

B. G. MARTIN.  
Presses.

Patented April 21, 1874.

No. 150,064.

Fig. 2.

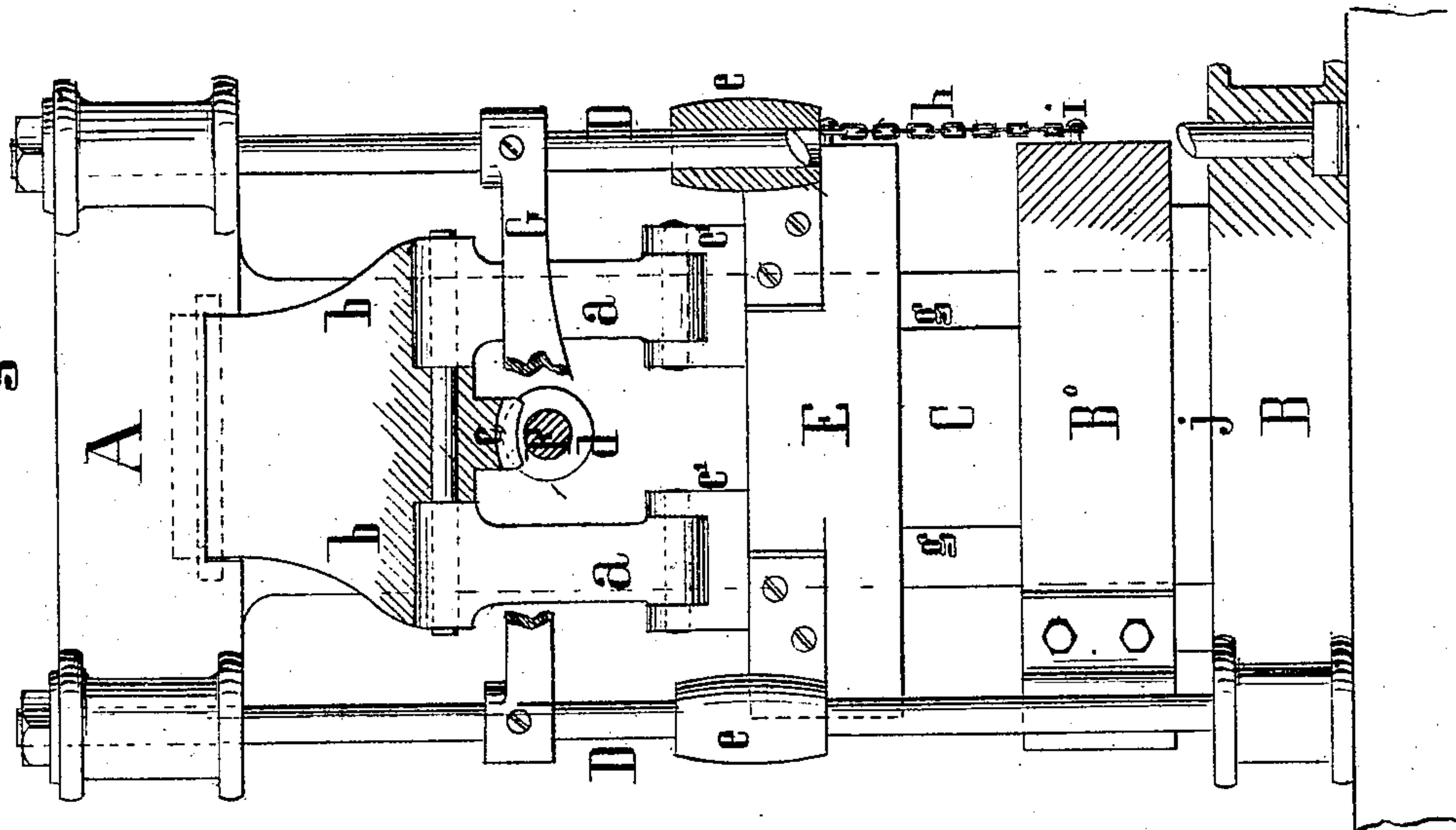
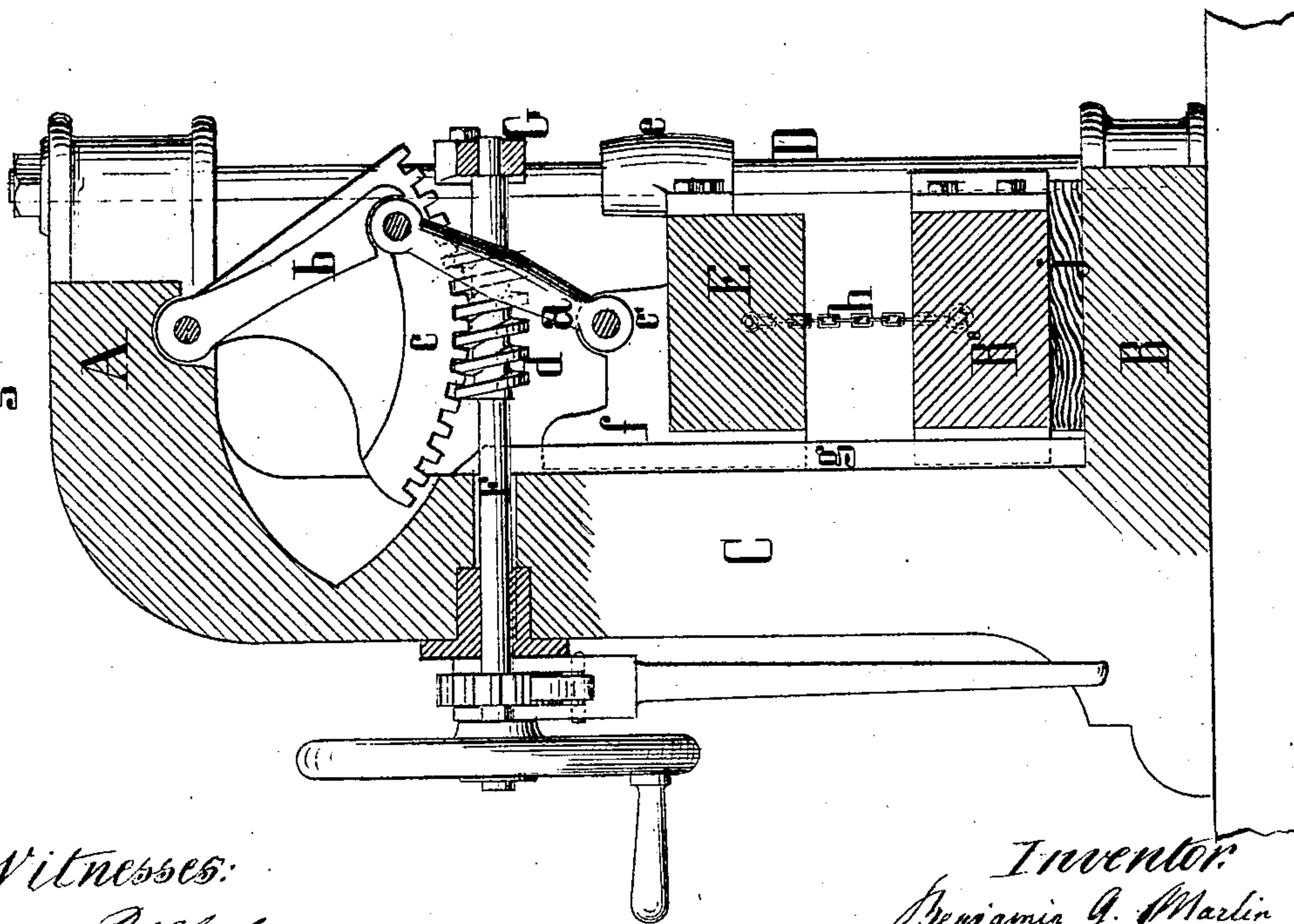


Fig. 1.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN PRESSES.

Specification forming part of Letters Patent No. **150,064**, dated April 21, 1874; application filed April 6, 1874.

*To all whom it may concern:*

Be it known that I, BENJAMIN G. MARTIN, of the city, county, and State of New York, have invented a new and useful Improvement in Presses; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a longitudinal vertical section of this invention. Fig. 2 is a sectional front view of the same.

Similar letters indicate corresponding parts.

This invention consists in combining an endless screw and a segment with toggle-levers and with the follower of a press in such a manner that, by turning the endless screw in one direction, the toggle-levers are straightened out and the follower is depressed with great power, and, by turning the endless screw in the opposite direction, the follower is raised. The follower is guided, so that it is compelled to retain its horizontal position.

In the drawing, the letter A designates the head-block, and the letter B the foot-block, of my press. These two parts are connected in the rear by a standard, C, and in front by uprights D, and, in practice, the head and foot blocks, together with the standard C, will be made of a solid piece of casting. The standard C and the uprights D form the guides for the follower E, which connects, by toggle-levers *a b*, with the head-block A, the levers *a* being pivoted to lugs *c'*, which rise from the follower, while the levers *b* are pivoted to the head-block. To the levers *b* is firmly secured a segmental worm-wheel, *c*, which gears in an endless screw, *d*, mortised on the driving-shaft F. This shaft has its bearing in the rear in the standard C, and in front in a cross-piece, G, secured to the uprights D, and it may be turned by hand or any other suitable power. When the shaft F is turned in one direction the toggle-levers are straightened out and the follower is depressed; and, in order to prevent any lateral movement of said follower, it is provided in front with loops *e*, which embrace the uprights D, and in the rear with guides *f*,

which bear against the front edges of the standard, and against shoulders *g* formed on said front edge. By this arrangement the follower is effectively prevented from being thrown out of position in case the material to be pressed should be placed nearer to one of its ends than to the other, or in any case where the upward pressure on the follower should be greater on one end than on the other, and the toggle-levers, as well as the segmental worm-wheel and the endless screw, will always remain in the proper working position. With the foot-block B is combined a secondary foot-block B<sup>o</sup>, which slides up and down between the standard C and the uprights D. When the follower has been brought down to the full extent of its stroke, and it is desired to expose the material under the press to an additional pressure, the secondary foot-block is connected to the follower by chains *h* and buttons *i*, or by any other suitable means, and, as the follower is raised, the secondary foot-block is also raised, so that a flat piece, *j*, of metal or other suitable material can be interposed between it and the main foot-block, and, if the follower is then brought down a second time, the material under the press will be again compressed.

For certain purposes the follower and the secondary foot-block will be made hollow, so that they can be heated by steam or hot air.

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

1. The combination of the endless screw *d* and segmental worm-wheel *c*, said parts being interposed between the jointed levers *a a* and *b b*, for raising or depressing the follower E, substantially as described, for the purpose specified.

2. The follower E, having the front guide-loops *e e* and rear guides *f f*, for guiding and steadying the movement of the follower on the uprights D D and standard C, in combination with an endless screw, *d*, a segmental worm-wheel, *c*, and jointed toggles *a b*, substantially as described.

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Witnesses:

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