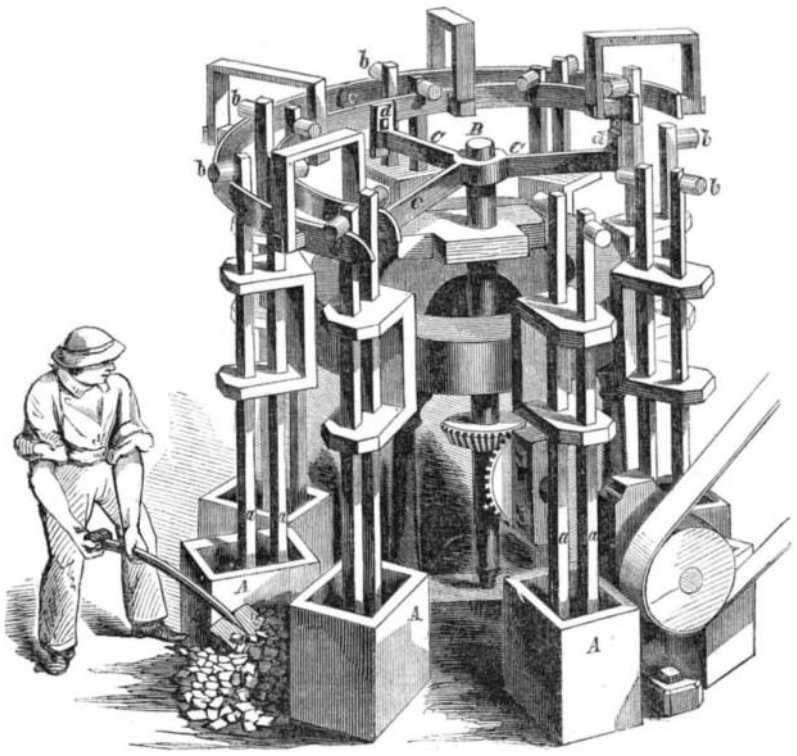
MURRAY'S STAMPING-MACHINE.

An inconceivable amount of labor is to be performed during the next fifty years in pounding or stamping the quartz rock of California, for the purpose of extracting its gold; and the man who can contrive the best device for working the stampers may hope for a liberal reward for his ingenuity. We give an illustration of the latest invention for accomplishing this object.

The boxes A A A, containing the quartz or other material to be pulverized, are arrangedin a circle, and in each box are two stamps, *a a*, standing in the line of the radii, which stamps are raised and dropped by the following described device. In the center of the circle, turned by machinery, is an upright shaft, B, with three arms, C C C, extending horizontally from its top; said arms carry two inclined cams, D D. Each stamp has, at its upper end, a horizontal arm furnished with a friction-roller, *b b b*. The lower ends of the cams pass under these rollers and, as the cams revolve, the stamps are gradually raised till the upper ends of the cams pass from under the rollers, when the stamps fall and give a blow to the quartz or other material in the boxes.

Arrangement is made for varying the hight to which the stamps are raised, and consequently the force of the blow, at the will of the operator. For this purpose each cam is provided with a vertical joint in the middle, and the vertical plate of metal, *c*, which connects the upper ends of the cams with the supporting-bar, C, has a long slot through which the set-screw, *d*, passes, and confines the cam at any hight to which it may be adjusted.

This stamping-machine is the invention of William Murray, of Baltimore, Md., who obtained his patent August 23, 1859. For any further information in relation to this invention please address the inventor at No. 151 North High-street, Baltimore, Md.



MURRAY'S IMPROVED STAMPING MACHINE

DO WATER-WHEELS RUN FASTER BY NIGHT THAN BY DAY?

MESSRS. EDITORS:—I observed in No. 13, "new series," of your paper, an article headed "Work of Water-wheels by Night and Day," representing a number of experiments on water-wheels at high and low meridian, which resulted in demonstrating that mills run no faster by night than by day. I hold a different opinion, notwithstanding the demonstration; and more than one set of experiments will be required to change it, for the following reasons, to wit: First, what has been so universally observed and spoken of for ages most likely has some foundation in truth; second, the water which propels the wheels of mills is unequivocally heavier at midnight than at midday, by the difference of the sun's attraction, doubtless; third, at midday evaporation is going on fast, and, in many cases, the supply of water is sensibly diminished; fourth, at midday the water is warmed and expanded; hence the same weight of water will not enter the shute or aperture at the same time. The preceding reasons must hold good until equally strong or stronger ones are produced.

J. W. K.

Raymond, Miss., Oct. 1, 1859.

[We will reply to the above reasons *seriatim*, with the preliminary remark that we value more highly one experiment rationally, carefully and thoroughly made, than we do the *a priori* reasoning which would fill 10,000 volumes.

1. The fact that an opinion has been held by large numbers of people is very little evidence, indeed, of its correctness. How many millions have believed, and still believe, in the divinity of Brahma? How many intellectual men believed in Mars and Venus, and all the gods and goddesses of the ancient heathen mythology? How many absurd superstitions, in regard to good and bad luck, and kindred follies, are widely believed at the present day among our own people? The opinion that a change in the weather is apt to accompany a change of the moon is very generally held in this community, long after the multitude of observations collated by Herschel have shown that there is, in fact, no foundation for it whatever.

2. The point in regard to the sun's attraction is sound. The different velocities, however, of the moon and the earth, as well as the comparatively small amount which the spring and neap tides vary from ordinary tides, prove that the attraction of the sun on the water is less than that of the moon.

3. That the evaporation is greater in the daytime than in the night is unquestionable; and this would affect slightly the amount of water flowing in the stream—so little, however, that it would generally be overbalanced by the closing of the gates at the works, up the river. Furthermore, the flow of the water in the stream is a different question from the one in regard to the amount which can pass through the wheel when there is a full supply.

4. Careful experiments by several observers have shown that water expands and contracts very little with the change of temperature. We give Hallstrom's table, which shows that the greatest density is at about 39½° and that 1,000 gallons at this temperature would measure 1,004 gallons at 86°:

Temperature.	Volume.
32°	1.0001082
35.6°	1.0000281
39.2°	1.0000002
39.38°	1.
41°	1.0000050
50°	1.0002200
59°	1.0007357
68°	1.0015490
77°	1.0026483
86°	1.0040245

The sensible heat of water is not varied so quickly as that of air, and the temperature of a river would not probably vary enough, in the course of 24 hours, to affect the water which would pass through a wheel to the amount of a single quart.

Two of the influences cited by our correspondent undoubtedly tend to cause water-wheels to run faster in the night than in the day; but these influences are so slight that they may be wholly imperceptible, or they may be balanced by opposing forces. The experiments of our Pepperell correspondent show that, in his cases, these influences were *more* than balanced by such forces. —EDS.

THE BOSTON MECHANICAL BAKERY.—In the Supreme Court, on the 19th inst., the case of Joseph G. Russell against the Firemen's Insurance Company was called up, agreeable to assignment, when the counsel for the defense stated that the suit would not be contested, and no opposition would be made to a recovery of judgment. The case was one in which the office insured the building known as the Mechanical Bakery, which was destroyed last winter, under circumstances which induced a fire inquest jury to bring in a verdict of incendiarism, and the offices to refuse payment on insurance taken. Since then, however, all parties are apparently satisfied that such suspicions were unjust, and Mr. Russell, who was insured in the Fireman's, City, Eliot, North American, Howard, Roger Williams, Arctic, Phenix and Lamar offices, will receive his full insurance of $75,000.—*Boston Herald.*

SOUTH CAROLINA INSTITUTE FAIR.—We are informed that Messrs. S. A. Heath & Co., of the Inventors Exchange, 37 Park-row, this city, will receive and forward articles for exhibition at the South Carolina Institute Fair, which commences in Charleston, Nov. 15th. All articles should be sent to those gentlemen in time to get shipped by Nov. 8th., if intended for competition. It is the intention of Mr. Heath to attend the Charleston Fair, and this will afford a convenient opportunity for parties who desire an experienced and competent person to superintend the exhibition of their inventions. Those having articles adapted to southern trade, and who desire to exhibit, would do well to consult with Mr. Heath, previous to his leaving for Charleston.