

# Hatchkiss & Buss, Brick Machine.

No. 68,986.

Patented Sep. 17, 1867.

Fig. 1.

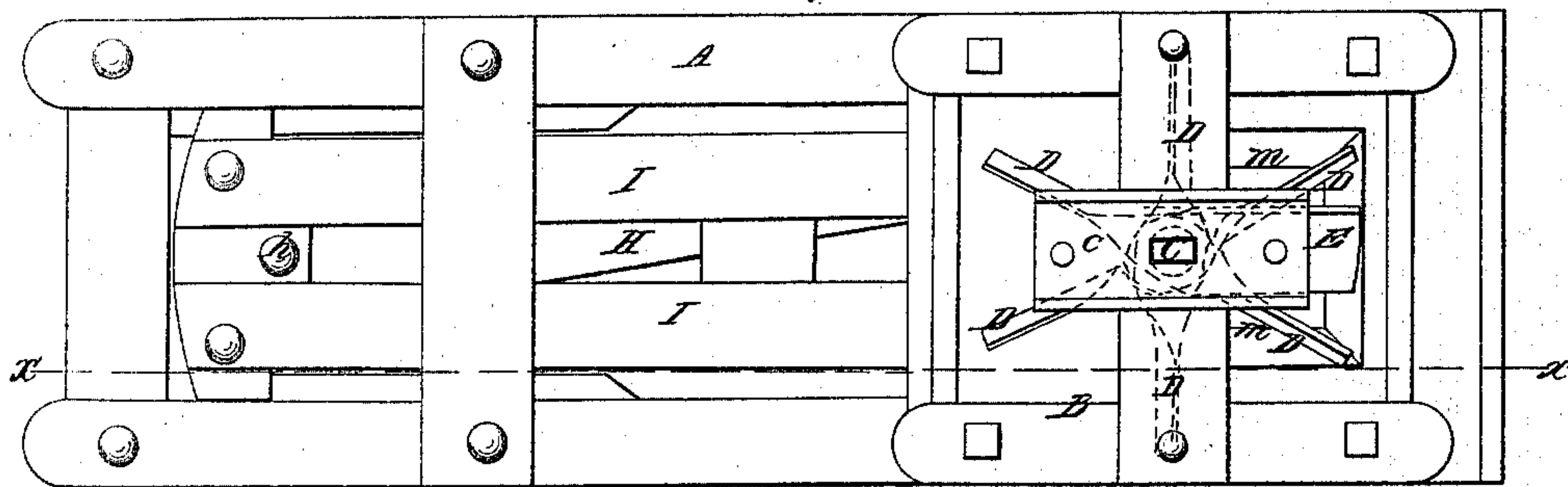


Fig. 2.

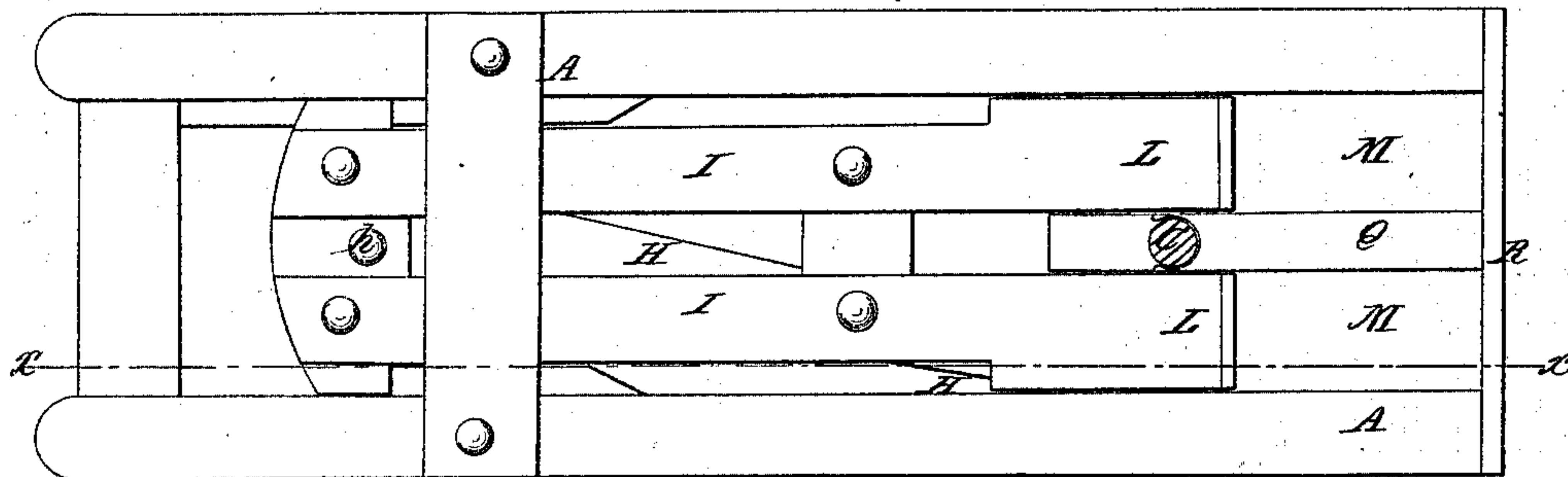


Fig. 4.

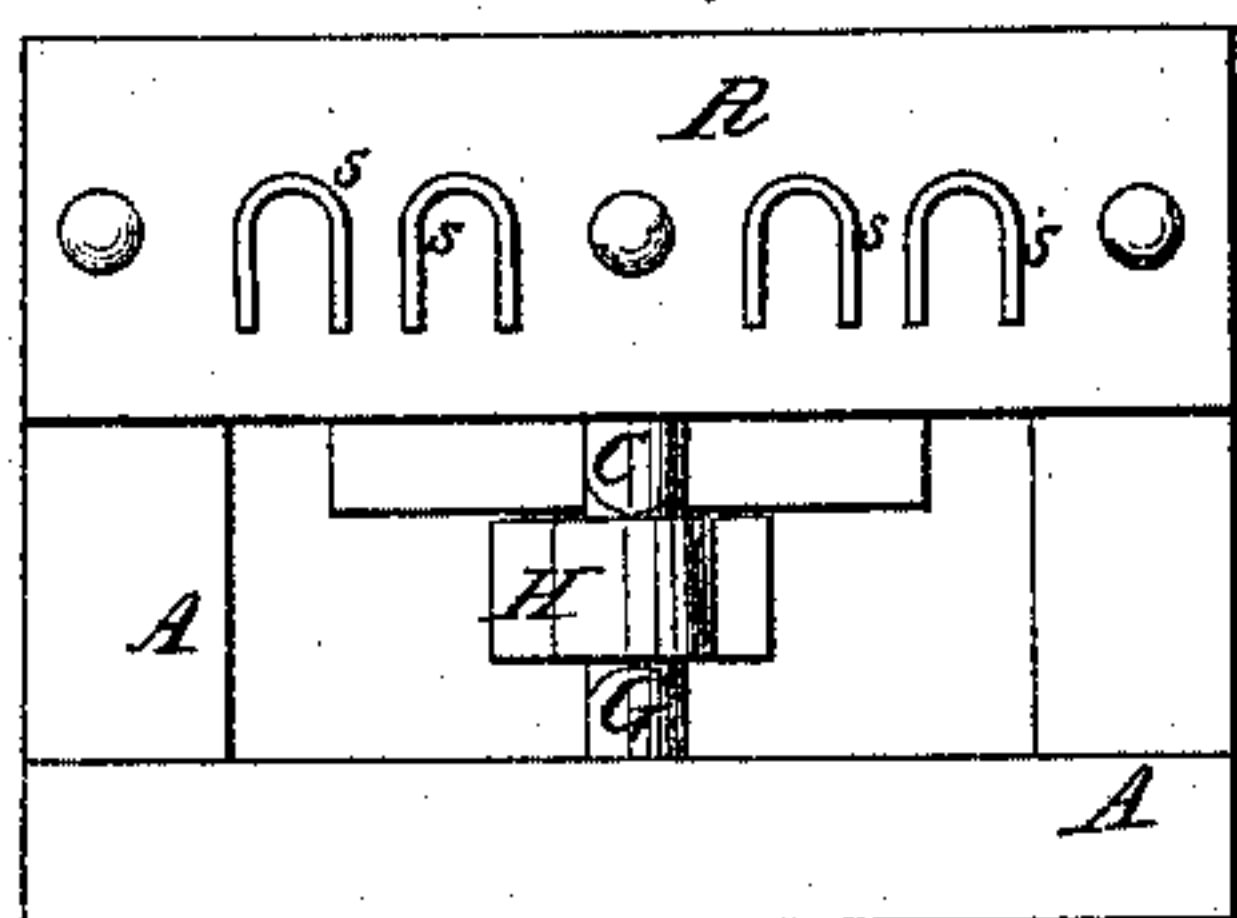
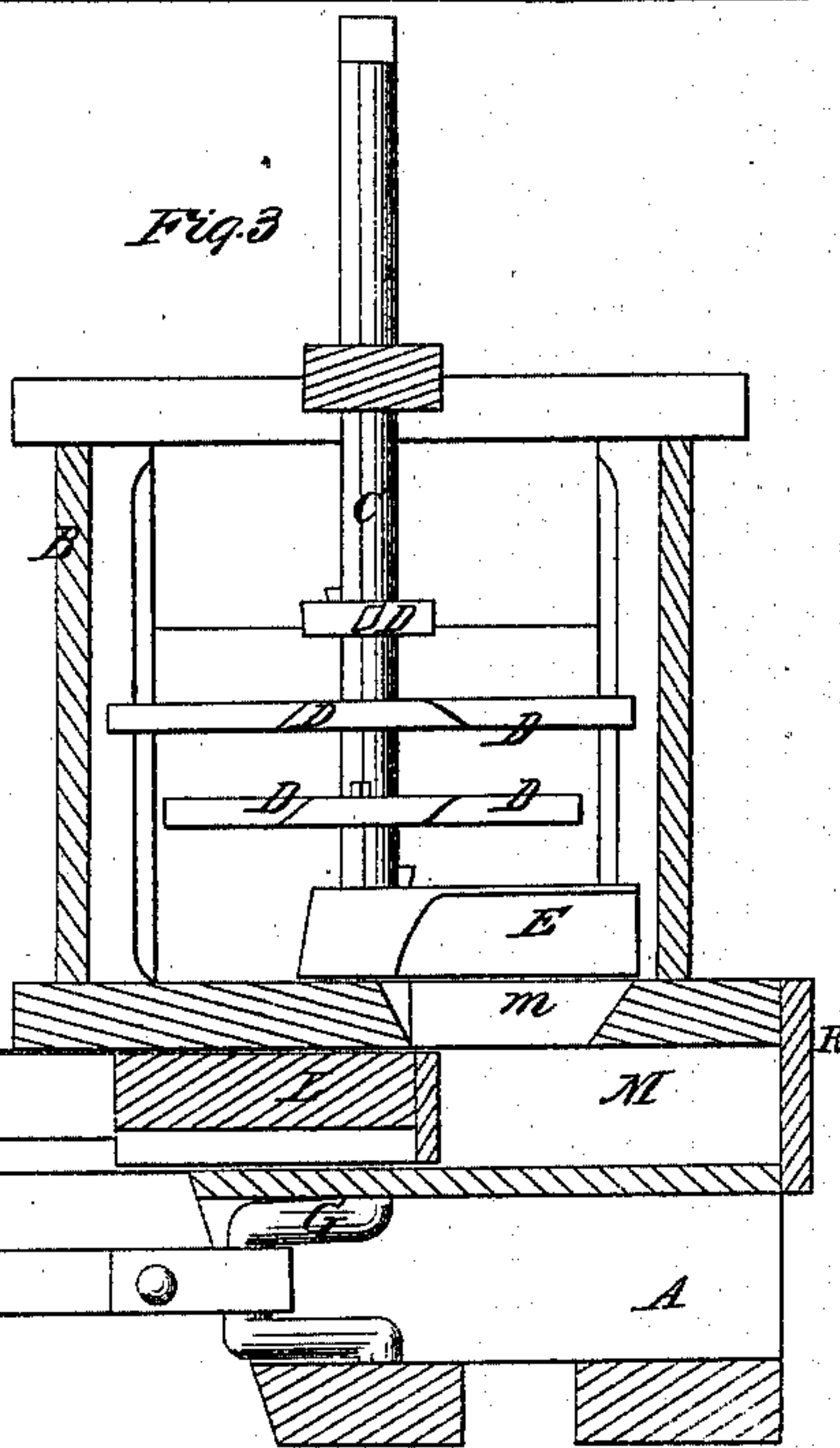


Fig. 3.



Witnesses:  
Thos. J. Parker,  
Wm. J. Browne

Inventors:  
James Hatchkiss,  
Ezra Buss,  
By their Attorney  
J. A. Browne.



# United States Patent Office.

JAMES HOTCHKISS AND EZRA BUSS, OF SPRINGFIELD, OHIO.

*Letters Patent No. 68,986, dated September 17, 1867.*

## IMPROVED BRICK AND TILE MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, JAMES HOTCHKISS and EZRA BUSS, of Springfield, in the county of Clark, and State of Ohio, have invented an Improved Brick and Tile Machine; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a top view of the machine.

Figure 2, a top view thereof, the pug-mill being removed.

Figure 3, a longitudinal vertical section in a plane indicated by the line *x x*, fig. 1.

Figure 4, an end view of the part of the machine shown in fig. 2, showing the die-plate, &c.

Like letters designate corresponding parts in all of the figures.

In this machine we employ a reciprocating piston or plunger, L, which moves in a close box or boxes, M, and at every forward movement drives the clay out through a die or dies thereby to be formed for either bricks or tiles and afterward to be cut into proper lengths. We prepare the clay and feed it to the plunger-box or boxes by means of a pug-mill, B, situated above said plunger-box or boxes. This pug-mill may be of ordinary construction, with suitable working arms D D and inclined wing E, or the equivalent thereof, for forcing the clay down into the plunger-box or boxes through an opening, *m*, in the bottom of the pug-mill. The shaft C of the pug-mill extends down through the plunger-box, or, if there are two, between them, as shown in the drawings, there being a solid division strip, Q, separating the boxes, through which the shaft extends, as shown most clearly in fig. 2. The shaft thus extended below the plunger-boxes is provided there with a crank, G, by means of which the plunger L is moved; and in the means by which the working connection is made between this shaft or its crank and the plunger lies an important feature of our invention, as follows: The plunger is provided with a rod, beam, or guide-frame, I, extending back a considerable comparative distance, say to an extent in proportion to the other dimensions of the machine about as represented in the drawings, and the frame A of the machine is extended in that direction far enough to furnish a support and guide to the plunger-beam. A connecting-rod, H, connects the crank G with the outer or rear end of the plunger-beam, being pivoted to the latter by a wrist or pivot-pin, *h*, as shown in fig. 3. This extension of the plunger-beam, and connection between it and the driving-crank or shaft to so long a distance, enable us to drive the plunger by the pug-mill shaft with no intermediate gearing, and at the same time produce very little side friction or strain on the plunger, since the greatest angle made between the connecting-rod H and plunger-beam I is comparatively small, as indicated in figs. 1 and 2. The plunger L and as much of its beam I as necessary are divided to receive the division strip or partition Q. The die-plate R has the required dies *s s* in it, as seen in fig. 4. The whole machine is exceedingly simple, strong, and effective.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The extension of the pug-mill shaft C down through the plunger-box, and providing it with a crank, G, or its equivalent, below, so as to drive the plunger thereof, substantially as herein specified.

2. We also claim the solid division strip Q separating the plunger-box into the compartments M M, and in connection therewith the division of the plunger L into two parts striding the said division strip and the pug-mill shaft, substantially as herein set forth.

3. We also claim the extended plunger-beam I and connecting-rod H pivoted to the outer end of the said plunger-beam, arranged and operating together substantially as and for the purpose herein specified.

The above specification of our improved brick and tile machine signed by us this eighth day of April, 1867.

JAMES HOTCHKISS,  
EZRA BUSS.

Witnesses:

CHAS. H. PIERCE,  
EDWIN D. BUSS.