

## New Inventions.

### Hoop Splitting and Planing.—Erratum.

On page 124, this volume, in the illustrated description of the excellent hoop-splitting and planing machines of the American Hoop Machine Co., Fitchburgh, Mass., it is stated that the planer "planes at the rate of from 50 to 70 hoops per minute." It should have read from 50 to 70 feet of hoop per minute. Of course we did not know the amount of work it could perform, and we understood Mr. Sawyer to say *hoops*. The mistake was a very natural one. We are also requested to state that the hoop-splitter can readily be adjusted to suit any size of hoop-pole, and split it through the center.

### Brick Machinery.

The accompanying figures are views of new machinery for molding brick, by Mr. Clayton, of London, and published in a recent number of the *Engineer*.

The great object of the improvement is stated to be the mechanism devised for giving clear and well-defined angles to the bricks. Any improvement in brick machines is of great and general importance, because brick is a building material which ever has been, is now, and always will be very generally employed in almost every country on the face of the globe.

A reference to the subjoined engravings will give a general idea of the machine, in which fig. 1 gives a sectional elevation, fig. 2 a ground plan, fig. 3 a vertical section of the rotary lubricating glands, and fig. 4 a sectional plan of the cylinder and glands.

The power is applied by a belt from a steam engine or other motive to the drum, *a*, on the shaft, *A*, which carries a pinion, *b*, gearing into the spur wheel, *c*, on the shaft, *B*, which carries a pinion, gearing into the spur wheel, *e*, on the shaft, *N*. The shaft, *B*, also carries a bevel wheel, *f*, gearing into another bevel wheel, *g*, on the upright shaft, *L*, which carries at its upper extremity a pinion, *H*, gearing into the spur wheel, *K*, on the upright shaft, *M*, which passes through the center of the iron cylinder in which the clay is pugged, and is furnished with a series of screw blades or knives for that purpose, *m m* and *n*. The peculiar form and arrangement of these blades will be readily understood.

The clay, after being properly weathered and moistened with water, is thrown by hand labor into the cylinder, and the action of the screw blades incorporates the material to a uniform consistency, and then forces it into the lower chamber shown in fig. 4. In this chamber there is a rectangular piston, *P*, which derives a reciprocating motion from the crank on the shaft, *N*, and the connecting rod, *R*. By means of the piston which is shown in the dotted lines at the two extremities of the stroke, the clay is forced through the rectangular dies, *p*. To prevent the abrasion of the corners of the mass, the dies are furnished with two rollers, one on each side, which form the lateral boundaries of the die, *o o*. These revolve on their axis as the clay exudes from the dies, with a speed somewhat in advance of that at which the clay issues. These cylinders are moved by belts taken from a small pulley on the shaft, *L*. The arrangement seen in fig. 2.

*y* is the oblong mass of clay after it has been projected from the pug mill on the platform of rollers in front of it. The cylinders, *o o*, if not worked, would have a tendency to tear off pieces of the clay as they revolved, and would soon get clogged. To prevent this, the peculiar arrangement of having them furnished with what we have called salivary glands, is had recourse to.

Fig. 3 shows a section of the lubricating cylinders. From a couple of small reservoirs a continuous supply of water is afforded to the tops of the lubricators by means of a pipe and stop-cock. The water so supplied is directed on the top of the lubricators, and by means of the orifices shown, it percolates through a covering of moleskin wrapt round the lubricators. The effect of this is to present towards the clay, as it issues from the dies, a surface somewhat resembling a mu-

cus membrane, which continually exudes the moisture derived from behind it.

After the clay has been delivered in a large oblong mass, as represented by *y*, fig. 1, it is cut by the wires in the hinged frame, *S*, into the breadths required for single bricks. As the clay is, by the reciprocating action of the piston, forced out alternately on the two opposite sides of the pugging cylinder, there is time for each mass to be cut up and removed from the table before the succeeding one can interfere with it.

The Editor of the *Engineer* says:—"With regard to the machine we have described, it unquestionably bears evidence of very considerable mechanical ingenuity, an amount of patient study of the requirements of the manufacture to which it is adapted, and a degree of what, for want of a better term, we must call plastic talent, that we have rarely met with in machinery of this description.

With regard to the practical value of this implement, our first impression concerning it

to work it than a wet brick press, hence the latter press is considered to be the most advantageous, as a whole.

In the press represented, the clay is forced through a rectangular orifice, of the sectional form of a brick, in a stream, and then it is cut into the proper size of brick afterwards. In forcing clay through a rectangular orifice, the corners of it are liable to be ragged, because they have to encounter a greater resistance from friction. This evil does not, indeed, attend the pressing of the wet clay in those machines which have separate molds, but these are slower in their action than the kind here illustrated; and as it obviates the evil of forming imperfect angles to the bricks by the ingenious arrangement of the lubricating glands, it really appears to be a good improvement.

### Wonderful Growing Stone.

We have received a communication from Chilian Beach, of Leslie, Michigan, in which he minutely describes a stone which has been in his possession for twelve years, and which, during that time, by simple exposure to the air only, has—Young-America-like—been performing feats of a progressive character. When he obtained it twelve years ago, it was a little more than half an inch long and three-eighths in diameter. It has now grown five-eighths of an inch long, and to half an inch in diameter. This increase of the stone is about in the same ratio as that of our population, which is not a little remarkable. The most curious feature of this increase of the stone, is not an equal expansion, but a particular emanation proceeding from one side of the parent stone. "The stone," he says, "is the most perfect white, transparent, will cut glass, and increases in size and weight with no other food but common air." He has never yet found a person who could tell what it was, or give him any explanation as to the cause of its growth. "Wonders will never cease." We really had thought that the days of wonderful traveling and growing stones had gone past forever, but this one of Mr. Beach proves that this age is not behind any of the past in natural wonders, and that in Leslie, Michigan, there is a stone at present as wonderful as the famous one which floated St. Patrick from old Scotland to old Ireland.

### The People's College.

The location of this institution has been made at the beautiful village of Havana in Schuyler Co., N.Y. The site is a farm of one hundred acres, on an eminence about half a mile from the town. Excellence of soil, beauty of prospect and salubrity of air are combined in it. The generosity of the Hon. Charles Cook secured the choice of Havana from the locating commissioners. He gave \$25,000 to the funds of the institution. His gift to this village of the perpetual good influences of the People's College upon its society will be a legacy which it is the fortune of but few men in this world to make to the community in which they live.

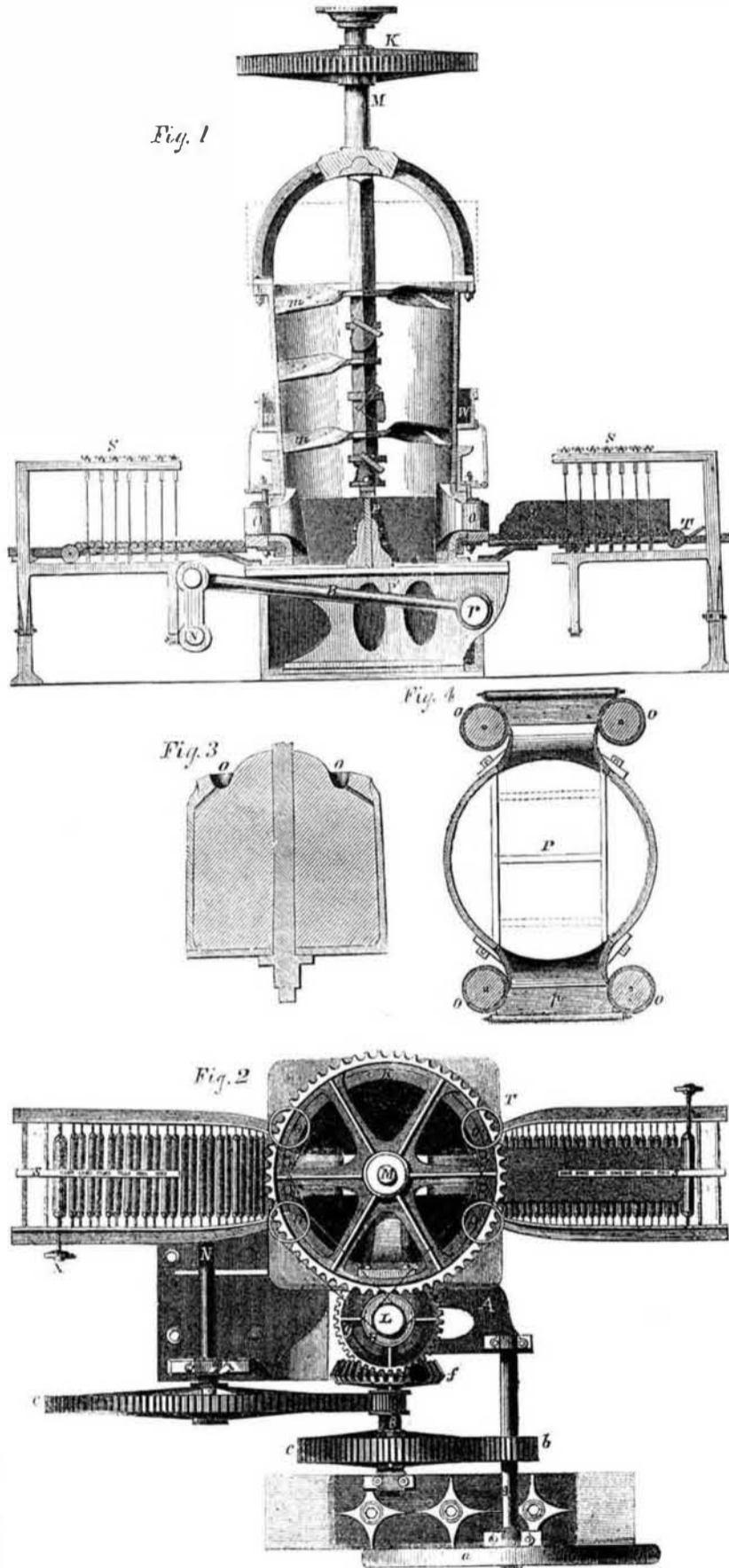
This College was first suggested by the Mechanics' Mutual Protection, an Association of Working Mechanics, the objects of which originally were mutual improvement, and to promote good will among employers and employed. The objects of the College are the education of young men for practical, everyday pursuits—for farmers, mechanics and artisans. They will be taught practical mechanics, all kinds of engineering, chemistry, geology, mathematics, &c. Connected with this is the idea that every student should at the same time be a worker—that his mental sanity and bodily vigor required the devotion of some hours of each day to muscular exercise.

### To Clean Marble.

Mix up a quantity of very strong soap lye with quick lime, to the consistency of milk, and lay it on the marble you wish to clean, where it may remain twenty-four or thirty hours; afterwards wash off, with soap and water, and it will appear as if new.

Lemon juice is principally relied on by the physicians in London for curing rheumatism. Three tablespoonfuls per day is a dose for a man.

## BRICK MAKING MACHINERY.



was that, although exceedingly ingenious and curious, and well adapted for making an effective demonstration at an agricultural exhibition, there were several parts of it which we imagined were not altogether suited to continuous every-day use. We must confess, however, that further inquiry on this head has had the effect of very considerably modifying our first impressions. From inquiries made among those who could have no conceivable motive for stating anything which was not the result of their own experience in the matter, we have every reason to believe that the brick-making machine of Mr. Clayton is found

in practice, by those who have the best means of forming an opinion on the subject, to be the most efficient apparatus yet brought before the public."

In England, as in our own country, there are two kinds of brick machines in use, the one kind for pressing *dry*, and the other *wet* clay. This one of Mr. Clayton is adapted for the wet method. The advantage sought to be obtained by pressing the materials in a dry state is the use of less fuel in burning them, also less liability to crack in the kiln. But it requires much heavier and stronger machinery for a dry brick press, and far greater power