class, a nobleman among the Mayas.

The great statue that was thrown from the top of the mound and broken may have been a picture of Cay Canchi; we cannot now tell; but no image of him was within the mound. We have found an exquisite stone bust of that individual in Uxmal, but have left it concealed where found, because in Mexico no one would know how to appreciate it, and we are not allowed to carry any stone from the country out of Mexico. Even though we give them being by bringing them to light from the bowels of Mother Earth, we cannot call them ours, neither will the government pay us one cent for our discoveries, that is well able to make its museums the richest, *in American antiquities*, that exist in any country; but it seized the statue of Chaacmol, and refused to defray the expenses incurred in the discovery. Even the Congress at Washington refused to aid Dr. Le Plongeon in the recovery of his expenses, when Hon. George Hoar appealed for protection to the Senate in a paper marked, "*Confidential*. 45th Congress, 2d session. Executive B. May 7, 1878." It seems that in America people who dedicate themselves to science, unless happy enough to be rich, run a good chance of starving, so far as the governments are concerned.

Your most obedient,

ALICE D. LE PLONGEON.

Ruins of Chichen Itza, Yucatan, January 12, 1884.

The Corinth Canal.

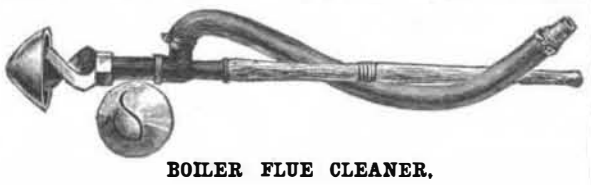
The work of making a ship canal across the Isthmus of Corinth, to connect the Gulf of Corinth with the Bay of Ægina, is now well under way, although, short as will be the route, it is expected that four or five years will be required for the completion of the undertaking. The total length will be 6,400 meters, or about four miles, and the route is on a line where a canal was once projected, and the excavation even begun, by the Roman Emperor Nero. The canal will be the same in section as the Suez Canal, 22 meters in width at the bottom, and 8 meters in depth at low tide, but the total amount of material to be removed is placed at 10,000,000 cubic meters.

A correspondent sends us an opinion as to the benefits this canal will confer upon navigators of that portion of the Mediterranean, and estimates that the tonnage of vessels likely to use the canal will be at least six and a half million tons yearly, yielding a revenue, on moderate charges, of about $900,000 a year above charges for running expenses and maintenance. Full details of the work, showing plan and birdseye view of the route, with sectional elevations, may be found in SCIENTIFIC AMERICAN SUPPLEMENT, No. 425.

JOHN E. WOOTTEN, General Manager of the Philadelphia and Reading Railroad Company, who is the patentee of the Wootten dirt burning locomotive, has sold his rights in the patent for a sum estimated between $250,000 and $300,000. The purchase was made by an association of railroad capitalists, who formed a company, of which Mr. Jos. Wharton, president of the Wharton Switch Company, is the leading man.

BOILER FLUE CLEANER.

Keeping the flues clean is one of the most important duties connected with a boiler; when properly performed, it results in a decrease in the expenditure for both fuel and repairs and an increase in efficiency. One of the best tools for doing this work is the cleaner shown in the accompanying engraving, and which is manufactured by the Crescent Manufacturing Company, of Cleveland, Ohio. The form of the cleaner is shown in the cut. A hose connects the cleaner with a pipe that leads to the dome of the boiler, in order to obtain dry steam. The conical shaped head of the cleaner adjusts itself to the ends of the tubes, excluding the air, thereby preventing condensation and insuring a dry current of steam. The steam passes through the auger-shaped passage, which is without obstruction from the induction end to the outlet, and is delivered directly against the face of the tubes in an unbroken sheet, continuing through the entire



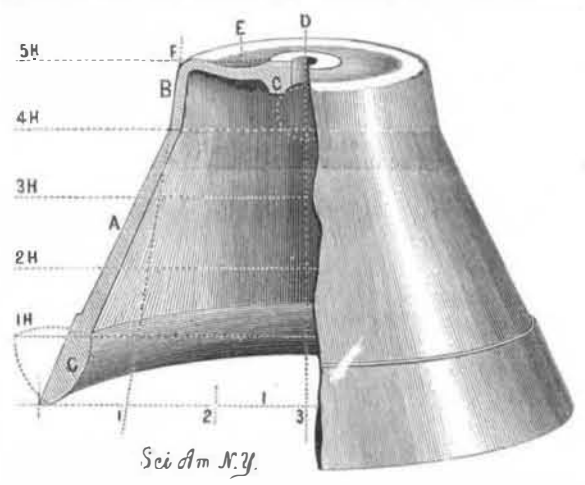
BOILER FLUE CLEANER.

length in a whirling motion, and thoroughly removing all ashes and other foreign matter. The cleaner need be held against the end of each tube only for a few seconds, so that every tube in the boiler can be cleaned in a short time. There are no parts needing attention, and the apparatus is ready for use at all times. For these reasons the tubes can be more frequently cleaned, thereby preventing the formation of scales, improving the draught, and permitting the use of a poorer grade of fuel.

The above mentioned firm also manufactures the "Crescent" steel tube scraper and boiler compound for dissolving scale and preventing its formation.

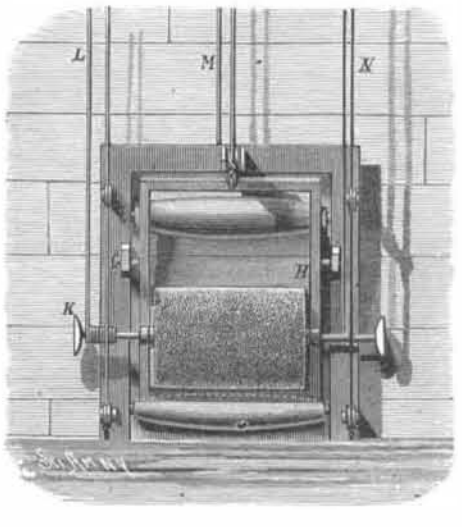
IMPROVED FORM OF BELL.

An improved construction of farm, factory, church, and other bells, whereby greater vibration is secured for the upper portion of the bell, a more powerful tone is obtained,



BOWERS' IMPROVED FORM OF BELL.

and the bell is less liable to break from strain of metal in casting, has been patented by Mr. M. M. Bowers, of 29 Camden Street, Baltimore, Md. The body of the shell is in the form of a truncated cone whose height from 3 to 4 H is equal to half its base, and its top also equals half its base. The head portion is one-fourth the height of the cone. The base line of the cone is divided into six equal parts, and from 1 and 5 are drawn upwardly converging lines to and through the top circle. This gives the proper slope of the head. The exact form of the upper part of the head is clearly shown in the engraving. The whole height of the shell of the bell is divided into five equal parts as shown by the dotted lines, 1 H to 5 H. The hammer swell is made wholly within the shell, and its length is limited by the first of the five spaces. By concaving the top of the head,



COOPER'S NEW SHIP CLEANER.

greater ease is secured for the vibrations of the shell, and there is less strain of the metal in casting. The form of the hammer swell and its arrangement within the shell, instead of outside, have a greatly improved effect.

Canned Goods and Adulterations.

A bill was recently proposed in the New York Legislature requiring all canned goods sold in the State to be stamped with the date of packing. The proposition was vigorously opposed by those interested in the canning interest, and did not become law. The annual production in this line in the United States—in fruit, meat, fish, and vegetables—is placed at 500,000,000 tins, or about ten for every man, woman, and child in the country, and such a law, it was claimed by the manufacturers and dealers, would seriously check if not destroy a now prosperous business.

It is not strange, however, considering the many forms of adulteration and sophistication in articles of food which have grown up in a few years past, that people are very open to suspicion, and sometimes propose severe remedies. A great deal of glucose was sold in sugar and sirup and as honey before people suspected it, and the war between oleomargarine and butterine and dairy butter seems now to be further than ever from a settlement, on account of the passage by the Legislature of a law generally deemed unconstitutional. The latest of these most conspicuous adulterations has been found in the recently discovered adulteration of green coffee by New York and Brooklyn dealers. The cheap Maracaibo and Guatemala coffees differ in appearance from the more valuable Java and some other varieties, the former being of a dull greenish hue and without luster, as compared with a glossy yellow color in the Java. Thence was started a practice of treating the cheaper coffees by rolling the former in heated cylinders and sprinkling with gum arabic water, to polish the beans and give them more the appearance of Java. After this came the use of other coloring matters, and the officers of the Sanitary Bureau state that now both arsenic and lead are used for this purpose, as well as chrome yellow, Prussian blue, yellow ocher, umber, Venetian red, and lampblack. The coffee dealers say the injurious articles are used in quantities so infinitesimal that no harm can possibly come of their employment, but this is a statement of which the public may well be highly incredulous; the coloring matters have been used simply and only as a means of palming off a cheaper article for a better, and the health officers have concluded that every cup of coffee made from the colored beans contains one-sixtieth of a grain of arsenious acid, a virulent poison. In buying coffee and many other articles of consumption the consumer will do well to be on his guard.

Brass Driving Boxes.

The practice of the Baltimore & Ohio road in the matter of solid brass driving boxes presents some advantages, a knowledge of which may be useful to other roads that have brass foundries and make their own brass castings. These boxes are charged upon this road at 16 cents a pound, which is the ordinary rate for all brass work, and the old brass is received back by the foundry and credited at 11 cents per pound. The boxes can be finished up at about half the cost of finishing cast iron boxes, and being solid no labor is expended in fitting a brass into the box. It has been found that these boxes, when made of the right mixture, will wear as long as combination boxes. When an accurate system of accounts is kept, with a knowledge of every source of waste in the foundry, there are many parts of an engine which can be made from solid brass more economically than from a combination of brass and iron. The loss in remelting being known, together with the cost of the raw material and of the labor expended in the process of making and turning out, it is easy to determine what iron castings can be economically replaced with brass. But if the attempt is made to substitute brass for iron without an accurate knowledge of the details of expense, it is easy to make mistakes that will be wasteful instead of the contrary.

A NEW SHIP CLEANER.

The construction of the ship cleaner recently patented by Mr. J. L. Cooper will be plainly understood from the accompaning engraving. A steel brush, whose shaft is journaled on a movable frame, H, which is pivoted in blocks projecting from the main frame, is made to revolve by means of two ropes wound in contrary directions upon the ends of its shaft. These ropes may be operated from any convenient station—either from the deck, the dock, or a float. From the sides of the main frame project four arms, each of which is furnished with two wheels, between which pass the tightly drawn guide ropes. These ropes can be carried down one side of the ship, under the bottom, and up the other side. The frame is kept a short distance from the surface to be cleaned by rollers. The apparatus can be readily raised or lowered, or moved sidewise, so as to bring the brush against any part of the ship's surface. By the aid of a rope attached to the upper cross bar of the movable frame the pressure of the brush against the ship can be regulated. With this device the sides and bottom of a vessel can be quickly gone over, and barnacles, rust, paint, etc., removed.

Further particulars concerning this useful invention can be obtained by addressing Mr. James O. Cooper, No. 165 Fourth Street, Portland, Oregon.

ON his way to the Cape, Captain Gordon landed at the Seychelles Islands. There is a curious grove of palms there which grow in pairs, side by side. If one is cut down, the other dies. Gordon at once indicted an official dispatch to say that he had discovered the original Garden of Eden, and that trees of good and evil were still flourishing in it.