

E. P. H. Cannon.
Brick Mach.

No. 54,500.

Patented May 8, 1866.

Fig. 1.

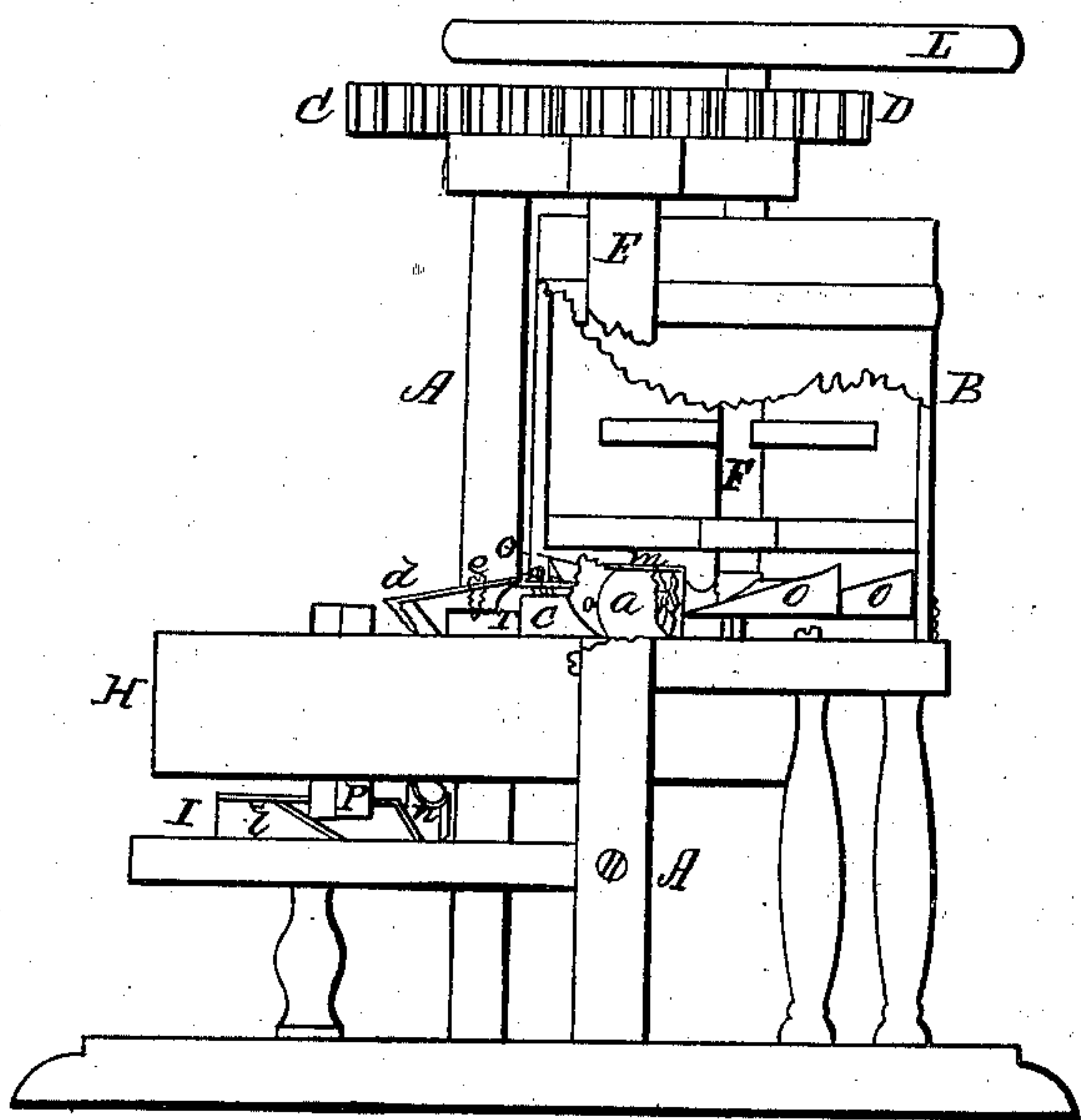


Fig. 2.

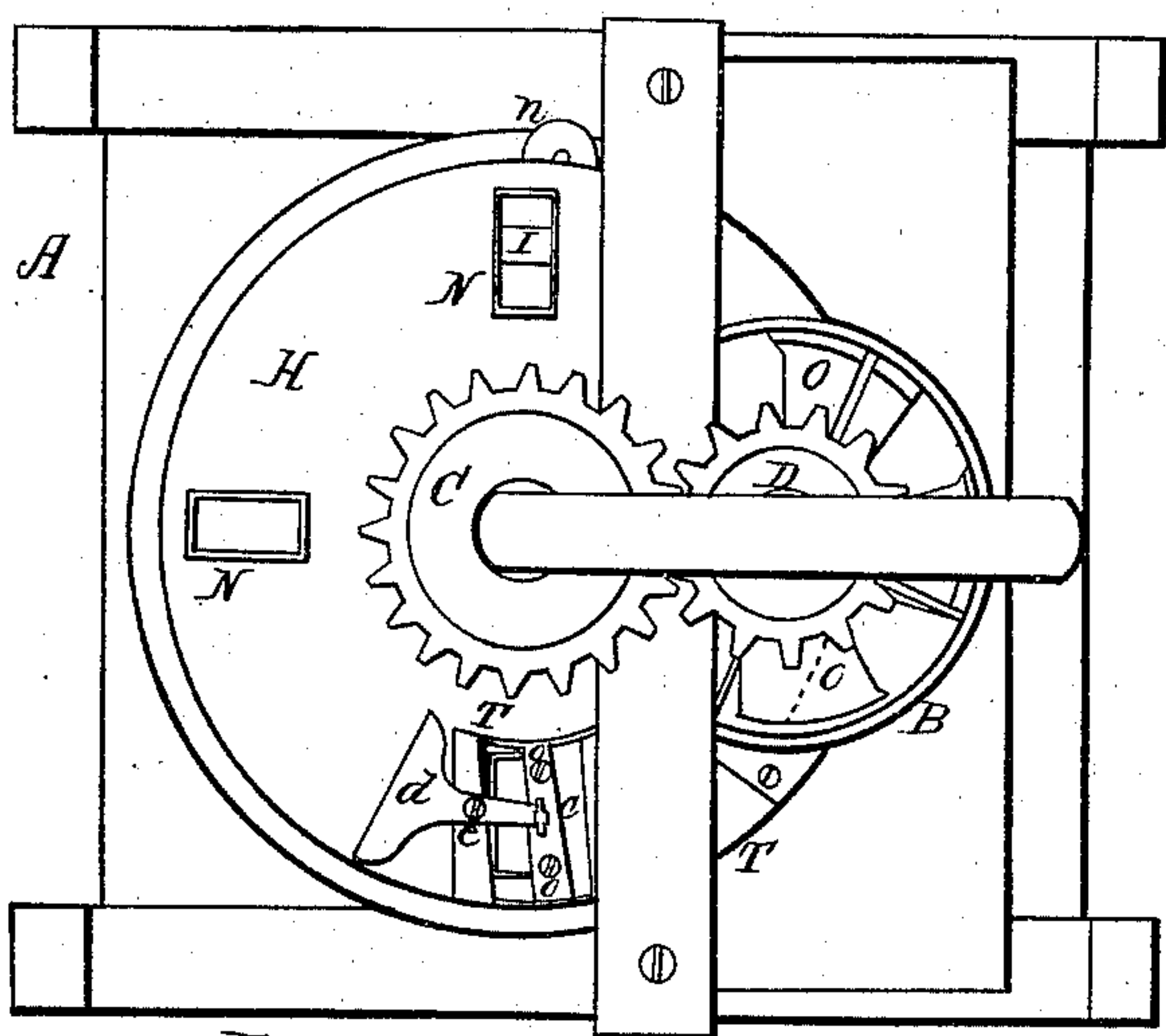
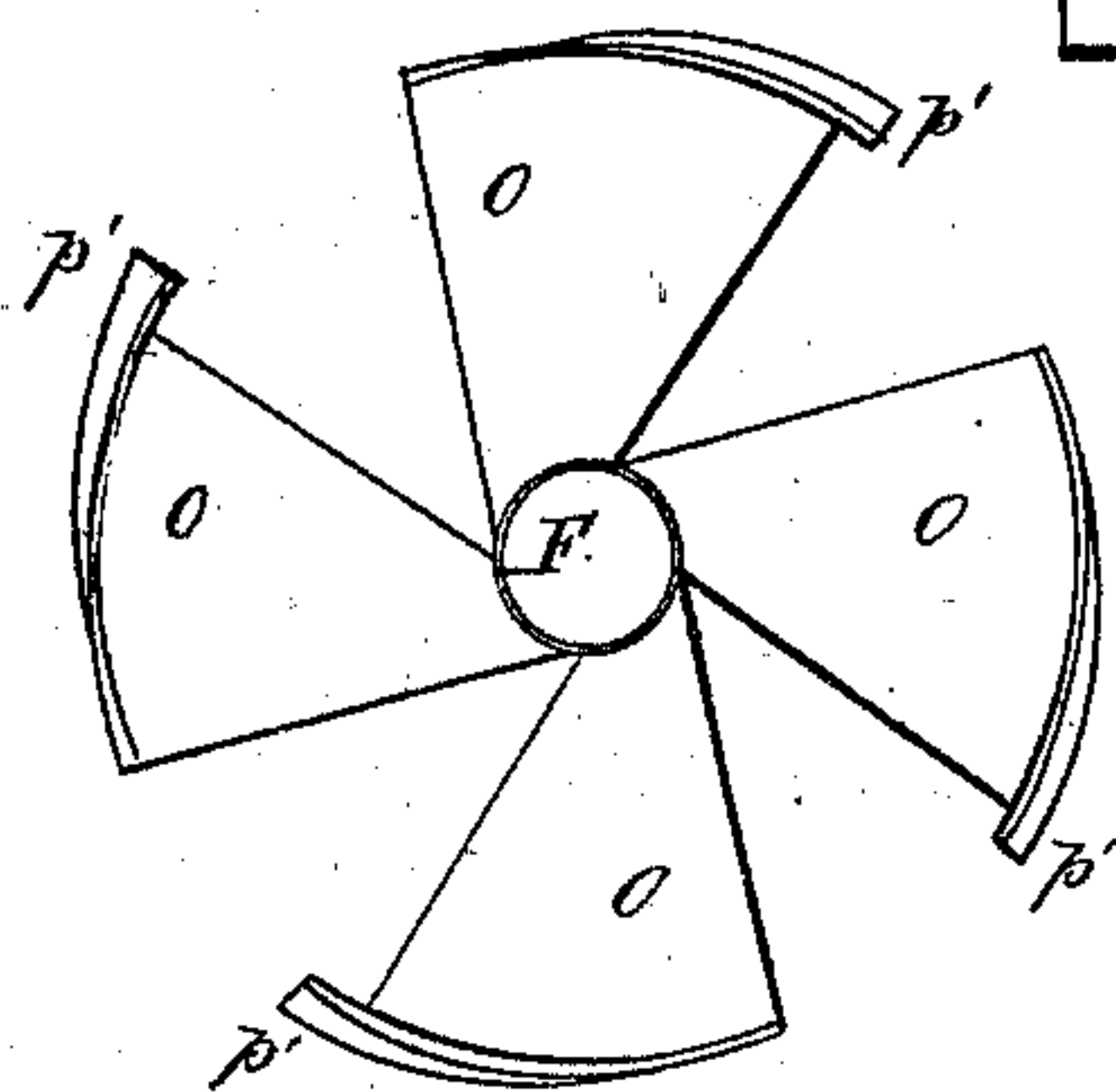


Fig. 3.



Witnesses

P. O. Dodge

Fig. 4.

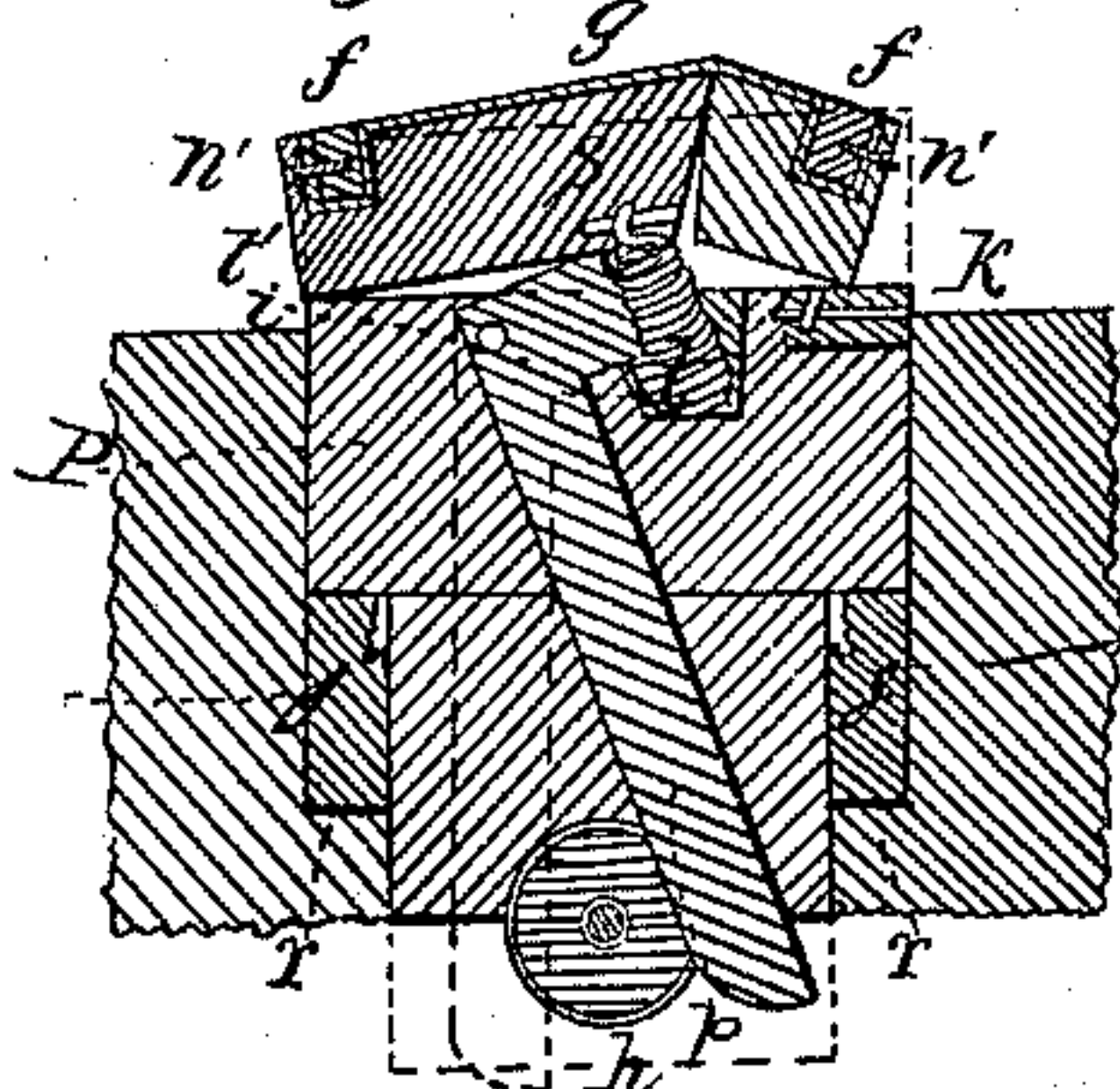
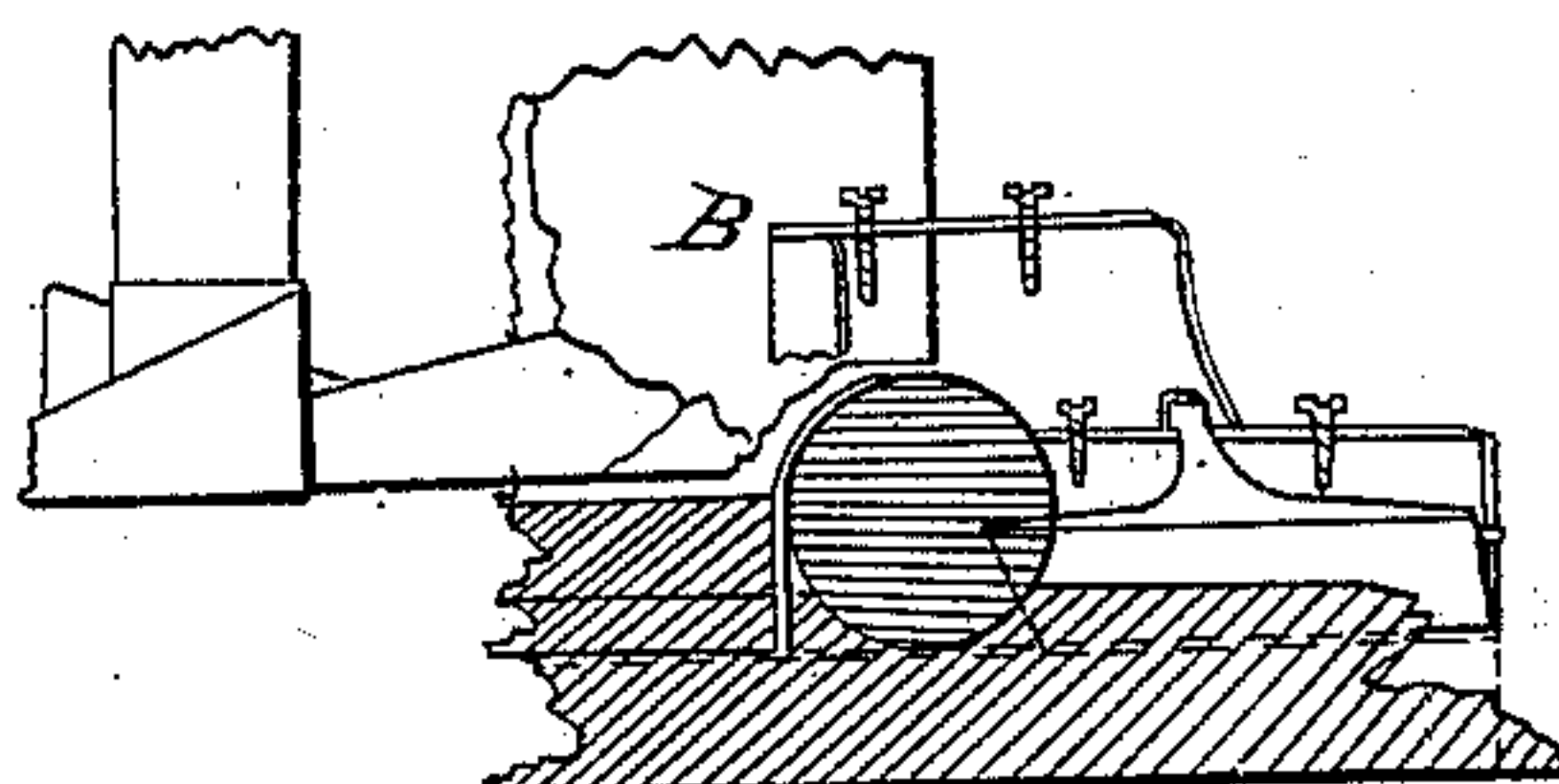


Fig. 5.



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UNITED STATES PATENT OFFICE.

E. P. H. CAPRON, OF SPRINGFIELD, OHIO.

IMPROVED BRICK-MACHINE.

Specification forming part of Letters Patent, No. 54,500, dated May 8, 1866.

To all whom it may concern:

Be it known that I, E. P. H. CAPRON, of Springfield, in the county of Clarke and State of Ohio, have invented certain new and useful Improvements in Brick-Presses; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use the invention, I will proceed to describe it.

Figure 1 is a side elevation with a portion broken away. Fig. 2 is a top-plan view; and Figs. 3, 4, and 5 are views of portions detached.

My invention consists in arranging a revolving table having cells or molds in it and provided with followers fitted in the cells so as to receive the clay from the bottom of a pug-mill under which it revolves, and then, by passing over an inclined way, shove the brick out of the cell, so that the entire operation of preparing the clay and forming the brick shall be performed by the machine.

It also consists in certain novel features or details of the machine, as hereinafter described.

A represents a frame of any suitable size and form. B represents the pug-mill or hopper into which the clay is placed for grinding or pulverizing it preparatory to molding it into brick. F represents a shaft located centrally within the hopper B, and provided with a gear-wheel, D, at its upper end, which latter gears into a wheel, C, secured to the top of another shaft, E, to the bottom of which is secured a circular table, H, the latter being so located as to revolve close underneath the hopper B, as shown in Fig. 1. This table H has formed in it at regular intervals vertical holes of the proper size to form a brick and of sufficient depth to hold the clay that forms the brick when pressed, and also the follower P for pushing the brick out when finished. Near their lower portion these cells are provided with an inwardly-projecting shoulder or flange, as shown at *r* of Fig. 4, upon which the follower P rests, the lower portion of the follower projecting through the cell below the table H, as shown in Fig. 1, the form of the follower being fully shown in section in Fig. 4. In order

to adjust the follower so as to regulate the thickness of the brick as desired, set-screws J are inserted in the under side of its shoulders, so that they will rest upon the shoulder *r* of the cell, and thus hold the follower at a higher or lower point, as may be desired, when down, as they must be at the time the clay is pressed into the cell.

I construct the follower P as shown in Fig. 4, the lower or main portion being composed of a solid piece of metal and having its upper portion, *s*, hinged to it at *t*. This upper portion, *s*, is formed of two pieces hinged together and held down to the main portion by a spring, *t*, the edge opposite where it is hinged being held by a staple, through which a pin, *k*, is inserted, as shown in Fig. 4, to permit it to move inward when raised at the center, as there shown.

An elbow lever, *p*, is inserted within the body of the follower and pivoted at *i*, for the purpose of elevating the central portion of *s*, as shown, to release the brick from its surface, so that it may be more readily removed, this lever *p* being operated by coming in contact with a pin, *l*, protruding from the side of track I, as shown in Fig. 1.

A friction-roller, *h*, is secured to the bottom of the follower P, as shown in Fig. 4, in proper position to rest on the track I and prevent friction of the parts.

The top of *s* is covered with cloth or other similar material, as represented by *g*, which is secured in place by strips *f*, fitting in recesses formed to receive them, as shown in Fig. 4, the strips *f* being held in place by screws *n'*, inserted through the sides of *s*, as shown.

Secured to bottom of shaft F, within the hopper B, is a screw or propeller wheel, consisting of the inclined wings O, as shown in Fig. 3, which is a bottom-plan view of the same. At their outer edges these wings are provided with a vertical rim or flange, *p'*, which projects downward and outward, the wings or blades O being longer on their front than on their rear faces, in consequence of which, as they rotate within the hopper B, they press the clay both downward and inward to the center, and thus force it through the opening in the bottom of the hopper into the cells in the table H below, as they are successively brought underneath it by the rotation of the table.

At the point where the cells pass from under the hopper B an opening is formed in the side of the latter, as shown in Figs. 1 and 5, and a roller, *a*, is located therein, this roller being of the proper size to nearly fill the same, and resting upon the face of the table H and revolving with it. The object of this roller *a* is to press any lump, stone, or other hard substance down into the body of the brick, out of the way of the scrapers *c* and *d*, under which it must pass after leaving the roller.

A curved scraper, *m*, is secured close in the rear of the roller *a*, as shown in Fig. 5, its upper edge being in close contact with the roller, as shown, for the purpose of removing therefrom any adhering clay, and thus keeping the roller clean, so as to present a smooth surface to the clay in the cell as the latter passes under it. This scraper *m* is made adjustable by means of set-screws, (not shown,) so that it may be adjusted as required.

T, Figs. 2 and 5, represents a curved box extending from the opening in the side of B out over the face of the table H, in such a position as to be directly over the line of travel of the cells N, and which I term the "finishing-box." Within this box transversely I secure a scraper, *c*, the form of which is clearly shown in Figs. 1 and 5, it being secured by set-screws *o* to a cross-bar attached to the top of the box T. Another scraper, *d*, is located outside of the box T in line of the cells, it being secured to the cross-bar and held down by a set-screw, *e*, as shown in Fig. 2.

Upon a suitable frame underneath that portion of table H which is opposite to the hopper B, I locate a circular track, I, in such a position as to be directly underneath the cells N and their followers P, the front end of said track being inclined, as shown in Fig. 1. This track I is of such a height that, as the table H revolves, the lower projecting ends of the followers, as they pass from under the finishing-box, will come in contact with its inclined end, and be thereby raised up, and, of course, pushing the brick out of the cell. As this track extends nearly half-way around and is level upon its upper surface, it follows that the followers, after being raised up by striking against its inclined end, will be held up until they arrive at the opposite end of the track I, when they will again drop down as they pass under the hopper B, thus leaving the cell open to receive a fresh supply of clay. In order to render their depression certain and prevent any tendency they may have to stick fast, I attach to one side of the follower, at the lower edge, a projection that slides under a horizontal wheel or friction-roller, *n*, secured to a block or small post near the rear end of the track I, as shown in Figs. 1 and 2.

The operation is as follows: The hopper being filled with clay, the machine is set in motion. The arms on shaft F pulverize and

mix the clay, which is then forced by the wings O through the opening in the bottom of the hopper into the cells N in the table H as the latter rotates. The clay in the cells is compressed into the cells by the wings O, after which it passes under the roller *a*, which presses down any protruding gravel or hard substance into the body of the brick. From thence it passes under the scraper *c*, which scrapes its upper surface nearly even with the face of the table H, after which it passes under the finishing-scraper *d*, which completes the operation of forming the brick. Immediately after leaving this last scraper the follower strikes the inclined end of the track I, whereby the follower is elevated, pushing the brick up out of the cell, when it is removed by the attendant, and thus the operation is continuously repeated. By these means I am enabled to construct a machine that is simple in its construction and very rapid in its operations.

Having thus fully described my invention and its operation, what I claim, and desire to secure by Letters Patent, is—

1. Constructing the wings O of the pressing-wheel as shown and described, for the purpose of drawing the clay inward at the same time that it presses it downward into the cells.

2. The roller *a*, located in the mouth of the finishing-box T, substantially as shown and described.

3. In combination with the roller *a*, the scraper *m*, arranged and operating as set forth.

4. The finishing-box T, provided with the scrapers *c* and *d*, constructed and arranged to operate substantially as set forth.

5. The table H, having the cells N formed therein and provided with the projecting shoulders *r*, to support the follower P, as shown and described.

6. Providing the followers P with the set-screws *j*, arranged to operate in connection with the shoulders *r* of the cells N, as and for the purpose set forth.

7. The track I, extending only a part of the way around, for raising the brick out of the mold, in combination with the revolving table in which the followers are supported entirely by the table while passing under the pug-mill or hopper, for the purpose of reducing the friction and power required to operate the same.

8. Constructing the follower P with the hinged lid *s* and lever *p*, arranged to operate as shown and described.

9. In combination with the follower P, arranged as described, the roller *n*, for depressing the follower and opening the cell as it passes under the hopper to receive the clay.

E. P. H. CAPRON.

Witnesses:

D. A. HARRISON,
F. A. HARRISON.