J. P. Oren,

Brick Machine,

No. 4,123, Patented July 26, 1845.

Fig. 1.

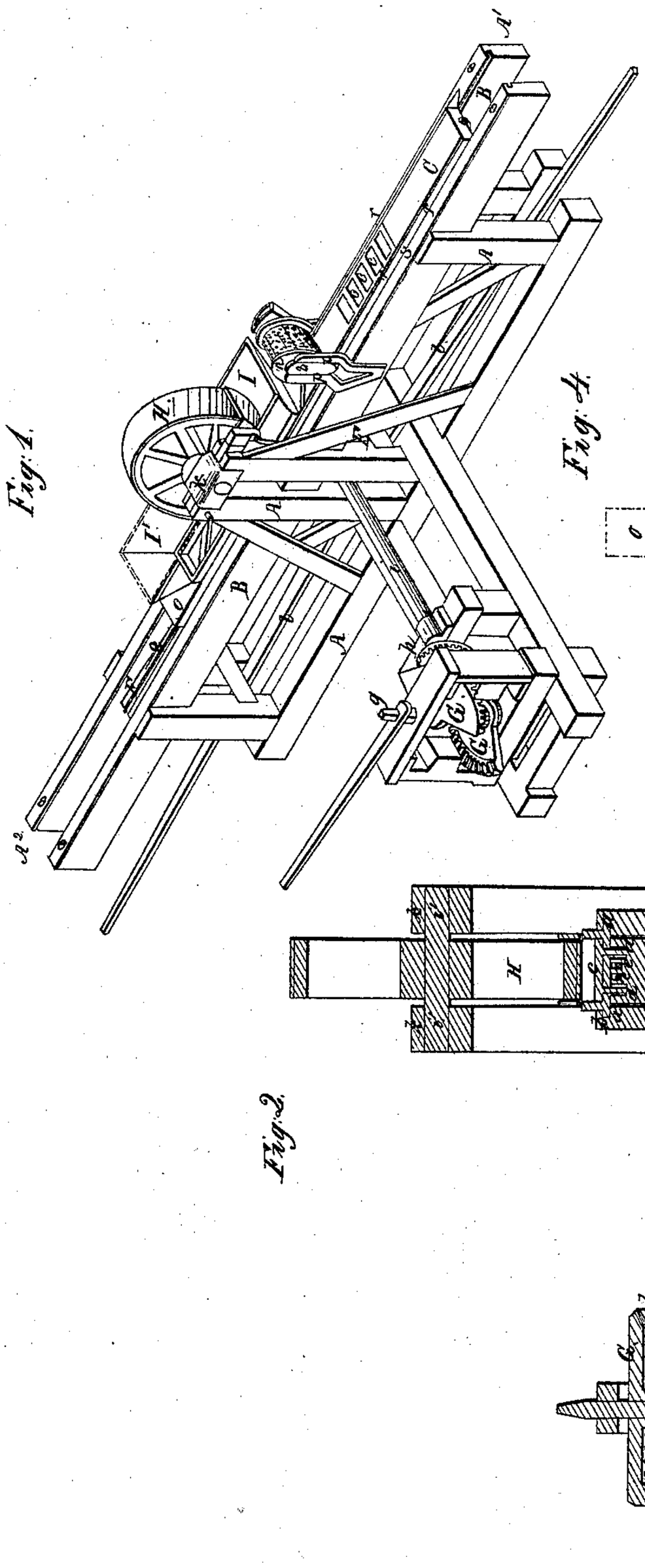

Fig. 4.

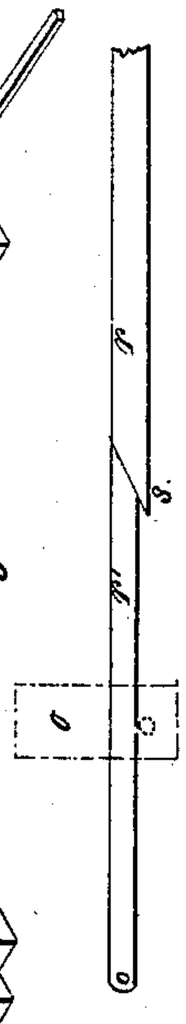

Fig. 3.

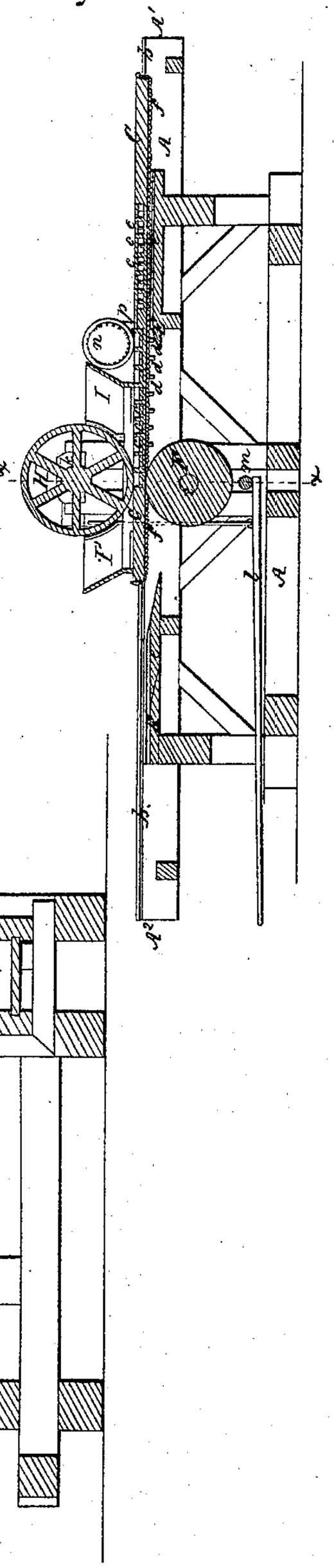

Fig. 2.

UNITED STATES PATENT OFFICE.

J. PARSONS OWEN, OF CINCINNATI, OHIO.

BRICK-PRESS.

Specification of Letters Patent No. 4,123, dated July 26, 1845.

To all whom it may concern:

Be it known that I, J. PARSONS OWEN, of Cincinnati, in the county of Hamilton and State of Ohio, have invented an Improvement in Machines for Molding and Pressing Bricks, and that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of the same, in which—

Figure 1 is a perspective view of the machine. Fig. 2 a vertical longitudinal section and Fig. 3 a transverse section taken at the line *x*—*x* of Fig. 2.

The same letters indicating corresponding parts in all the figures.

The nature of my invention consists in so arranging the molds in a reciprocating carriage placed between two pressure rollers as to subject the clay in the mold to the pressing action of the rollers, first in one and then in the reverse direction and also in combining with the reciprocating carriage of molds two hoppers placed one on each side of the upper pressure roller to supply pulverized or tempered clay.

In the accompanying drawings A is the frame adapted to the moving parts of the machine and B B two long sleepers between which the reciprocating carriage C, slides, there being fillets *a a* on the sides of the carriage which slide freely in grooves *b*, *b*, in the sleepers to permit the carriage to have a slight play up and down for a purpose to be presently described. Two sets of molds are made in this carriage, and are provided with movable bottoms *c*, *c*, *c*, for the purpose of forcing the bricks out of the molds after they have been pressed which is effected by means of two inclined planes E, E, placed between the sleepers the molds being each provided with two guide pins *d d* that pass through holes for that purpose in the bottom of the carriage. The planes E, E, are carried out horizontally sufficiently for to hold up the movable bottoms of the molds after they have been forced up to discharge the bricks, so that they are only permitted to descend on their return. These planes are grooved longitudinally as at *e*, for the free passage of the chain *f* attached to each end of the carriage and passed around and made fast to the under roller F by which the carriage is operated, and the said roller receives an alternate movement from the two segment cog wheels G G, on the vertical shaft *g* (each wheel being a little less than a semi-circle) the cogs of which alternately take into the teeth of the wheel *h* on the end of the shaft *i* of the roller F. This roller constitutes the bed on which the carriage rests when pressure is applied to the bricks to avoid the necessity of making the carriage of such strength as would be required to resist the strain of the pressure if it were applied on the carriage if resting on a permanent bed. The surface of the roller is grooved out to permit the free passage of the guide pins *d d*. In a vertical line above the roller F is the upper pressure roller or cylinder H, the surface of which rests on the upper surface of the carriage and edges of the mold—it is mounted on a shaft *i'* which works in boxes *k k* that are jointed at one end to the frame, the other end being connected by a link with a weighted lever *l* one end of which passes under the sliding boxes *m m* of the shaft of the roller F so that the carriage of molds is suspended between the pressure roller H and roller F thus relieving the carriage of the strain to which it would be subjected if resting on a permanent bed, the carriage having sufficient play for this purpose as mentioned above. The clay either in the pulverized or tempered state is supplied to the molds from two hoppers II' placed one on each side of the pressure roller with their bottom resting on the top of the carriage. The hopper I supplying the set of molds on the end of the carriage corresponding with it and the one I' the other set. The molds being divided into two sets for this purpose and for the additional purposes of delivering the bricks at each end of the machine. From this arrangement it is evident that when the carriage moves from the end A' of the machine toward the other A² that the set of molds toward the end A' are filled with clay and then pass under the pressure roller which forces it into the molds compressing the clay most toward A' which makes the bricks of unequal consistency, one side being more dense than the other; but by the continuance of the motion of the carriage this set of molds pass under the hopper on the other side of the pressure roller, and on the return motion more clay is not only forced into the molds but toward their other side thus equalizing the density of the bricks.

For the purpose of sanding the molds

when empty there are two cylindrical sieves n, (one only being shown) one on each side of the pressure roller and beyond the hoppers that turn in boxes o o in standards p p which are provided on the inside with a pin projecting inward from the lower edge which is shown in the drawing more clearly in Fig. 4. These pins rest on flanches r r' at the sides of the carriage while the molds with the pressed brick in them move from the pressure roller outward and then the sieves do not turn; these flanches extend from the ends of the carriage to within a short distance of the middle so as to permit the sieves to descend and rest on the surface of the carriage at the end of its motion outward so that by the return of the carriage the sieves by resting on it are made to revolve and sand the molds before they pass under the hoppers to receive the charge of clay and for the purpose of lifting up the sieve preparatory to the return motion, the flanches r r, just beyond the sets of molds have a lip s, s, extending downward, the flanches r, from this lip to the end of the carriage being permanent and the other portion r' jointed to the carriage at one end the other end resting on the end of the permanent part, which forms an inclined plane so that when the lips strike the pins on the sliding boxes of the sieves they are carried up the inclined plane to the top of the flanch, the jointed part being ransed up by the pins in passing up the planes. The molds can then be moved out without imparting any motion to the sieves.

The arrangement of the parts is the same on either side of the pressure roller and any of the known modes of imparting a reciprocating motion to a carriage may be substituted for the one herein described.

What I claim as my invention and desire to secure by Letters Patent is—

The combination of the reciprocating carriage with the pressure rollers in the manner described so as to give the pressure both ways in the manner set forth by which brick is made either from crude clay pulverized or sand or stop brick is manufactured.

J. PARSONS OWEN.

Witnesses:
J. J. GREENOUGH,
T. H. ROSE.