No. 719,077.

PATENTED JAN. 27, 1903.

G. H. BICKLEY.

RELASTING MACHINE.

NO MODEL.

APPLICATION FILED APR. 12, 1902.

2 SHEETS—SHEET 1.

Fig. 1.

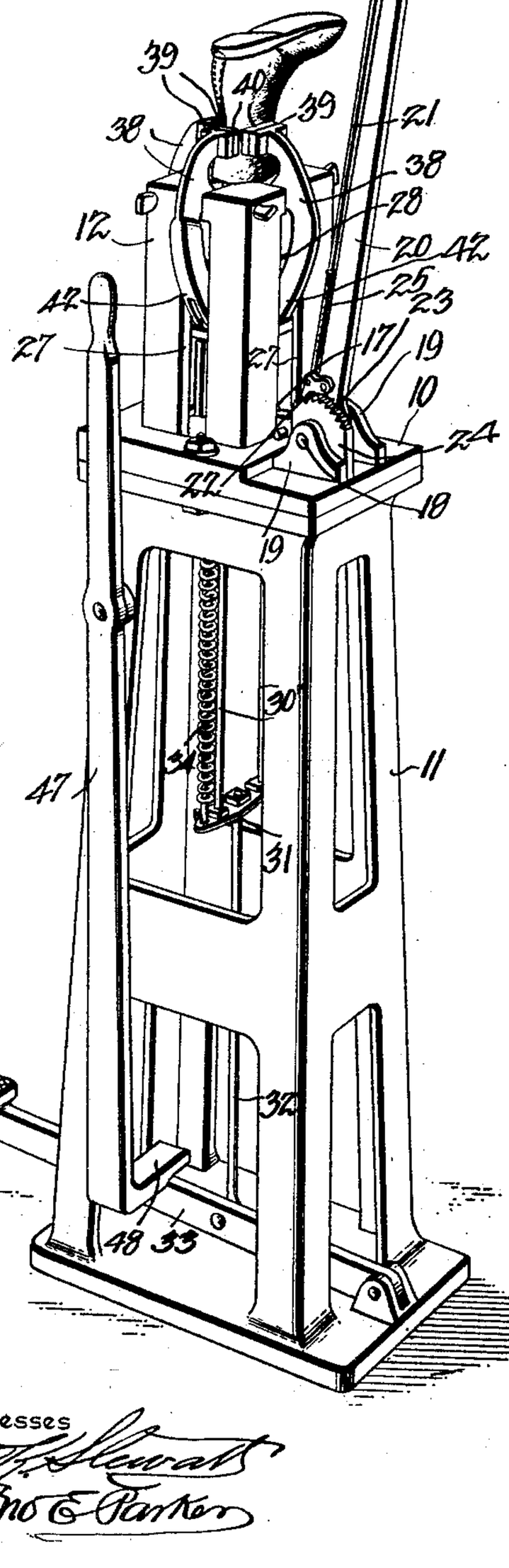


Fig. 4.

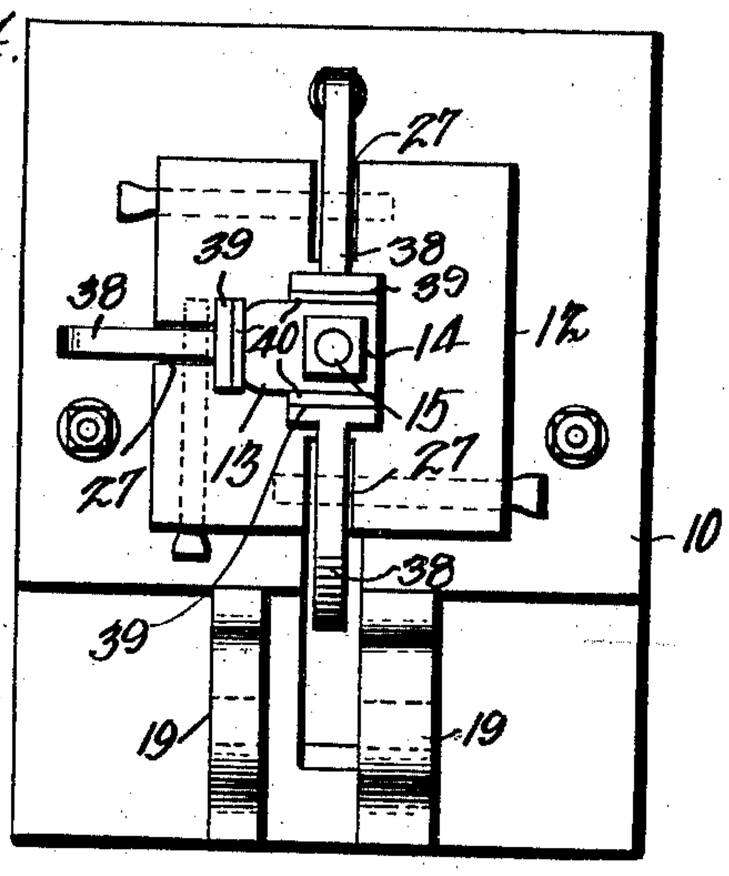


Fig. 5.

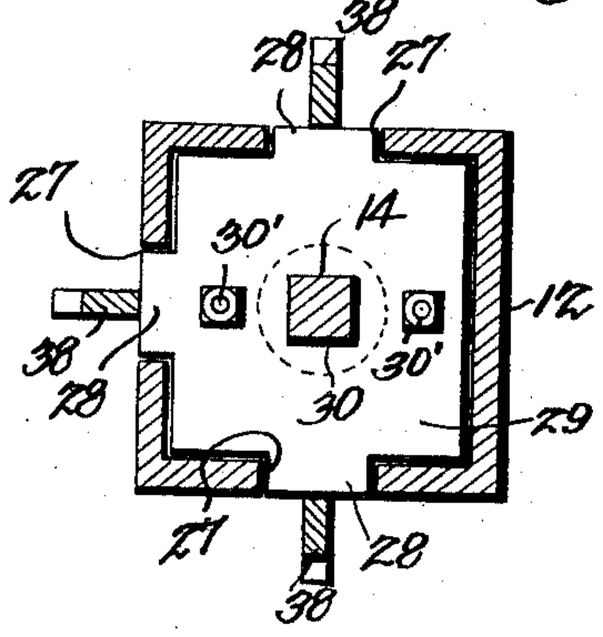
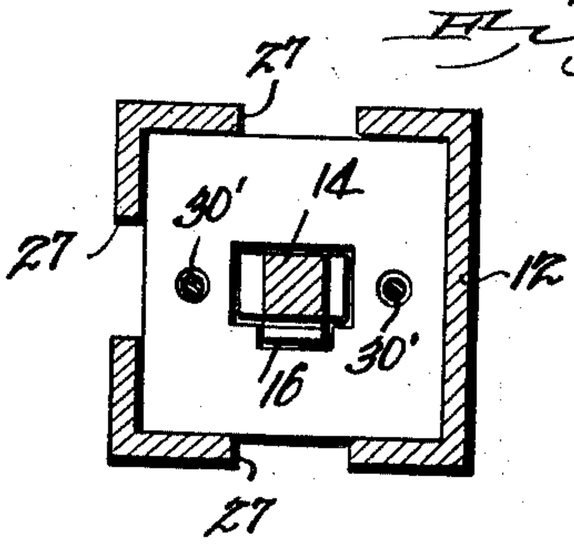


Fig. 6.



Witnesses

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No. 719,077. PATENTED JAN. 27, 1903.

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RELASTING MACHINE.

APPLICATION FILED APR. 12, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

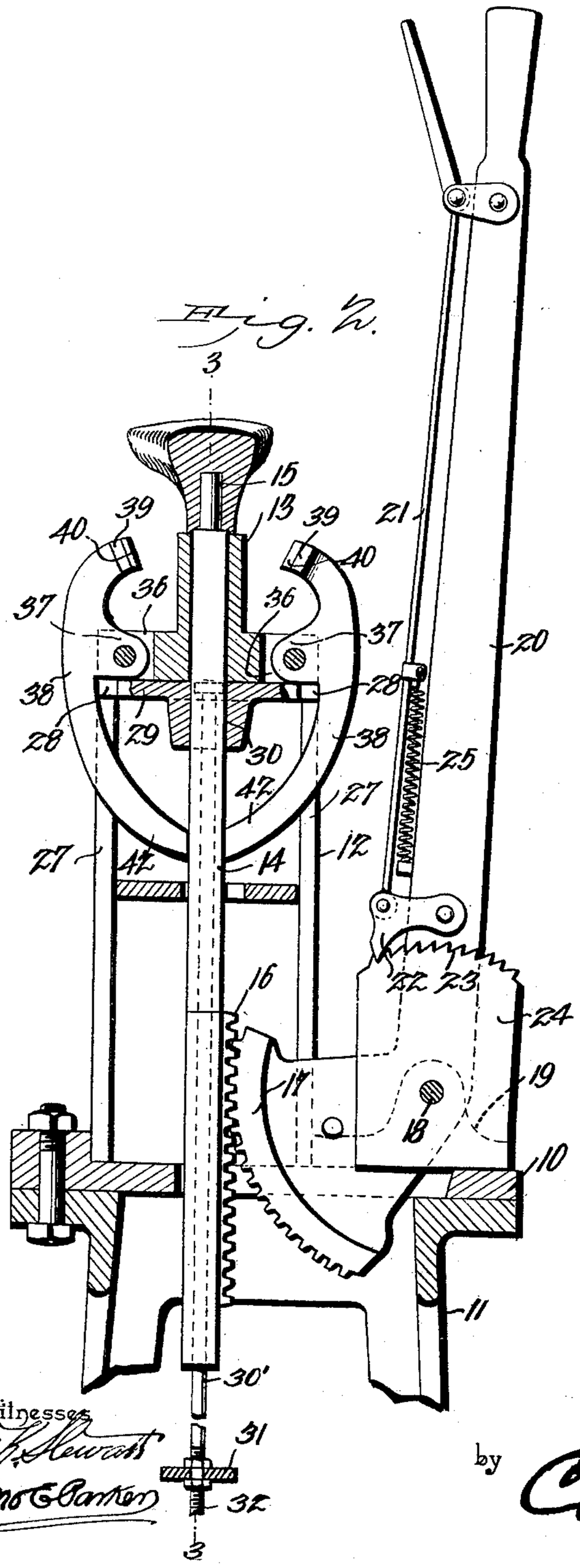
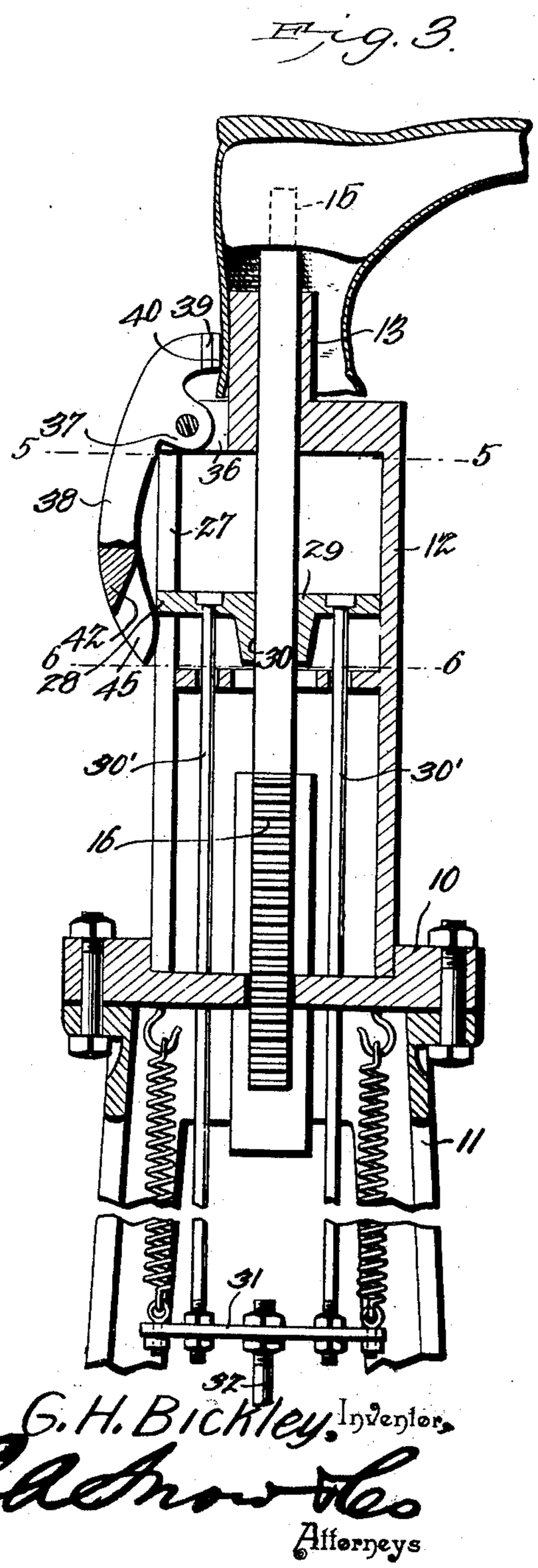


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORGE H. BICKLEY, OF ORWIGSBURG, PENNSYLVANIA.

RELASTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 719,077, dated January 27, 1903.

Application filed April 12, 1902. Serial No. 102,638. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. BICKLEY, a citizen of the United States, residing at Orwigsburg, in the county of Schuylkill and State of Pennsylvania, have invented a new and useful Relasting-Machine, of which the following is a specification.

My invention relates to certain improvements in relasting-machines, and has for its principal object to provide an improved mechanism for inserting a last into a shoe after the sole has been secured in position and for drawing the upper and counter perfectly smooth by mechanical means, thus drawing out all wrinkles in the leather and properly shaping the shoe.

A further object of the invention is to provide for the mechanical stretching of the leather and for adjusting the tensional strain and friction exerted during the work.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a relasting-machine constructed in accordance with my invention. Fig. 2 is a longitudinal sectional elevation of the same. Fig. 3 is a sectional elevation of the machine on the line 3 3 of Fig. 2. Fig. 4 is a plan view of the machine. Figs. 5 and 6 are sectional plan views of the machine on the lines 5 5 and 6 6, respectively, of Fig. 3.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The base-plate 10 is mounted on a suitable table or standard 11 at a convenient height above the floor, or it may, if desired, form an integral part of a suitable supporting-post and be arranged in the manner usual in various classes of shoe machinery. From the base-plate rises a column 12, at the top of which is a substantially rectangular projection 13, forming one member of a clamping-jaw and adapted to fit within the shoe-upper. The projection 13 is provided with a rectangular opening, in which is guided a lifting-rod 14, having at its upper end a pin 15, adapted for the reception of the shoe-last. The lower end of the lifting-rod 14 passes through a guiding-opening in the base-plate, and for a portion of the length of the rod are a series of gear-teeth, forming a rack 16 for engagement with a toothed segment 17, the latter being carried by a pivot-pin 18, adapted to suitable openings in lugs or brackets 19, projecting from the top of the base-plate 10. The segment 17 is secured to or formed integral with a handled operating-lever 20, carrying a handled latch-rod 21 and a pivoted holding-latch 22, which is normally pressed into engagement with locking-teeth 22, formed on the upper edge of a plate 24. A spring 25 is employed to keep the latch in locking engagement with the teeth 23, so that the operator is enabled to hold the rod 14 in any position to which it may be adjusted.

In three of the sides of the column 12 are formed vertical slots 27, into which project lugs 28, carried by a vertically-movable jaw-operating plate 29, the central portion of said plate being provided with an opening 30 for the passage of the lifting-rod. The vertically-movable plate 29 is connected by a pair of rods 30′ to a cross-bar 31, and the center of the latter is connected by a link 32 to a pedal-lever 33, which is fulcrumed to a floor-standard and arranged in convenient position for the operator. The opposite ends of the cross-bar 31 are connected by springs 34 to the bottom of the base-plate, said springs normally tending to maintain the plate 29 and pedal-lever in elevated position. In the upper portion of the column are formed slots 36, in which are fitted lugs 37, projecting from movable jaw members 38, each jaw comprising an upper shoe-engaging plate 39, having its surface covered with leather, rubber, or similar material, as indicated at 40, for engagement with the shoe, and a lower weighted portion 42, which is curved inwardly and adapted for contact with the jaw-operating plate 29. The center of gravity of each of the movable clamping-jaws is within the pivoting-line of the jaw members and below the pivot-pin, so that when released from contact with the jaw-operating plate the gripping-surfaces of the jaw will be swung outwardly by gravity and disengage the shoe-upper. In the present

construction the arrangement of the rods 30′ with relation to the lower end of one of the clamping-jaws is such as to necessitate the slotting of the lower portions of such jaw members, as indicated at 45, although the rods 30′ may be arranged at one side of such jaws, if desired.

At the rear side of the base-plate or to the supporting-standard is pivoted a pedal locking-lever 47, having laterally-projecting arm 48 arranged at its lower end for engagement with the top of the pedal-lever and serving to hold said pivoted lever in the depressed position, with the shoe-upper clamped between the movable jaw members 38 and the stationary jaw member 13.

In the operation of the device a last is placed on the pin 15 and the shoe is pulled down over the last, or this preliminary operation may be carried on at a separate work-table having a suitable pin-standard for the support of the last. When the last is inserted, the rod 14 is in depressed position and the jaws 38 are fully opened, permitting the passage of the upper between the stationary jaw member 13 and a movable clamping-jaw 38. The operator then depresses the pedal-lever 33, causing a downward movement of the jaw-operating plate 29 and closing the jaw firmly on the shoe-upper. The jaws are held in clamping position by moving the locking-lever 47 to engaging position. When this is done, the operator depresses the segment-lever 20 and elevates the rod 14 and last, forcing the last fully into the shoe and stretching the counter and upper smoothly over the heel portion of the last. The shoe is maintained in position, the leather being held taut for any desired length of time, and while in this position the shoe may be ironed, if necessary. The pressure exerted on the clamping-jaws may be regulated by the operator and the pedal held in any desired position, so as to permit the slipping of the upper to some little extent should the shoe not be properly adjusted in position, and the pressure exerted to raise the last into the shoe is as a matter of course directly under the control of the operator, the last being locked by the latch 22 in any position to which it may be adjusted.

While the construction herein described, and illustrated in the accompanying drawings, is the preferred form of the device, it is obvious that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim is—

1. The combination in a relasting-machine, of a last-supporting member, a clamping member comprising a relatively stationary jaw adapted to fit within the shoe and a plurality of movable jaws for coöperation with said relatively stationary jaw, and means for moving one of said members from and toward the second member.

2. The combination in a relasting-machine, of the last, a movable support for said last, means for imparting a reciprocating movement to said support, a relatively stationary clamping-jaw adapted to fit within the shoe-upper, a plurality of movable clamping-jaws for coöperation with the stationary jaw, and means for simultaneously closing said movable jaws.

3. The combination in a relasting-machine, of the last, a support therefor, means for adjusting said support, a stationary clamping-jaw, a plurality of movable clamping-jaws cooperating therewith, and means for closing said movable jaws.

4. The combination in a relasting-machine, of the movable last-support, a stationary jaw, a series of movable jaws, and means for simultaneously opening said movable jaws and for simultaneously closing the same.

5. The combination in a relasting-machine, of the stationary jaw member, a plurality of movable clamping-jaws for coöperation therewith, means for simultaneously operating the movable jaws, means for holding said jaws in closed position, a last-support, means for adjusting said support, and means for locking the support in adjusted position.

6. The combination in a relasting-machine, of the stationary clamping-jaw, a last-support guided by said jaw, a last adapted to the support, means for moving the last-support, a series of pivoted jaw members, a plate adapted to operate simultaneously on all of said pivoted jaw members, and means for operating said plate.

7. The combination in a relasting-machine, of the clamping-jaws comprising a stationary jaw member, and a plurality of pivoted jaw members, a movable plate for operating said pivoted jaw members, springs normally tending to move the plate to inoperative position, a pedal-lever operatively connected to said plate, means for locking the pedal-lever in adjusted position, a movable last-support and means for operating said last-support.

8. The combination in a relasting-machine, of a movable last-support, means for operating the same, a stationary clamping-jaw, a series of pivoted clamping-jaws having counterweighted lower ends and adapted to move to open position by gravity, a guided plate adapted to operate simultaneously on all of the movable jaws, a pedal-lever connected to said plate, and means for locking said pedal-lever in an adjusted position.

9. The combination in a relasting-machine, of the last-support, means for moving the same, a stationary jaw member adapted to fit within the shoe-upper, a series of pivoted clamping-jaws having yielding clamping-faces and movable by gravity to open position, a guided plate adapted to operate simultaneously on all of the movable jaws, a cross-

bar, rods extending therefrom to said plate, springs connecting said bar to a stationary portion of the machine, a pedal-lever, a rod connecting the pedal-lever to said cross-bar, and a pivoted locking-lever having a projecting member adapted to engage with and hold the pedal in depressed position.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEO. H. BICKLEY.

Witnesses:
ISAAC MORGAN,
J. R. SHOENER.