

No. 764,668.

PATENTED JULY 12, 1904.

B. F. MAYO.
MOLD OR DIE FOR HEEL COMPRESSING MACHINES.

APPLICATION FILED APR. 20, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

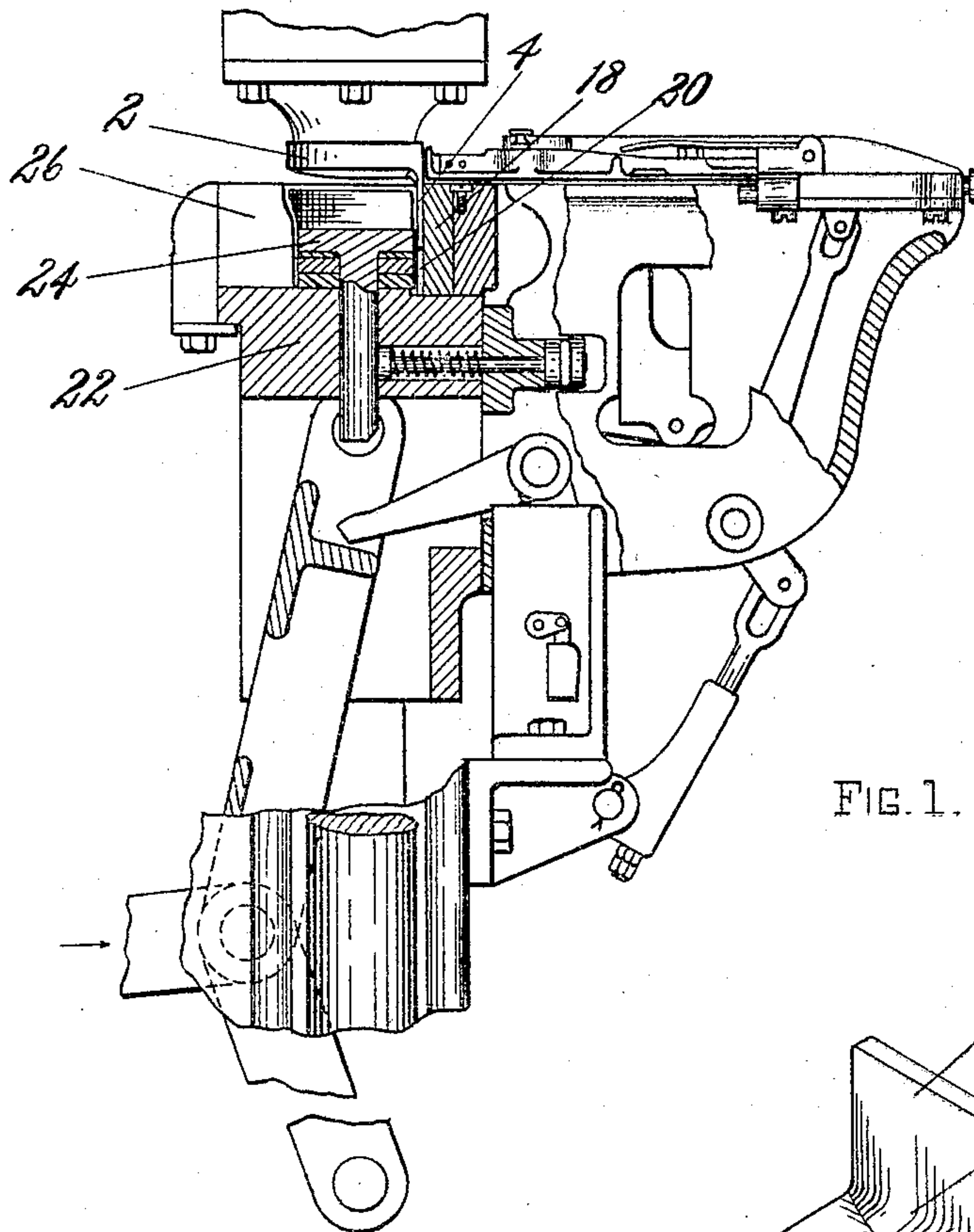


FIG. 1.

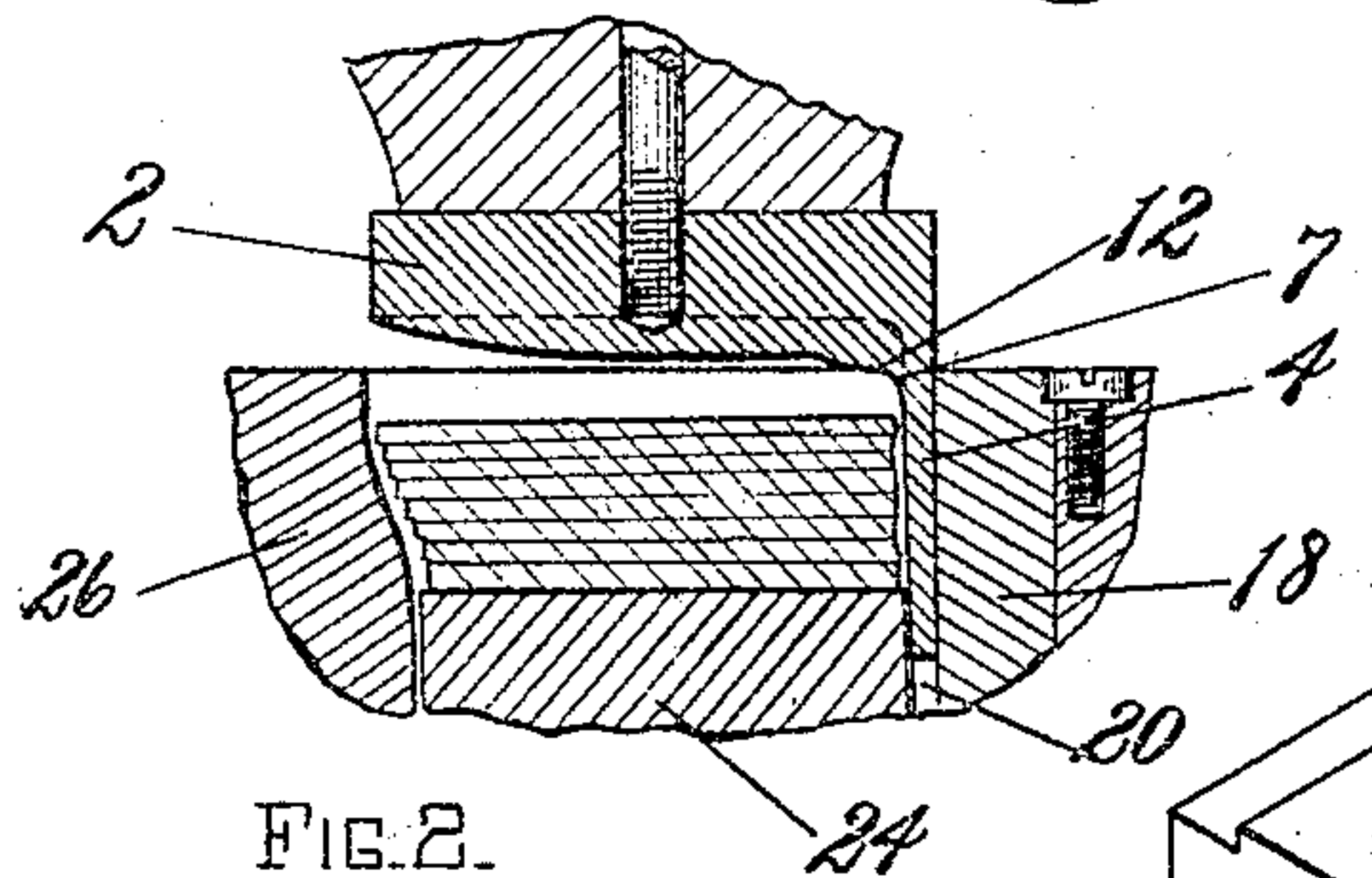


FIG. 2.

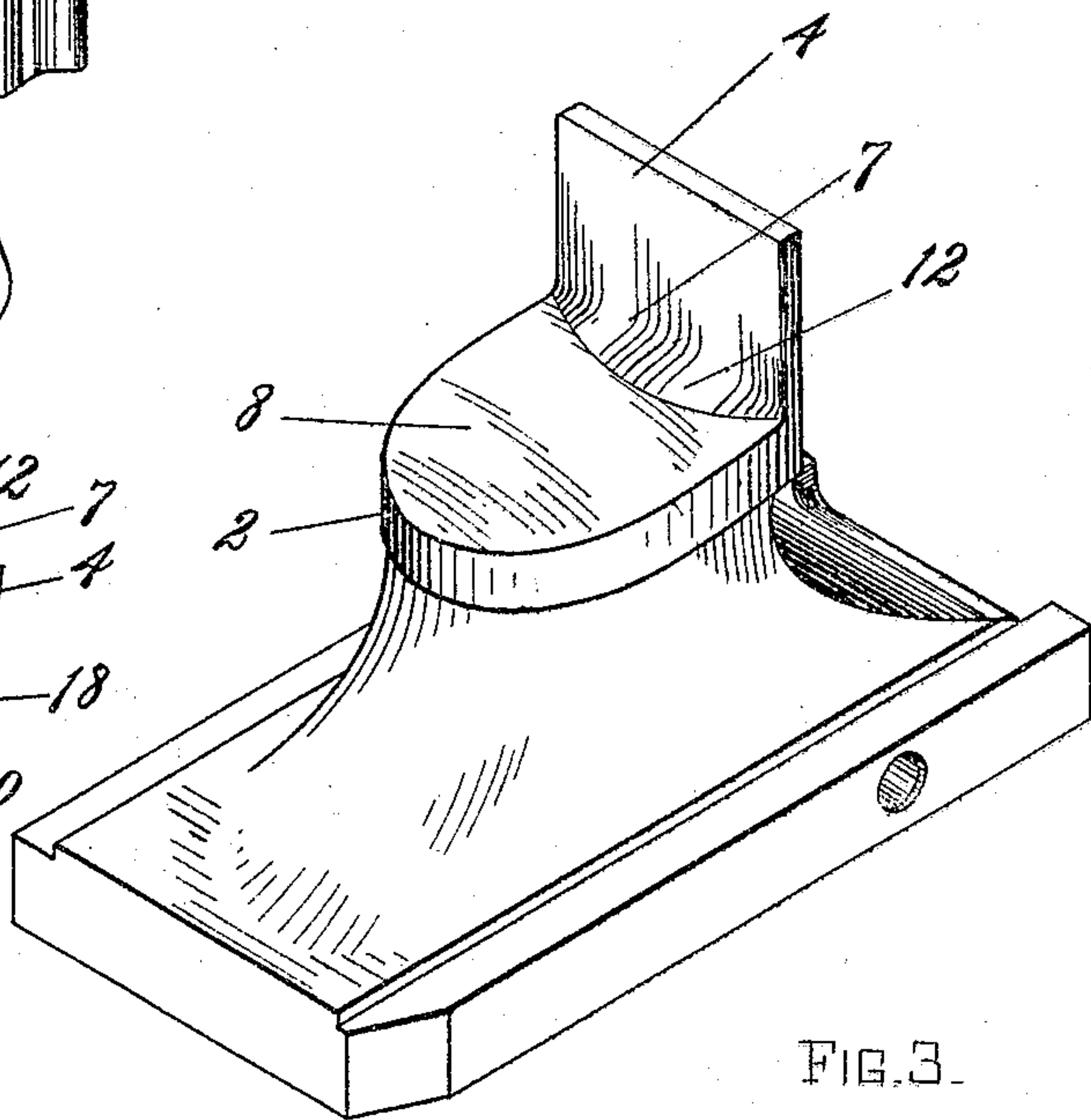


FIG. 3.

WITNESSES.

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2 SHEETS—SHEET 2.

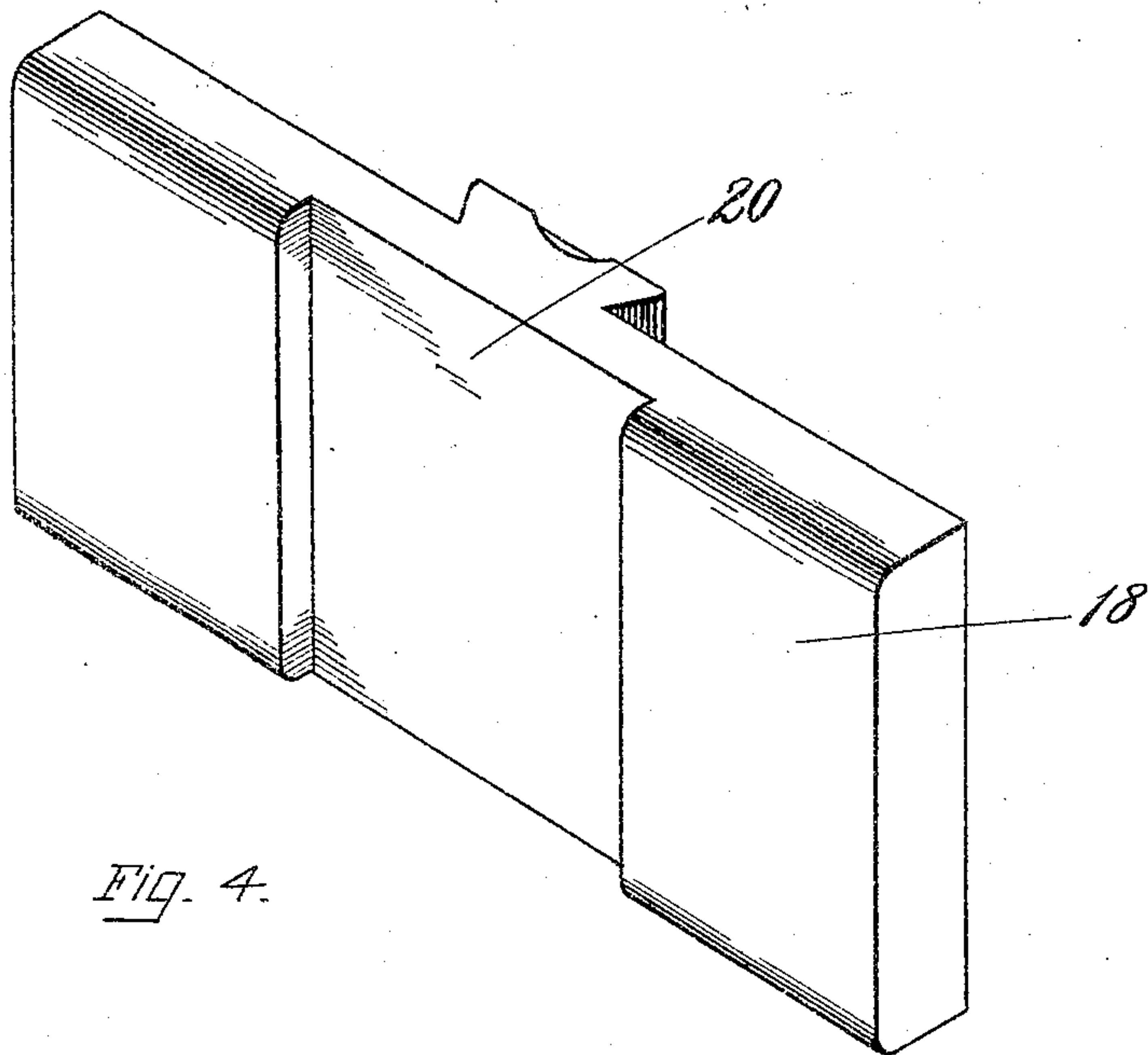


Fig. 4.

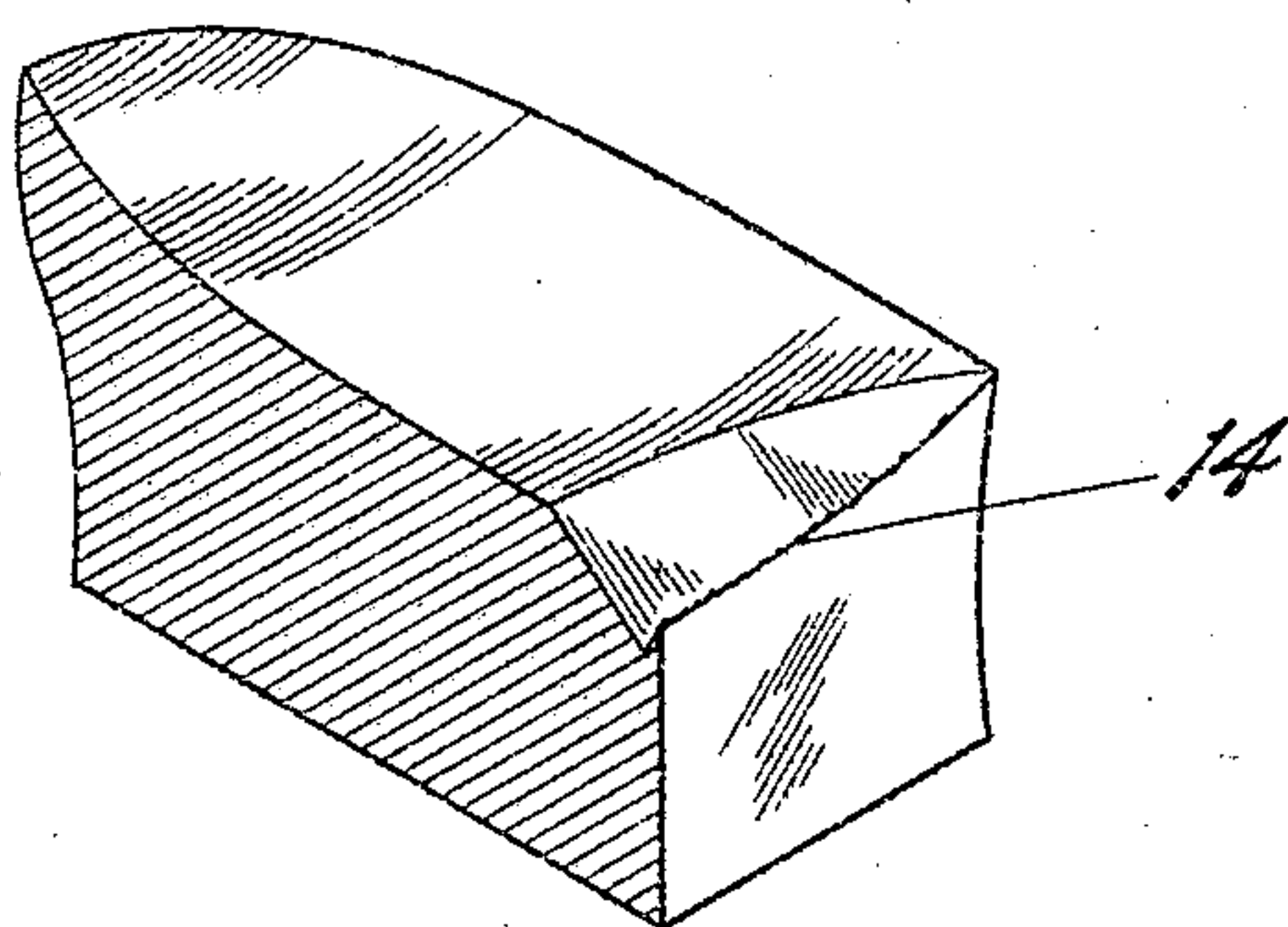


Fig. 5.

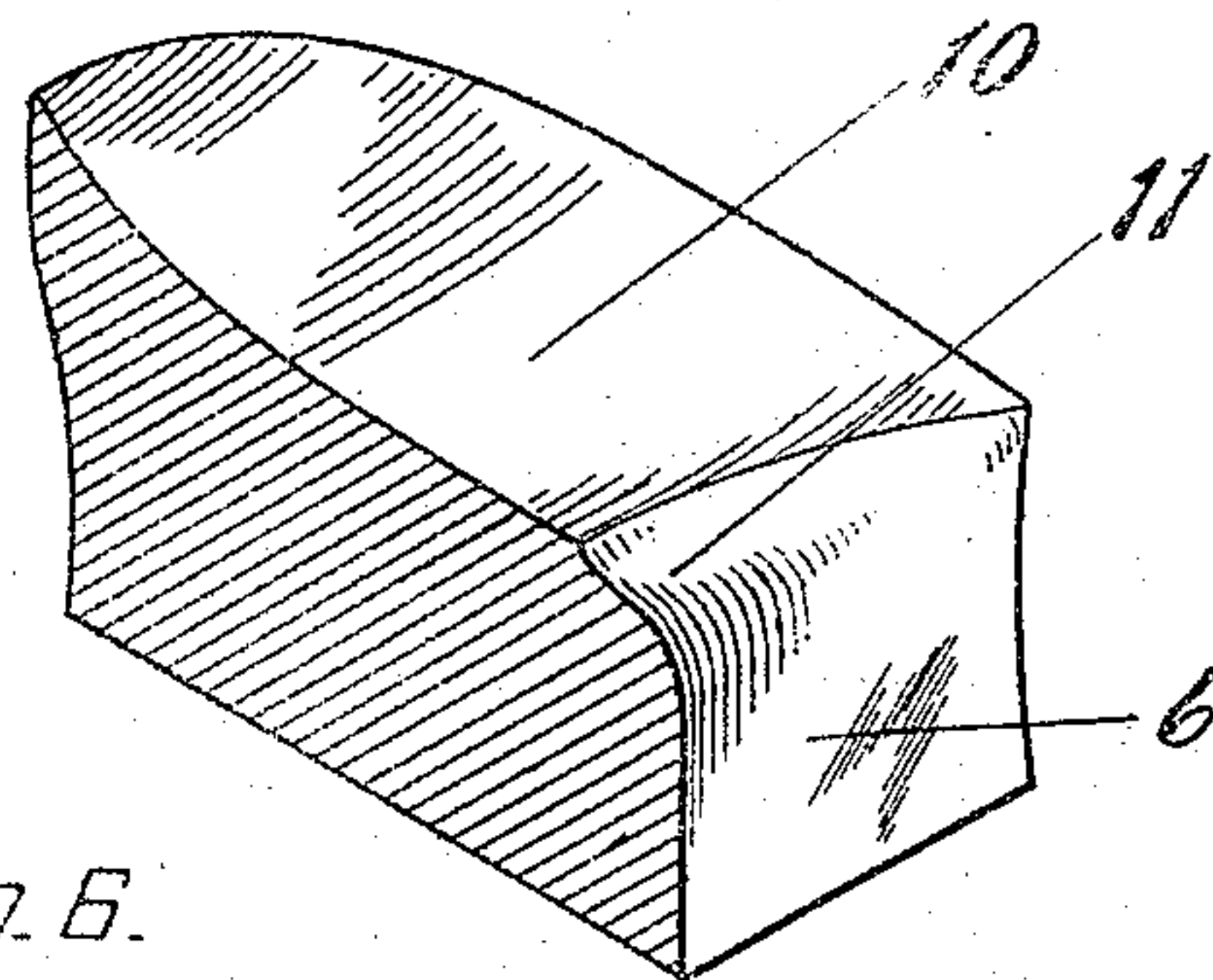


Fig. 6.

WITNESSES.

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UNITED STATES PATENT OFFICE.

BENJAMIN F. MAYO, OF SALEM, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

MOLD OR DIE FOR HEEL-COMPRESSING MACHINES.

SPECIFICATION forming part of Letters Patent No. 764,668, dated July 12, 1904.

Application filed April 20, 1904. Serial No. 204,125. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. MAYO, a citizen of the United States, residing at Salem, in the county of Essex 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 relates to heel-compressing dies, and has for its object to provide improved molds for compressing heels, and particularly to provide means for forming a heel having a rounded edge or corner at the junction of its seat and breast.

The dies ordinarily used in heel-compressing machines 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 movable relatively to the follower and acting on the breast, and radially-moving dies which act on the side and rear portions of the heel. The follower is usually of the same size and outline as the seat of the finished heel and at its breast end is provided with a lip for forming a bevel in the breast end of the seat of the heel, such a bevel being formed in the heel so that when it is being attached to a shoe the portion of the heel that is to be removed by the breasting operation will not cut into the shank portion of the sole of the shoe and make an indentation which will be visible after the heel has been breasted. The breastplate, pressure-plate, and radially-moving dies in heel-compressing machines in general use are mounted on a cross-head, said cross-head and the follower or heel-seat die being movable relatively to each other, and in the operation of the dies for compressing a heel the acting face of the breastplate and the end face of the lip on the follower pass each other in a substantially shearing action. Consequently unless these coacting faces are in exact alinement a space will be formed between them into which some of the leather of the heel will flow and form a roughened pro-

jection on the upper edge of the breast of the heel at its junction with the beveled portion of the seat. A heel on which such roughened projection has been formed is almost as undesirable as one in which the breast end of the seat has not been beveled, because said roughened projection will cut into the shank portion of the sole of a shoe as the heel is being attached and will make an indentation that will show plainly after the breast of the heel has been trimmed off. It is almost impossible, however, to prevent a roughened projection of this character from forming on a heel that is compressed in dies such as compressing-machines have heretofore been provided with, because in machines of this character the acting face of the breastplate cannot be kept in exact alinement with the end face of the lip on the follower, and as a space is accordingly formed between these faces some of the leather of the heel will flow into it and form a roughened projection on the upper edge of the breast of the heel. To prevent the formation of this objectionable projection on the upper edge of the breast of the heel during the compressing operation, I have devised a follower or mold that is provided with a heel-seat-engaging face and a connected breastplate, the acting face of the breastplate and the heel-seat-engaging face being connected by a curved surface which will round off the upper edge of the breast of the heel or that edge formed by the junction of the seat and breast, and as one continuous surface is thus provided for acting upon both the seat and the breast of the heel there is no possibility of a roughened projection forming at the junction of these two faces. Preferably the portion of the mold which rounds off the upper edge of the breast of the heel is formed with a curved surface which merges into the face that engages the breast of the heel.

In the drawings, Figure 1 is an elevation, partly in section, of portions of a heel-compressing machine provided with my improved follower. Fig. 2 is an enlarged section of the compressing-dies of said machine, and shows a heel-blank in position to be op-

erated upon. Fig. 3 is a perspective view showing the follower or mold in an inverted position. Fig. 4 is a perspective view of the buffer-plate provided with a guideway to receive the breastplate depending from the follower. Fig. 5 is a perspective view, partly in section, of a heel on which a roughened projection was formed during the compressing operation; and Fig. 6 is a perspective view, partly in section, of a heel that has been compressed in a machine provided with my improved follower.

My invention is shown in Fig. 1 as applied to a heel-compressing machine, such as is now in general use. As such machine forms no part of my invention, however, it is not described; but it should be understood that the application of my invention is not limited to any particular type of heel-compressing machine.

In the preferred form of my invention, as shown in Fig. 3 of the drawings, the follower or mold 2 has a heel-seat-engaging face 8 for molding the seat-face of the heel, said follower being provided with a connected breastplate 4 for acting upon the breast of the heel and also provided with a lip 12 for forming a bevel in the breast end of the seat of the heel. The said lip constitutes a portion of the heel-seat-engaging face and has an acting face which is connected with the acting face of the breastplate by a curved surface 7, that is adapted to engage and round off the upper edge of the breast of the heel or that edge formed by the junction of the breast 6 and the beveled portion 11 of the seat 10, as shown in Fig. 6.

In Fig. 5 is shown a portion of a heel that has been compressed in dies such as heretofore have been ordinarily used, the roughened projection formed thereon during the compressing operation being designated by the character 14. It can be readily seen that such a roughened projection or even a sharp edge could not be formed on a heel compressed by my improved follower or mold, because the portion of the follower that acts on the upper edge of the breast is curved, as shown at 7 in Figs. 2 and 3. As said curved surface forms a connection between the heel-seat-engaging face and the acting face of the breastplate, these two faces are merged into one continuous surface, which molds the seat-face of the heel, forms a bevel in the breast end of the seat, acts on the breast, and rounds off the upper edge of the breast at its junction with the beveled portion of the seat. Preferably the curved surface on the mold merges into the acting face of the breastplate, so that the mold forms on the upper edge of the breast of the heel a curved surface which merges into the face of the breast of the heel.

Preferably I provide means for reinforcing the breastplate to prevent too great strain on

the breastplate during the compressing operation, which might result in frequent breakage of the breastplate or at least in frequent displacement of the mold. In the machine to which I have shown my present invention applied I have employed for this purpose a buffer-plate 18, mounted on the cross-head 22, which carries the pressure-plate 24 and the radially-moving dies 26, said buffer-plate being provided with a guideway 20 to receive the breastplate 4 when the dies are in their closed position.

While in illustrating the preferred form of my invention I have shown the breastplate as formed integral with the heel-seat die, and while I believe that I am the first so to form a heel-compressing mold and desire to claim the same broadly, nevertheless my invention, so far as it relates to means for rounding the upper edge of the breast of the heel, is of course not limited to such a construction.

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

1. A follower or mold for compressing heels, provided with a heel-seat-engaging face, a heel-breast-engaging face, and a lip for forming a bevel in the breast end of the seat of a heel.
2. A follower or mold for compressing heels, provided with a heel-seat-engaging face, a heel-breast-engaging face, and a curved surface connecting said faces for rounding off the upper edge of the breast of a heel.
3. A follower or mold provided with a heel-seat-engaging face, a lip for forming a bevel in the breast end of the seat of a heel, and a connected breastplate, the acting face of the lip being curved downwardly and merging into the acting face of the breastplate.
4. A follower or mold provided with an engaging face and a lip for molding the seat-face of a heel, and a breastplate for acting upon the entire breast-face of the heel, said mold also having a curved portion to round off the upper edge of the breast of the heel.
5. A follower or mold for compressing heels, provided with a heel-seat-engaging face, and a breastplate formed integral therewith for acting upon the entire breast of the heel.
6. A follower or mold provided with a heel-seat-engaging face, a breastplate formed integral therewith for acting upon the breast of the heel, and a curved surface for rounding off the upper edge of the breast of the heel.
7. A follower or mold provided with an engaging face and a lip for molding the seat-face of a heel, and a breastplate formed integral therewith for acting upon the entire breast-face of the heel, said mold also having a curved portion for rounding off the upper edge of the breast of a heel.
8. In dies for compressing heels, a follower or mold provided with a connected breast-

plate, in combination with means for reinforcing the breastplate when the dies are in their closed position.

9. In dies for compressing heels, a follower
5 or mold having a connected breastplate, in combination with a buffer-plate provided with a guideway to receive the breastplate on the follower.

10. A follower or mold comprising a heel-
10 seat-engaging face, a face for acting upon the breast of a heel, and a curved surface connecting the heel-seat-engaging face with the breast-engaging face and merging into the breast-engaging face.

11. A follower or mold comprising a heel- 15
seat-engaging face, a face for acting upon the breast of a heel, and a lip for forming a bevel in the breast end of the seat of the heel, said lip being formed with a curved surface which merges into the face for acting upon the breast 20
of the heel.

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

BENJAMIN F. MAYO.

Witnesses:

WILHELMINA C. HEUSER,
BERTHA L. HANNAH.