

(No Model.)

G. CARNELL.

MACHINE FOR PRESSING PLASTIC MATERIAL INTO BRICKS, &c.

No. 340,284.

Patented Apr. 20, 1886.

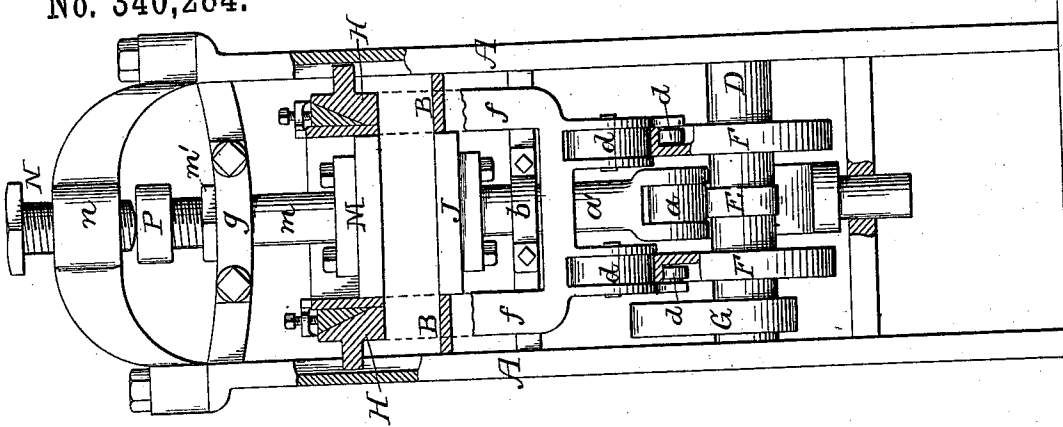


FIG. 2.

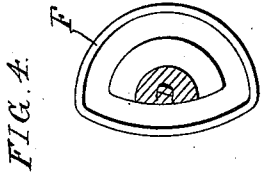


FIG. 4.

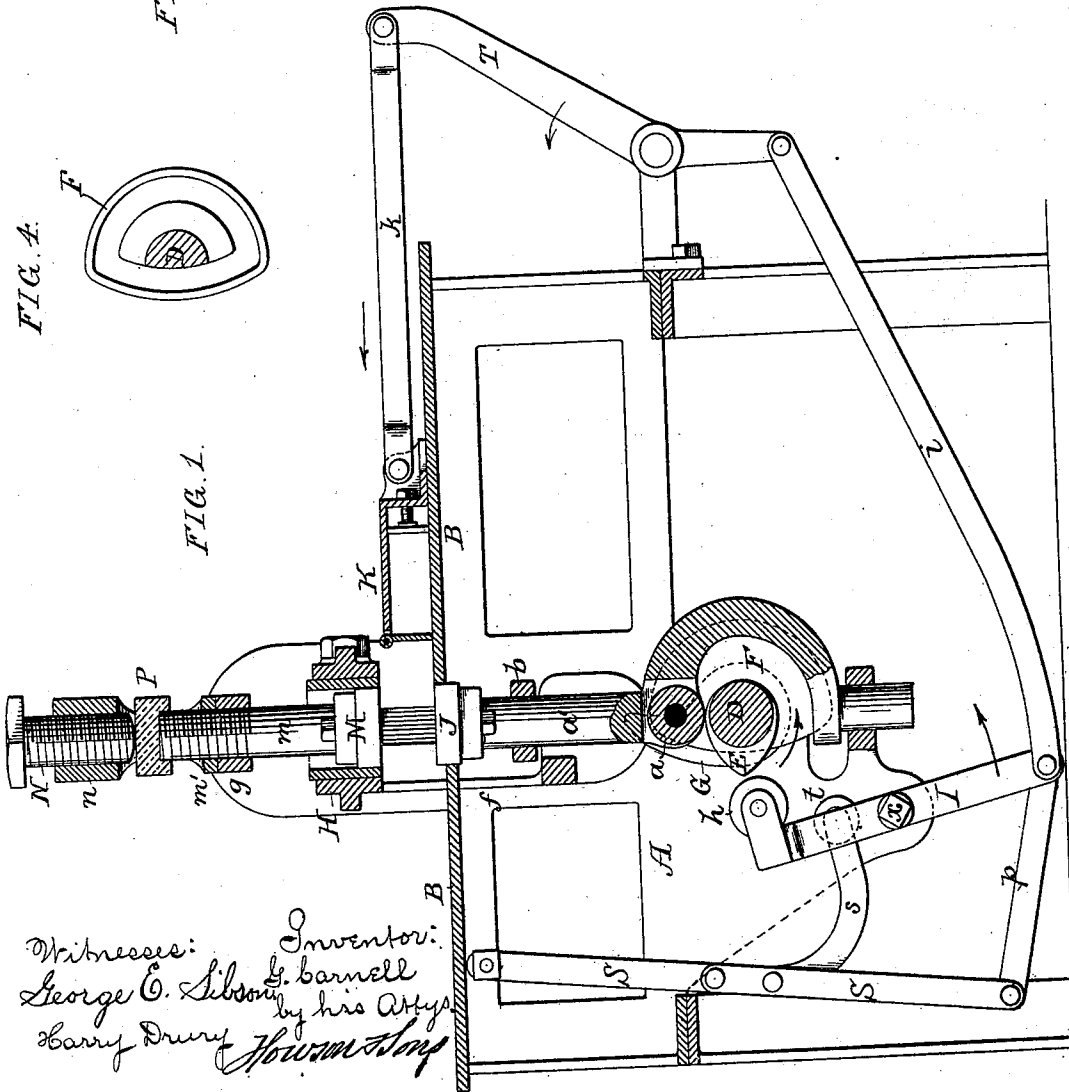


FIG. 1.

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Harry Drury

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G. Carnell
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FIG. 5.

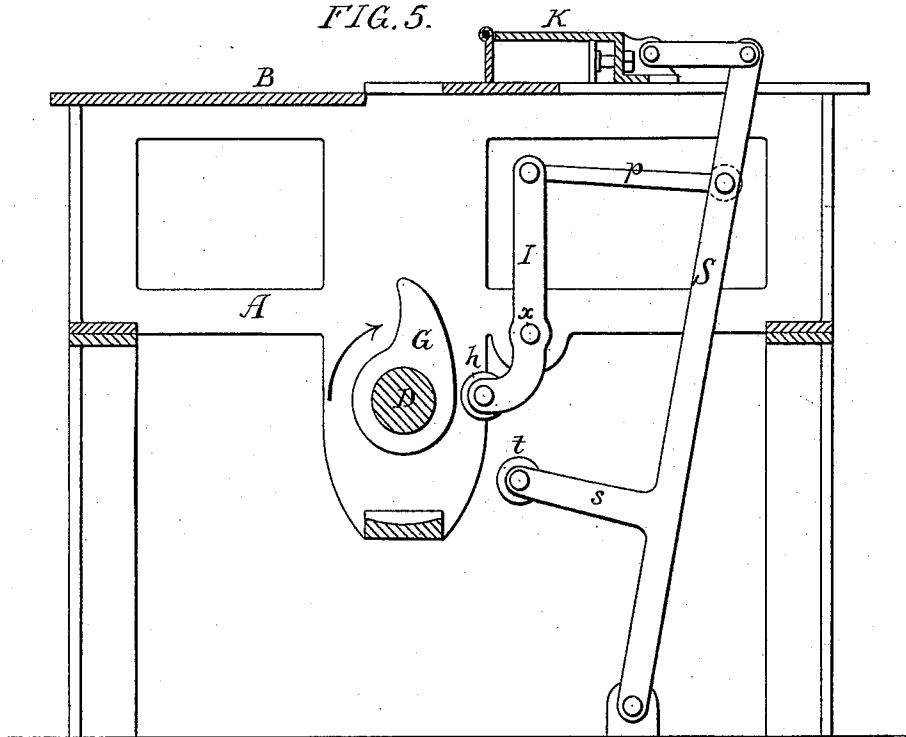
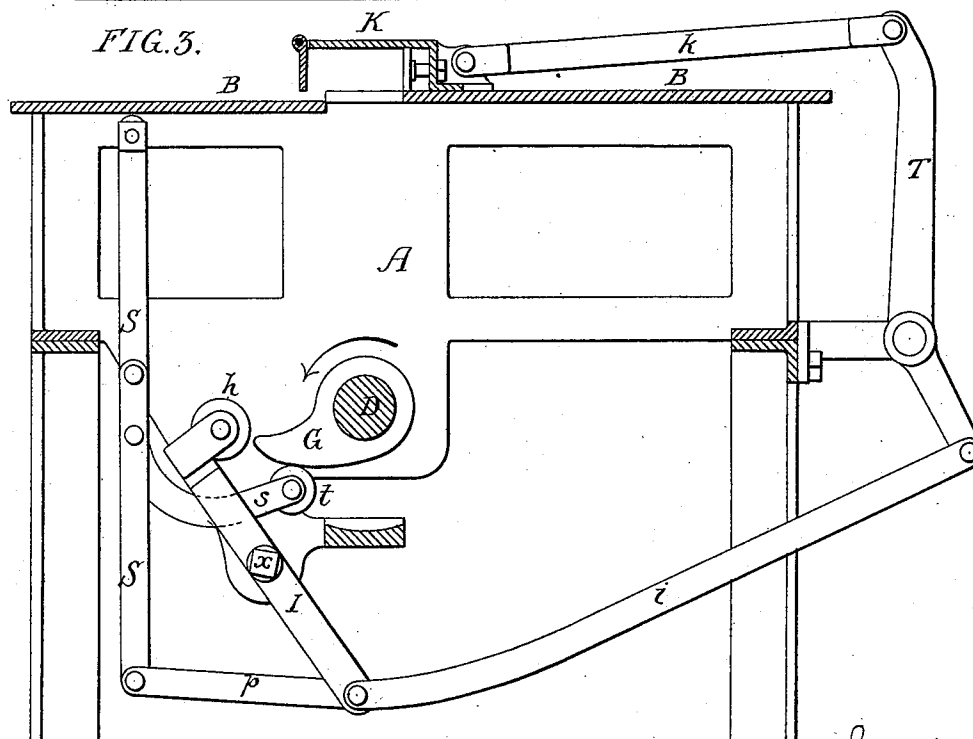


FIG. 5.



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UNITED STATES PATENT OFFICE.

GEORGE CARNELL, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR PRESSING PLASTIC MATERIAL INTO BRICKS, &c.

SPECIFICATION forming part of Letters Patent No. 340,284, dated April 20, 1896.

Application filed July 9, 1885. Serial No. 171,116. (No model.)

To all whom it may concern:

Be it known that I, GEORGE CARNELL, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Machines for Pressing Plastic Material into Bricks, &c., of which the following is a specification.

My invention consists of certain improvements in the brick-pressing machine for which I obtained Letters Patent No. 283,565, dated August 21, 1883, the objects of my present improvements being to impart positive movements in both directions to the feed box and mold-box of the machine.

In the accompanying drawings, Figure 1 is a longitudinal section, partly in elevation, of the machine with my improvements. Fig. 2 is a transverse section of the same; Fig. 3, a diagram illustrating the operation of the feed-box mechanism; Fig. 4, a face view of one of the cams for operating the mold-box, and Fig. 5 a view showing a modification.

A A are the opposite side frames of the machine, which support the table B and have bearings for the driving-shaft D, the latter carrying cams E, F, and G. The cam E acts upon the anti-friction roller *a*, carried by the stem *a'* of the lower plunger, J, said stem being guided in a bar, *b*, on the frame, and the plunger being adapted to an opening in the table B. The cams F act upon rollers *d*, carried by the arms *f* of the mold-box H, which is suitably guided in the opposite side frames of the machine.

Within the mold-box H is the upper or fixed plunger, M, the stem *m* of which is supported by a transverse bar, *g*, of the frame A, the upper portion of the stem being threaded for the reception of a nut, *m'*, which rests upon the said bar *g*. Between the upper end of the stem *m* and a set-screw, N, in a yoke, *n*, of the frame, is a block, P, of rubber or other elastic material.

The feed-box K slides upon the table B of the machine, and is operated by the cam G on the driving-shaft through the medium of intervening mechanism. In the patented machine this mechanism consisted of a pivoted arm connected to the feed-box by a link, the cam serving to impart the forward movement to the feed-box, and the retraction of the latter being effected by a weight hung to a cord,

which passed over pulleys on the frame and was connected to the feed-box. In the present machine, however, I use mechanism for imparting to the feed-box a positive movement in both directions, this mechanism being shown in Figs. 1 to 3.

The cam G acts upon an anti-friction roller, *h*, carried by the upper end of a lever, I, which is hung to a pin, *x*, on one of the side frames A, the lower arm of the lever being connected by a link, *i*, to one arm of a lever, T, hung to a stud at the end of the machine, the upper arm of said lever T being connected by a link, *k*, to the feed-box. The lower arm of the lever I is also connected by a link, *p*, to the lower end of an arm, S, hung to one of the side frames at the upper end, and having a projecting finger, *s*, which carries at the end an anti-friction roller, *t*.

When the lower plunger is depressed, the mold-box elevated, and the feed-box retracted, as shown in Fig. 1, a brick or other block of plastic material, which is to be pressed by the machine, is placed in said box, and as the cam G, turning in the direction of the arrow, Fig. 1, acts upon the roller *h* of the lever I the latter is moved in the direction of the arrow, thereby causing a forward movement of the feed-box, which movement is continued until the said roller *h* is free from the influence of the cam G, as shown in Fig. 3, the brick or other block of plastic material being then deposited upon the lower plunger, J, of the press. The forward movement of the lower arm of the lever I causes a corresponding movement of the end of the arm S, so as to bring the roller *t* on the finger *s* of said arm into the path of the cam G, as shown in Fig. 3, and as soon as the cam leaves the roller *h* it strikes the roller *t* and imparts a rearward movement to the arm S and lever I, thus effecting the quick retraction of the feed-box to the position shown in Fig. 1, prior to the descent of the mold-box H and the rise of the plunger J, for the pressing of the block deposited upon the latter.

The use of the lever T is not essential to the proper carrying out of my invention, nor is it necessary that the relation of the arm S and lever I should always be such as shown in Figs. 1 to 3. For instance, in Fig. 5 I have shown the arm S connected to the feed-box at

the upper end and pivoted at the lower end, the location of the lever I being changed to correspond with the change in the hanging of the arm, and the direction of movement of the cam-shaft reversed.

If desired, the connection of the lever I to the feed-box may be independent of that of the arm S; but the plan shown is preferred as avoiding multiplicity of parts.

In the former machine the mold-box was allowed to fall by its own weight, but this has been found to be objectionable; hence in the present machine I provide the cams F with flanges, Fig. 4, which are embraced by rollers *d d* on the arms *f* of said mold-box, a positive movement in both directions being thereby imparted to the latter.

The mold-box is provided with adjustable side-plates, and the feed-box has an adjustable plunger and pivoted front flap, as in the patented machine.

I claim as my invention—

1. The combination of the feed-box, a lever, I, and arm S, connected to said box, as described, and the shaft D, having a single feed-box operating cam, G, which acts successively upon the lever I and arm S, all substantially as specified.

2. The combination of the feed-box, the lever I and arm S, coupled for joint operation and connected to the feed-box, and the driving-shaft, having a single feed-box-operating cam, G, which acts successively upon said lever I and arm S, all substantially as set forth.

3. The combination of the feed-box, the driving-shaft having a cam, G, the lever I and arm S, coupled for joint operation, and the lever T, connected to the feed-box and to said coupled arm and lever, all substantially as specified.

4. The combination of the fixed upper plunger, M, the lower plunger, J, and a cam for reciprocating the same, with a guided mold-box, H, its frame *f*, and a flanged cam, F, for acting on said frame and imparting a positive movement in both directions to the mold-box, all substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE CARNELL.

Witnesses:

JOHN E. PARKER,
HARRY SMITH.