

(No Model.)

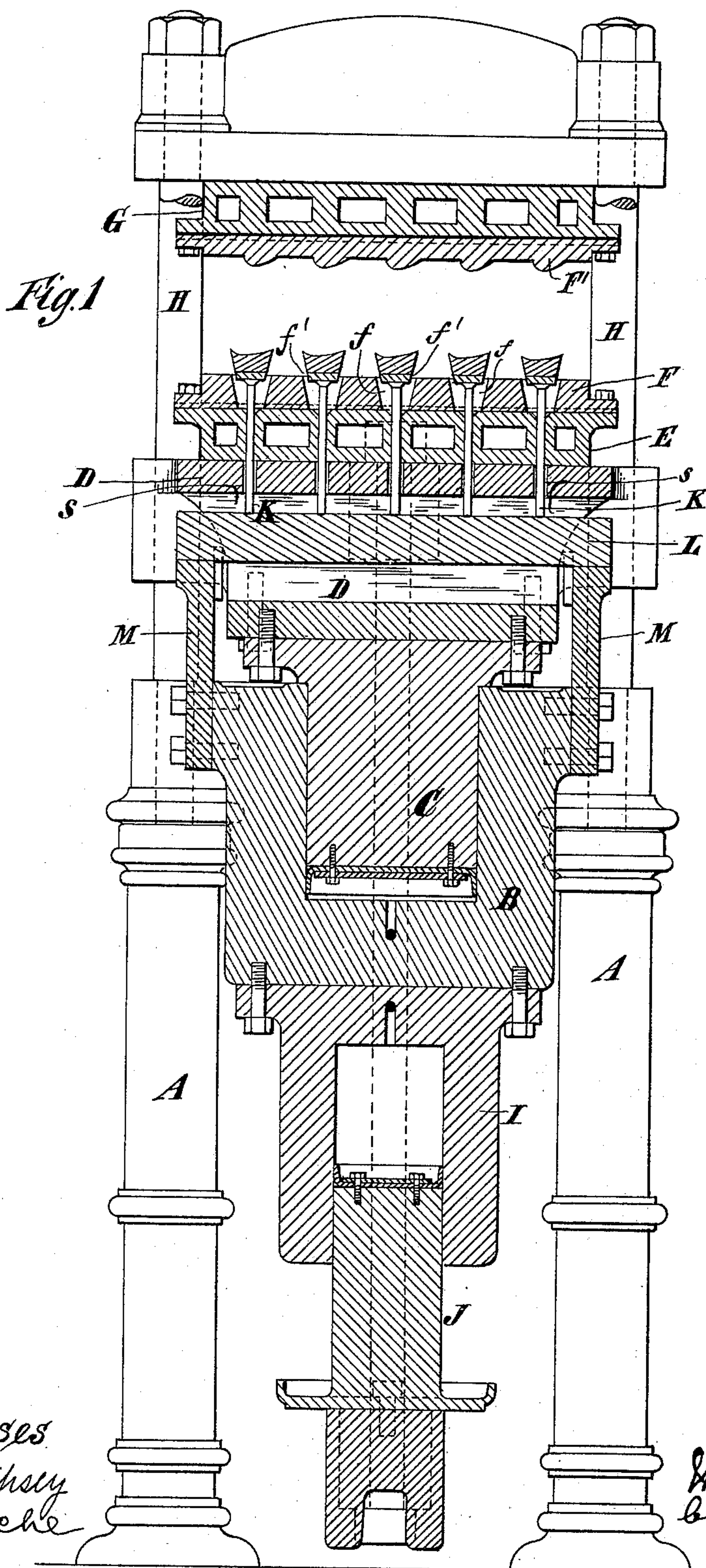
2 Sheets—Sheet 1.

W. E. KELLY.

PRESS FOR FORMING HEELS FOR INDIA RUBBER BOOTS OR SHOES.

No. 319,266.

Patented June 2, 1885.



Witnesses  
Wm. L. Lipsey  
E. T. Roche

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(No Model.)

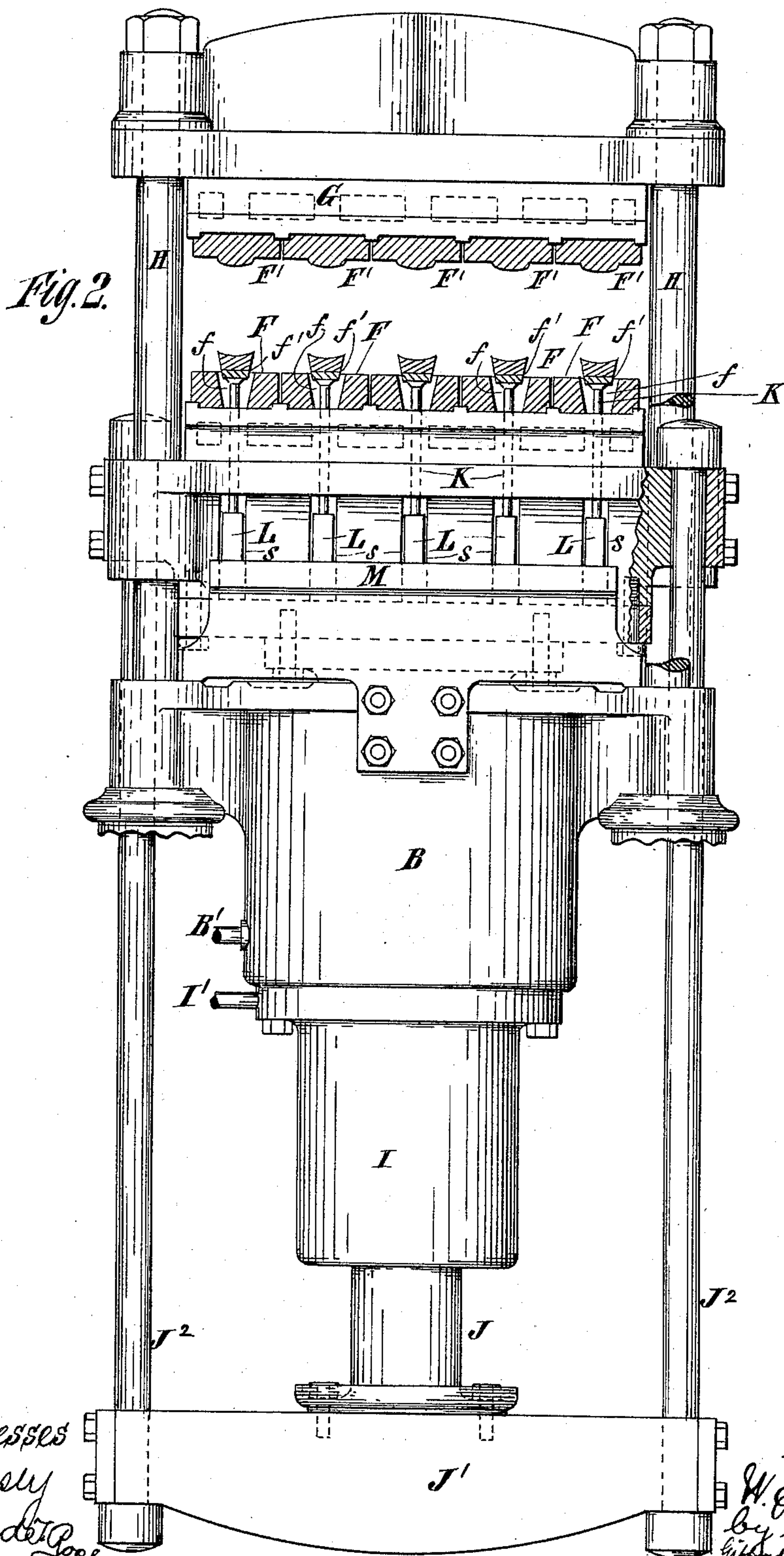
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# UNITED STATES PATENT OFFICE.

WILLIAM E. KELLY, OF NEW BRUNSWICK, NEW JERSEY.

PRESS FOR FORMING HEELS FOR INDIA-RUBBER BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 319,266, dated June 2, 1885.

Application filed December 27, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. KELLY, of New Brunswick, in the county of Middlesex and State of New Jersey, have invented a certain new and useful Improvement in Presses especially intended for use in Forming Heels for India-Rubber Boots or Shoes, of which the following is a specification.

I will describe a press embodying my improvement, and then point out the improvement in claims.

In the accompanying drawings, Figure 1 is an elevation of a press embodying my improvement, certain parts being shown in section, and the supporting-pillars being broken away; and Fig. 2 is a central vertical section of the press in a plane at right angles to Fig. 1.

Similar letters of reference designate corresponding parts in both figures.

A designates supporting-pillars, of which there will preferably be four. They support the cylinder B of a hydraulic ram, being connected to lugs cast therewith.

C designates the piston or plunger of this ram. But one port is shown; hence the ram is single-acting, or, in other words, the piston or plunger is forced upward only. B' designates a pipe communicating with the port.

D designates the platen or follower of the press. It is fastened to the upper end of the plunger C of the ram and moves up and down with the same.

To the platen or follower of the press is attached the holder E for the lower sections, F, of molds F F'. This holder is shown as made in the form of a hollow steam-table for vulcanizing. The holder G for the upper sections, F', of the molds, is supported by rods H, of which, preferably, there will be only four.

These rods extend upwardly from the casting in which the cylinder B of the aforesaid ram is formed. They are shown as shouldered near the lower end, and as screw-threaded at the ends. The ends pass through the casting and screw into the pillar A, the shoulders bearing on the casting. Near the upper end they are shouldered. The holder G rests on the shoulders, and is secured by nuts applied to the upper ends of the rods.

The follower D fits the rods H, and is guided by them.

The follower D and the piston or plunger C of the ram may be made to descend by means of a weight or spring, while the liquid used in the ram-cylinder runs out; or a second ram may be employed to draw down the follower and the piston or plunger C of the first-mentioned ram while the liquid contained in the cylinder of the latter runs out.

I designates the cylinder of such second ram. It may be made integral with or secured to the cylinder B of the first-mentioned ram; or it may be supported in any other suitable manner. It has a single port. A pipe, I', leads to this port. The piston or plunger J of the second ram, when forced outward, moves in the reverse direction to that in which the piston or plunger of the first-mentioned ram moves when it is forced outward.

The piston or plunger J has connected to it a yoke, J', from which rods J<sup>2</sup> extend to the follower D. The rods J<sup>2</sup> are so connected to the follower D that the piston or plunger J, when moved downward, will draw the follower D down with it.

A double-acting ram can be employed, instead of the two single-acting rams which I have shown.

The lower sections, F, of the molds consist of long bars having cavities *f*, shaped like a heel for an ordinary india-rubber boot or shoe, the cavities being flat on one side, rounded elsewhere, and tapering downwardly. In the bottoms of these cavities are removable plates *f'*. They are made removable in order that they may be changed from time to time for the purpose of producing different imprints upon the bottoms of the heels, and also in order that they may be made to eject the heels from the cavities *f*.

The upper sections, F', of the molds have protuberances, which produce the desirable concavity in the upper surface of the heels.

The mold-sections may be secured in their places by screws acting at the ends, or otherwise.

K designates rods or pins by which, during the downward movement of the follower D, the plates *f'* will be made to effect the ejection of the heels from the lower mold-sections, F. The pins K fit loosely in vertical holes in the holder E, for the lower sections of the mold



and the follower. They have flaring heads, which will be received in countersunk cavities in the upper ends of the said holes; hence the pins may be raised by the said holder 5 when the latter moves upward, and will not then project above the follower. The lower ends of the pins K extend into slots *s*, formed horizontally in the follower D. In these slots I arrange bars L. These bars extend beyond 10 the follower and over stop-bars M, which may be secured by screws, or otherwise, to any suitable support—for instance, the casting in which the cylinder B of the first-mentioned ram is formed.

15 When the follower D rises, the bars L will be carried up with the follower. When, however, the follower descends sufficiently far, the bars L will come into contact with the stop-bars M, whereupon they will be prevented from 20 moving farther downward with the follower. These bars L will then preclude the further downward movement of the pins K with the follower, and consequently the continued downward movement of the follower will result in causing the lower mold-sections, F, to 25 move past the upper portion of the pins K, and the plates *f* and the heels in these mold-sections will remain stationary, while the lower mold-sections move downward beyond the 30 heels. The heels will thus be ejected from the lower mold-sections.

By my improvement I am enabled to employ a centrally-arranged hydraulic ram or rams for actuating the follower, and without interfering with the use of the desired arrangement of molds and the pins K operating in 35 conjunction therewith to eject finished heels.

My improvement may be used not only in presses employed for making heels, but for presses employed for making other articles. 40

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

1. In a press, the combination of a centrally-arranged ram or rams, a follower provided with slots, bars arranged in these slots, stops 45 for limiting the downward movement of the said bars, and pins which impinge against the said bars during the downward movement of the follower, substantially as specified.

2. In a press, the combination of a follower 50 provided with slots, bars in the slots, stops for these bars, and pins which are arrested by the bars, substantially as specified.

3. The combination of the shouldered rods H, screw-threaded below the shoulders, the 55 casting comprising the cylinder B, and the pillars A, substantially as specified.

WILLIAM E. KELLY.

Witnesses:

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T. J. KEANE.