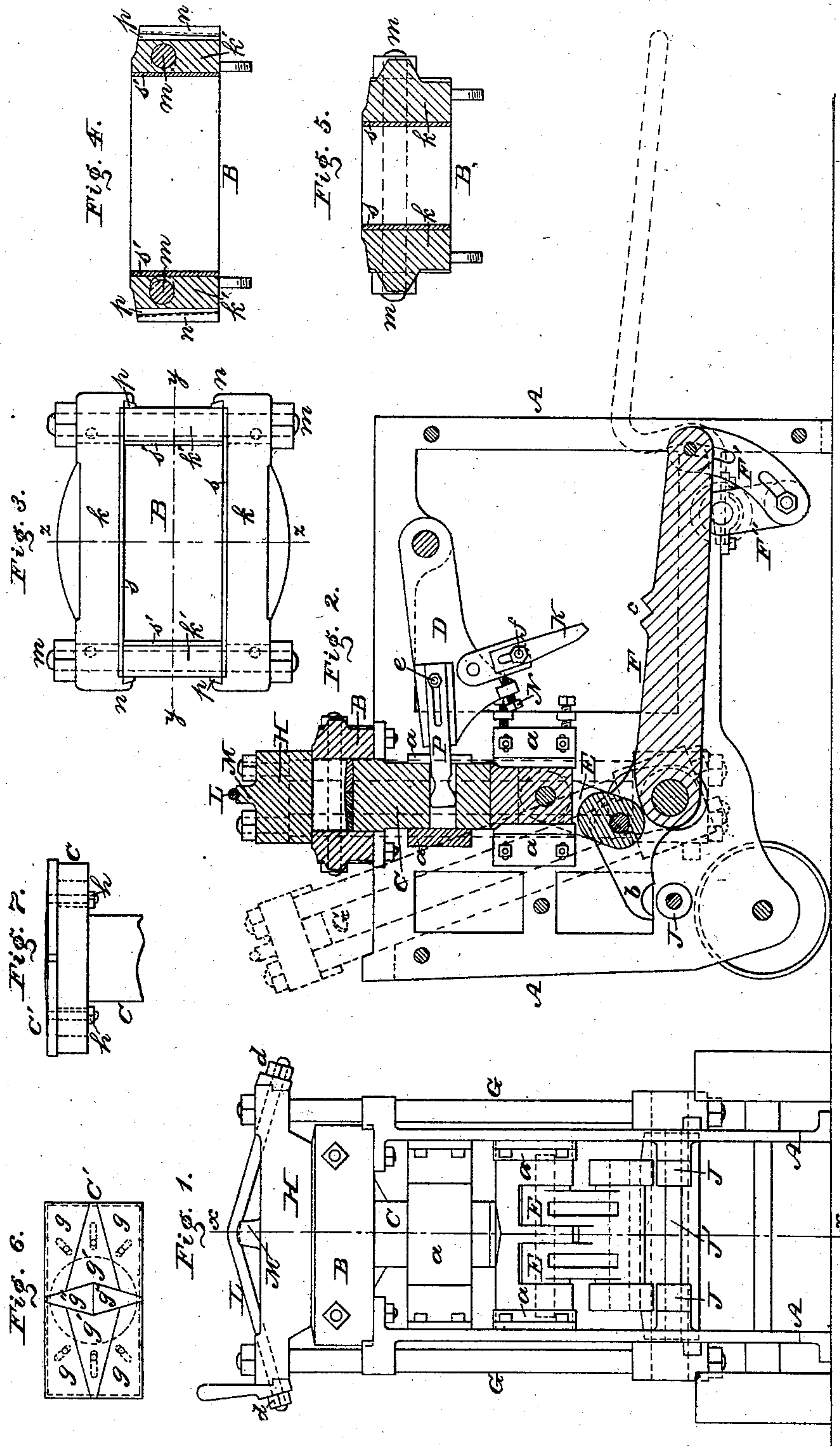


(No Model.)

J. CRABTREE.
BRICK PRESS.

No. 255,146.

Patented Mar. 21, 1882



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BRICK-PRESS.

SPECIFICATION forming part of Letters Patent No. 255,146, dated March 21, 1882.

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To all whom it may concern:

Be it known that I, JOHN CRABTREE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Brick-Presses, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is an end view of the press embodying my invention. Fig. 2 is a vertical section thereof in line *x x*, Fig. 1. Fig. 3 is a top view of the mold, enlarged. Fig. 4 is a section in line *y y*, Fig. 3. Fig. 5 is a section in line *z z*, Fig. 3. Fig. 6 is a top view of the head of the plunger or presser, enlarged. Fig. 7 is a side elevation thereof.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a brick-press having levers which, operated in one direction, in connection with other appliances, serve to press the brick while in the mold, and in the reverse direction to eject the pressed brick therefrom, the construction and operation of said levers and connected parts being hereinafter set forth.

It also consists of certain details of construction of the press, as will be hereinafter fully set forth.

It also consists of the plunger or pressing-head so constructed that when its sides are worn it may be expanded, and thus adjusted to the proper dimensions, the construction and operation being hereinafter fully set forth.

It also consists of the mold so constructed that when its sides are worn they may be removed, made true, and restored, and the size of the mold preserved.

Referring to the drawings, A represents the frame of the press, on the upper end of which is sustained the mold B, the opening whereof is in a vertical direction.

C represents the plunger, which is fitted between guides *a* of the frame A, and adapted to enter the mold B, said plunger being in two parts separated from each other, the upper part having jointed to it a lever, D, which is mounted on the frame A, and the lower part having jointed to it the links E, the bottom of the latter being pivoted to the forked end of a longitudinally-extending lever, F.

To the lever F is pivoted the frame G of the head H, the latter forming the top of the mold

B, it being noticed that the pivotal point of the frame G is below that of the links E.

To the frame A are secured studs J, which extend transversely, and are located near the lever F, at the forked end thereof, the under side of the forks being notched, as at *b*. To the other end of said lever is connected a link, F', having pivoted to it the crank-arm F'', to which the operating-handle or power-wheel is attached.

Depending from the lever D is a leg, K, which projects toward the lever F, and is adapted to engage therewith when said lever F is elevated, the upper edge of said lever F having a notch or serration, *c*, intermediate of the ends of the levers, into which the leg enters in order to cause the proper engagement of said lever and legs.

The operation is as follows: The lever F is raised slightly, so that the head H may be thrown from the mold B, as shown by the dotted lines, Fig. 2, the plunger being at or about its lowest point. A brick is then placed in the mold B and the head H restored to its normal position. The lever F is now lowered, the effect of which is to depress the frame G and hold the head H firmly on the top of the mold, said lever F turning on the pivotal connections with the frame G as axes. Simultaneously with the descent of the frame G the links E are raised, thus advancing the plunger and thereby pressing the brick. The lever F is now elevated, thus throwing the forks of the lever by its notches *b* on the studs J as fulcrums and lifting the frame G. The head H is now swung from the mold, thus uncovering the top thereof, and the lever F, continuing to rise, reaches and bears against the leg K, and thus raises the lever D, the action of which is to elevate the upper section of the plunger to full extent, and thereby eject the pressed brick, which may be readily carried from the mold. Another brick is then placed in the mold, resting on the plunger, the weight of which serves to lower the plunger and the levers D F, which operation of lowering the plunger may be assisted by properly turning the handle or wheel of the crank-arm F'' to a partial extent. The head H is then thrown back over the mold and the lever F lowered to full extent, whereby the head H is depressed and held tightly against the top of the mold, and the plunger is raised

by the straps E, thus compressing the brick in the mold, after which the other operations stated are repeated.

L represents a stay-bolt, which is somewhat bent and rested centrally on a bridge, M, rising from the top of the head H, and its ends are passed through the side pieces of the frame G and tightened thereagainst by nuts *d*. By this provision the head and frame are securely connected, and the head is vastly strengthened and enabled to endure the severe strain to which it is subjected during the pressing operation, and provision is made for tightening the parts when required.

In order to adjust the throw of the lever D, and consequently of the plunger C, the leg K is pivoted to said lever and adapted to be set at various angles by means of a screw, N, which is fitted to said lever D in such manner that the leg K abuts against said screw. Furthermore, the lever D is provided with a tongue, P, which is longitudinally slotted and movably connected to the body of the lever by means of bolts *e*, passed through the slot into the lever, the tongue P being jointed to the plunger. Again, the leg is formed in sections, one of each of which is slotted for the passage of a bolt, *f*, whereby the leg may be lengthened and shortened, and by these two provisions the lever D may be adjusted in length both vertically and horizontally, and the throw of the plunger correspondingly regulated.

The guides *a* of the plunger are adjustable laterally, whereby provision is made for taking up the wear of the plunger and causing the latter to move true at all times.

The face-plate C' of the plunger is formed of movable sections *g g' g''*, of which the sections *g g'* are slotted for the passage of bolts *h*, by which said plate is connected to the plunger. The sections *g* are right-angular on their outer edges, and tapering on their inner edges. The sections *g'* are somewhat triangular in form or tapering on two edges, and doubly inclined on the third edge. The sections *g''* are triangular in form, the apices of the sections *g' g''* being truncated. The sections *g'* are fitted between the side sections, *g*, and separated from each other by the sections *g''*, the sections *g''* being at a right angle to the sections *g'*. When the sides of the plate C' are worn the several bolts *h* are loosened and the sections *g''* moved outwardly the required extent, whereby the sections *g g'* are harmoniously moved outwardly, and the proper size of the face-plate is restored, its shape being preserved.

The mold B is formed of side and end pieces, *k k'*, the securing-bolts *m* passing transversely through said pieces *k k'*, the openings in the pieces *k* for the passage of said bolts being of greater diameter than the thickness of the bolts. The ends of the inner sides of the pieces *k* are formed with inwardly-extending lips *n*,

which form abutments for the keys *p*, which bear against the end pieces, *k'*, whereby by forcing down said keys the end pieces, *k'*, may be driven toward each other. The inner walls of the mold are faced with pieces *s s'*, of steel or other hard material, the facings *s* of the pieces *k* being sufficiently long to extend beyond the edges of the facings *s'* of the side pieces, *k'*, (see Fig. 3,) it being noticed that the ends of the facings *s'* are fitted between the pieces *k k'*. When the facings *s* are worn they are removed and planed, or otherwise made true, and restored in position, it being noticed that as the width of the facings *s'* is not affected by wear the width of the mold, when the facings *s* are restored, is not altered. When the facings *s'* are worn the keys *p* are driven down the required extent, thus forcing in the end pieces, *k'*, and re-establishing the proper length of the mold. In the former case the bolts *m* are loosened and afterward tightened, and in the latter case said bolts and their nuts are not disturbed.

The fulcrum-studs J are supported on the rod J', connected to the frame of the press, and, if desired, may be formed in one instead of separated, as shown.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The head-carrying frame G, the fulcrum J, the two-part plunger C, and the lever D, having a leg, in combination with the lever F, formed with a notch or serration, *e*, with which the lever D is adapted to engage, substantially as and for the purpose set forth.
2. The plunger in combination with the lever D, provided with an adjustable tongue, substantially as and for the purpose set forth.
3. The leg K, connected to the lever D, and adjustable thereon in angle and length, substantially as and for the purpose set forth.
4. The frame G and head H, provided with the bridge M, in combination with bent stay rod or bolt and the nuts *d*, substantially as and for the purpose set forth.
5. The face-plate of the plunger, formed of adjustable sections, substantially as and for the purpose set forth.
6. The face-plate having sections *g g' g''*, constructed as described, and the bolts *h*, combined and operating as stated, for the purpose set forth.
7. The mold formed of the side and end pieces, *k k'*, the bolts *m*, the facing or lining pieces *s s'*, and keys *p*, said pieces *k* having lips *n*, substantially as and for the purpose set forth.

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Witnesses:

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