

No. 764,696.

PATENTED JULY 12, 1904.

C. L. WHITING.
MOLD OR DIE FOR HEEL COMPRESSING MACHINES.
APPLICATION FILED DEC. 21, 1903.

NO MODEL.

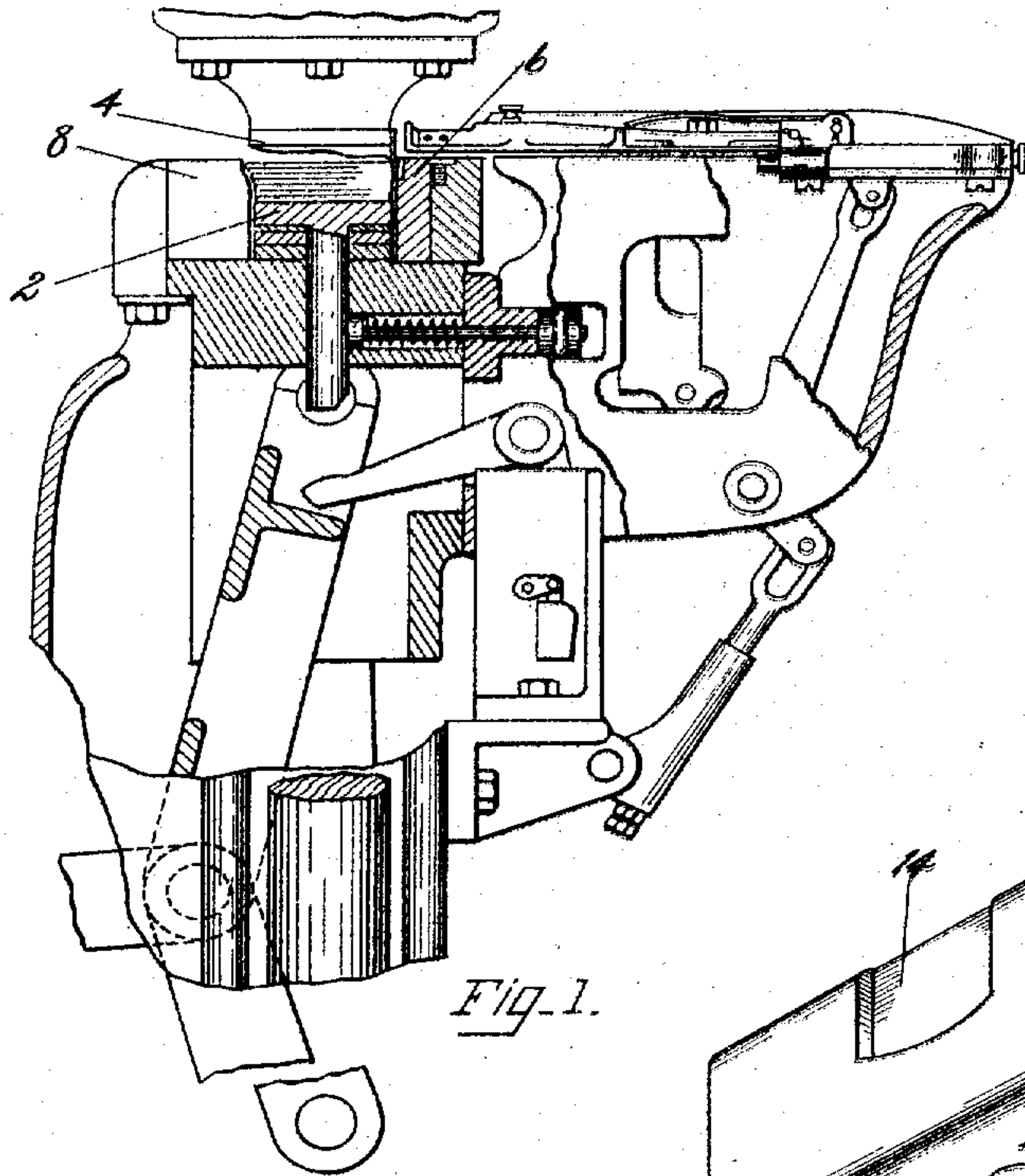


Fig. 1.

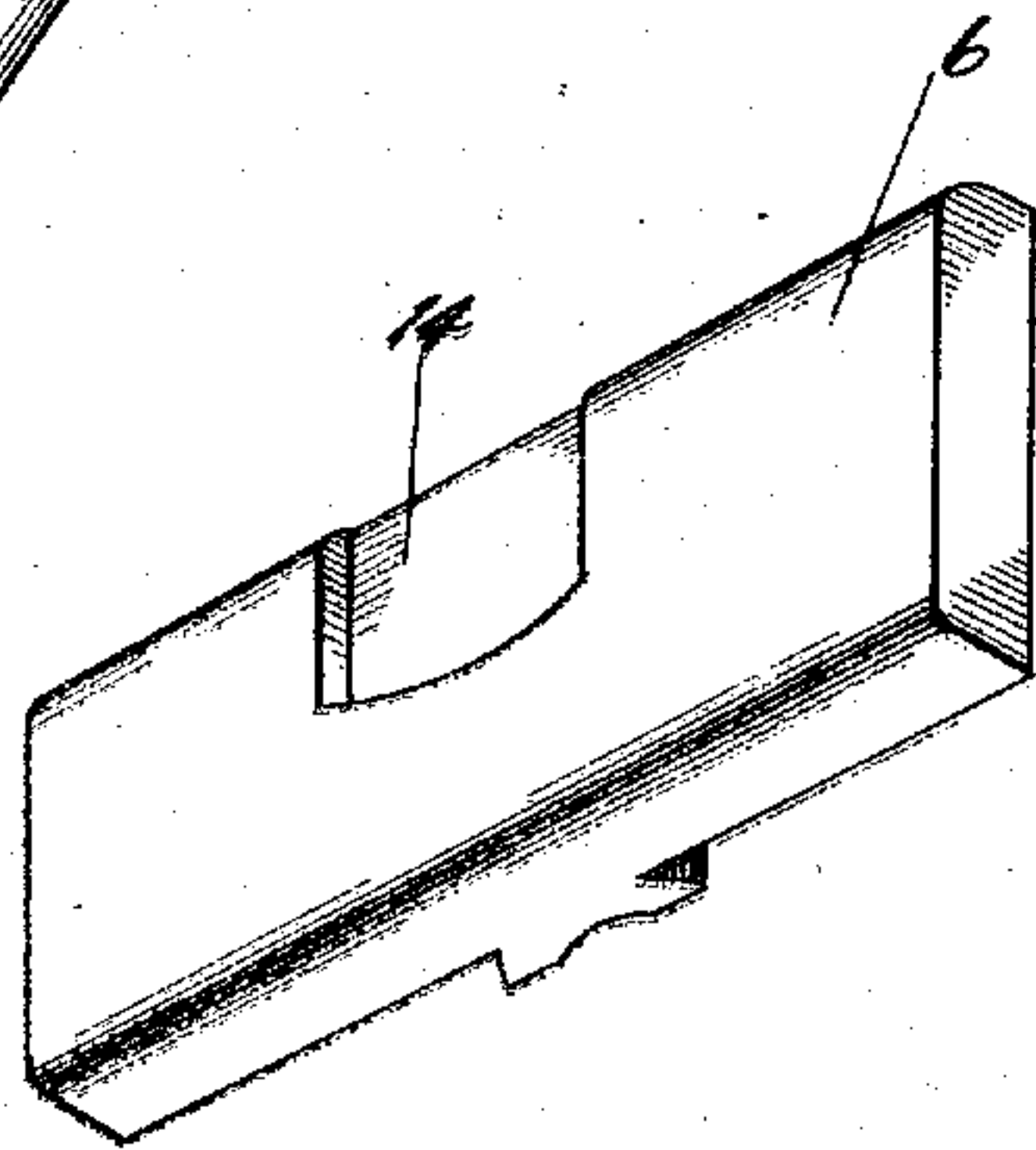


Fig. 3.

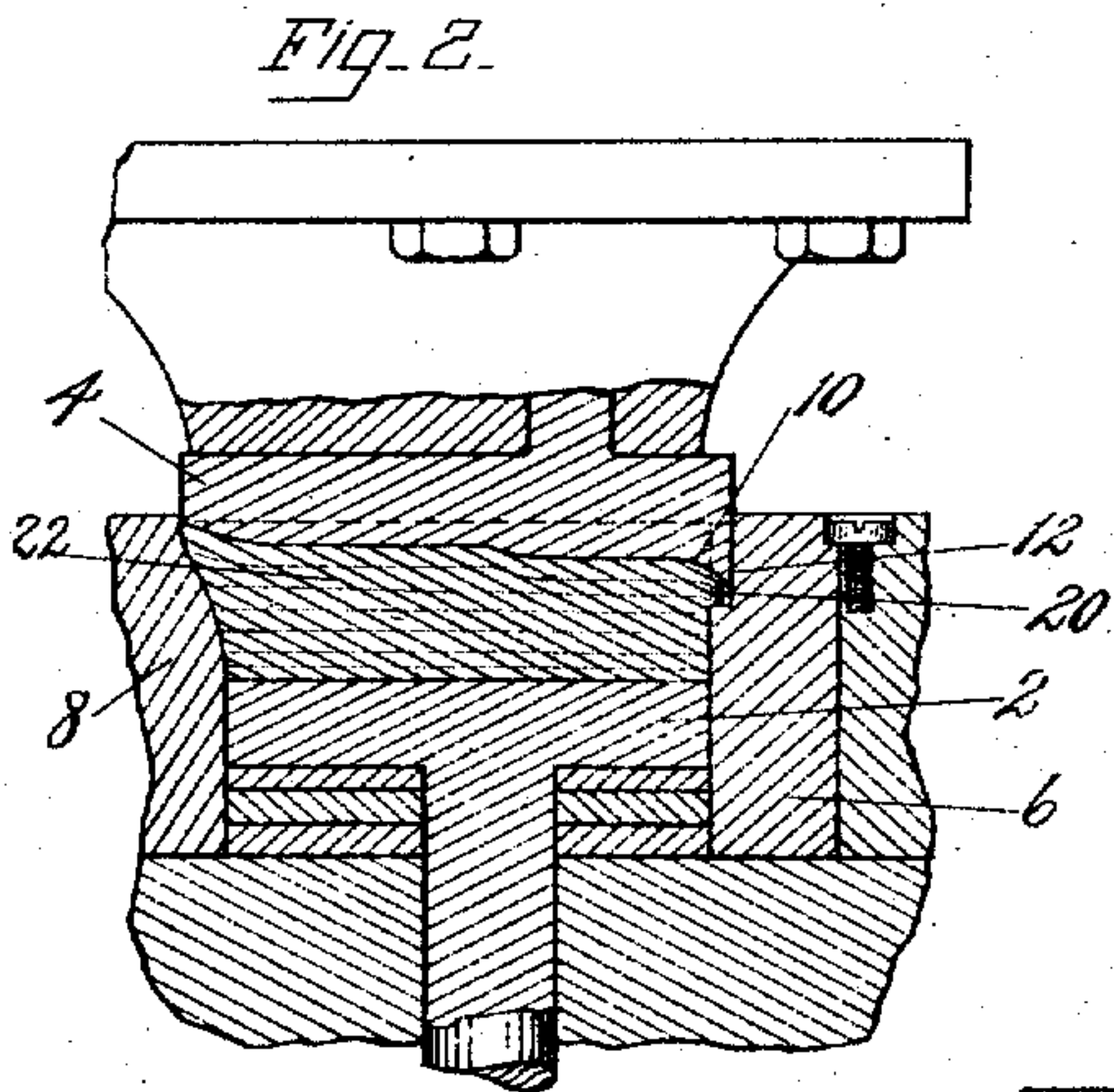


Fig. 2.

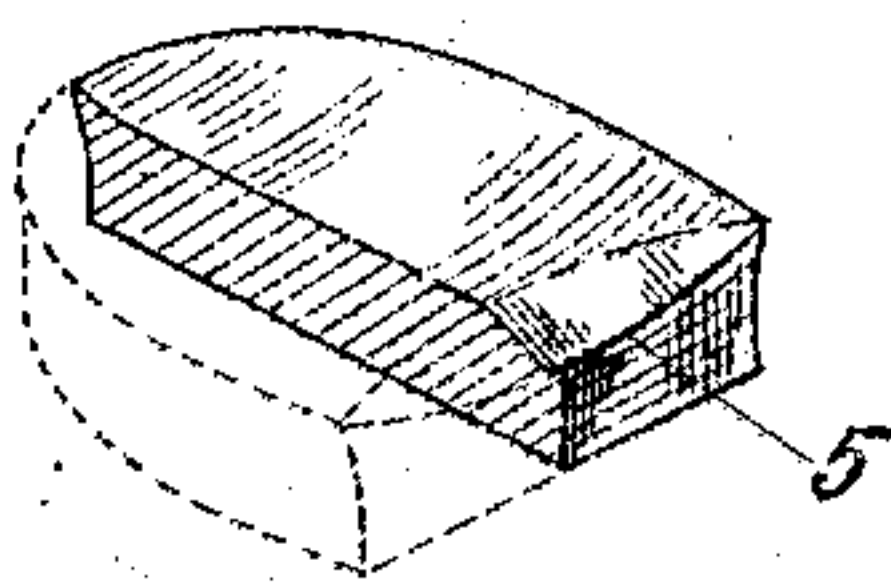


Fig. 5.

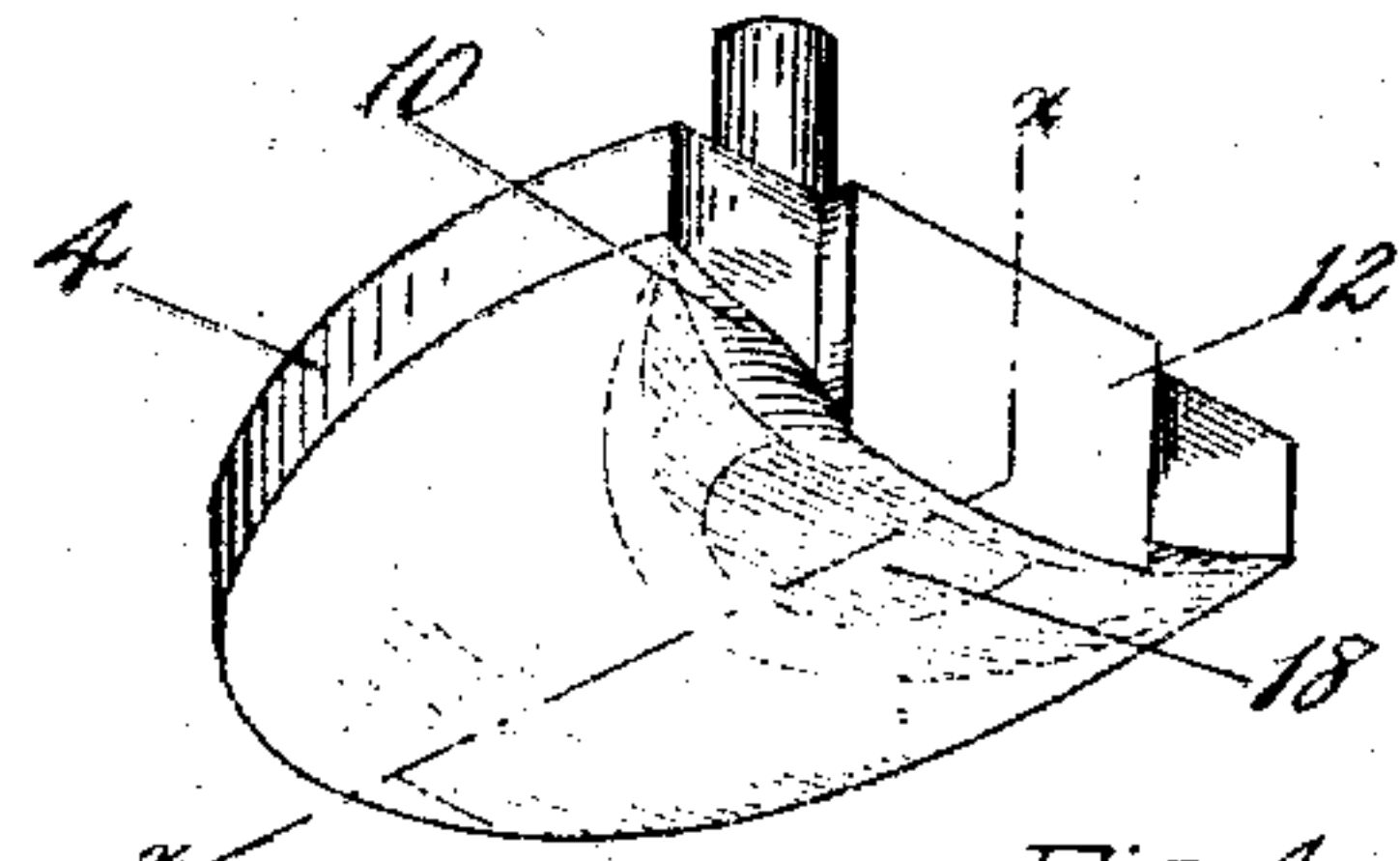


Fig. 4.

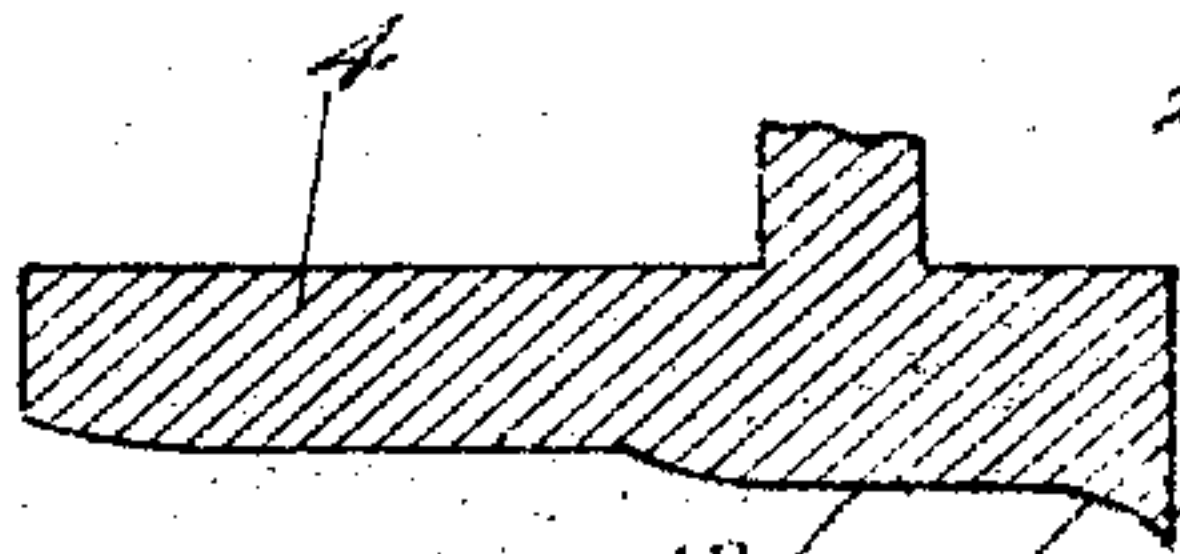


Fig. 5.

WITNESSES.

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UNITED STATES PATENT OFFICE.

COMFORT L. WHITING, OF BROCKTON, MASSACHUSETTS, ASSIGNOR
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MOLD OR DIE FOR HEEL-COMPRESSING MACHINES.

SPECIFICATION forming part of Letters Patent No. 764,696, dated July 12, 1904.

Application filed December 21, 1903. Serial No. 186,036. (No model.)

To all whom it may concern:

Be it known that I, COMFORT L. WHITING, a citizen of the United States, residing at Brockton, in the county of Plymouth and Commonwealth of Massachusetts, have invented certain Improvements in Molds or Dies for Heel-Compressing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention has for its object to provide means for forming a novel heel, which is also of my invention, and which is described and claimed in my pending application, Serial No. 186,037, filed December 21, 1903.

The dies ordinarily used for compressing heels comprise a pressure-plate, which acts on the tread-face of the heel, a follower or heel-seat die, which acts on the seat, a breastplate, which acts on the breast, and radially-moving dies, which act on the side and rear portions of the heel. The seat of the heel is usually molded to fit the heel-seat end of the sole of the shoe, and the breast end of the seat is usually beveled during the operation of compressing the heel, said bevel being formed in the end of the seat, so that when the heel is being attached the portion thereof which is to be removed by the breasting operation will not indent the shank portion of the sole, as such an indentation would show plainly after the heel had been breasted.

The dies heretofore used for compressing heels have proved unsatisfactory because they form a roughened projection on the heel at the edge formed by the junction of the breast and the beveled portion of the seat, which roughened projection would be forced into the surface of the sole when the heel was being attached to the shoe, and would make an indentation that would show plainly after the heel had been breasted. The reason for the formation of this roughened projection on the heel is that it is practically impossible in machines of this character, as they have usually

been constructed heretofore, to obtain exact alinement of the coacting faces of the breastplate and the end of the lip with which the follower is provided for forming the bevel in the breast end of the seat of the heel, said breastplate and lip passing each other in a substantially shearing action during the compressing operation. Consequently there is always more or less space between these coacting faces, and as the follower is of the same size and outline as the seat of the finished heel some of the leather in the heel will flow into this space and form a roughened projection on the upper edge of the breast end of the heel or that edge formed by the junction of the breast and the beveled portion of the seat.

The dies which embody my present invention preferably comprise a pressure-plate, follower, breastplate, and radially-moving dies, although the most important feature of my invention has to do with the shape of the follower or heel-seat die, which I have provided with means for forming a rounded edge on the heel at the junction of the breast and seat, and so far as this feature of my invention is concerned it is not material what construction or arrangement of the other parts be adopted. The follower is provided at its inner breast end with a lip or downwardly-projecting portion for forming a bevel in the breast end of the heel, said lip being provided with an extended part which projects beyond the breast end of the heel and which is curved on its under surface, so as to round off the upper edge of the breast where it joins the beveled portion of the heel. The breastplate is provided with a recess to receive the extended part of the lip, and as this part projects beyond the breast end of the heel and extends downwardly there is no liability of a roughened projection being formed on the heel at the edge formed by the junction of the breast and beveled portion of the seat.

Another advantage of my improved dies is that they will compress a heel uniformly

throughout its body and will form a depression in the seat of the heel without causing a bulge to form on the tread-face of the heel, said depression being provided to receive the
 5 portion of the outer sole which is forced outwardly by the shank or stiffener, which is placed between the inner and outer soles of the shoe.

Referring to the drawings, Figure 1 is a side
 10 elevation, partly in section, of a portion of a heel-compressing machine provided with my improved follower and breastplate. Fig. 2 is a sectional elevation of the compressing-
 15 dies closed together in the operation of compressing a heel. Fig. 3 is a perspective view of the breastplate. Fig. 4 is a perspective view of the follower. Fig. 5 is a sectional
 20 view taken on the line *xx* of Fig. 4, and Fig. 6 is a perspective view of a portion of a heel that has been compressed in dies ordinarily
 25 used for this purpose and shows at 5 the roughened projection that formed on the lower edge of the beveled portion during the compressing operation.

In the drawings, Fig. 1 represents a portion of a heel-compressing machine now in
 30 common use; but as this invention relates only to the compressing-dies it is not necessary to describe the mechanism of said machine.

2 represents the pressure-plate; 4, the follower; 6, the breastplate, and 8 one of the
 35 dies which act on the side and rear portions of the heel. The follower has at its breast end a downwardly-projecting lip 10, which forms the desired bevel in the breast end of the seat
 40 of the heel, and said lip is provided with an extended part 12, which projects beyond the breast end of the heel and also projects downwardly below the edge of the lip. The under-
 45 neath surface of the extended part of the lip is curved, as shown in Figs. 2 and 5, so that when the follower and bottom plate are brought together in the operation of compressing a heel
 50 the heel held between them will be beveled at the breast end of the seat by the lip 10, and the lower edge of the beveled portion will be rounded by the curved surface on the under-
 55 neath side of the extended part 12. The breastplate is provided with a recess 14, in which the extended part of the lip travels, and as said part overlaps the breast end of the heel and extends
 60 downwardly there is no possibility of a roughened projection forming on the heel at the edge formed by the junction of the breast and beveled portion of the seat, as has heretofore
 65 been usual, as shown in Fig. 6. The recess 14 in the breastplate extends downwardly in the face of the breastplate for a greater distance than the length of the extended part
 12 from the top to the lower edge thereof, so that when the follower and bottom plate are closed together in the operation of compressing a heel there will be a space between the lower edge of the extended part and the lower
 edge of the recess, as shown in Fig. 2. This

space is provided to receive the leather that is displaced from the seat of the heel to form a depression therein for receiving the portion of the outer sole which is forced outwardly
 70 by the shank or stiffener, which is placed between the inner and outer soles. If the breastplate were not provided with such a space or opening to receive the displaced leather, that part of the heel at the point
 75 where the depression was formed in the seat would be compressed to a greater degree than other portions of the heel. In fact, the compression of the heel at this point would be so great that a bulge would form on the tread-face of the heel soon after it had been removed
 80 from the dies.

As shown in Figs. 4 and 5, my improved follower is provided with a raised portion for forming said depression in the seat of the heel, and this raised portion commences at about
 85 the center of the follower and slants gradually toward its breast end, the central part of the raised portion being substantially flat at 18. By constructing the follower in this manner and by providing the breastplate with the recess
 90 previously described, into which the surplus leather may flow when a heel is being compressed, a uniform pressure throughout the body of the heel is insured. Furthermore, there is no liability of a bulge forming
 95 on the tread-face of the heel, as the leather that is displaced from the seat forms a bulge at 20 (see Fig. 2) on the breast of the heel 22; but as the end of the heel is subsequently removed in the breasting operation the bulge
 100 formed on the breast is not objectionable. It should be understood that this feature of my invention is not limited to a recess formed in the breastplate, as the location of such recess is not material so long as it is arranged
 105 to provide for a flowage of the leather of the heel in case of excessive pressure on the heel, thus not only insuring a uniform compression throughout each heel, but also providing for a uniform compression of all heels operated
 110 upon by the dies, resulting in a uniformity in the product of the heel-compressing machine never before secured. As shown in Fig. 4, which represents the preferred form of my invention, the extended part 12 is provided
 115 for only a portion of the length of the lip; but, if so desired, the lip may be provided with an extended part for its entire length.

Having described my invention, what I claim as new, and desire to secure by Letters
 120 Patent of the United States, is—

1. In dies for compressing heels, means for beveling a heel at the edge formed by the breast and seat, and means for rounding the lower edge of said beveled portion.
 125

2. A mold for a heel-compressing machine provided with a surface for beveling the breast end of the heel-seat of a heel and with a surface for rounding the upper edge of the breast of the heel.
 130

3. In dies for compressing heels, a follower having a projecting lip, said lip having a part which extends outwardly and downwardly and which is curved on its under surface, substantially as described.

4. A device of the character described, comprising means for molding the seat-face of a heel, means for beveling the breast end of the heel-seat, and means for rounding the upper edge of the breast of said heel.

5. In dies for compressing heels, a follower provided with a lip for beveling a heel at the edge formed by the junction of the breast and seat, said lip having an extended part adapted to round off the lower edge of said beveled portion.

6. In dies for compressing heels, a follower having a raised portion commencing at approximately the center of the follower and slanting gradually toward the breast end thereof, said raised portion being substantially flat at the center and inclined at its breast end.

7. In dies for compressing heels, a follower provided with a lip having an extended part, in combination with a breastplate having a recess to receive the extended part of said lip.

8. In dies for compressing heels, means for forming a depression in the seat of a heel, and means whereby the leather displaced to form said depression will form a bulge on the breast of the heel.

9. In dies for compressing heels, a follower having a downwardly-projecting portion and a breastplate having a recess to receive said

portion, the recess in the breastplate being larger than the downwardly-projecting portion of the follower, substantially as described.

10. In heel-compressing dies, mechanism for imparting pressure to a heel in all of its dimensions, including means for shaping the seat of a heel to fit the heel-seat portion of the sole of a shoe, said mechanism having provision for permitting leather in the heel to flow in case of excessive pressure.

11. In dies for compressing heels, a breastplate provided with a recess into which leather in a heel being operated upon may flow in case of excessive pressure.

12. In dies for compressing heels, a breastplate having an acting face to engage the breast of a heel, in combination with a follower provided with a shaping-lip extending to and beyond the acting face of the breastplate.

13. Heel-compressing dies comprising a breastplate and a follower provided with a lip extending to and beyond the acting face of the breastplate, said parts being arranged to form a space between said breastplate and said lip.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

COMFORT L. WHITING.

Witnesses:

WELLS L. CHURCH,
ARTHUR L. RUSSELL.

Section in Letters Patent No.

It is hereby certified that in Letters Patent No. 764,696, granted July 12, 1904, upon the application of Comfort L. Whiting, of Brockton, Massachusetts, for an improvement in "Molds or Dies for Heel-Compressing Machines," an error appears in the printed specification requiring correction, as follows: On page 1, line 78, the words "of the seat" should be inserted after the word "end"; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 26th day of July, A. D., 1904.

[SEAL.]

E. B. MOORE,
Acting Commissioner of Patents.

3. In dies for compressing heels, a follower having a projecting lip, said lip having a part which extends outwardly and downwardly and which is curved on its under surface, substantially as described.

4. A device of the character described, comprising means for molding the seat-face of a heel, means for beveling the breast end of the heel-seat, and means for rounding the upper edge of the breast of said heel.

5. In dies for compressing heels, a follower provided with a lip for beveling a heel at the edge formed by the junction of the breast and seat, said lip having an extended part adapted to round off the lower edge of said beveled portion.

6. In dies for compressing heels, a follower having a raised portion commencing at approximately the center of the follower and slanting gradually toward the breast end thereof, said raised portion being substantially flat at the center and inclined at its breast end.

7. In dies for compressing heels, a follower provided with a lip having an extended part, in combination with a breastplate having a recess to receive the extended part of said lip.

8. In dies for compressing heels, means for forming a depression in the seat of a heel, and means whereby the leather displaced to form said depression will form a bulge on the breast of the heel.

9. In dies for compressing heels, a follower having a downwardly-projecting portion and a breastplate having a recess to receive said

portion, the recess in the breastplate being larger than the downwardly-projecting portion of the follower, substantially as described.

10. In heel-compressing dies, mechanism for imparting pressure to a heel in all of its dimensions, including means for shaping the seat of a heel to fit the heel-seat portion of the sole of a shoe, said mechanism having provision for permitting leather in the heel to flow in case of excessive pressure.

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