

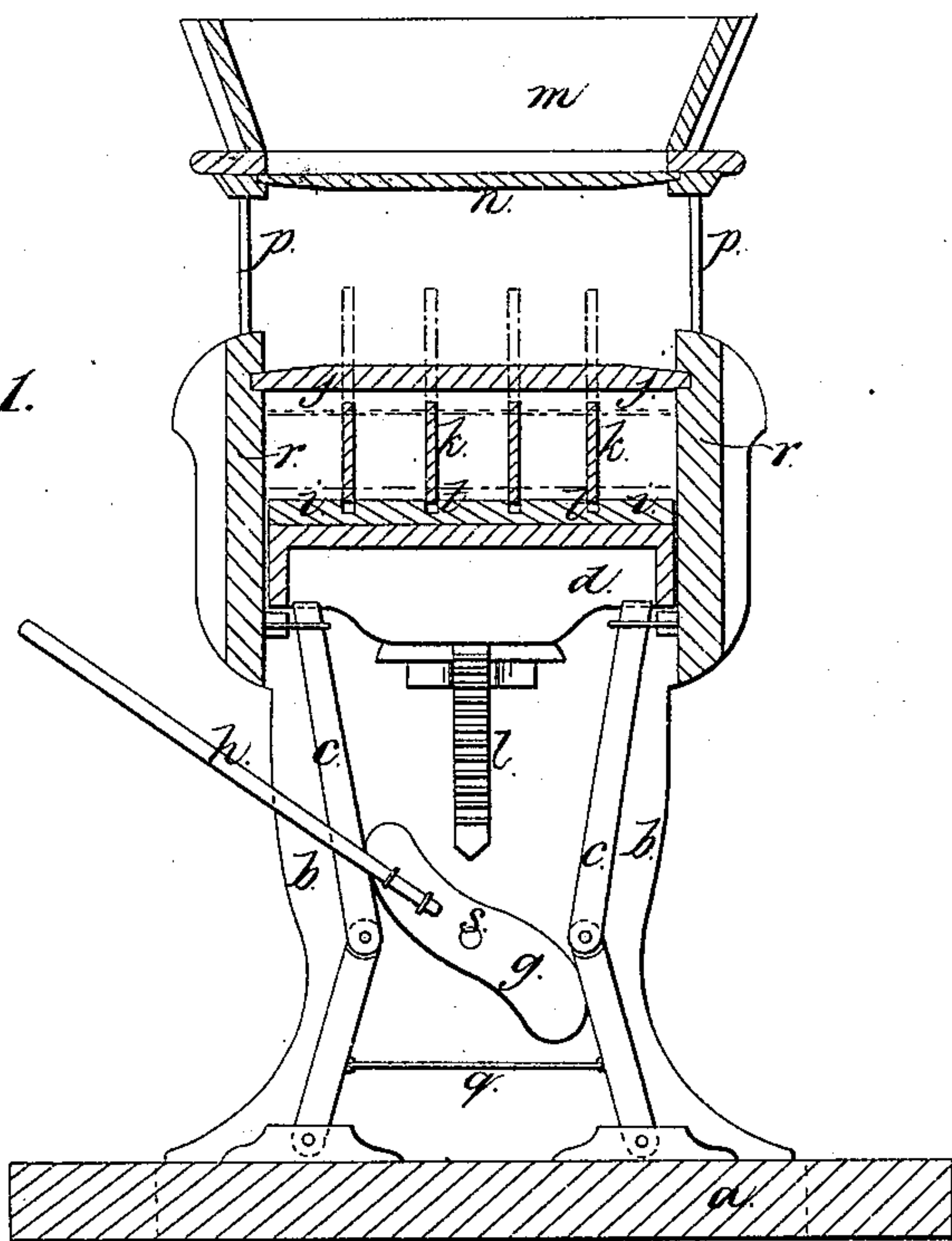
*G. A. Frear;*

*Brick Machine.*

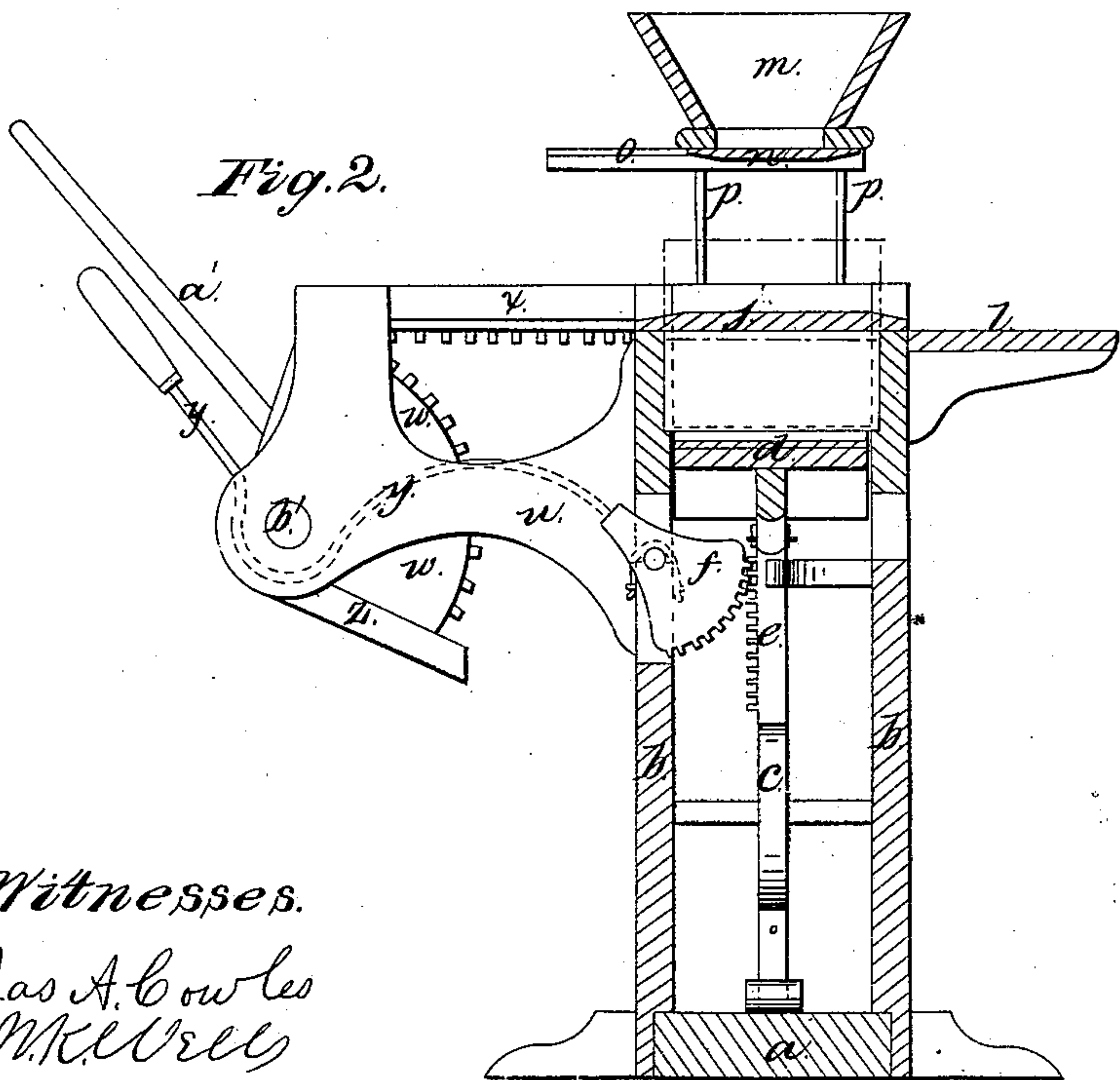
*N<sup>o</sup> 84,485.*

*Patented Dec. 1, 1868.*

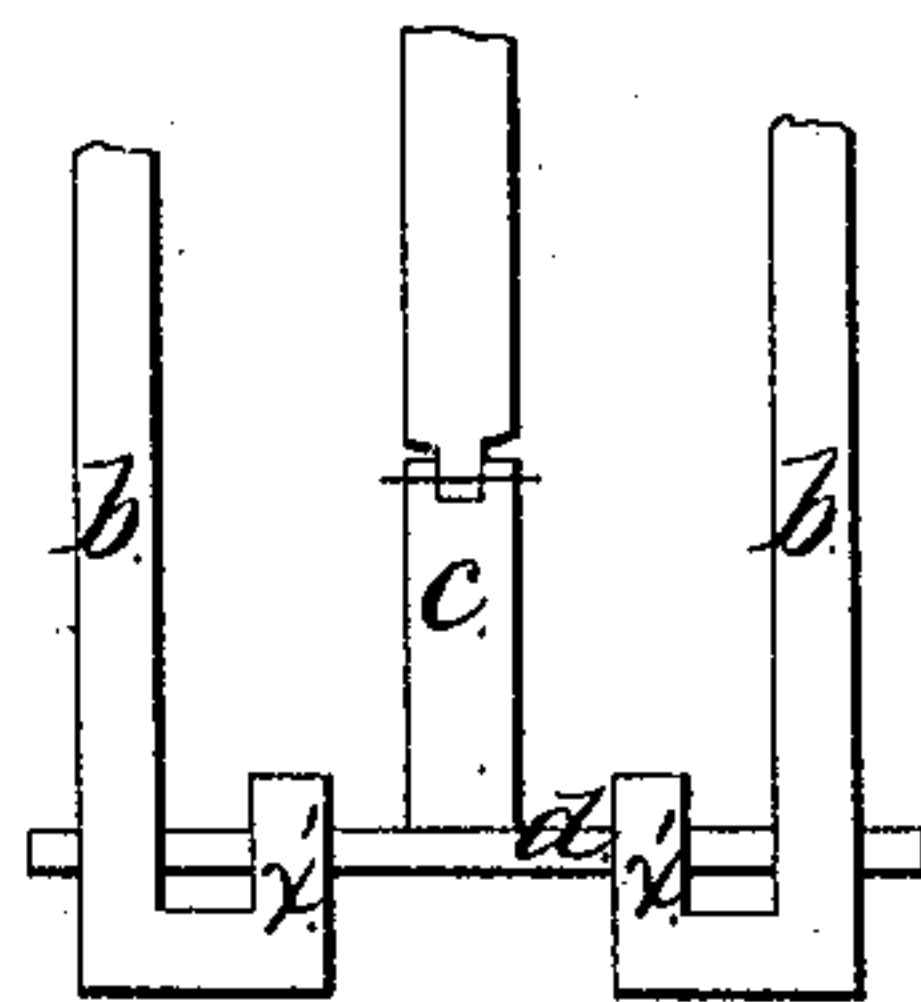
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses.*

*Jas A. Cowles*  
*M. K. Vreel*

*Inventor.*

*Geo A. Frear*



# UNITED STATES PATENT OFFICE.

GEORGE A. FREAR, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHARLES HOLLAND, OF SAME PLACE.

## IMPROVED BRICK AND CONCRETE PRESS.

Specification forming part of Letters Patent No. 84,485, dated December 1, 1868.

*To whom it may concern:*

Be it known that I, GEORGE A. FREAR, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Brick and Concrete Presses; and I do hereby declare that the following is a clear and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature and object of my invention are to produce a press for pressing brick and concrete, simple in construction, and, at the same time, capable of exerting a strong and powerful pressure upon the object designed to be pressed.

Figure 1 is a front elevation, and Fig. 2 a side elevation, of my press.

Similar letters of reference refer to similar parts.

*a* is the base, upon which the supporting sides *b b* are placed. The upper portions of the two supporting sides form two sides of the box that receives the clay or concrete. *r r* form the ends of said press-box. *c c* are two knee-jointed levers, the lower ends of which rest upon the base *a*, their upper ends working against the follower *d*. The follower *d* works on the inside of the press-box.

Upon the follower *d* is placed a bed-piece, *i i*. In this bed-piece are cut recesses *t t*, into which the partitions *k k* fit. These partitions do not fit closely to the bottom of these recesses, but leave a space as far as the follower travels.

*x* is a horizontal segment passing over the top of the box. There are two of these, one on each side. To these segments is attached the slide *j j*, which fits over the press-box. These segments work into the circular segments *w*, of which there are also two, working upon the shaft *b'*. This shaft is worked by the lever *a'*, of which there are two.

*v* is a bracket, extending from the machine, to support the shaft *b'*, of which also there are two. *z* is a key attached to the lower side of one of the circular segments *w*. *l* is a table, upon which the pressed material is first landed from the press-box. *m* is a hopper resting upon the legs *p p* over the press-box. *n* is a slide

working under the hopper. *g* is a double cam working upon a central pivot, *s*, between the knee-jointed levers *c c*. *h* is a lever attached to the double cam *g*. *e* is a ratchet attached to the follower *d*. *f* is a circular segment working in the ratchet *e*. *y* is a bent lever working the circular segment *f*. This lever is bent, as shown by the dotted lines, for the purpose of allowing it to be worked by the same operator that works the levers *a'*.

The operation of my invention is as follows: The clay or concrete is placed in the hopper *m*, the slides *n* and *j* are opened, and the clay or concrete falls into the press-box. The cover or slide *j j* is then replaced, power is applied to the double cam *g*, through the lever *h*, the knee-jointed levers *c c* are straightened, which forces up the follower *d* and compresses the clay or concrete.

The clay or concrete rests immediately upon the bed-piece *i i*, and as this bed-piece is forced up, the bottom of the recesses *t t* fit snugly to the lower edges of the partitions *k k*. This construction of the bed-piece with deep recesses enables the bed-piece to be raised without raising the partitions, and thus the clay or concrete can be compressed.

When the pressing is accomplished, the slide or cover *j j* is removed by turning the handles *a'* downward. This removes the cover *j j*. The pressed material is raised out of the press-box by bearing down the bent lever *y*. This raises the bed-piece *i i* up even with the table *l*, upon which it is slid by raising the lever *a'*, which slides the bed-piece upon the table *l*, when the pressed material is carried off as desired.

The knee-jointed levers *c c* are returned to their proper position by means of the elastic or coiled spring *q*. I do not confine myself to any particular form or kind of spring for this purpose.

In using the double cam and the two knee-jointed levers in the manner and form I do, I am able to apply the power so that the strain comes upon those parts which are the most able to sustain it—viz., the base and the object pressed—but comparatively little force is exerted upon the bearing of the axis *s*.

Any form or shape of stone, such as ashlers, key-stones, &c., and all ornaments, can be pressed by this press by removing the par-

titions *k k* and the bed-piece *i i*, and substituting such forms as desired.

The slide or cover *j* is firmly held in its position over the press-box when the pressing is concluded; but it is easily removed by means of the levers *a'*, circular and horizontal segments *w* and *x*. They serve the double purpose of removing the slide and shoving the pressed material onto the table *l*.

Fig. 3 illustrates a modification of attaching and working the lower arms of the knee-jointed levers *c c*. Fig. 3 is an end view, showing the lower part of the side pieces, *b b*. The lower arms of the levers *c c* are attached to the lower ends of the side pieces, *b b*, which are turned up, as shown at *x' x'*, and the shaft *d'* passes through the side pieces thus constructed, forming four bearings for the shaft *d'*. By this construction the strain comes between the

lower ends of the side pieces, *b b*, and bed-piece *d*.

I am aware that the devices herein described, taken separately, are of themselves not new; but

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

The combination and arrangement of the knee-jointed levers *c c*, plunger *d*, cam *g*, the segments and ratchets *f e* and *w x*, the bed-piece *i*, and partitions *k k* of the mold-box, all constructed as described, and to operate substantially in the manner and for the purpose set forth.

GEO. A. FREAR.

Witnesses:

JAS. A. COWLES,  
W. K. WELLS.