

B. M. & E. R. Gard.

Brick Machine.

N^o 100,136.

Patented Feb. 22, 1870.

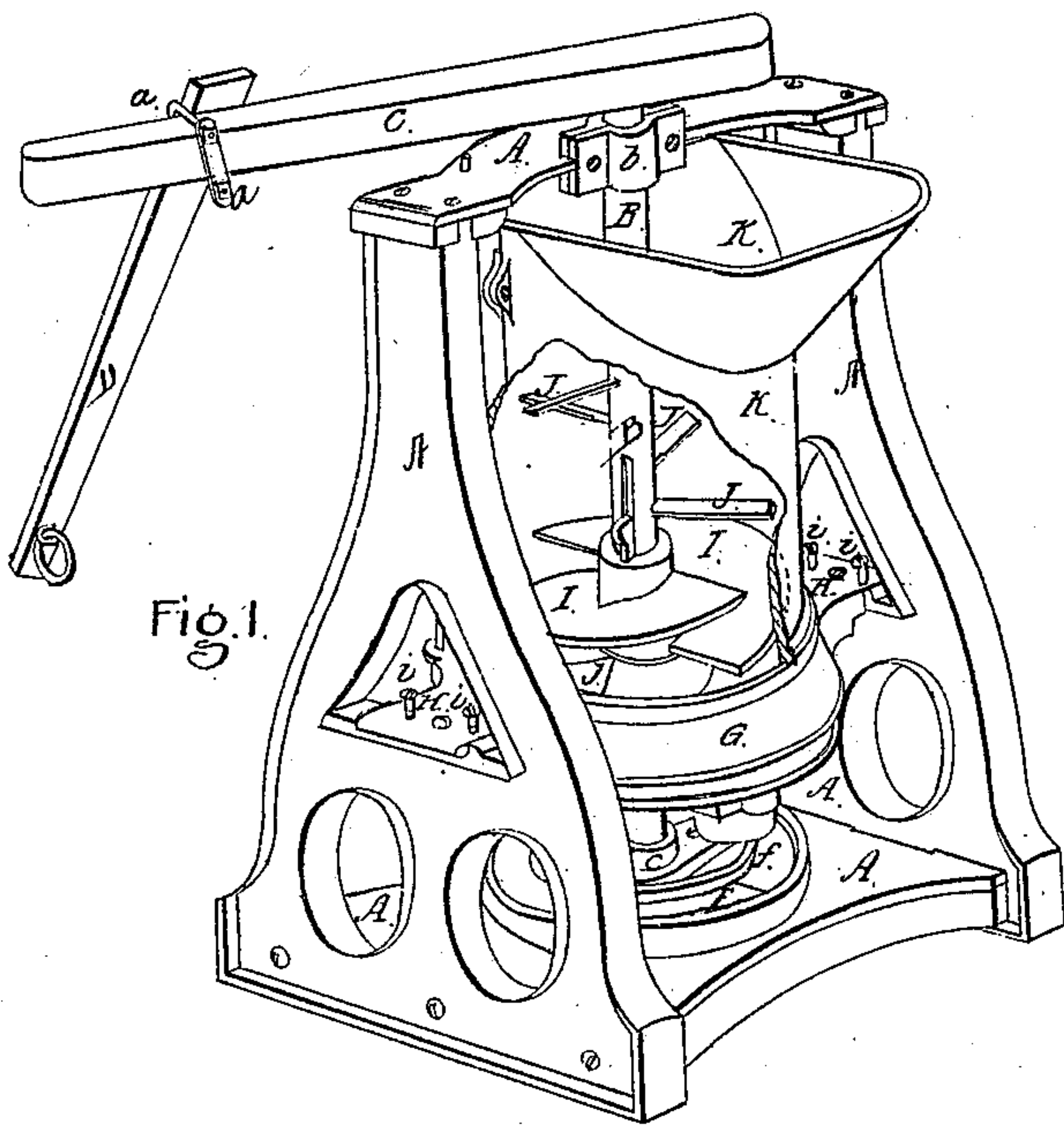


Fig. 1.

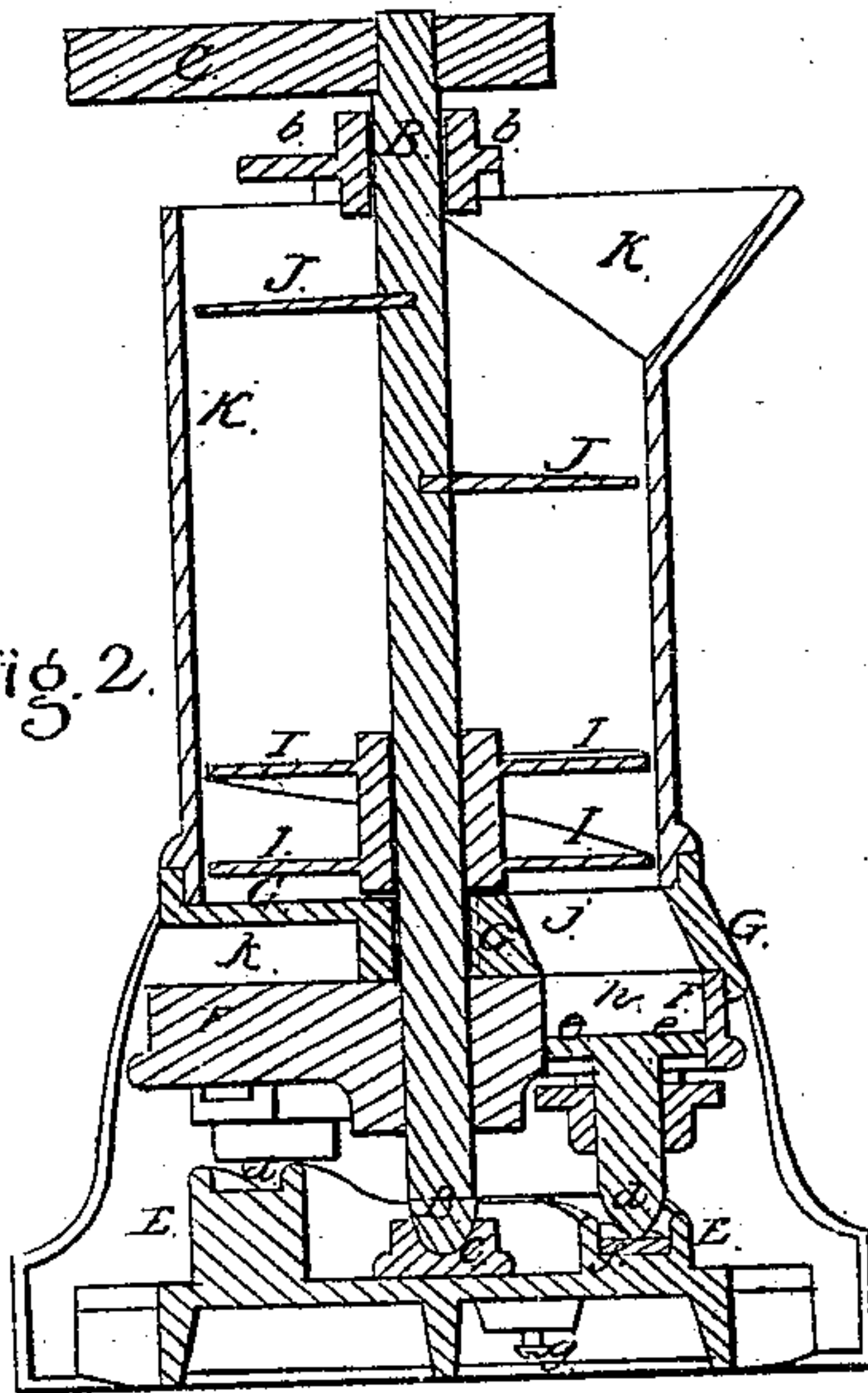


Fig. 2.

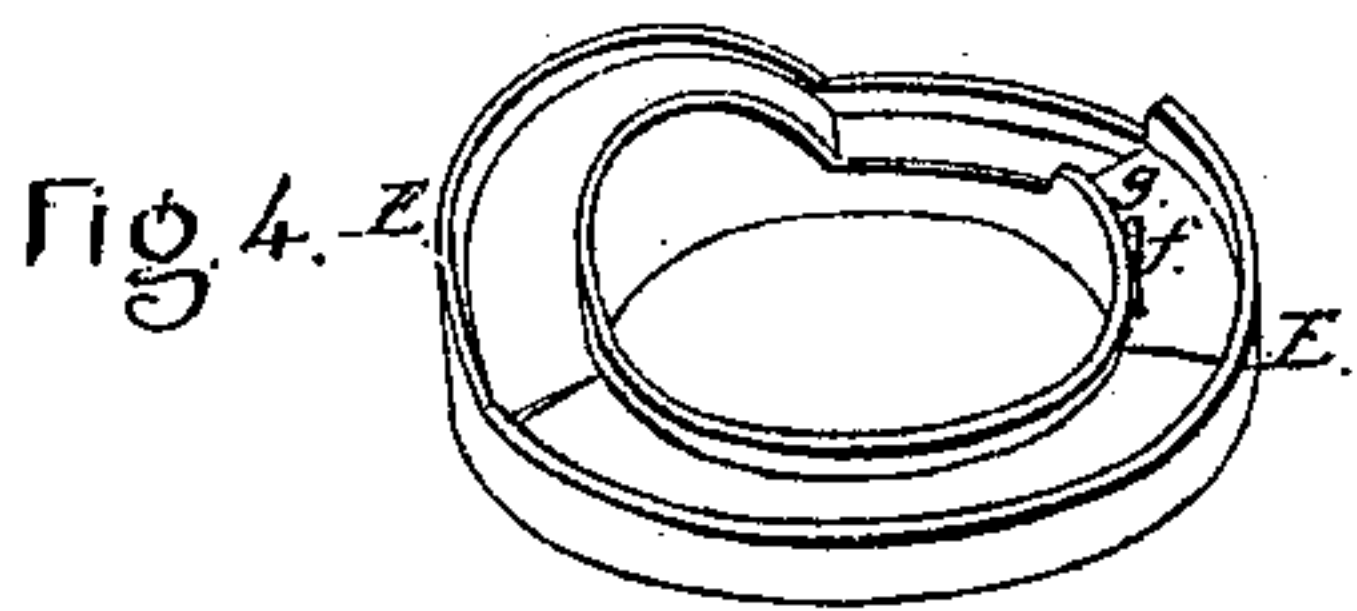
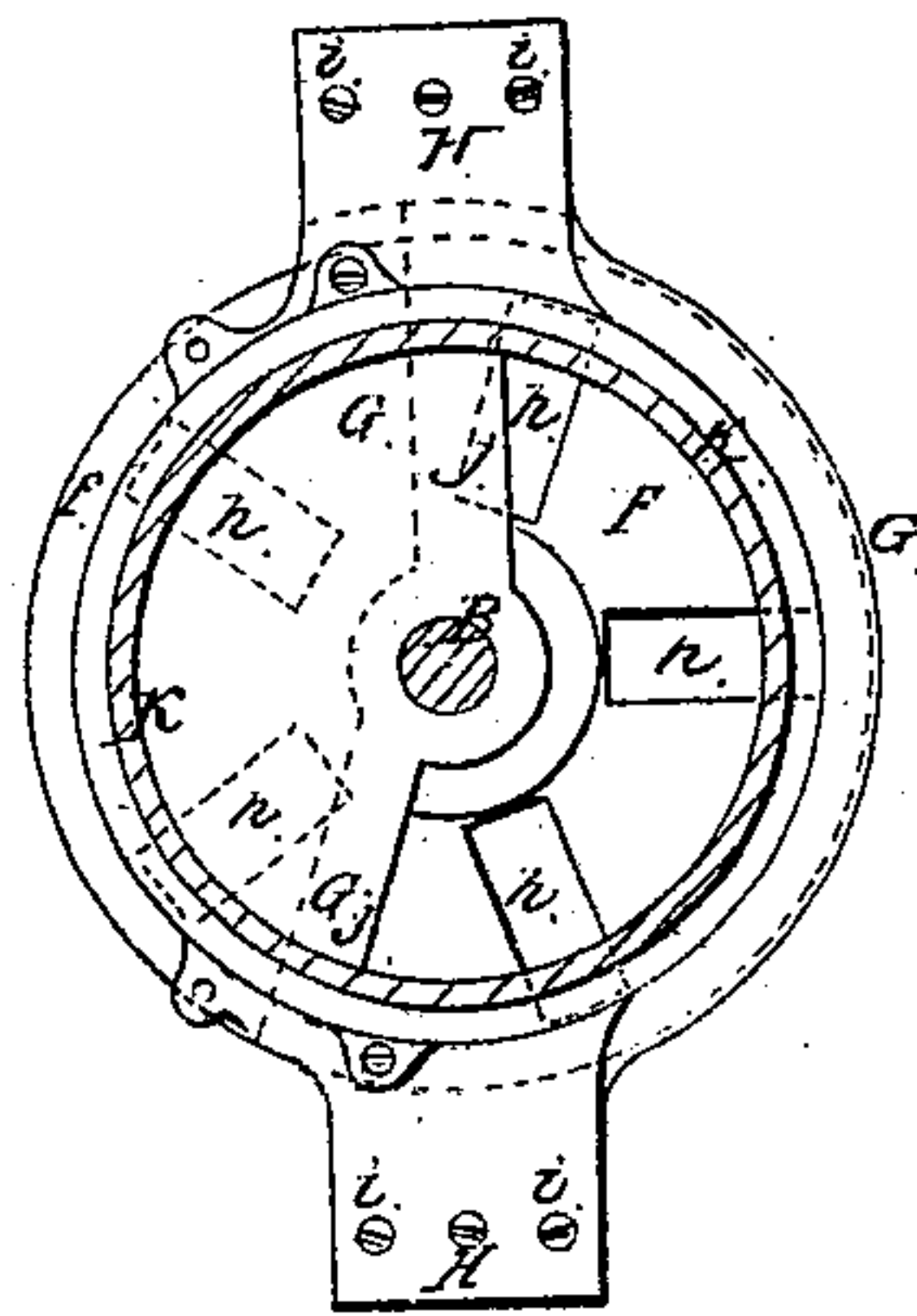


Fig. 4.

Fig. 3.



Witnesses:

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B. M. Gard & E. R. Gard.
By their Attorney A. B. Sloughton.

United States Patent Office.

BENJAMIN M. GARD, OF URBANA, OHIO, AND EMERY R. GARD, OF CHICAGO, ILLINOIS.

Letters Patent No. 100,136, dated February 22, 1870.

IMPROVEMENT IN BRICK-MACHINES.

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, BENJAMIN M. GARD, of Urbana, in the county of Champaign, and State of Ohio, and EMERY R. GARD, of Chicago, in the county of Cook, and State of Illinois, have invented certain new and useful Improvements in Machines for Making Bricks; and we do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 represents a perspective view of the machine, with a part of the clay-hopper broken away to show the interior.

Figure 2 represents a vertical section through the machine.

Figure 3 represents a horizontal section through the clay-hopper, and showing a top plan of the tub and mold-wheel.

Figure 4 represents in perspective and separated from the machine, the cam-trough track for raising, lowering, and adjusting the followers that work in the molds.

Similar letters of reference where they occur in the separate figures denote like parts of the machine in all of the drawings.

The object and purpose of our invention is to cheapen and simplify a brick-press, and to bring it within very restricted limits or space without impairing its efficiency. And this we accomplish by a construction and arrangement of the several working parts of the press around a central shaft, through which the whole machine is driven and worked, thus dispensing with gearing, and much of the expensive parts of brick-machines that are driven by gearing, and bringing the whole machine within an exceedingly contracted space.

To enable others skilled in the art to make and use our invention, we will proceed to describe the same with reference to the drawings.

In a stout substantial frame, A, is supported a shaft, B, which may be turned by a sweep, C, the arm D of which is made adjustable by a screw-clip or clamp, *a*, upon the sweep, so that the machine may be adapted to one, two, or more horses, as may be desired.

The top bearing or support of the shaft B is at *b*, and the bottom bearing or support at *c*.

On the base of the main frame A, and around the shaft B, there is arranged a trough-shaped cam-way, E, which may contain oil for lubricating the stems *d*

of the followers *e*, as they pass around on said cam-way.

In or on that portion of the cam-way where the pressure is made that packs the clay in the mold, and as seen at *f*, there is placed a steel plate, that forms the plane over which the stems *d* of the followers pass; and that compensation may be made for the wearing of this plate, or to adjust it for varied pressure, a set-screw, *g*, from below the cam-plate, comes up against it, and thus can be raised or lowered, as may be desired, whilst the cam-plate itself is stationary.

The mold-wheel F is fast upon the shaft B, and turns with it, and has in it the molds *h*, in which the followers *e* work, said followers being plane surfaced, or rigid, for making plain or tile bricks, as may be desired.

The tub bottom G has projections H H upon it by which it is supported in the sides of the main frame A.

Set-screws *i i* pass through the arms H, and rest on or in the frame, so that said tub bottom may be leveled or adjusted, when necessary, to adjust it to the mold-wheel.

One side of the tub bottom, *j*, is cut away, so that the clay may pass down freely to the mold-wheel, whilst the opposite side of it is elevated, as at *k*, so as to leave space enough between it and the mold-wheel for the pressed brick to be forced into out of the mold, and for its easy removal by the attendant on the machine.

On the shaft B, and just above the tub bottom G, are placed the screw-blades I I, which force or press the clay into the molds *h*, and above the screw-blades on or in the shaft are knives or mixers J J, &c.

K is the tub or hopper, into which the clay is thrown and mixed or tempered, and from which it is forced into the molds, and formed into bricks.

It will be perceived that every part of this machine is arranged upon or around the shaft B; that it is simple, compact, cheap, and strong.

As a horse-power machine, this arrangement and construction requires no gearing.

If driven by steam or water-power, of course gearing of some kind would have to be used to get up the necessary motion of the mold-wheel and its connected parts. But this would not change the characteristics of the invention, as the whole machine would still be built around a central line, which may be the axis of the mold-wheel, and the mold-wheel and screw-blades still be on one and the same shaft, and move together.

Having thus fully described our invention,

What we claim therein as new, and desire to secure by Letters Patent, is—

1. The opening *j*, through one part of the tub bottom, and the raised portion *k* on the opposite part thereof, the former to let down the clay into the molds, the latter to admit of the ejection and removal of the pressed brick, substantially as described.

2. The oil-trough cam-way, with the adjustable plate *f* therein, as and for the purpose described.

3. Arranging the clay-hopper or tub, knives, screw-plates, tub bottom, mold-wheel, and cam-way, on and

around the same central shaft, substantially as described.

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