

(No Model.)

C. W. RAYMOND.

BRICK MACHINE.

No. 354,226.

Patented Dec. 14, 1886.

Fig. 1.

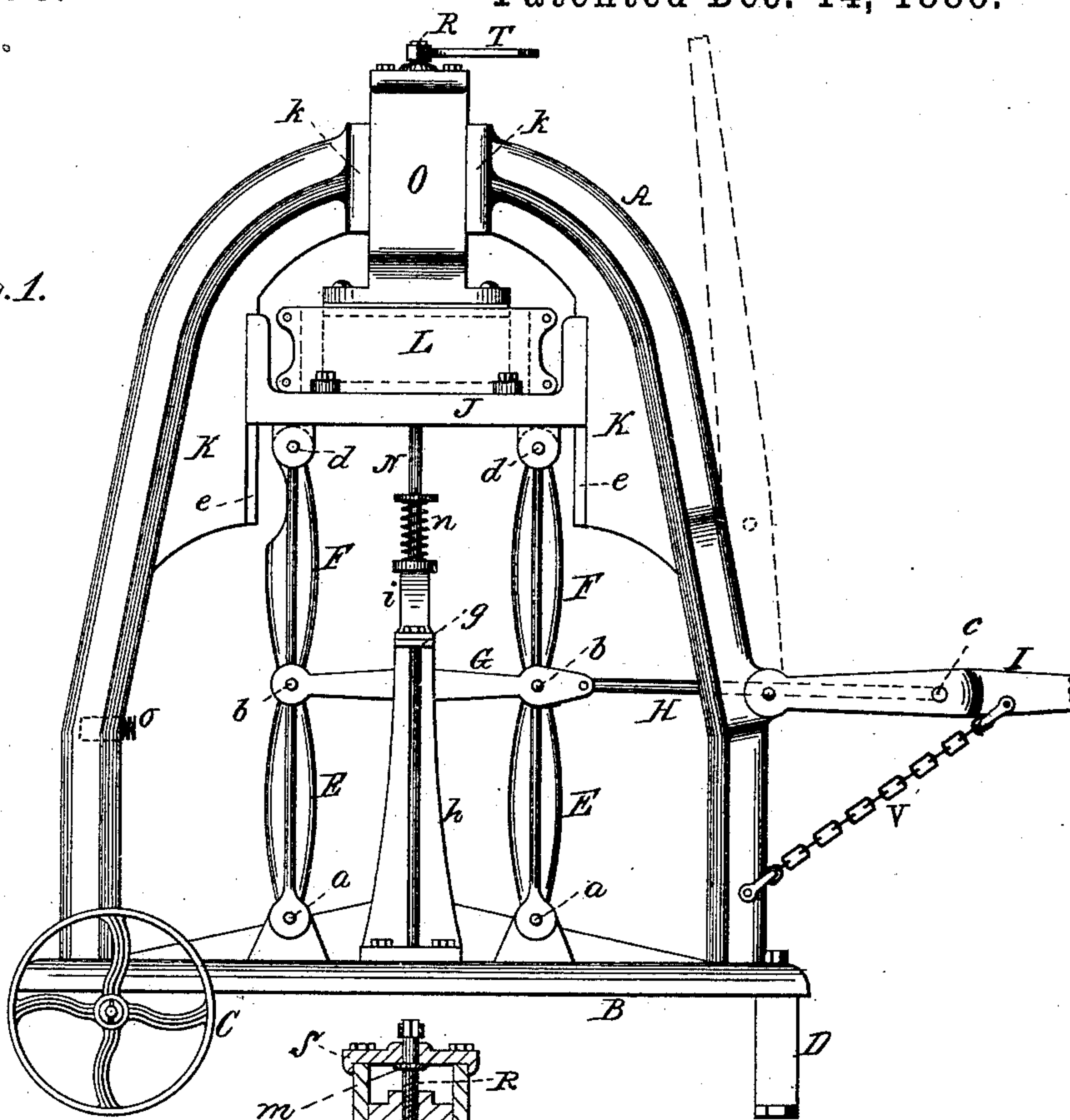


Fig. 3.

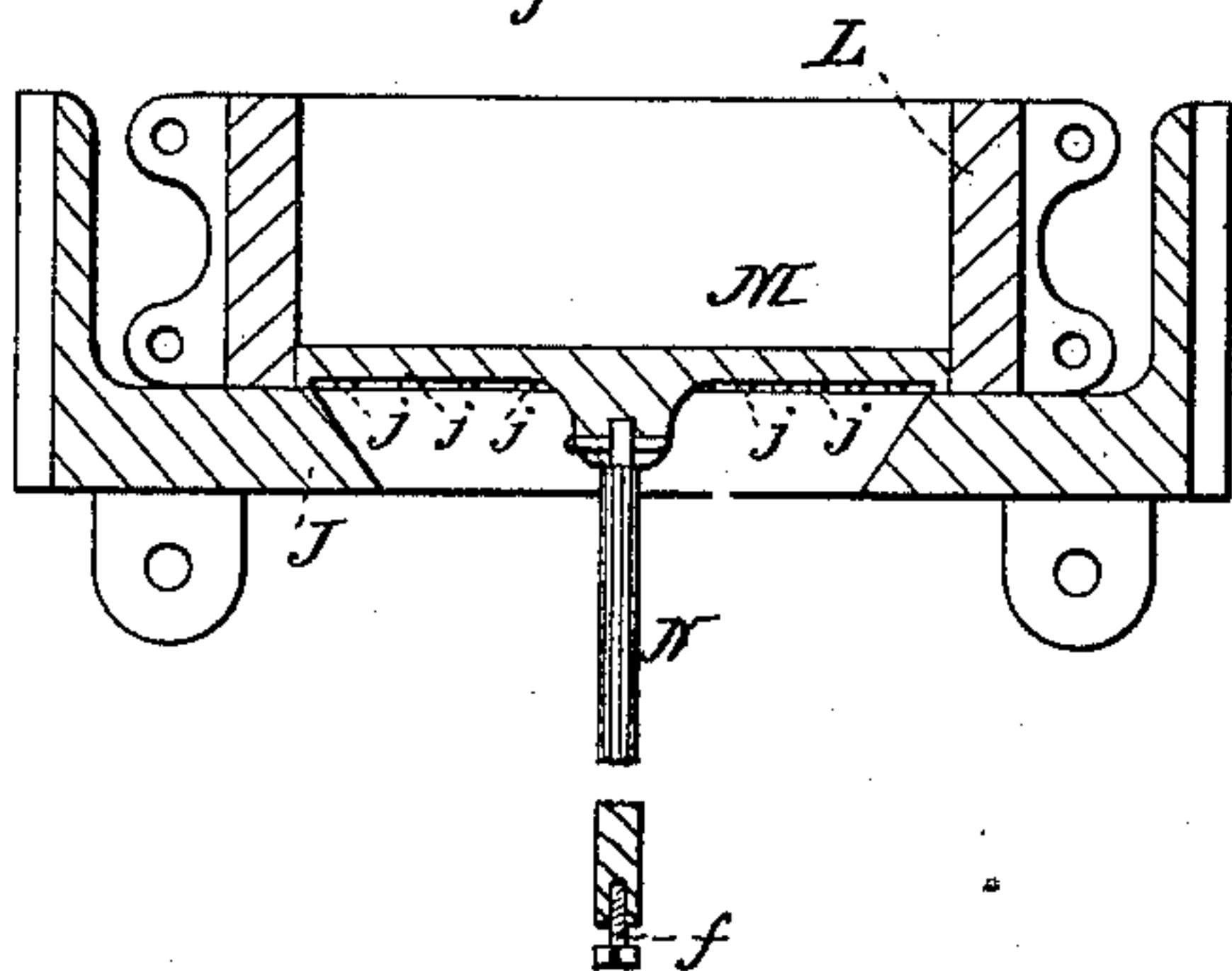
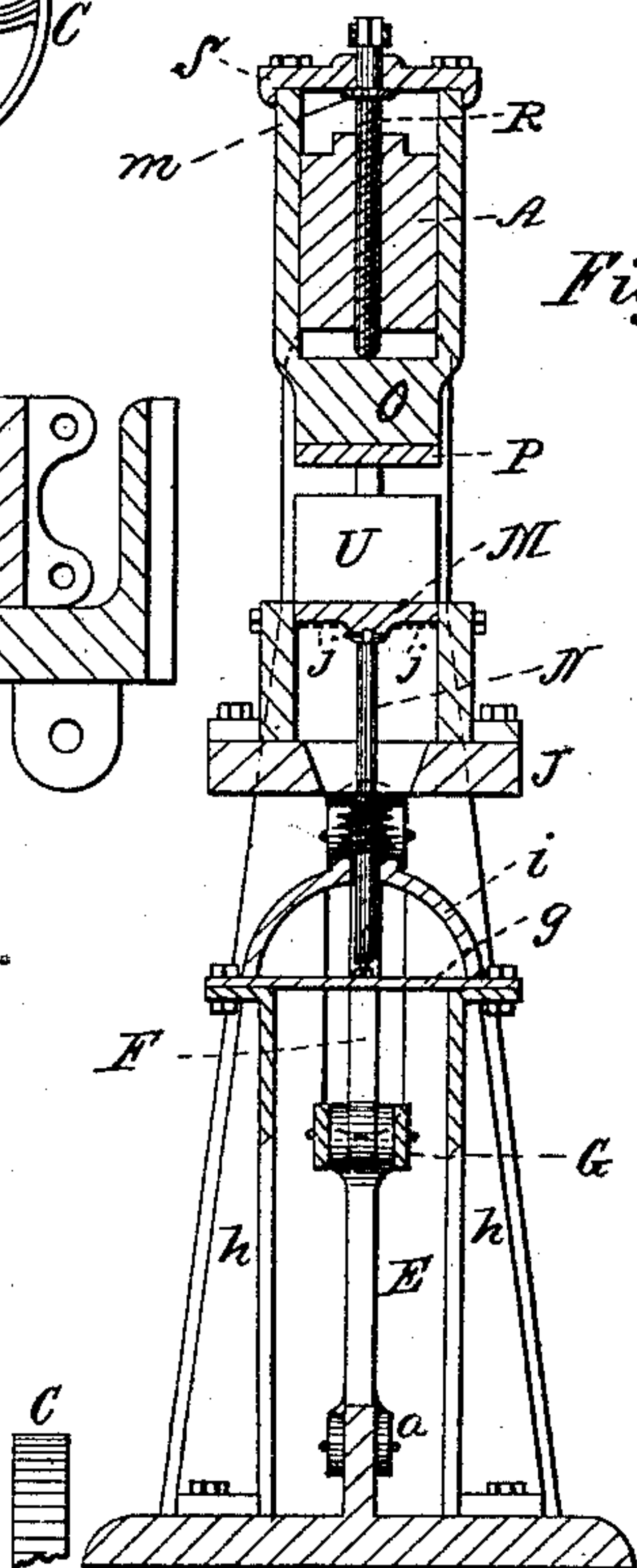


Fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES W. RAYMOND, OF DAYTON, OHIO.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 354,226, dated December 14, 1886.

Application filed July 24, 1886. Serial No. 208,906. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. RAYMOND, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Brick-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of brick-machines known as "brick-re-pressing" machines, wherein it is desirable, after the bricks have been formed in the molds, to give them a second and final pressure, by which any excess of moisture is removed, the air pressed out, and the bricks given their final set and shape, ready to be burned or baked in the kiln.

My invention has for its object the simplification of construction of this class of machines, as well as their increased efficiency; and its novelty will be herein set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved machine. Fig. 2 is a central sectional end elevation of the same. Fig. 3 is an enlarged central section, in side elevation, of the carrier, mold-box, and its movable bottom.

The same letters of reference are used to indicate identical parts in all the figures.

The frame-work of my machine is preferably composed of a single casting consisting of an arch, A, and base or platform B. This frame-work is supported at one end upon two wheels, C, suitably journaled to the platform, and by legs D at its opposite end.

Pivoted, as at *a*, to lugs upon the upper side of the platform are two levers, E, to the upper end of which are pivoted two similar levers, F, the central pivots, *b*, of which two sets of levers are connected by a cross-tie bar, G, from which extends a pivoted link, H, whose outer end is pivoted, as at *c*, to an operating handle, I. The upper ends of the lever F are pivoted, as at *d*, to lugs upon the bottom of a carrier, J, whose upwardly-extending sides are vertically planed to fit ways *e* upon guide-ribs K, extending from the inner side of the arch, as shown.

Upon the top of the carrier J is bolted the

press box or mold L, of the usual or any suitable construction, and in which the brick is pressed. Within this box is fitted a movable bottom, M, to the lower side of which, at the center, is secured a rod or leg, N, whose bottom is tapped to receive a set-screw, *f*, or any other suitable gaging device, which rests upon a cross-piece, *g*, secured upon uprights *h*, bolted or otherwise secured to the platform.

To aid in guiding the leg N in a perfectly-vertical position, a perforated arch, *i*, is provided, through which the leg passes, and which is bolted to or may form a part of the cross-piece *g*.

That part of the plate of the carrier J which would form the bottom of the compress-box is cut out with beveled edges, as shown in Fig. 3, thereby leaving the bottom M to rest upon the upper edge of said cut-out portion, which edge or the under side of the bottom M is provided with contact-lugs *j*, the purpose of which construction just described is to enable any of the clay that may escape or be squeezed through the joints at the bottom to readily and easily escape and fall through the carrier.

Just over the open top of the compress-box is an adjustable platen, O, which fits around the top of the arch, is guided between ways *k*, and is provided on its under side with a removable plate, P, shaped to fit snugly in the top of the box.

A set-screw, R, engaging with a threaded perforation in the top of the arch, has its top passed through a cross-piece, S, bolted to the uprights of the platen, and is held from longitudinal displacement with reference to the platen by means of the collar *m*. By turning this screw R by means of any suitable handle, T, the platen and its plate P can be adjusted up or down with reference to the arch and the compress-box, as will be readily understood.

The adjustment of the parts is such that when the lever I is in an upright position the toggle-levers E F are so inclined as to bring the carrier J and compress-box L to their lowest position, as shown in Fig. 2. While in this position, the top of the movable bottom M is on a level with the top edges of the compress-box to receive the brick U which is to be pressed. The downstroke of the lever I, by causing the toggle-levers E F to assume a

vertical position, throws up the carrier J and the compress-box L, thereby permitting the brick to be enveloped by the box until the bottom M rests upon the carrier J, and proceed upward until the plates P of the platen enter the top of the box and effects the pressure of the brick, which pressure is maintained equal and even on all sides, as will be readily understood. The return upward stroke of the lever I lowers the carrier and compress-box until the leg N, being arrested by the cross-piece *g*, stops the further movement of the bottom M, whereupon, the compress-box and carrier still further descending, the brick is forced out of the box, as shown in Fig. 2, and is removed and replaced by a fresh brick to be pressed.

To prevent injury to the parts, spring-buffers may be employed, the one, *n*, surrounding the leg N, and the other, *o*, Fig. 1, recessed in the arch, so as to receive the end thrust of the tie-bar G.

The purpose of the buffer *n* is to receive the blow and weight of the carrier J in descending, and both of these springs *n* and *o*, which are compressed and under tension when the machine is at rest, serve to aid the operator in giving its initial start.

For convenience in transporting the machine from place to place, the lever I serves as a trundling-handle, which can be locked in a horizontal position by a chain, V, or any other suitable means.

Of course it will be readily understood that both the bottom M and leg N may be lifted bodily out of the machine, to be replaced by a bottom having any design formed upon its upper side which it is desired to stamp or impress in the brick. The same is true of the platen P. The box L is likewise removable, so that by having a number of such interchangeable parts the same machine will answer to press bricks of any desired shape and embossed or ornamented in any desired manner.

While I have illustrated the machine as a hand-machine only, it is evident that power might be employed to operate it by connecting the rod H to a crank, wrist-pin, or cam.

Having thus fully described my invention, I claim—

1. In a brick-pressing machine, the combination, with a carrier operated by toggle-levers, of a compress-box carried upon said carrier and provided with a movable bottom and a platen arranged over said compress-box, substantially as described.

2. In a brick-pressing machine, the combination, with a carrier operated by toggle-le-

vers, of a compress-box carried upon said carrier and provided with a movable bottom and an adjustable platen arranged over said compress-box, substantially as described.

3. In a brick-pressing machine, the combination, with a vertically-moving carrier and a compress-box supported on said carrier, of a movable bottom fitted in said compress-box and provided with a rod or leg extending down through said carrier and a stop with which said leg engages to cause the expulsion of the brick after the same has been pressed, substantially as described.

4. In a brick-pressing machine, the combination, with a vertically-moving carrier operated by toggle-levers and a compress-box supported on said carrier, of a movable bottom fitted in said compress-box and provided with a rod or leg extending down through said carrier and a stop with which said leg engages to cause the expulsion of the brick after the same has been pressed, substantially as described.

5. In a brick-pressing machine, the combination, with a vertically-moving carrier supporting the compress-box and operated by toggle-levers, of spring-buffers arranged to receive the downward stroke of said carrier and toggle-levers, substantially as and for the purpose described.

6. In a brick-pressing machine, the combination, with the compress-box provided with a movable bottom, of a vertically-movable carrier upon which said compress-box is supported, said carrier having a cut-out portion immediately under said movable bottom, substantially as and for the purpose described.

7. The combination, with the vertically-guided carrier J, of the toggle-levers E F, tie-bar G, link H, and operating-handle I, substantially as described.

8. The combination, with the arch A, of the vertically-adjustable platen O, removable plate P, and operating-screw R, substantially as and for the purpose described.

9. The combination, with the compress-box L, of the movable bottom M, carrier J, leg N, set-screw *f*, and stop *g*, substantially as described.

10. The combination, with the vertically-guided carrier J, toggle-levers E F, tie-bar G, link H, and operating-handle I, of the vertically-adjustable platen O, removable plate P, and operating-screw R, substantially as described.

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