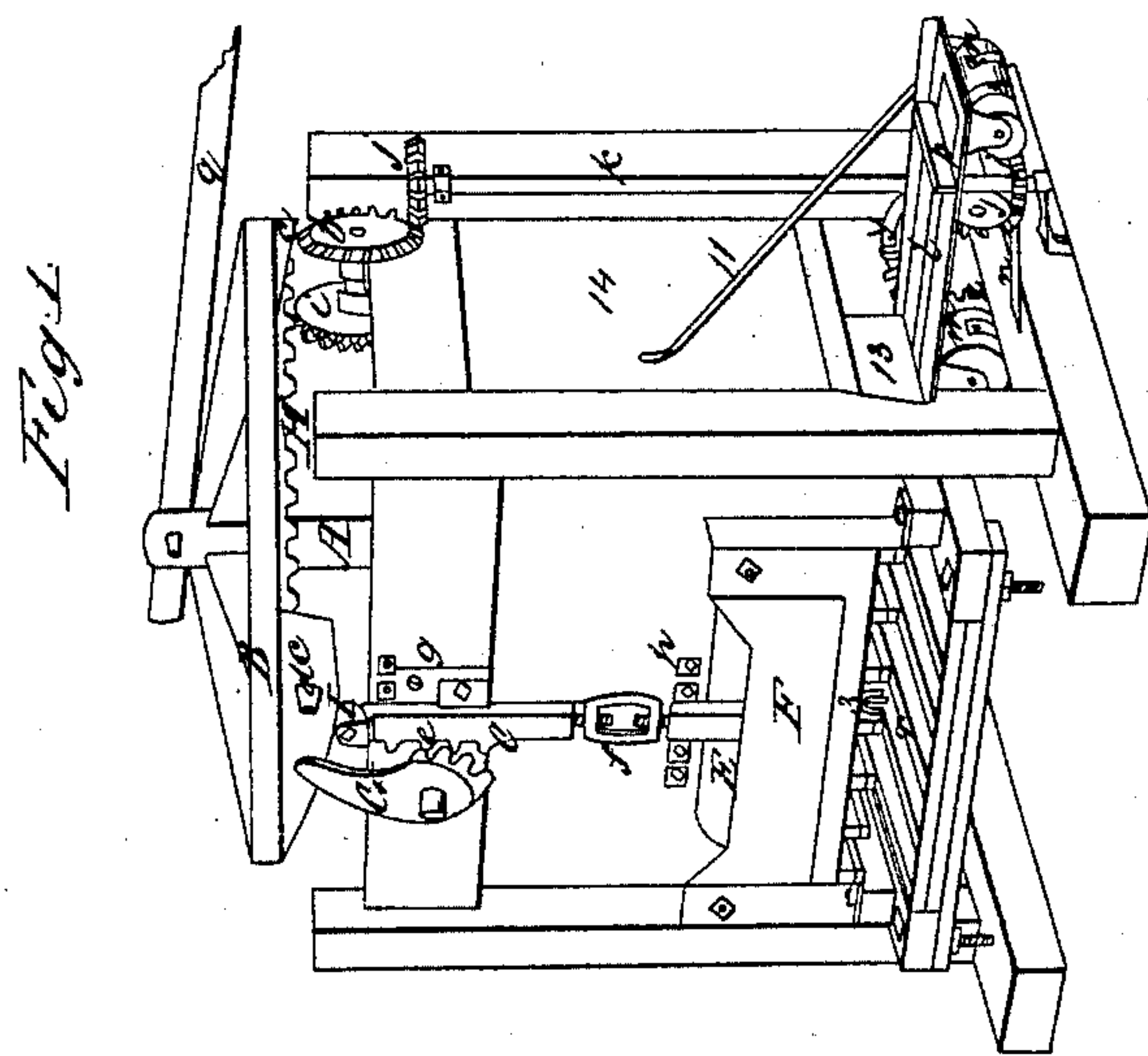
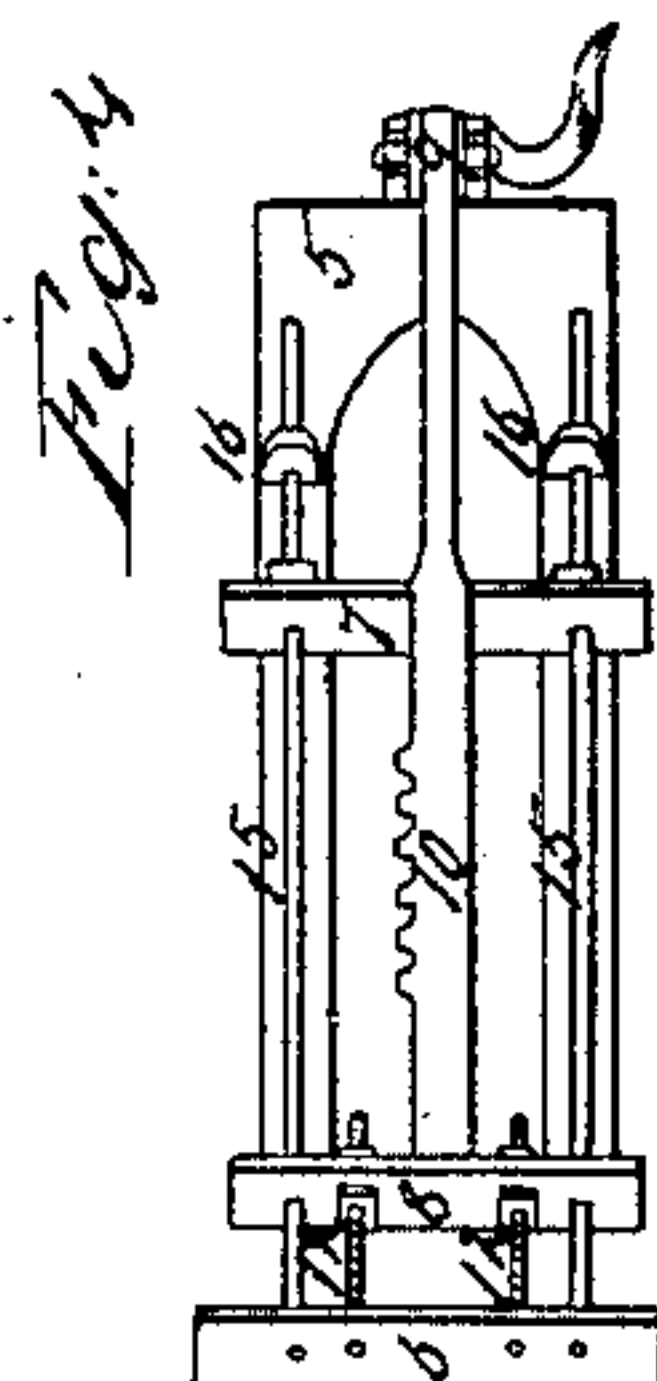
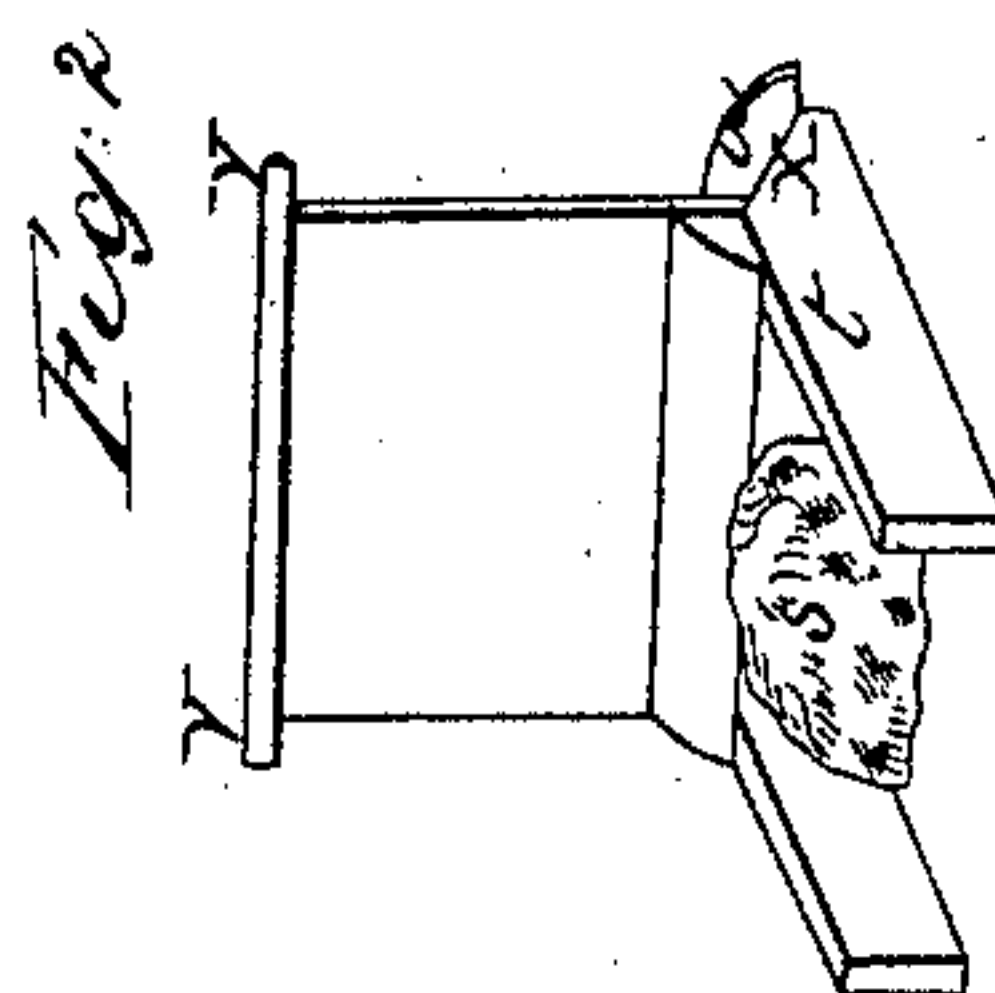
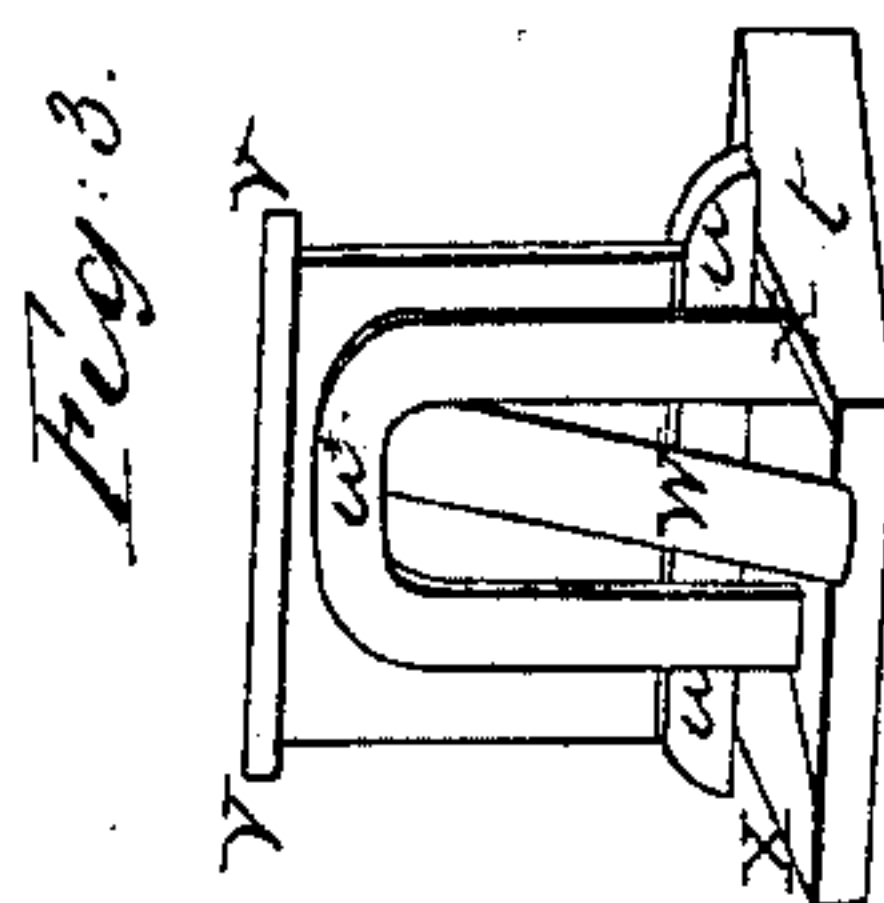


*J. Parsons,*  
*Brick Machine,*  
*Nº 30,541,* *Patented Oct. 30, 1860.*



*Witnesses.*  
*C. W. Basky*  
*William Vincent*

*Inventor*  
*John Parsons*



# UNITED STATES PATENT OFFICE.

JOHN PARSONS, OF CLEVELAND, OHIO.

## BRICK-MACHINE.

Specification of Letters Patent No. 30,541, dated October 30, 1860.

*To all whom it may concern:*

Be it known that I, JOHN PARSONS, of Cleveland, in the county of Cuyahoga, State of Ohio, have invented a new and useful Improvement in Brick-Molding Machines; and I do hereby declare the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification.

Figure 1 is a perspective view of the machine for working. Fig. 2 is a back view of the escape door for stones, &c., representing a stone *s*, striking the lower end of the slide. Fig. 3 is a perspective view of the escape door fitted with pivots *v*, *v*, slide *t* (forced forward by a stone at the back) as represented by Fig. 2, a latch *u*, inclined planes *x*, *x*, spring *w*, and guide *u*\*. Fig. 4 represents the driver, fitted with rack, guides and guide rods, regulating screws and pinch nuts, flexible spring, or its equivalent and a friction roller. The driver is used for forcing molds forward when placed under the mud box to take the place of the mold under the receiver *F* when the clay has been forced into it and the bricks formed.

*Description of the different parts of the machine.*—A is the main shaft running to the bottom and down the center of the mud box 14, on this shaft are affixed arms and a wiper, for grinding and forcing the clay into the receiver *F*, also wheel *B* bevel wheel *H*, cams *c*, *c*, *c*, on each cam is a stud *d* two cams only and one stud are shown on the drawings but all are shown on the model.

*C* is a plunger for forcing the clay into the molds, being attached to the press *E* inside the receiver *F* and arranged with friction wheel *I*, rack *e* and hub *f* for connecting the upper and lower parts of the plunger by right and left screws, which are also intended to lengthen and shorten the plunger to give a greater or lesser pressure to the clay as may be required; the plunger is kept in its place by guides *g* and *h*.

*G* is a lever with cogs corresponding with and to operate the rack *e* on plunger *C*.

*F* is the receiver with a grating at the bottom, through which the clay is pressed into the molds on mold-bearer *r* and forms the bricks.

*i* is a pinion wheel operated on by bevel wheel *H*. On the same shaft as this pinion wheel is a miter wheel *b* to set in motion miter wheels *j j* on vertical shaft *k*, which

drives another miter wheel *j* on a horizontal shaft running under the machine on which is a spur wheel with cogs corresponding with cogs on rack 10 on the driver represented by Fig. 4.

*y* is a bevel wheel on the same horizontal shaft as miter wheel *j* with cogs corresponding to and driving pinion wheel *z*. On the same shaft as pinion wheel *z* is a roller *m*, connected with another roller *m* by a band *o*, which band is also attached at a proper point under table *l* to a guide which runs in a long slot in the middle of table *l*. The guide is fixed to the driver *p*, which runs over table *l* to force the mold through the opening 13 to the roller *m*. At the outer end and under table *l* is attached a flexible spring *n*, which is affixed to the bottom frame of the machine, and is intended by winding round roller *m* to draw back the driver *p*, after delivering the mold through opening 13.

Fig. 3 is the escape door for stones, &c., fitted with slide *t*, in the front of which are inclined planes *x*, *x*, a latch *u*, kept in its place by guide *u*\*. The back part of slide *t* is formed hollow by the sides of which when a stone strikes it is conducted to the center and gives a direct push forward and effectually operates on spring *W*, which is securely fixed on the top of the escape door and presses against the lower edge in front of slide *t* sufficiently strong to resist the pressure of the clay, and any hard substance coming against the back part, the spring yields, the latch *u* is raised by the inclined planes *x x* as the slide advances forward and opens the door. The same figures used in Fig. 3 apply to the same parts on Fig. 2.

Fig. 4 is the driver fitted with rack 10, having cogs to correspond with cogs on the spur wheel on horizontal shaft running under the machine, a front plate 6, connected with another plate 8 by two screws and pinch nuts 12, 12, intended to lengthen or shorten the driver to suit different size molds. The plates 6 and 8 are attached to another plate 7 by guide rods 15, 15, working when in use through guides 16, 16, fixed on bed plate 5, at the back of which is a friction roller 9 for a band with a weight, or spring, or equivalent, to draw back the driver after having forced forward the molds.

The operation of the machine is as follows, viz: A mold is to be placed on the



mold bearer *r* under the receiver F, one under the mud box 14 immediately behind the first through the opening 13 at the side of the machine. A third is to be placed on the mold table *l* in front of the driver *p*. If horse power is used the horse is to be attached to the lever *q*, and on motion being given to the shaft A, the clay having been previously ground, the machinery is to be thrown into gear, the clay will be forced into the receiver F under the press E as it rises by the wiper at the lower end of the shaft A, the first cam *c* will pass over the plunger C, bearing on friction wheel I, pressing powerfully the clay through the grating of the receiver F into the mold underneath and forms the bricks.

The driver Fig. 4 fixed under the mud box is moved forward by the spur wheel on the horizontal shaft under the machine acting on rack 10 forces the mold forward in front of it, to take the place of the one that has been filled under the receiver F. The press in the mean time has been raised by the lever G being acted on the top by the stud *d*, on cam *c*, moving it forward and bringing into operation the cogs on the lever with the rack *e*, on plunger C. The driver having been drawn back by a spring, weight or equivalent, room is given in the front of it for the mold that is placed on the table *l* in front of the driver *p*, which is to be moved forward by the bevel wheel *y* operating on pinion wheel *z*, rollers *m* and *m* connected by the band *o* under the table *l* to the guide of driver *p*. After delivering the mold to its place, the bevel wheel *y* having only sufficient number of cogs for that purpose forsakes the pinion wheel *z*, and the driver is drawn back by the spring *n*, or its equivalent; another mold is to be placed on the table *l*, and the same results will be produced, making 18 bricks each revolution of the shaft A.

In the event of stones or any hard substances getting into the molds, danger of injury to them or the machinery is prevented by the escape door. The slide *t* is forcibly

moved forward. The inclined planes *x*, *x*, being under the latch *u* raises it and the door opens, hanging on pivots *v*, *v*, permitting the mold and stone to go forward. The door is quickly closed and the work again proceeds with but little loss of time.

The advantages derived by the simple arrangements of this machine are, that its almost self acting principle insures great regularity in its operation, saves manual labor, is very convenient to use, and by the great pressure given by the cams to the plunger much better and harder bricks are made than by the ordinary machines now in use, besides its great security against accidents, by the escape door, and the means provided by the use of bevel wheel *y* in connection with the rollers, table *l* &c.

I do not claim as my invention the rack 10, nor the spur wheel which operates it on the shaft under the mud box 14.

What I claim as my invention is—

1. The wheel B fitted with cams *c*, *c*, *c*, and studs *d*, *d*, *d*, in combination with lever G, rack *e*, hub *f*, friction wheel I substantially as described and for the purposes set forth.

2. The escape door Fig. 3 with slide *t* formed hollow at the back part, inclined planes *x* *x*, spring *w*, latch *u*, guide *u*\* substantially as described and for the purposes set forth.

3. The arrangement of the parts of the driver 4 (viz) the plates 6, 7 and 8 the regulating screws and pinch nuts in connection with the guide rods 15, 15, guides 16, 16, operated substantially as described and for the purposes set forth.

4. The arrangement of the bevel wheel *y*, pinion wheel *z* in combination with rollers *m* and *m* band *o*, spring *u*, or its equivalent the mold table *l* and driver *p*, substantially as described and for the purposes set forth.

Cleveland, Ohio, 29th June, 1860.

JOHN PARSONS.

Witnesses:

WILLIAM VINCENT,  
C. W. EASTY.