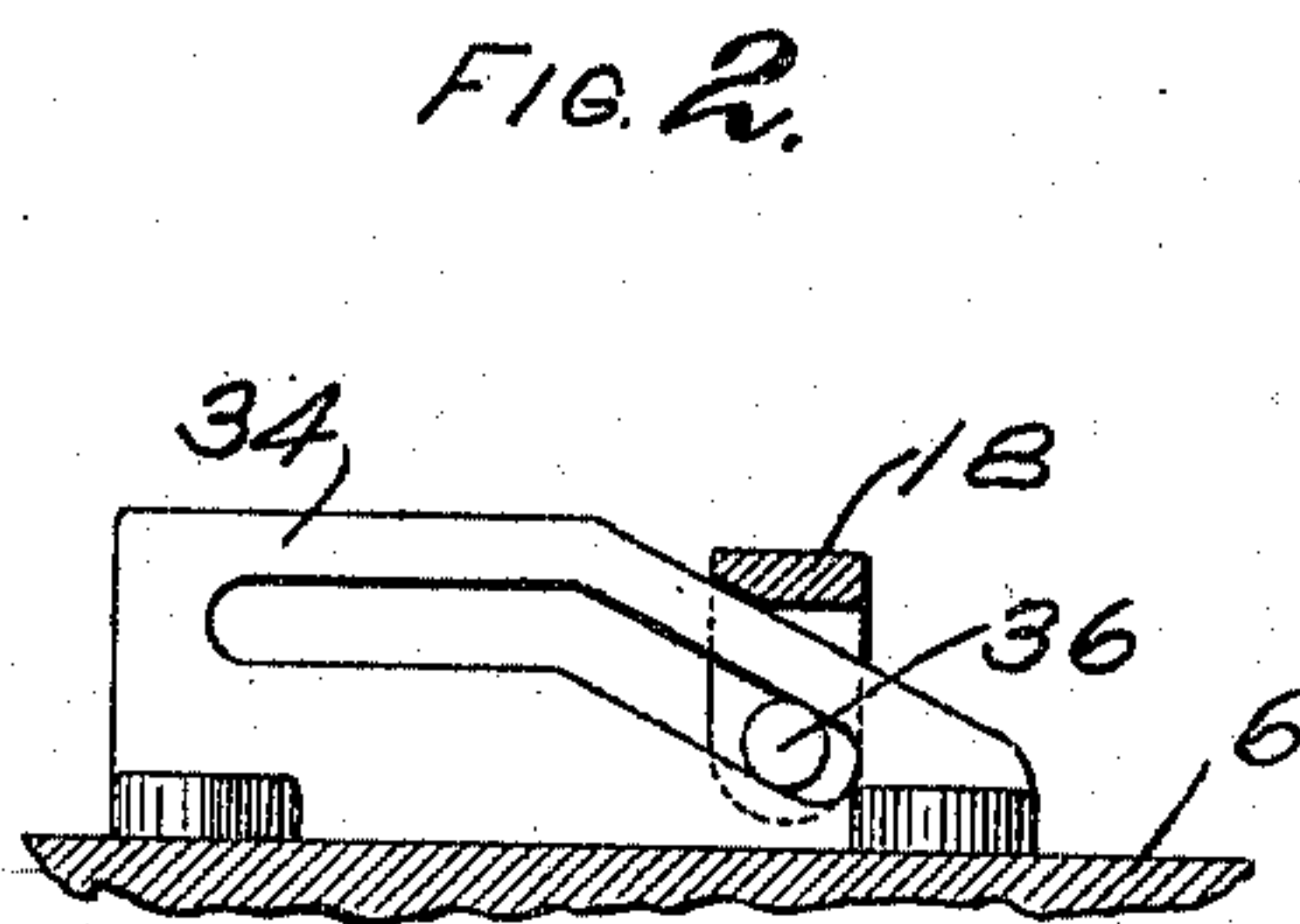
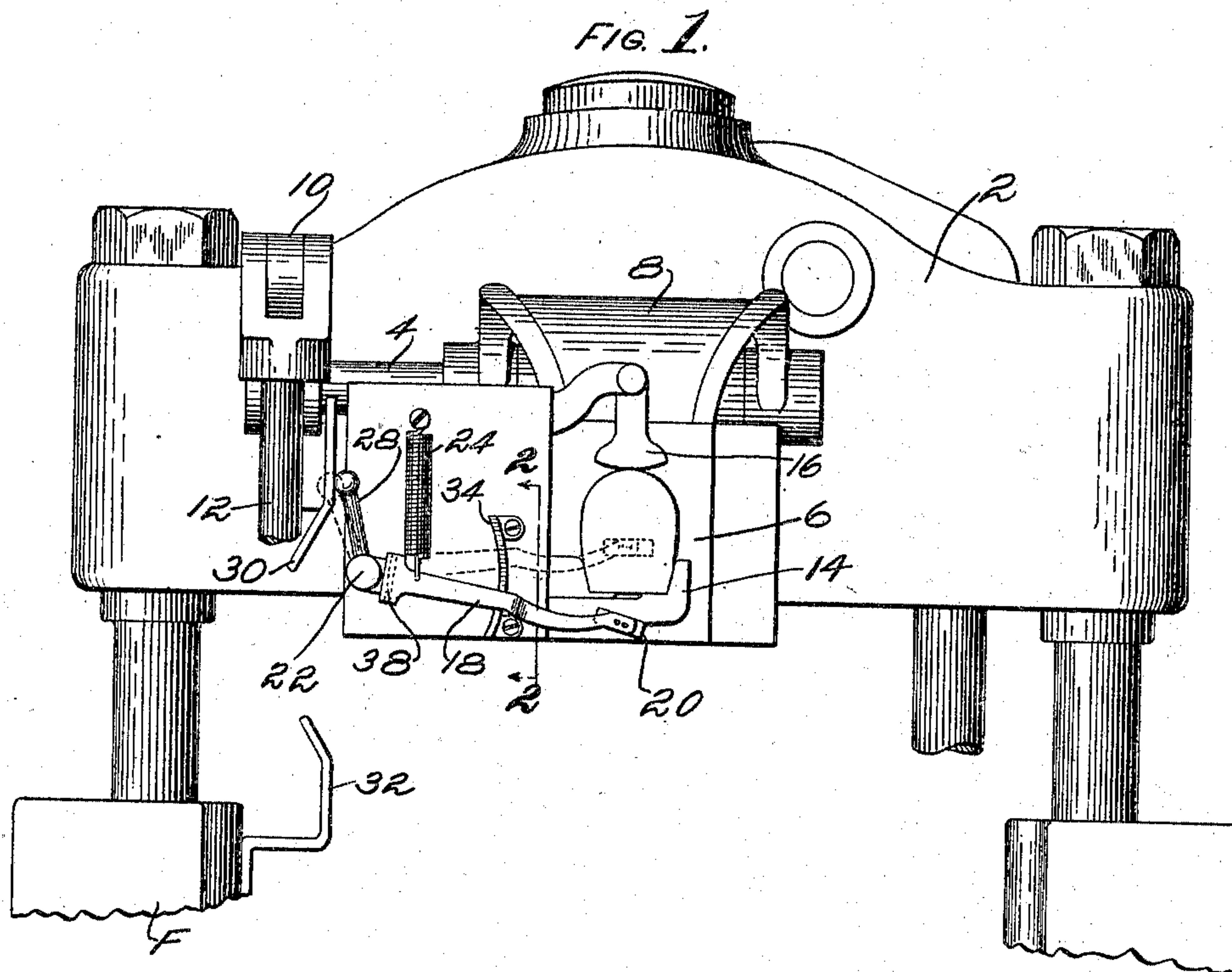


W. C. STEWART.
 WORK HOLDER FOR HEELING MACHINES.
 APPLICATION FILED MAR. 2, 1908. RENEWED NOV. 22, 1909.
 958,038. Patented May 17, 1910.
 2 SHEETS—SHEET 1.



WITNESSES:

Wm. G. Ogden
 Amelia M. Ross

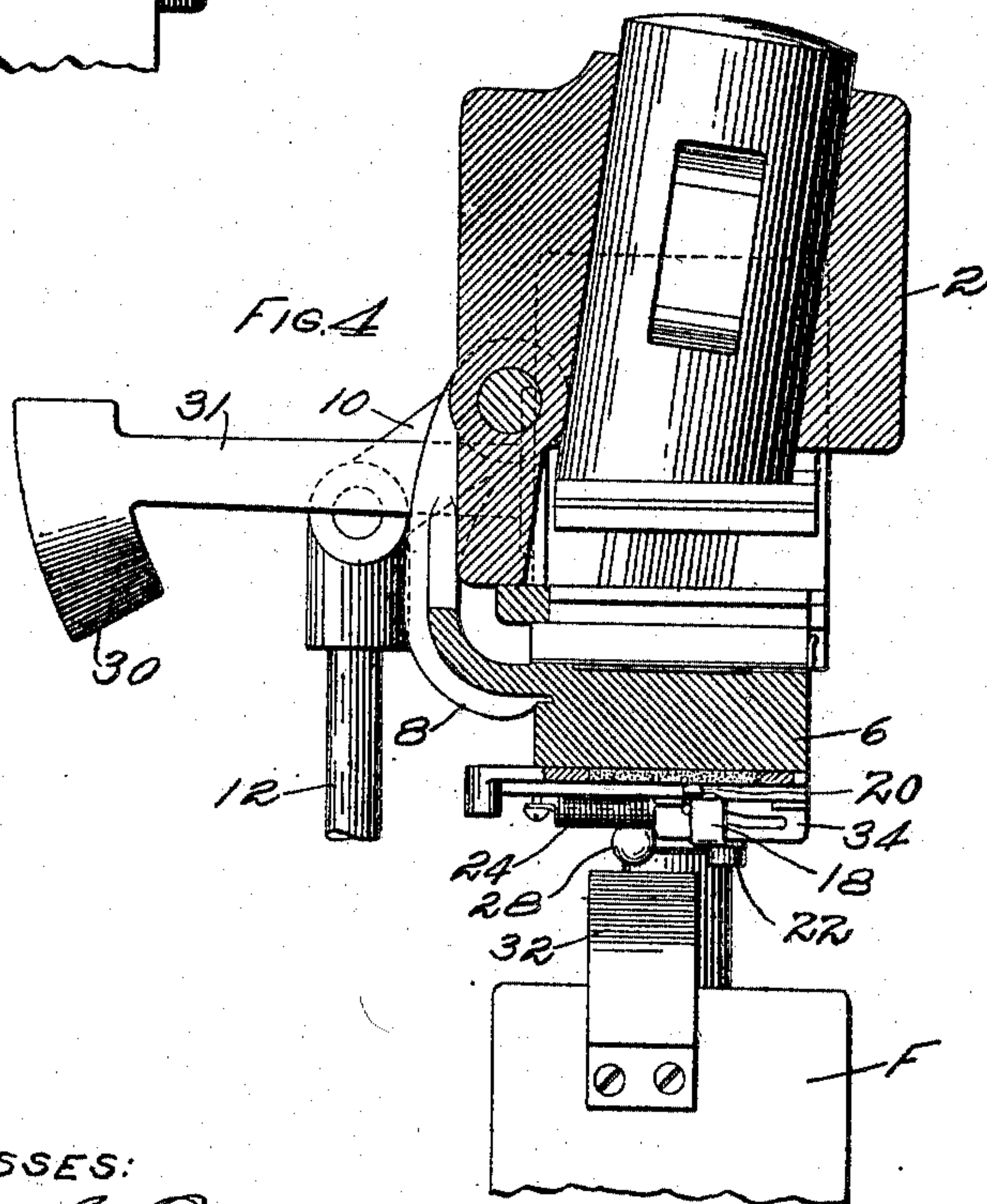
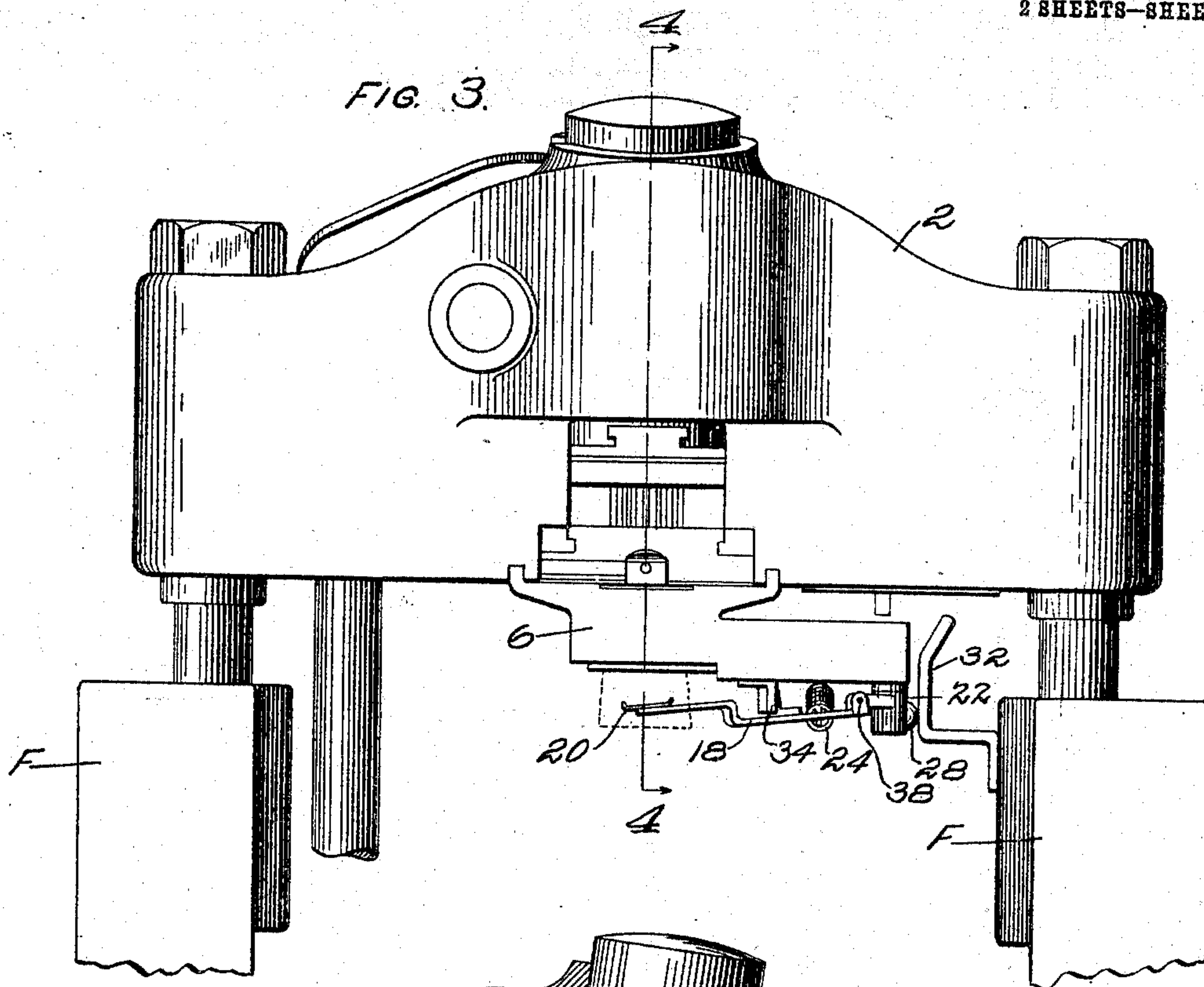
INVENTOR,
 WILLIAM C. STEWART
 BY Robt. P. Hains.
 ATTY.

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WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM C. STEWART, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THOMAS G. PLANT,
OF BOSTON, MASSACHUSETTS.

WORK-HOLDER FOR HEELING-MACHINES.

958,038.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed March 2, 1908, Serial No. 418,705. Renewed November 22, 1909. Serial No. 529,310.

To all whom it may concern:

Be it known that I, WILLIAM C. STEWART, a subject of the King of Great Britain, residing at Lynn, in the county of Essex and State of Massachusetts, have invented an Improvement in Work-Holders for Heeling-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to a work holder for use in boot and shoe machines and more particularly to a top lift detainer for use in what are generally known as "heel attaching machines."

Machines of the character indicated are generally provided with a top lift carrier which is normally in such position that the operator, or his assistant, may with convenience place a top lift in engagement with suitable positioning devices with which the carrier is generally provided. This carrier is thereafter moved to a position relative to the shoe so that the top lift may be properly secured thereon. As a top lift is relatively thin it is rather difficult to maintain it in engagement with its positioning devices, which generally engage it by its lateral surface only, during the movement of the carrier from top lift receiving position to operating position. It is therefore desirable that means be provided for insuring the retention of the top lift upon its carrier during the movement of the carrier and up to the time that the securing operation takes place.

One object of the present invention is to provide an improved top lift detainer adapted to cooperate with top lift positioning means to insure the retention of the top lift thereagainst until it is desired, in the operation of the machine, to remove the top lift therefrom.

Another object of the invention is to provide a top lift detainer which will not interfere with the ready placing of the top lift against the positioning devices, as well as not interfering with the ready securing of the top lift to the heel.

Another object of the invention is to provide improved means for withdrawing top lift detaining means from operative position relative to the top lift positioning devices.

To the accomplishment of these objects

and such others as may hereinafter appear, as will be readily understood by those skilled in the art, the invention comprises the general features and combinations of parts hereinafter described and more particularly pointed out in the appended claims.

The various features of the invention will be best understood from a description of one embodiment thereof such, for instance, as is shown in the accompanying drawings, in which the invention is shown as applied to the heel attaching machine described and illustrated in the co-pending application for United States Letters-Patent of Thomas G. Plant, Serial No. 414,707, filed February 7, 1908.

In the drawings: Figure 1 is a rear elevation of the reciprocatory cross head of the machine of said co-pending application, the cross head being at the upper end of its stroke and the top lift carrier being in top lift receiving position; Fig. 2 is a sectional detail, in elevation, on the line 2—2 of Fig. 1; Fig. 3 is a front elevation of the parts shown in Fig. 1 with, however, the cross head at the lower end of its stroke and the top lift carrier in position for securing a top lift to a heel, a heel being shown in dotted lines; and Fig. 4 is a transverse section, in elevation, on the line 4—4 of the parts shown in Fig. 3, the cross head, however, being at the upper end of its stroke, prior to its descent for securing a top lift to a heel.

In the illustrative embodiment of the invention, 2 is a reciprocatory cross head, provided at its rear side with a rock shaft 4, to which is secured a top lift carrier 6 by means of a bracket 8. The rock shaft 4 is oscillated to bring the top lift carrier from top lift receiving position, as shown in Fig. 1, to its operating position as shown in Fig. 3, by means of a crank 10, secured to the rock shaft 4, and actuated by reciprocation of a rod 12. The top lift carrier 6 is provided with means for positioning a top lift thereon, herein shown as a top lift holder having breast gages 14 and back gage 16, for engaging the lateral surface of the top lift.

The parts heretofore described all may be, and preferably are, substantially similar to those shown and described in the co-pending application of Thomas G. Plant heretofore referred to.

It is obvious that as the top lift carrier 6 is brought from top lift receiving position to operating position there is great danger of the top lift being disengaged from its positioning devices either by jarring of the machine or the shock to which the carrier is subjected in its rapid movement, or possibly by the loosening of the hold of the positioning devices upon the top lift, such hold being at most rather precarious. Top lift detaining means have, therefore, been provided to cooperate with the positioning devices, or top lift holder as is herein shown, and insure the retention of the top lift in position for proper securing to the heel. A simple way to achieve this end is to provide a detaining device adapted to extend over the top lift thereby forming with the positioning devices a box-like structure within which the top lift is effectively held during its movement heretofore described.

In the embodiment of the invention selected for illustrative purposes, a top lift detaining device of the character described is provided and is shown as a finger 18 having an engaging foot 20, said finger being fulcrumed on a pin 22 upon the carrier 6 and held normally in the position shown in dotted lines in Fig. 1, by means of a suitably connected spring 24. A stop hereinafter described limits the inward movement of the finger 18.

If the detainer 18 were permitted to remain in the position shown by dotted lines in Fig. 1, at the time the top lift carrier is in top lift receiving position, it is obvious that it would be a direct obstruction to a ready placing of a top lift in engagement with the positioning devices. It is true that the foot 20 might be made of such proportions and be so placed that a top lift could be slipped in behind it, without disturbing it, and thus into engagement with the positioning devices, but when made of such proportions the detainer is not in a position where it is entirely effective as a retaining device. It is clear that if the detaining foot merely overlapped the edge of the top lift such a short distance as would permit the free insertion of a top lift behind it and into engagement with the positioning devices, the top lift would not be held tightly enough so that it could not be as freely disengaged by reason of the shock incident to moving the carrier into operating position or from a jarring of the machine. It is, therefore, desirable that the retaining portion of the detainer be so arranged as to extend some distance over the top lift and thus entirely eliminate danger of the top lift being released therefrom under all conditions incident to the operation of the machine. When made of such proportions as to gain the desired end, a top lift cannot be placed on the carrier without removal of the

detainer. It is desirable, therefore, that means be provided for quickly removing the detainer from its retaining position relative to the top lift positioning devices so that a top lift may be freely placed upon the carrier when it is in top lift receiving position. To gain this end, in the present embodiment of the invention, the detainer is provided with an arm 28 extending outwardly from the fulcrum 22, and a cam surface 30 is provided in such position that as the top lift carrier is brought from operating position, as shown in Fig. 4, to top lift receiving position, as shown in Fig. 1, the end of the arm 28 will engage the cam 30 and the detainer will be moved thereby about the fulcrum 22 and against the force of the spring 24, into the full line position shown in Fig. 1. The cam surface 30 is carried by a bracket 31 extending from the cross head 2. Thus, means is provided for removing the detainer from top lift retaining position as the carrier is brought to a position for receiving a new top lift, such means, as herein shown, being preferably automatically operating.

In the operation of the machine described in the co-pending application heretofore referred to, the top lift carrier, which acts as a spanker plate, is brought into operating position, as shown in Fig. 4, while the cross head 2 is at the upper end of its stroke. The detainer foot 20 is at this time in a position adjacent to the exposed face of the top lift, as shown in said figure, by reason of the fact that the arm 28 has been moved out of engagement with the cam 30 and the spring 24 has acted to return the detainer into the dotted line position shown in Fig. 1. In the further operation of the machine, the cross head descends to the position shown in Fig. 3, to blind nail the top lift upon a heel. During this descent of the cross head, the arm 28 engages a second cam surface 32 secured to the frame F of the machine, the cam being so designed that the detainer is again removed from its position over the exposed face of the top lift so that the top lift may be spanked on to the heel and then be free to be withdrawn from its positioning devices when the cross head again rises. Means is thus provided for removing the top lift detainer from its retaining position both before a top lift is placed on the carrier and before said top lift is secured to a heel. This is very advantageous as it permits a ready placing of a top lift upon its carrier and insures holding the top lift upon the carrier during its movement to operating position and a free removal of the top lift from its positioning devices after it has been secured to a heel.

The detainer is preferably designed so that its foot 20 may engage the exposed face of the top lift, although it should be under-

stood that actual engagement with the top lift is not at all essential to a proper operation of the device. As the exposed face of the top lift is provided with glue, to aid holding it upon the heel, it is obvious that the detainer foot 20 will ordinarily become somewhat coated with the sticky material with which the top lift is covered. In order to insure a ready removal of the detainer foot 20 from the face of the top lift, and to prevent the glue carried by the detainer foot from becoming smeared upon the positioning devices or other parts of the top lift carrier with which it may come in contact, it is desirable that in removing the detainer from retaining position it be moved upwardly away from the top lift, and the parts of the top lift carrier, as well as outwardly therefrom. To achieve this end, and referring to Fig. 2, the top lift carrier is provided with a cam groove 34 arranged to be engaged by the detainer and lift the same upwardly, away from the top lift, as it is caused to move outwardly by the cam surfaces 30 and 32. This is accomplished by mounting upon the finger 18 a roll 36, which enters the cam groove 34, and hinging the finger 18, as at 38, in a manner to permit upward and downward movement of the foot 20 as the roll 36 travels along the cam groove. Thus a simple and efficient means is provided to prevent glue being smeared on the top lift carrier and the parts sustained thereby. With this construction the detainer, when in top lift retaining position, is held positively in such position and cannot be removed therefrom by the jarring of the machine, as would be the case were it placed under merely a yielding tension. It is also convenient with this construction to utilize the inner end of the cam slot 34 as a stop to limit the inward movement of the detainer under force of the spring 24.

The detainer foot 20 is preferably made in an arched form, as shown more particularly in Fig. 3. This is advantageous in the following respects. When the cam 34 is so designed that an engagement with the face of the top lift is effected, the engaging surface of an arched foot is of very small area and thus a minimum of glue is picked up thereby. At the same time the arched form of the foot affords an engagement at widely separated points for firmly holding the top lift in place.

It is obvious that various features of this invention as defined by the claims may be used in detaining heel blanks as well as in detaining top lifts and, therefore, in the appended claims, where the context permits, the term "top lift" is to be understood as including within its meaning a heel blank or other analogous object.

While the particulars of construction herein set forth are well suited to one form

of the invention, it is not to be understood that these particulars are essential, since they may be variously modified within the skill of the artisan, without departing from the true scope of the actual invention, as defined by the following claims.

What is claimed as new is:

1. In a machine of the character specified, a top lift carrier provided with devices for positioning a top lift on its carrier, a detainer, means for extending said detainer relatively to said positioning devices to form a box-like structure for retaining the top lift on its carrier, and provision for removing said detainer from its said position as said carrier is moved to receiving and to attaching positions to permit ready engagement of the top lift with its positioning devices and its removal therefrom in the securing operation.

2. In a machine of the character specified, a top lift carrier having top lift holding devices, means to move said carrier into and out of operating position, a top lift detainer extending over the carrier for retaining the top lift on its carrier and with relation to its holding devices, and means for moving said detainer out of top lift retaining position at each end of the carrier movement, to permit the top lift to be freely placed upon its carrier and freely removed therefrom when secured to a heel.

3. In a machine of the character specified, a top lift carrier, actuating means for moving the carrier from top lift receiving to attaching positions, a device extending over the surface of the top lift to retain it on its carrier, and means for moving said device into top lift retaining position as the carrier moves from receiving position, and means to remove it from over the top lift as the carrier reaches top lift attaching position.

4. In a machine of the character specified, a spanker plate provided with a top lift holder, a device extending over the holder for retaining a top lift within said holder, and automatically operating means to withdraw said device from its position over the holder prior to placing a top lift therein.

5. In a machine of the character specified, a top lift carrier, means for moving it from top lift receiving to attaching position, a detainer for extending over the exposed face of the top lift to retain it on its carrier as it moves from receiving to attaching position, and means for causing withdrawal of said detainer from its top lift retaining position by an upward and outward movement relatively to the top lift as said carrier moves to attaching position.

6. In a machine of the character specified, a top lift carrier, a top lift detainer sustained thereby and extending over the carrier, means for maintaining said detainer in

top lift retaining position, means to move the carrier to top lift receiving and attaching positions, and a cam arranged to be engaged by said detainer and cause its removal
5 from top lift retaining position before the top lift carrier reaches receiving position and attaching position respectively.

7. In a machine of the character described, a top lift carrier, a detaining device extending over the top lift, and two
10 cams arranged to be engaged by said device one operating to cause movement of the detaining device vertically relative to the top lift and the other operating to cause move-
15 ment thereof horizontally relative to the top lift.

8. In a machine of the character specified, a top lift carrier, operating means therefor, a top lift detainer comprising a lever ful-
20 crumed on the carrier having one end normally engaging a portion of the exposed

face of the top lift, and means to engage the other end of said lever and remove said detainer from top lift engaging position as the carrier reaches receiving and attaching
25 positions.

9. In a machine of the character specified, a top lift carrier, devices thereon for engaging the lateral surface of the top lift, a device for engaging a face of the top lift
30 comprising a bearing foot for contacting with the top lift at widely separated points, and means for withdrawing said bearing foot from operative position as the top lift carrier reaches attaching position.
35

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

WILLIAM C. STEWART.

Witnesses:

JOHN J. HEYS,
REDFIELD H. ALLEN.