

(No Model.)

2 Sheets—Sheet 1.

A. F. PRESTON.
LASTING MACHINE.

No. 594,179.

Patented Nov. 23, 1897.

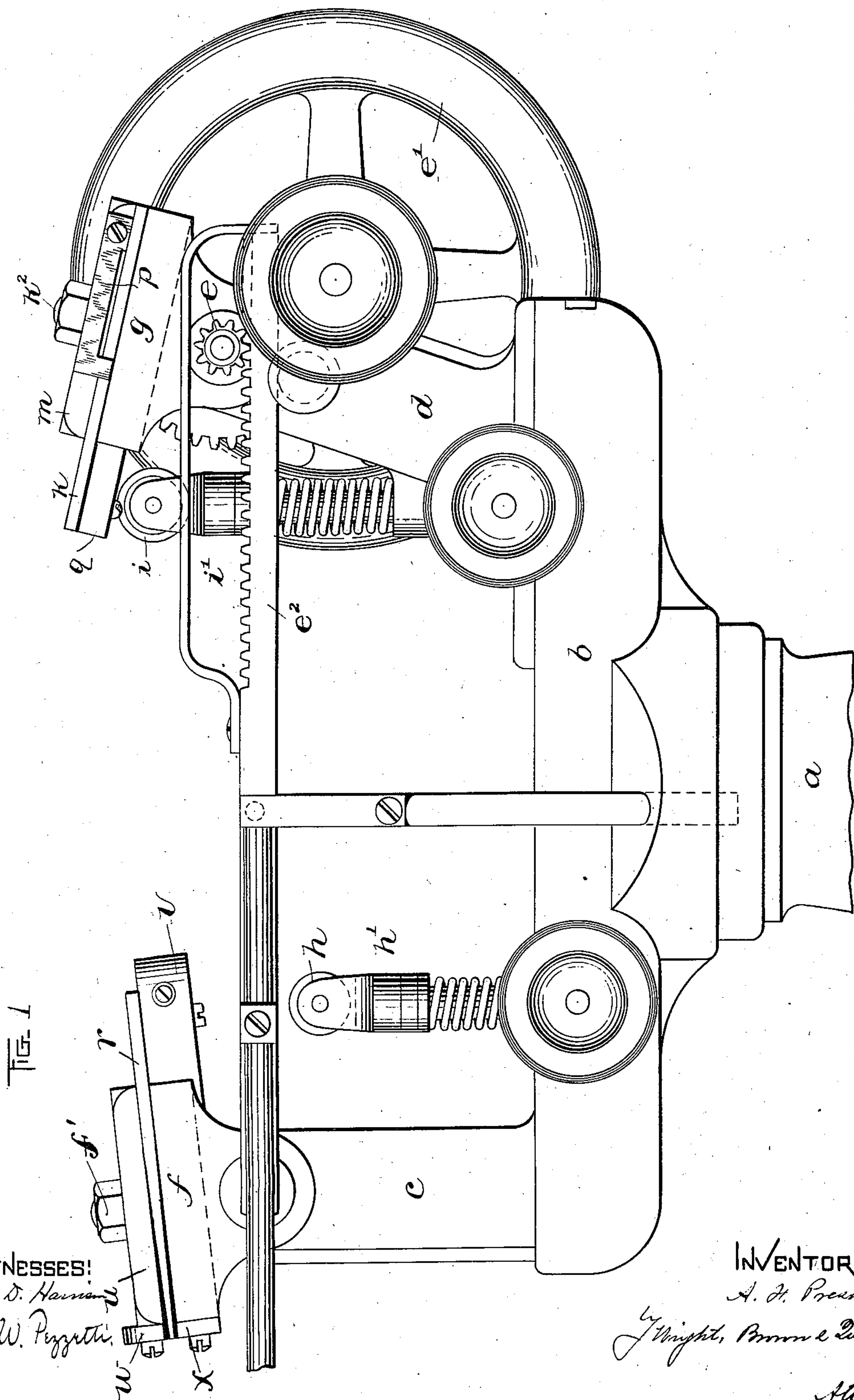


FIG. 1

WITNESSES:

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P. W. Pezzetti

INVENTOR:

A. F. Preston

By Wright, Brown & Quincy

Attys

(No Model.)

A. F. PRESTON.
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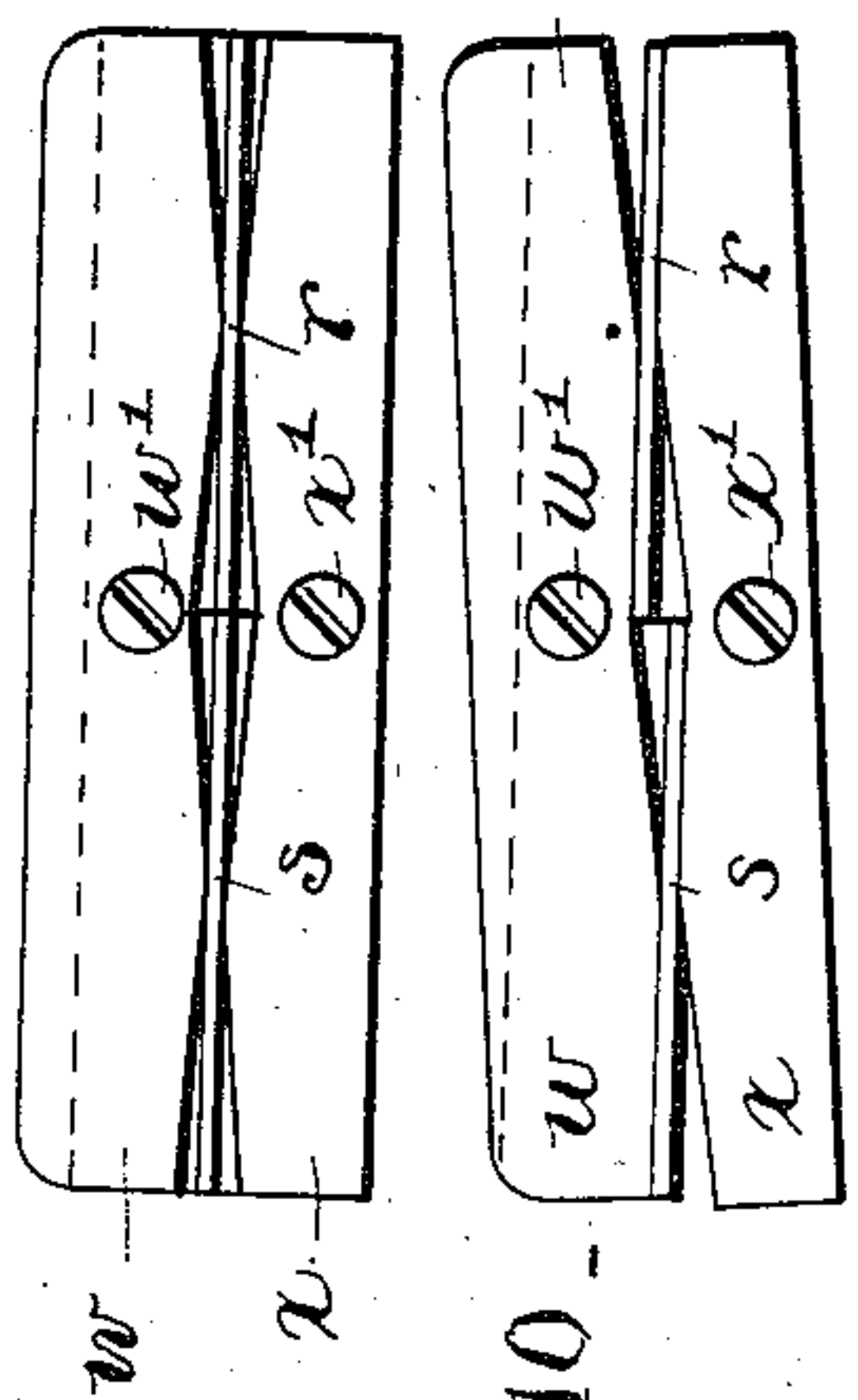
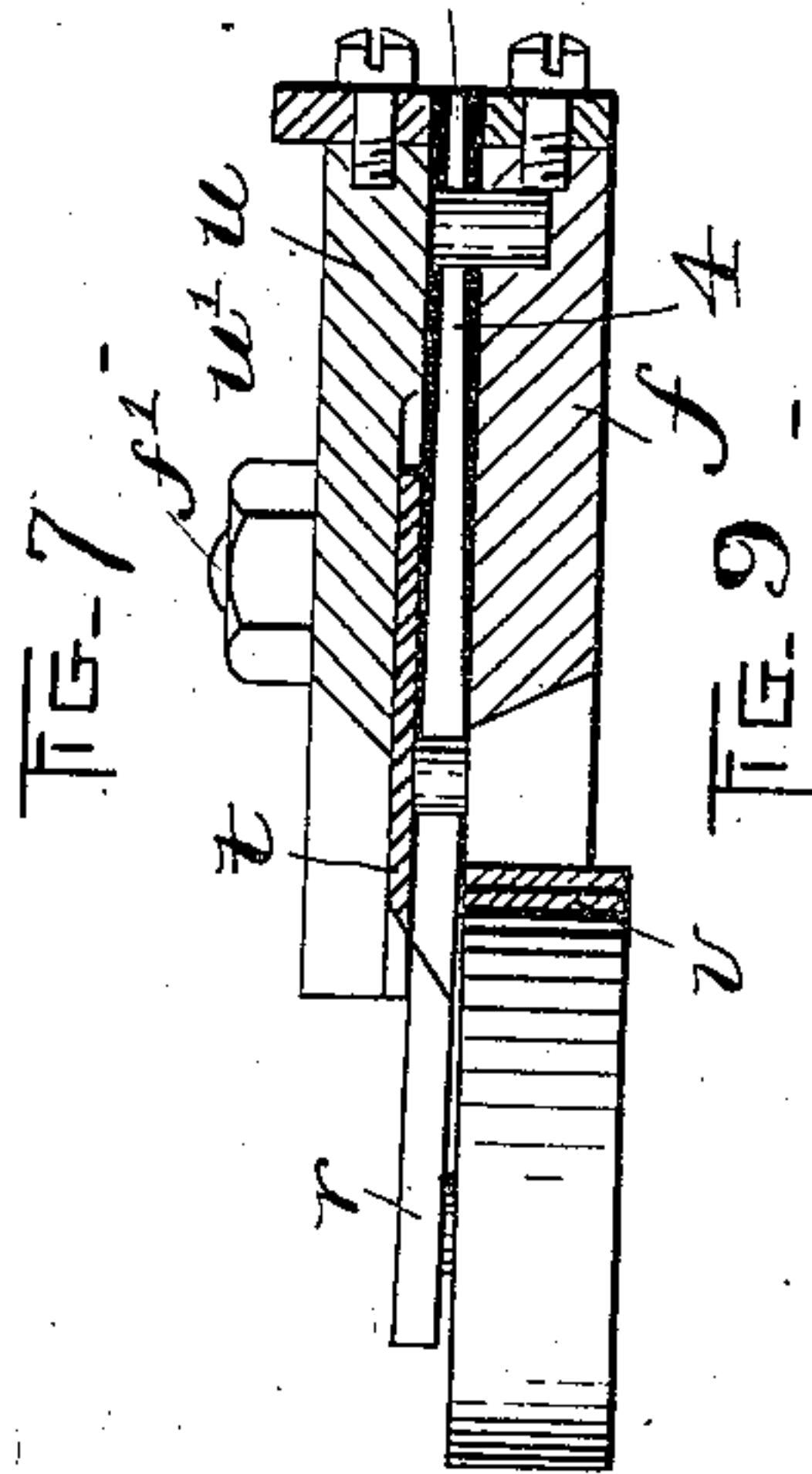
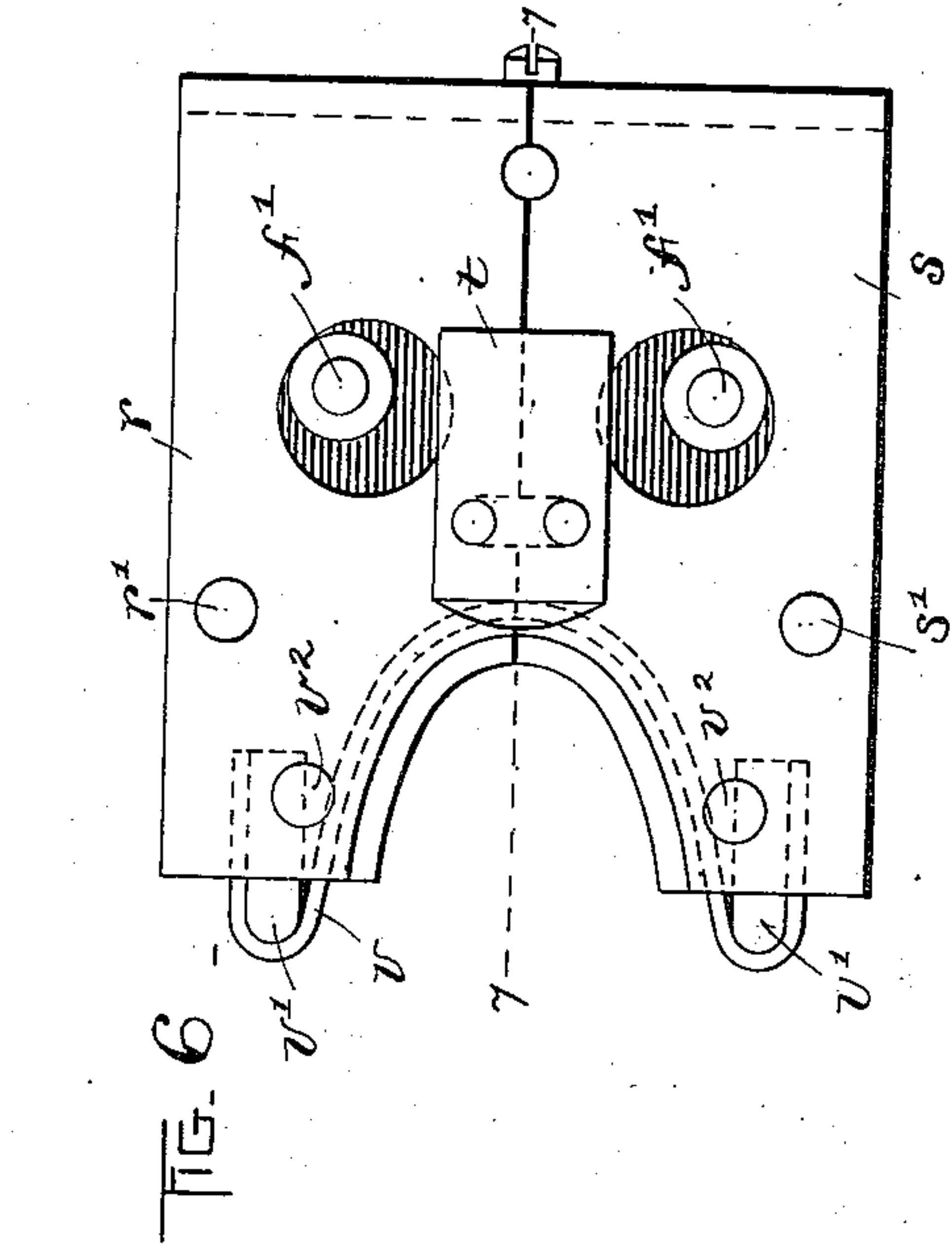


FIG. 8

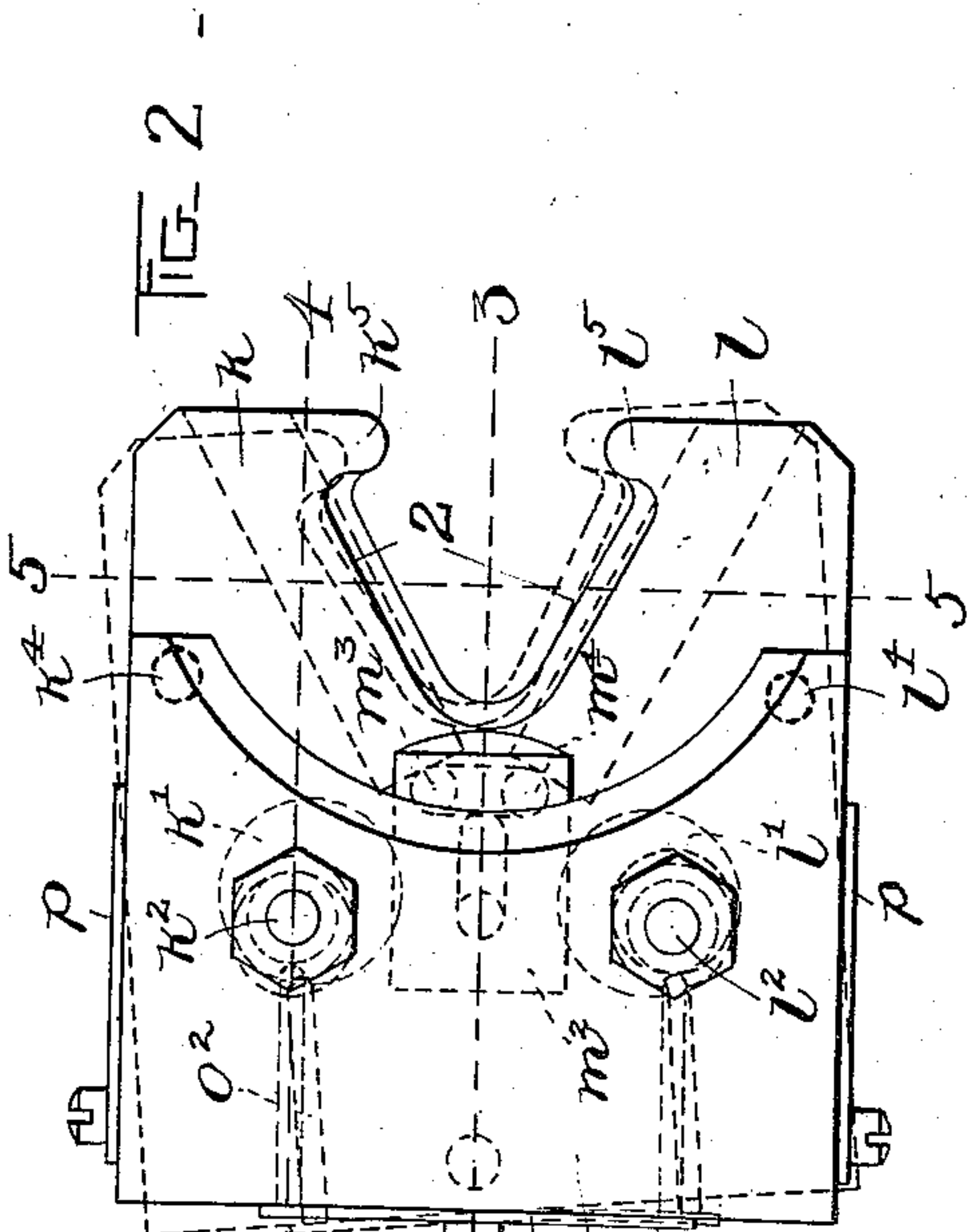
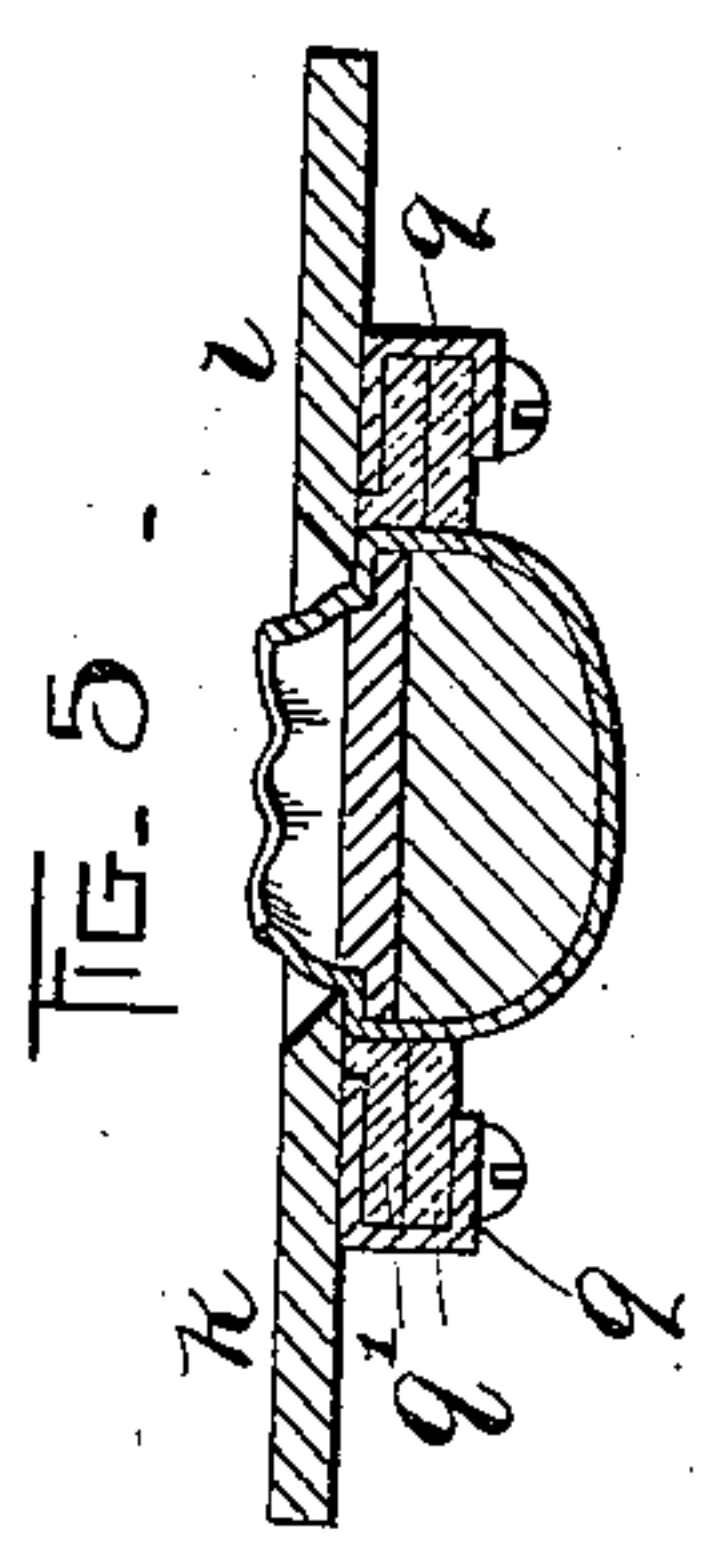
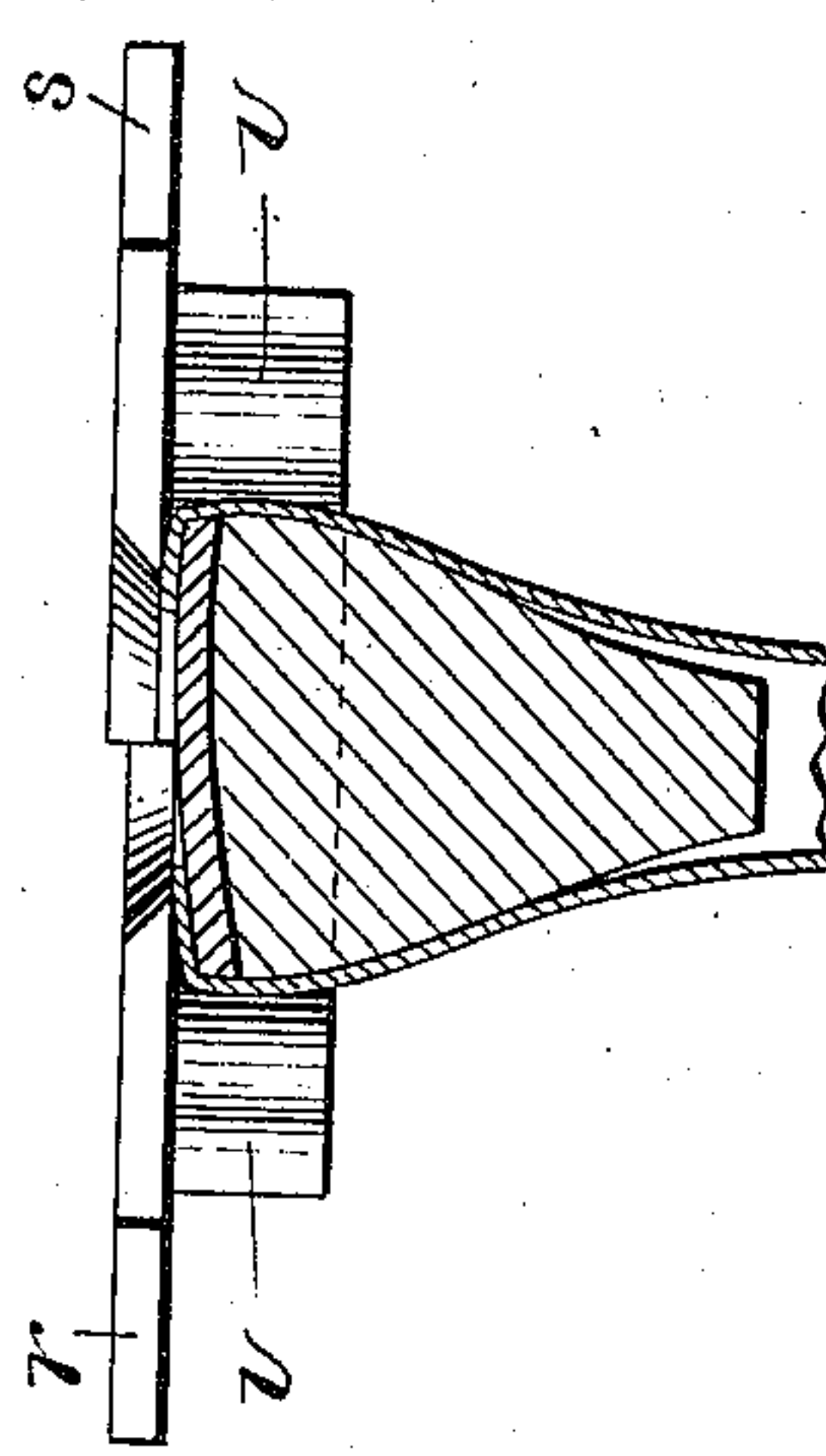
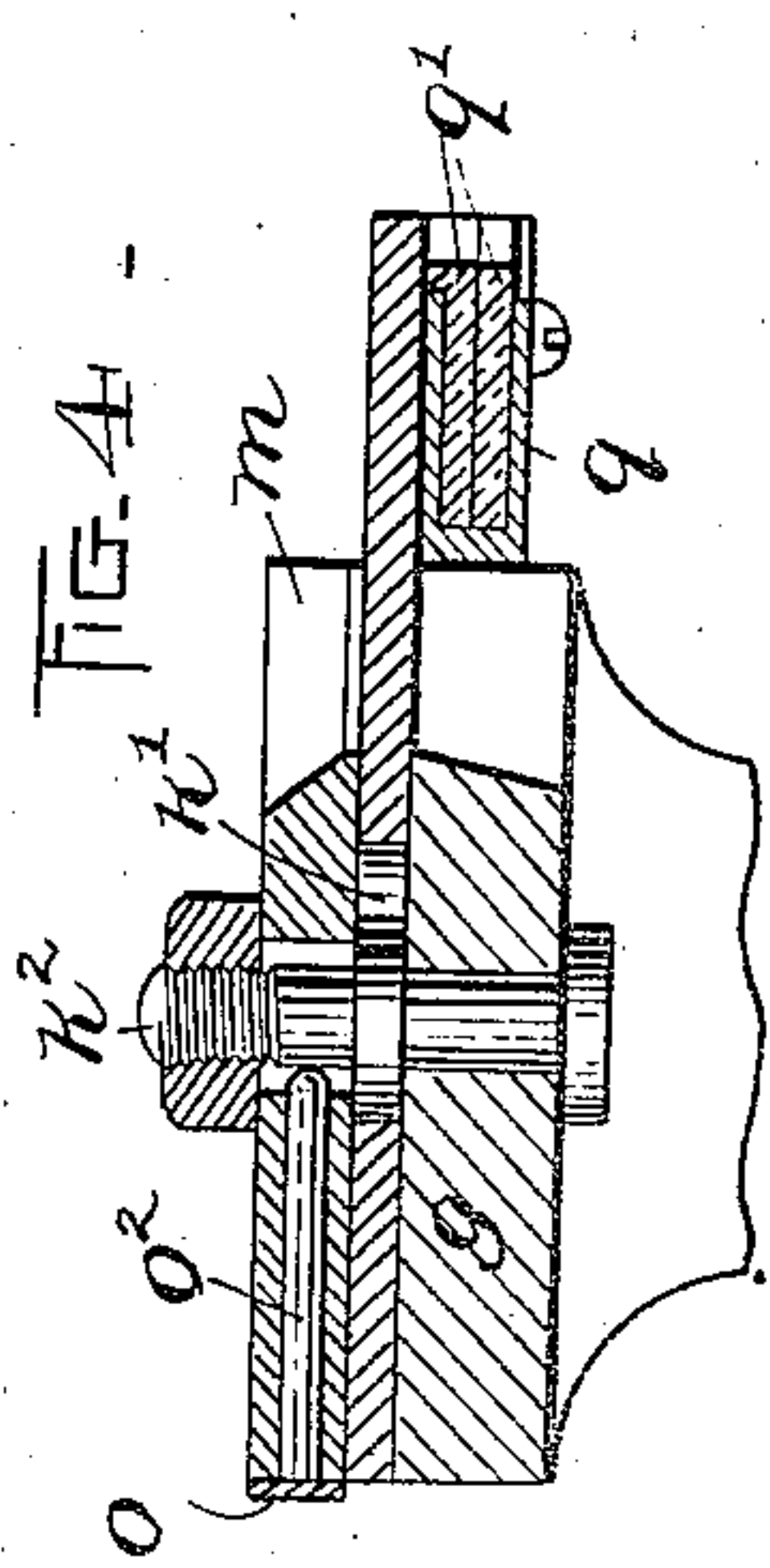
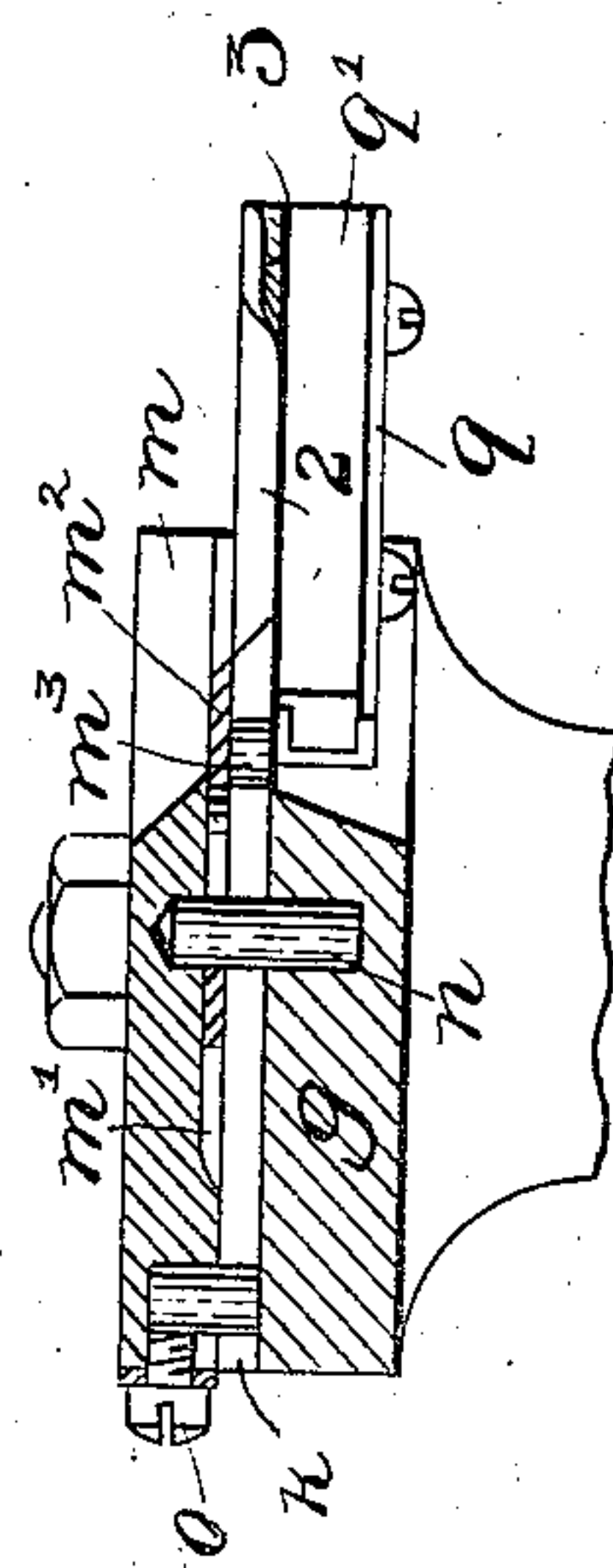


FIG. 3



WITNESSES:
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UNITED STATES PATENT OFFICE.

ALBERT F. PRESTON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO THE
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LASTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 594,179, dated November 23, 1897.

Application filed February 23, 1897. Serial No. 624,679. (No model.)

To all whom it may concern:

Be it known that I, ALBERT F. PRESTON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Lasting-Machines, of which the following is a specification.

This invention has relation to lasting-machines of the character illustrated in my Patent No. 584,600, dated June 15, 1897.

The object of the present invention is to provide certain improvements in such machines, whereby an irregularly-shaped shoe, or one having the plane of the sole at the heel at an angle to the plane of the sole at the toe, or one in which the toe end of the last is turned to one side or the other, may be properly lasted.

To these ends the invention consists of the improvements which I have illustrated upon the drawings and which I shall now proceed to describe in detail and then point out with particularity in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which like letters and figures indicate like parts wherever they occur.

Of the drawings, Figure 1 represents in side elevation a machine embodying my improvement. Fig. 2 represents in plan view the head and the wipers for wiping the edges of the upper at the toe end of the last. Figs. 3 and 4 are sections on the line 3 3 and 4 4, respectively, of Fig. 2. Fig. 5 is a cross-section on line 5 5 of Fig. 2. Fig. 6 is a view of the wipers at the heel end of the last, the top plate being removed. Fig. 7 represents a vertical section on line 7 7 of Fig. 6. Fig. 8 is an end view of the wipers illustrated in Fig. 6, the last being shown in section. Figs. 9 and 10 illustrate end views of the last-mentioned wipers and the head.

Referring to the drawings, the machine shown is provided with a standard *a* and a revoluble bed *b*, upon which are mounted a stationary carrier *c* and a movable carrier *d*, the latter being moved back and forth by means of a pinion *e*, which is operated by a hand-wheel *e'*, and the stationary rack-bars *e''*, all as illustrated and described in my said Patent No. 584,600. Upon the carriers are

pivoted heads *f* and *g*, which may be adjusted to any desired angle, and upon said heads are mounted wipers for drawing the edges of the upper taut over the last at the toe and heel preparatory to the upper being secured to the insole.

h is a roller mounted in a spring-held standard *h'* and which when the last is forced over it jacks it up against the wipers on the head *f*, while the roller *i*, mounted on the spring-held standard *i'*, projecting up from the base of the movable carrier *d*, performs the same function for the toe end of the last, these features being illustrated in said patent, to which reference may be had for a complete understanding of the same. The head *g* (see Figs. 2 to 5, inclusive) has upon its upper face two wipers *k l*, each of which has an enlarged central aperture *k' l'*, through which the screws *k'' l''* pass, said screws also passing through holes in the top plate *m* and being provided on their ends with nuts, as shown, the pivots for the said wipers being indicated by *k⁴* and *l⁴*, respectively, and projecting downward from said top plate *m*. The top plate *m* is provided with a groove *m'* in its under face to receive a slide *m²*, having two pins *m³* and *m⁴*, lying in recesses in the wipers *k* and *l*. Thus the wipers may be swung about the pivots *k⁴ l⁴* and are caused to move in unison by the said slide and the pins *m³ m⁴*. Thus far the construction is not materially different from that illustrated in my patent hereinbefore referred to.

In addition to the foregoing features I employ a pivot-pin *n*, projecting up centrally from the head *g* into the top plate *m* through a slot in the slide *m²*, so as not to interfere with the operation of the said slide, so that the wipers being loosely mounted upon the head and being pivoted to the said top plate they may not only swing about their pivots *k⁴ l⁴*, but may also swing bodily about the pivot *n* with the top plate *m* in the planes of their independent movement. The top plate *m* and the wipers are held normally in position with their longitudinal lines parallel with the longitudinal lines of the machines by means of a spring *o*, secured by a screw *o'* to the top plate *m* and having its ends bearing against the ends of the pins *o²*, placed in apertures

in the said top plate *m*, said pins having their inner ends abutting against the screws *k*² *l*².

Now when the top plate and the wipers are swung about the pivot *n*, as shown in dotted lines in Fig. 2, the top plate moves relatively to the pin *o*², which abuts against the screw-pin *l*² and maintains the end *o*³ of the spring *o* permanently in position, so that tension is exerted by the other end *o*⁴ of the spring against the top plate to return it to its original central position. To return the wipers to their original positions after they have been moved over the sole of the last, I employ two springs *p p*, secured to the top plate *m* and having a portion extending down to engage the edges of the wipers. In addition to these features the wipers *k* and *l* are provided with separate stops to be engaged by the last and to limit the movement of the wipers thereover. The stops consist in this case of parallel angular strips *q*, secured near the edge at the side of the wipers and having their inner ends separated, there being strips of leather *q'* inserted between the flanges of said strip *q*. The stops are set back from the edges 2 of the wipers a distance equal to the distance which the wipers are to move over the sole, while at their ends the wipers themselves are provided with projecting lugs *k*⁵ *l*⁵, respectively, which are relatively thin and which initially project over the channel-flaps of a welt-shoe and over the inner sole of a McKay sewed shoe when the boot or shoe is being lasted to hold the shoe down until the wipers have drawn the edges of the upper over the sole. The shoulder 3, which is thus formed under the lugs *k*⁵ and *l*⁵, also abuts against the channel-flap and forces it back from the edge of the upper, while the edge 2 of the wiper bears against the sole, upper, and last between the channel-flap and the edge. Now when the machine is being operated to force the toe end of the last longitudinally against the wipers to cause them to move automatically inward over the sole and to wipe the edges of the upper taut over the last the said wipers will move simultaneously about their pivots *k*⁴ *l*⁴ if the last be one of the ordinary sort and having a sole of the ordinary shape; but if the toe of the last be drawn outward to one side or the other—that is, if the median line of the toe portion of the sole is at an angle to the median line of the heel portion of the sole—the wipers will be automatically swung around the pivot *n* to adapt themselves to the peculiar shape of the last, the head remaining stationary.

The wipers *r* and *s* for the heel end of the last are pivoted at *r'* and *s'*, respectively, to the head *g* and may be caused to swing over the sole of the last to wipe the edges of the upper over the same, being caused to move in unison by the slide *t*, which operates in a groove *u'* in a top plate *u* similar to that at *m*. The said top plate *u* is secured to the head *f* by screw-pins *f'*, passing through enlarged apertures in the wipers. Secured to

the front ends of the said wipers is a bowed spring-band *v*, having its end secured to blocks *v'*, pivoted to the said wipers by pins *v*². The bowed band *v* performs very much the same function that is performed by the stops on the wipers for the toe end of the last, although it performs an additional function by returning the wipers to their places after pressure on the band is removed. The wipers are tapered at their rear ends, as at 4, (see Fig. 7,) and hence they are capable of a slight vertical movement relative to each other, as shown in Fig. 8, whereby they may accommodate themselves to a last in which the plane of the sole at the heel is at a slight inclination to the plane of the sole at the toe. In order that the said wipers may be moved oppositely, I employ two cross-bars *w* and *x*, respectively pivoted at *w'* and *x'* to the top plate *u* and the head *f*. The adjacent edges of the said cross-bars are shaped as shown, so that when one of the wipers is depressed the other is correspondingly elevated.

The operation of the machine is generally like that described in my patent heretofore adverted to in that after the last has been placed in the machine and is resting upon the rollers *n* and *i* the turning of the hand-wheel *e'* forces the movable carrier toward the stationary carrier, with the result that the last is jacked vertically against the wipers. The toe of the last engages the stops on the wipers *k l* and automatically throws the said wipers around their pivots *k*⁴ *l*⁴, swinging them over the sole of the last and drawing the edges of the upper taut. Simultaneously therewith the wipers at the heel or on the movable carrier *g* are thrown inward, so as to draw the edges of the upper over the last at the heel end. By reason of the wipers at the toe being capable of an oscillatory movement bodily about a pivot they are enabled to adapt themselves to a last in which the median line of the toe end of the last is at an angle to the median line of the heel end of the same, and by reason of the wipers being vertically movable at the heel end they may accommodate themselves to a last in which the plane of the sole at the heel is at an angle to the plane of the sole of the toe.

By providing the wipers with the stops, as illustrated in Figs. 2, 3, and 4, I am enabled to draw the edges of the upper over the insole to the same extent on a wide shoe as well as on a narrow shoe. The edge of the sole and the last bear against the said stops when the wipers are being operated with the same pressure that the sole outside the channel-flaps and the channel-flaps themselves (in a welt-shoe) bear against the faces and the lugs of the wipers. Thus the upper is forced into the angle formed in splitting the insole, where it can be more easily sewed.

It will be understood that while I have shown the wipers for the heel as equipped with a spring-band, yet I may employ stops for these wipers secured to the under faces

and conforming to the operative edges thereof, as is the case with the wipers for the toe, and the heel-wiper may be arranged to swing bodily about a single pivot similarly to the toe-wipers, the wipers in such event being, if desired, capable of an oscillatory movement bodily as well as a vertical oscillation.

I claim—

1. In a lasting-machine in combination, a support, a pivot, coacting wipers on said support, and arranged to be swung toward each other over the last by the engagement of the last therewith, and means for connecting said wipers movably around said pivot, whereby said wipers are movable bodily about said pivot on said support in the plane of their independent movement.

2. In a lasting-machine in combination a head or support, coacting wipers movable bodily about a single pivot on said head, and an independent pivot for each of the wipers, said pivots being substantially parallel, whereby the wipers automatically adjust themselves to a last and wipe the edges of the upper thereover.

3. In a lasting-machine, in combination a head or support, and two coacting wipers operated only by the engagement of a last and upper therewith, said wipers being adapted to have their adjacent edges move toward and from each other over a last, and pivoted to swing bodily in the same plane of movement about a single pivot.

4. In a lasting-machine, in combination, a head or support, a plate pivoted to said head, and coacting wipers, each pivoted to said plate, whereby said wipers may move about independent pivots, and may also swing bodily about a single pivot with the said plate.

5. In a lasting-machine in combination, a head or support, a plate pivoted to said head, and coacting wipers located between the head and the plate, and each of said wipers being pivoted to said plate by an independent pivot.

6. In a lasting-machine, in combination, a

head or support, a plate pivoted to said head, yielding means for holding said plate in its normal position, two coacting wipers loosely pivoted on said plate, and adapted to swing in planes parallel thereto, and yielding means for holding said wipers in their normal positions.

7. In a lasting-machine, in combination, a head, two loosely-pivoted wipers supported by said head, and adapted to be automatically operated by the engagement of the last therewith, said wipers being constructed to oscillate at right angles to the planes of their swinging movement.

8. In a lasting-machine, in combination, a head, two loosely-pivoted wipers supported by said head, and adapted to be automatically operated by the engagement of the last therewith, said wipers being constructed to oscillate oppositely of each other at right angles to the planes of their swinging movement.

9. In a lasting-machine, in combination, a head, two loosely-pivoted wipers supported by said head, and adapted to be automatically operated by the engagement of the last therewith, said wipers being tapering toward their ends, whereby they may automatically oscillate at right angles to the planes of their swinging movement.

10. In a lasting-machine, in combination, a support, coacting wipers loosely mounted on said head, and movable automatically to wipe the edges of the upper over the last, and stops secured to the under faces of the wipers, back from the operative edges thereof, said stops comprising flanged strips with flexible material inserted therein.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 17th day of February, A. D. 1897.

ALBERT F. PRESTON.

Witnesses:

A. D. HARRISON,
P. W. PEZZETTI.