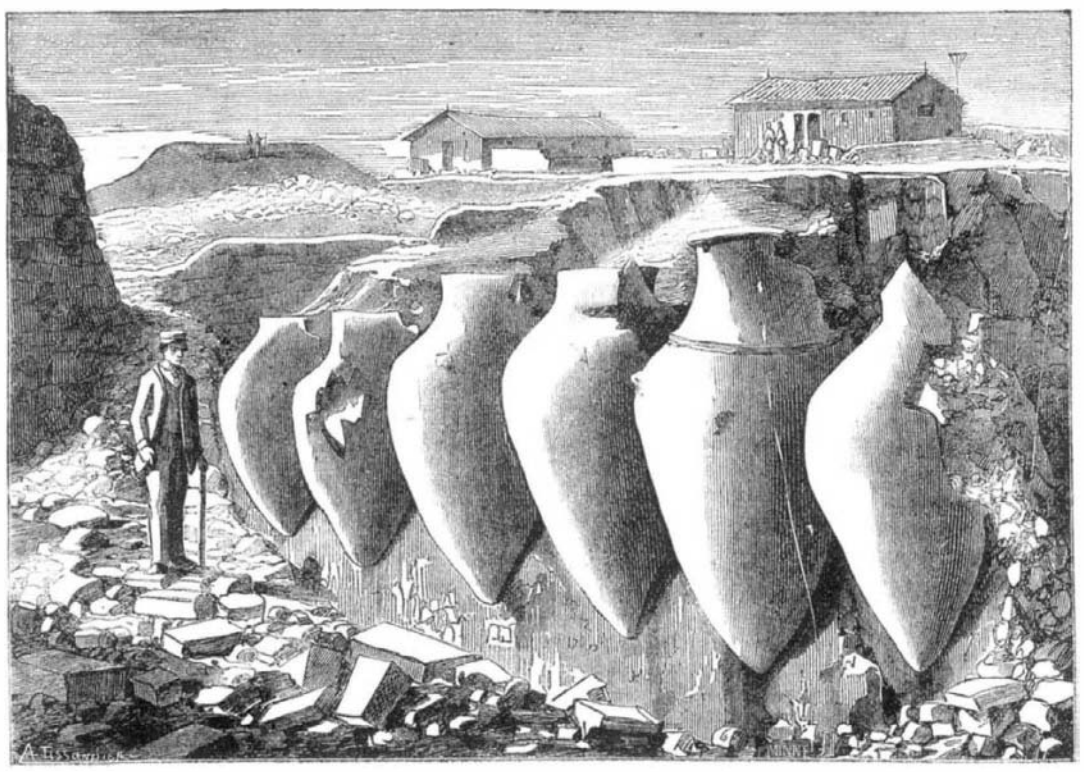
THE RUINS OF TROY.

The researches of Dr. Schliemann, on the supposed site of the city of ancient Troy, have recently been rewarded by discoveries which have a worldwide interest, proving not only the existence of the city, so often and so strenuously asserted to be purely mythical, but the general accuracy both of the Homeric and Virgilian, the Greek and Latin, accounts of the people, their celebrated citadel, and its ten years' siege. These revelations prove incontrovertibly that the site of the city, supposed by Herodotus, Xenophon, Plutarch, and many other writers to be on the hights now called Hissarlik, was accurately laid down by those writers.

Indications of a destruction by fire, terrible enough to have justified Virgil's tremendous description, have also been found; and the Trojan goddess (Minerva) is exhibited, in the form of her favorite owl, on vases and earthenware utensils, on metal implements and trophies, and in every possible form.

Several large earthen jars, of peculiar shape, were discovered by Dr. Schliemann; and we publish an engraving of them *in situ*, for which we are indebted to *La Nature*.



EARTHENWARE JARS FOUND IN THE RUINS OF TROY.

New Steamer.

A new and economical steamer, named the Ferdinand Vandertaelen, has lately been built and tried at South Shields, England. Her length is 273 feet; breadth, 34 feet, and depth, 24 feet 6 inches. The diameters of the cylinders are: high pressure 32 inches, and low pressure 60 inches, 3 feet stroke, working pressure, 70 lbs. per square inch; the maximum power developed was 395 in the high pressure and 408 in the low pressure engines, making a total of 803 indicated horse power. The coal burnt during the test was at the rate of 880 lbs. per hour, or 1·54 lbs. per indicated horse power per hour. The speed of the ship, ascertained by the patent log, was 11 knots per hour.

Predicted Failure of the Bessemer Swinging Saloon.

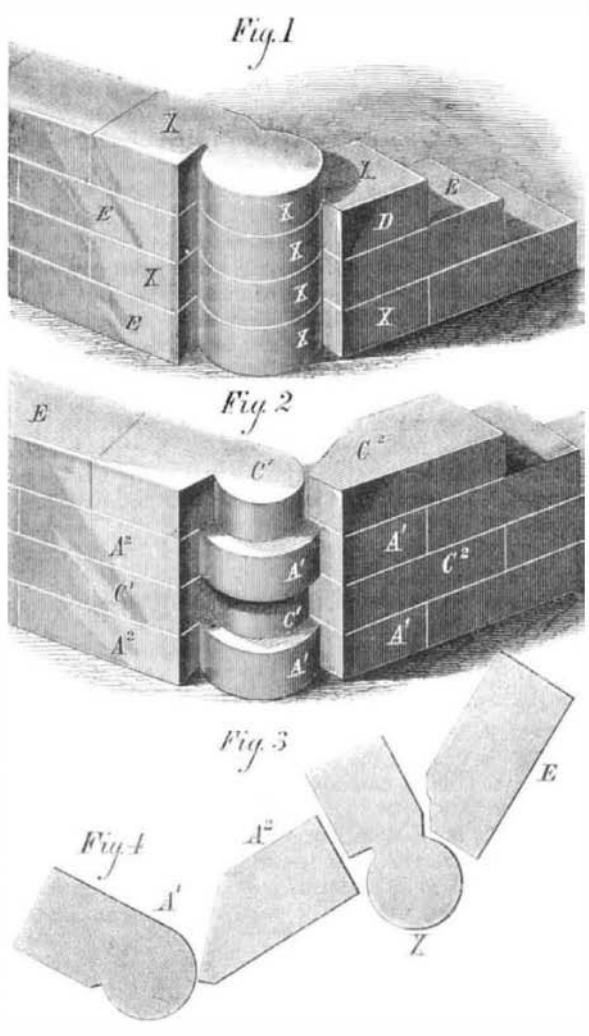
Our own experience at sea in all sorts of weather and in all kinds of boats—from a fisherman's coble in a chopping sea to the Irish mail boats in a gale—leads us to hold as a matter of faith that rolling does not cause sea sickness in even the most delicate organization, and that pitching does. The original Bessemer saloon provided for pitching as well as rolling, but the saloon as fitted on board the Bessemer can move athwart ship only, and consequently deals only with rolling. Mr. Bessemer has, in a word, abandoned the idea of contending with the true cause of sea sickness, and confined his attention to combating what is a very secondary evil indeed, if it can be called an evil in any sense as regards the causation of sea sickness. This being the case, a passenger on the deck abreast the saloon will be just as likely to escape the horrors of a Channel passage as if he were in the saloon, except in so far as the rolling of a vessel of such great width may in a measure approximate, in its effects on any one standing near the bulwarks, to the pitching motion of a shorter ship. The reason why pitching causes discomfort is, physicians tell us, because the contents of the abdomen rise by their own inertia, to speak a little incorrectly, against the descending diaphragm. The motion of a pitching ship in a gale is very considerable. Thus it has been shown that the taffrail of an American liner often falls through a vertical space of 30 feet in about one second when running in a heavy sea. The effect of such a drop as this is, beyond all comparison, more severe than anything rolling produces. We do not think that Mr. Bessemer was unwise to abandon that portion of his original scheme which dealt with pitching. It is very difficult, indeed, to see how, on the one hand, he could have retained it and a reasonably light draft of water together, and, on the other, of what possible utility it would be in his ship. The swinging cabin is already amidships, and will therefore have the least possible motion; and what remains, consisting as it does of the bodily rise and fall of the ship as she mounts a wave or it passes from beneath her, could not be affected by any mechanical expedient placed at mid length. To be really useful, the swinging saloon should be nearly as long as the ship, and at the same time narrow; and it should be so balanced, like a scale beam, and so geared that, however much the bows and stern of the hull rose and fell, the swinging deck would remain approximately horizontal. Thus, suppose that such a saloon was fitted to an Atlantic mail steamer, then a passenger berthed aft, instead of rising and falling through a range of 20 feet or so, perhaps six or eight times a minute with varying velocities, would always remain practically at rest, the ship alone rising and falling. Again, if it were possible, a small saloon near the bow might be mounted, say, on a hydraulic ram, and caused to apparently rise and fall, but really to remain motionless, while the ship pitched. In a saloon fitted in this way we believe that perfect immunity fron sea sickness, or nearly so, might be secured. But Mr. Bessemer has done nothing of the kind, and his swinging cabin will be correspondingly inefficient. Whatever comfort the passengers within it may enjoy will be due not to the action of the cabin, but to its position in the mid length of the ship, where vertical motion is reduced to a minimum.—*The Engineer*.

Preserving Gum Arabic Mucilage.

A writer in the *Journal of Pharmacy* states that the instability of mucilage of gum arabic may be overcome by mixing with tolu water. Tolu water is prepared by rubbing two fluid drams saturated tincture of tolu with four drams carbonate of magnesia, and then adding two pints of water, and filtering. It is believed that tolu prevents changes in liquids upon the same principle and as effectually as benzoin obviates rancidity in unctuous substances. Its preservative influence might be utilized in the preparation of many sirups and mixtures which are remarkable for instability.

UNIVERSAL ANGLE BRICKS.

In order to build oblique angles in constructing brick walls, the usual plan is to have bricks specially made for the purpose (if the work be carried on during the brick-making season), or else to have the ordinary shaped bricks ground to the required form. That this entails trouble, delay, and expense, masons and architects are generally well aware; and hence no further reasons are needed for directing attention to a recent invention, which is designed to obviate the difficulties mentioned.



It is proposed to manufacture the brick in the forms marked X, A^1, A^2, in Figs. 3 and 4. With X, an ordinary brick, with one corner broken off (laid beside it, as shown at E, Fig. 3) forms an acute angle. Referring to Fig. 1, the same shape, X, is combined with whole bricks to make an obtuse angle. It should also be noticed that the method of laying the bricks results in forming a perfect bond; thus, in Fig. 1, the second brick, X, from the top, instead of having its square portion directly under the corresponding part of the brick of like shape immediately above, has it on the opposite wing of the angle, at D. The fourth brick also has its square end on the same side, and the intervening space is filled with a common brick, E. In Fig. 4, both bricks are of particular form. A^2 has one end formed to certain angles, and A^1 is somewhat similar to X, though having certain easily detected points of difference.

In Fig. 2 a combination of forms A^1, A^2, C^1, and C^2 is shown, the mode of making the bond being as already described. Thus bricks of forms C^1 and C^2 are uppermost then forms A^1 and A^2 succeed, and so on alternately.

In Fig. 1 the result is a neat angle, ornamented beside with a beading; while in Fig. 2 the bead is rendered more ornate by alternating the forms A^1 and C^1. A handsome finish is thus given to the junction of the walls.

These bricks are, of course, susceptible of a variety of modifications in form, adapted to different classes of structures. It will readily be seen, however, that the principle is such as to enable any desired angle to be built without changing the figures of the bricks as produced by the manufacturers.

The inventor is Joseph E. Billings, of 33 School street, Boston, Mass., to whom all communications with reference to obtaining rights to manufacture, or for further information with regard to the uses and capabilities of the bricks, may be addressed. Patented September 1, 1874.

We understand that arrangements are now in progress for manufacturing in New York, Boston, and Philadelphia.

Mind Reading.

The professors of Yale College, New Haven, Conn., have lately been entertained by the performances of J. R. Brown, the mind reader. The learned professors indulged in hiding coins, pencils, cards, etc., in books, corners, and drawers. Brown was then placed *en rapport* with the hidee, that is, he took the hand of the person who hid the article, or took hold of a line held by that person. Brown, although blindfolded, would lead the individual to the exact spot, and find the article. Professor Thacher purposely imagined a pain located under his nose. Brown immediately placed his finger in the precise spot. Professor Marsh imagined a particular word, wrote it on paper, and gave it to another person. Brown spelled it out at once by pointing to the respective letters in an alphabet written on a blackboard. The venerable Ex-President Woolsey concealed a coin under some books, but his mind was probably hazy, for Brown could not quite find it, though he came near the spot. But when put *en rapport* with a younger man, Professor Whitney, Brown immediately found the coin. Professor Brewer placed a tape measure in a distant apartment; Brown promptly went, blindfolded, to the place and found the article. Professor Fisher gave a pencil case to Professor Johnson, who gave it to Professor Thacher, who concealed the article. Brown led the latter directly to the spot, and found the pencil. Professor Lyman held a paper on which words were written by Professor Fisher, and, blindfolded, Brown spelled the words without difficulty! Having witnessed so many of these curious experiments, it is to be hoped that the learned professors of Yale will be able to explain how they are done.

Artificial Bone Black.

The only process which allows of producing artificial decolorizing charcoals, approaching, in their properties to bone black, consists in impregnating woody matters with phosphate of lime dissolved in hydrochloric acid. The phosphates are thus distributed as they are in natural bones. The mass thus prepared is ignited. The difficulty consists in obtaining products of a sufficient density and mineral richness, and free from foreign salts. The charcoal obtained has to be washed in excess of water to remove chloride of calcium, if poor coprolites have been employed. The author uses the coprolites found in small granules in the gray phosphatic chalk of Ciply.—*M. Melsens.*

In our article on the hydraulic ram, page 259 of the current volume, the first part of the description of Fig. 4 should read as follows: The pipe, A, leads to a source of supply higher than the ram, and the pipe, B, connects with the place which is to be drained. The distance from the end of the pipe, B, to the valve, D, must not be greater than the hight to which water will rise in a vacuum.

From a late report of our diplomatic representatives in Paris, it appears that the commerce of the United States with that city reaches an aggregate of seventy millions of dollars per year.