

## New Inventions.

### The Boston Steam Fire Engine.

On the 12th inst. a large fire occurred in Boston, and after it had destroyed a large amount of property the Mayor ordered the steam fire engine to be put in service, it having been laid up as useless lumber for a long time. It soon got to work and showed what it could do. Respecting its performances the *Transcript* says:—

"The admirable performance of the steam fire engine is the subject of high commendation in business circles. The machine saved property valued at many times its cost on the occasion, and those who have been so persistent in their opposition to give it a fair trial will hereafter be classed in history with the men who raised such a storm against the elder Quincy because he introduced suction hose into use."

Hereafter the engine is to be generally used at every fire in Boston.

### Liquid for Coloring the Hair Black.

Alex. Reed, of Pittsburg, Pa., having seen it stated in the *SCIENTIFIC AMERICAN*, in answer to a correspondent, that we were not acquainted with any liquid that would color the hair black, and not stain the skin, gives the following as a receipt that will do it:—"Take one part of bay rum, three parts of olive oil, and one part of good brandy, by measure, and wash the hair with this mixture every morning. In a short time the use of it will make the hair a beautiful black without injuring it in the least."

We know that pure olive oil and good brandy in equal parts, make an excellent hair wash, but have never known it to color the hair. The above mixture may color the hair but we would not infer from its nature that it would. There can be no doubt, however, of it being a tonic of much superior character to many that is sold at an extravagant price. The articles must be mixed in a bottle and always shaken well before they are applied. It is not an easy matter to obtain either pure olive oil or French brandy, to prepare such a mixture, but we suppose that the above receipt refers to the common articles sold by druggists.

### Silk from the Mulberry Tree.

The Paris correspondent of the London *Atlas* gives an account of a discovery said to have been recently made in France by Alphonse Karr, which is nothing less than the manufacture of silk from the mulberry tree. This tree furnishes the food of the silk worm, and this discovery is intended to take the entire business out of the hands of this creature. It is stated that the mulberry leaves are boiled first into a thick paste, from which the silk threads are made. The correspondent alluded to states that he has seen several yards of excellent silk, made in this manner, and that its price is twenty-five times cheaper than silk made in the common way. We are inclined to doubt the truth of the story; but we hope it may be true.

### Marble Sawing Machine.

Our engraving illustrates the improved Marble Sawing apparatus, patented by Messrs. Schrag and Von Kammerhueber, of Washington, D. C., on the 19th Feb., 1856. The invention is designed for the sawing of two sides of a block of marble at once, both sides being cut parallel or at angles, as may be desired. The means of adjusting the saws and changing the cutting angle, are very simple.

A is a frame hung with weights, and moving vertically on the frame posts, B. Frame A is slotted at each end, and in the slots the standards, C C', move, said standards carrying guide pieces, D D', through which the ends of the saw frames, E, slide. It is by sliding the standards, C C', nearer together or further apart, that the angle at which the saws cut, is changed. Beneath each standard is an adjustable nut, F are the saws strained between the head blocks, G G' (fig. 2.) These head blocks are furnished with ratchet pulleys, H, which are connected together by means of cords; in passing from one pulley to

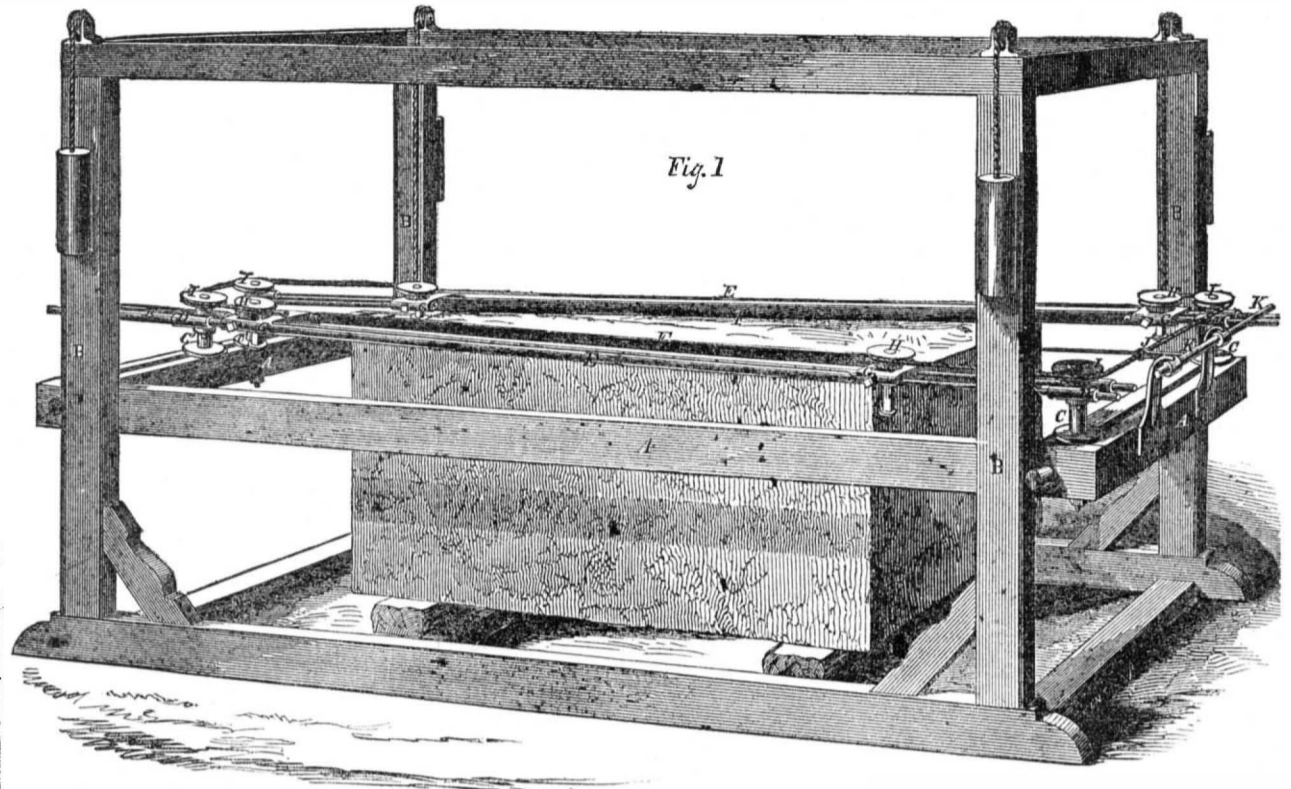
the other, the cords bend around the friction rollers, I. The cords are grasped in the center by the tongue piece, J, which is connected with the horizontally moving bar, K. The motive power is applied to one end of bar, K,

which, by means of its connection with the cord, causes the saw frames with their saws to vibrate.

The pulleys, H, are furnished with ratchet wheel and pawl (fig. 2,) so as to wind up or

elongate the cord, according as the respective ends of the saws are placed nearer or further apart. The pulleys, H, and rollers, I, all have elongated shanks, so that one saw may be set higher than the other, when necessary, as in

## MACHINE FOR SAWING MONUMENTAL MARBLES.



sawing at acute angles, where the cuts of the saws cross each other.

The inventors claim the following advantages for their improvement:

First, That all angles, from 0 to 180°, can be sawn.

Second, That by the arrangement of the straining apparatus, the motive power is transmitted to the saws without loss, and independent of the degree of the angle.

Third, That by the vertical adjustability of

the pulleys and friction rollers, the saws can

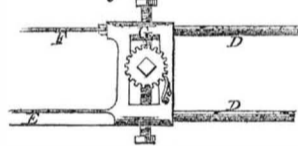
be brought into one plane if desired, or one of

them elevated above the other, so as to cut acute angles.

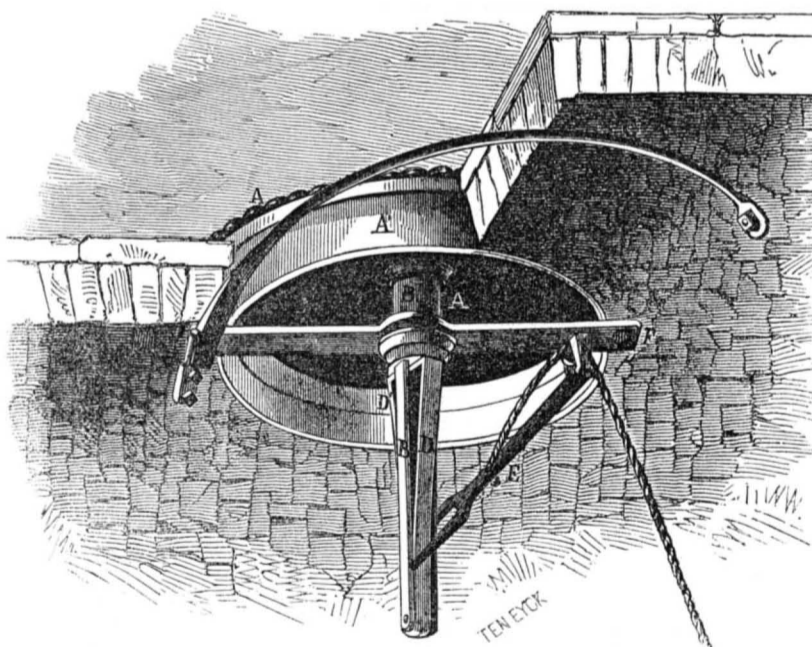
Fourth, That the adjustment is easy and correct, no pressure in any part of the machine existing, either from the straining of the saws or the transmission of the motive power, so that no greater power is required to saw two tapering sides, than to saw two parallel sides of a block of marble.

Address the patentees for further information.

Fig. 2



## IMPROVED STREET VAULT COVER.



### Improvement in Vault Covers.

In large cities like New York, every inch of the earth's surface is of great value for building purposes, and the owner of real estate, when he has occasion to put up a new house, generally tries to make the most of his land. The law allows him to build as high and as deep as he chooses; it is not uncommon to meet with buildings that are six stories above and three stories deep below ground. The law also allows the owner to excavate vaults under the street, in front of his property, to a distance of one-third the width of the street. These vaults are lighted by means of holes extending through their roofs to the surface of the pavement; the apertures are protected with covers, either wholly of metal, or of metal combined with thick glass. Almost every dwelling house has its vault in front for the reception of coal.

The vault covers in general very often get

loose for want of proper means of securing them, and thus become dangerous traps to the pedestrian. Many a limb has been broken or other bodily injury sustained, by stepping upon these insecure covers. They are generally fastened by means of a chain within the vault; but if the chain is left a little too slack, the results we have just named are likely to ensue. This method is also inconvenient both in opening and closing the vault hole, whether temporarily or otherwise.

The object of the present improvement is to afford perfect security against accident, and also greater convenience. In our engraving A is the vault cover, and A' the metallic ring fitted into the roof of the vault, on which the cover rests. B is a vertical spindle attached to the center of the cover, A, and projecting down through a cross bar, C, which is longer than the diameter of the hole. Spindle B is furnished with two springs, D D', which fly

out of slots in the spindle, when the latter descends, and by catching underneath the shoulder of cross bar, C, prevent the cover from rising. In order to remove the cover the springs, D D', must be pressed into their respective slots in the spindle, B, so that the latter may be raised through the aperture in bar C. The springs are compressed by means of the forked lever, E, one end of which is hinged to bar C. A cord, passing over a friction roller, is attached to said lever; by pulling on the cord, the lever will rise, and its forked end will press in the springs, D D', when the cover may be removed from above.

One end of bar C is pivoted at F; the other end rests on the guide G. When it is desired to open the vault and yet retain an elevated protection above the pavement, so as to prevent people from falling in, the cover, A, is raised until the bottom part of its spindle, B, rests on the cross bar, C; the latter is then swung around on its pivot, F, and the hole is open; but the cover remains elevated, at one side, so that no one could very well fall down the aperture, unless purposely.

To close and secure this cover it is only necessary to swing back the cross bar, C, and drop the cover and spindle, B, to its place; the springs, D D', then fly out, and the security is complete. This cover is therefore self-fastening. The old method makes it necessary for some one to go into the vault, after the cover has been adjusted to fasten the chain.

This improvement, it will be obvious, contains several very useful features. It is a thing that has long been needed. Mr. Wm. D. Titus, of Brooklyn, N. Y., is the inventor. His patent has just been issued. It will be found in the official list for April 15, 1856, which we publish in another column. For further information address the inventor, box 3,847, New York City.

### Artificial Wines.

Port wines are often manufactured from bad claret and bad red wine, by the addition of a substance consisting of extract of elderberry juice, Lisbon grapes, burnt sugar, brandy, bitter almonds, and logwood.