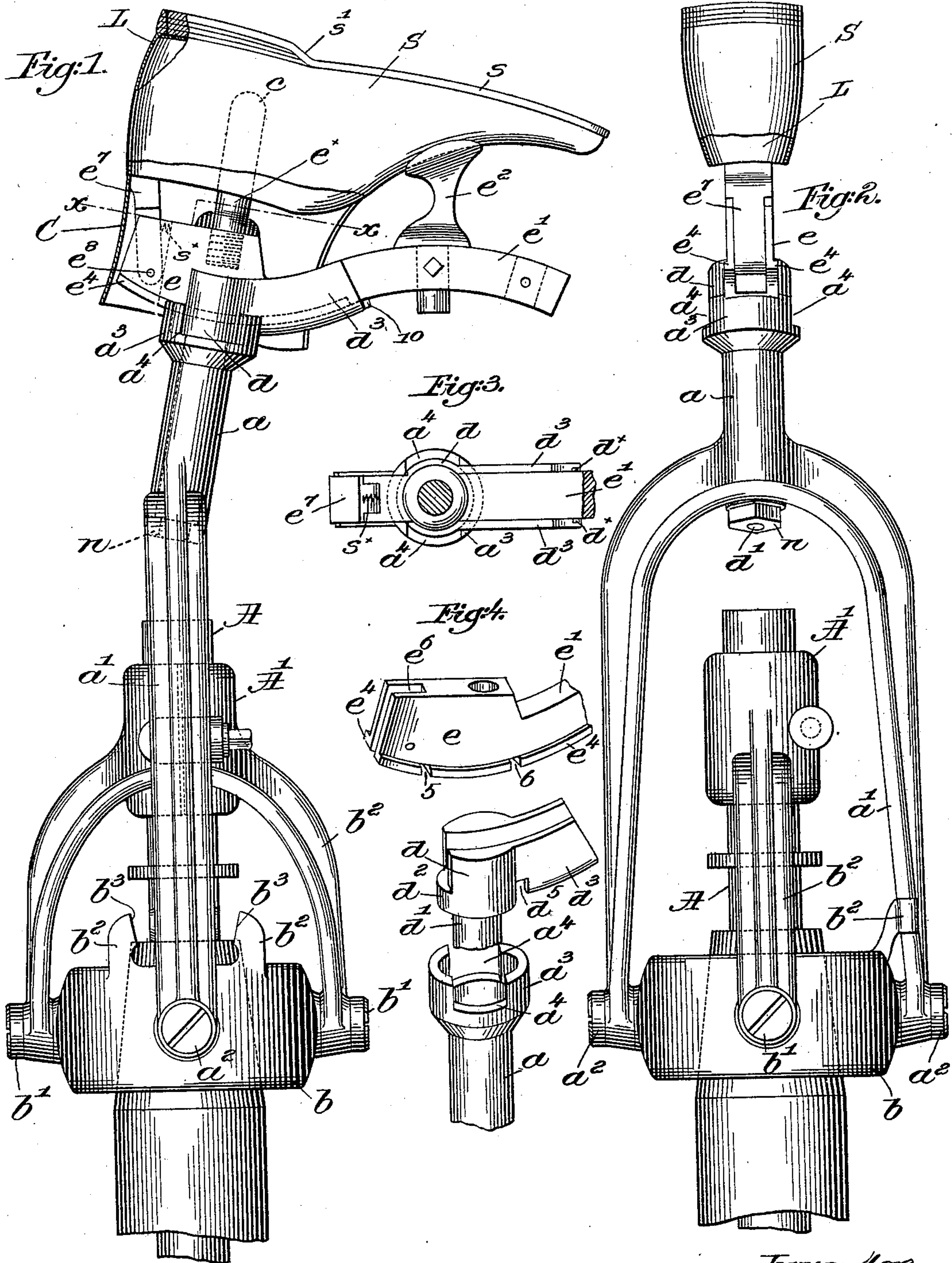


L. A. CASGRAIN.
WORK SUPPORT FOR BOOTS OR SHOES.

No. 587,144.

Patented July 27, 1897.



Witnesses
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Thomas Drummond.

Inventor
Louis A. Casgrain.
by Leroy S. Gregory
attys.

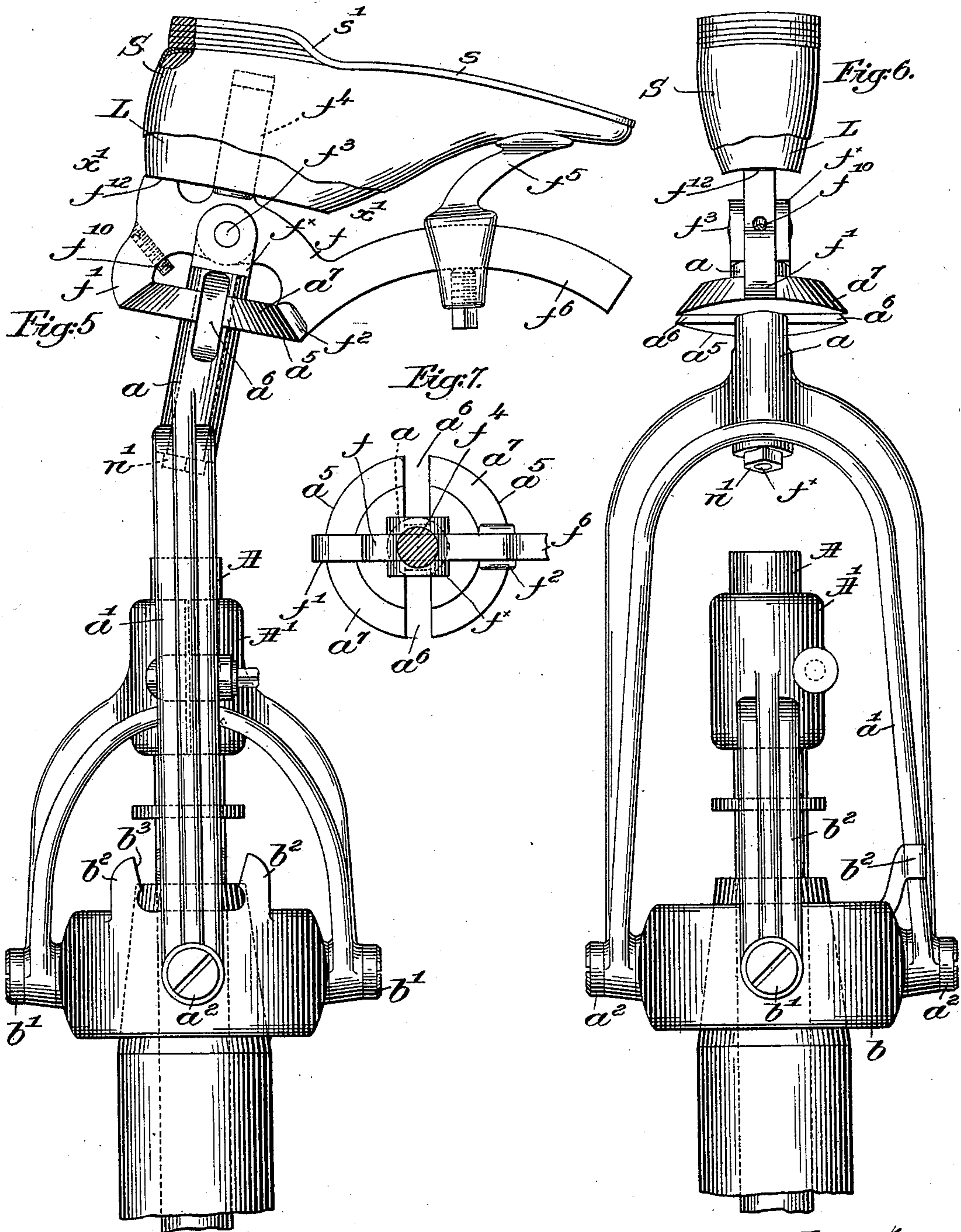
(No Model.)

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UNITED STATES PATENT OFFICE.

LOUIS A. CASGRAIN, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO
JAMES W. BROOKS, PRINCIPAL TRUSTEE, OF PETERSHAM, AND FRANK
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WORK-SUPPORT FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 587,144, dated July 27, 1897.

Application filed January 15, 1897. Serial No. 619,307. (No model.)

To all whom it may concern:

Be it known that I, LOUIS A. CASGRAIN, a subject of the Queen of Great Britain, residing at Winchester, county of Middlesex, State of Massachusetts, have invented an Improvement in Work-Supports for Boots or Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object the production of a work-support for boots or shoes particularly adapted for use in nailing-machines and providing means for tipping the last with the boot or shoe thereon in the direction of its length, whereby the surface of the work then to be nailed is brought substantially at right angles to the path of the nail or other fastening to be driven therein.

In nailing spring-heel shoes the part of the outer sole which is bent over the inclined or breast portion of the heel is at such an angle to the bottom of the last that nails or fastenings cannot ordinarily be driven thereinto with their outer ends flush with the bent portion of the sole. This is objectionable, in that the appearance of the shoe is marred, as in the buffing of the sole the heads of such nails are not evenly buffed.

By means of the improved work-support hereinafter to be described I am enabled to tip the shoe in the direction of its length about a center near to the surface to be nailed, whereby the shoe is not bodily moved any material distance relative to the nailing mechanism above it, and by such tipping movement I am enabled to bring the bent portion of the sole of a spring-heel shoe into position substantially at right angles to the path of the nail or fastening to be driven therein. The nails will thus be driven substantially normal to the bent portion of the sole, and their exposed ends will lie flush therewith, to be evenly finished in the buffing operation.

Figure 1, in side elevation, represents a sufficient form of work-support to be understood embodying one portion of my invention. Fig. 2 is a rear elevation thereof. Fig. 3 is a partially sectional view on the irregular line $x x$,

Fig. 1, looking down. Fig. 4 is a perspective view of the bearing and two-part last-holder, slightly separated, to be described. Fig. 5 is a side elevation of a modified form of work-support. Fig. 6 is an end elevation thereof; and Fig. 7 is a view, partly in section, on the line $x' x'$, Fig. 5, looking down.

Referring to Figs. 1, 2, 5, and 6, a standard a is forked or bifurcated at its lower end, as at a' , and mounted to rock on suitable pivot-screws a^2 , extended through the lower ends of the forked legs a' into a base-piece b . The base b is shown as a ring or collar pivotally mounted at b' in a stirrup b^2 , depending from the head A' of a post or column A , extended through the base b , said head being rotatable about the post A , if desired. The pivots b' are at right angles to the pivots a^2 , forming thereby a species of universal joint, whereby the standard a may be swung in various directions. Lugs b^3 , secured to or forming a part of the base b , have oppositely-inclined faces b^3 to act as limiting-stops for the bifurcated end a' of the standard a , preventing undue rocking movement thereof on its pivots a^2 .

In Figs. 1 to 4, inclusive, the standard a is shown as provided with a circular cup-like bearing a^3 , the wall of which is oppositely notched or cut through at a^4 .

The standard a is made hollow to receive the spindle d' of one of the members d of the last-holder, the upper end of the spindle d' being enlarged at d^2 to enter the bearing a^3 and having a trough-like lateral extension d^3 , the bottom of which is an arc of a circle having its center at or near the point c , Fig. 1. The side walls of the extension are notched at d^5 , Fig. 4, to embrace the wall of the bearing a^3 , and a nut n on the lower end of the spindle d' retains the member d in place, but rotatable laterally about said bearing.

The cooperating member of the last-holder is shown as a block e , curved on its lower side to rest upon the bottom of the extension d^3 and be moved at times thereon, the extended end e' of the block serving as a support for a toe-rest e^2 , adjustable thereon by a suitable set-screw e^3 .

The block *e* has secured thereto an upwardly-projecting last-pin e^x to enter the body of the last *L*.

As best shown in Fig. 4, the block *e* is provided with curved longitudinal flanges or ribs e^4 to enter curved grooves d^x in the member *d*, and the block and flanges are also notched on their under side at 5 and 6 to normally embrace the wall of the bearing a^3 and be thereby held from longitudinal movement in the member *d*.

In Figs. 1 and 2 a shoe *S* is shown on the last *L*, and it will be seen that while the last-holder *d e* may be swung laterally upon the bearing a^3 the last cannot normally be tipped in the direction of its length. When, however, it is desired to nail across the bent portion s' of the sole *s*, the last-holder is turned one-quarter around from the position shown in Fig. 1 until the block *e* is in line with the openings a^4 in the walls of the bearing, and the notches 5 and 6 in the under side of the block being thus disengaged from the bearing the said block with the last may be moved forward in the member *d*. Such movement, owing to the curvature of the block-bottom and the bottom of the member *d*, will cause the last to be tipped in the direction of its length on the standard *a* about the center *c*, bringing the bent part s' of the sole substantially at right angles to the path of the nails or other fastenings, and they are driven into the sole across the breast of the heel substantially normal to the surface of the bend s' , the notches in the bearing a^3 at such time locking the last-holder from rotation on the standard.

A stop-pin 10 (see Fig. 1) limits movement of the block *e* rearwardly in the member *d*, it being understood that the work-support herein described is used in connection with any well-known form of nailing mechanism.

The rear end of the block *e* is vertically slotted at e^6 to receive therein a heel-support e^7 , pivoted therein at e^8 and normally thrown rearwardly by a suitable spring s^x .

When the shoe is placed on the last *L*, the counter *C* (see Fig. 1) is drawn over the heel-support, and when the last is in place on the pin e^x the counter moves the heel-support e^7 into position to support the heel of the last, the support thus accommodating itself to various shapes and sizes of lasts.

In the modification shown in Figs. 5, 6, and 7 the bearing on the standard *a* is shown as a lateral circular extension a^5 , separated or notched oppositely at a^6 and having a conical surface a^7 , upon which normally rest extensions f^1 and f^2 of the last-holder *f*, shown as pivoted at f^3 on the upper end of a spindle f^x , extended through the hollow standard *a* and held rotatably therein by a nut n' .

The last-holder has a last-pin f^4 , projecting upwardly therefrom, and a toe-rest f^5 , adjustable on an extension f^6 of the holder, to sustain a last *L*.

Normally the last-holder may be swung laterally about the standard, the extensions f^1 and f^2 , resting on the conical face a^7 of the bearing, preventing the last from being tipped in the direction of its length.

When the last-holder is turned until the extension f^1 registers with one of the spaces or notches a^6 , it can enter therein, and the holder and last may then be tipped in the direction of its length on the pivot f^3 , bringing the shoe in position to have the bent portion s' of the sole *s* nailed, as before, the last tipping on a center near to the point at which the nailing mechanism is to act, the holder being also locked from rotative movement.

The extension f^2 is made wider than either of the spaces a^6 , so that the tipping can only be rearwardly or by elevating the toe of the last.

An adjustable stop-pin f^{10} limits the rearward tipping of the last by bearing against the standard at such time, and the part f^{12} of the last-holder serves as a heel-rest for the last.

My invention is not restricted to the precise construction and arrangement herein shown and described, as the same may be modified or rearranged without departing from the spirit or scope of my invention, the gist of which consists in mounting the last-holder upon the standard to normally be swung laterally thereon and to be tipped in the direction of the length of the last at a predetermined point.

I claim—

1. A work-support for boots or shoes, consisting of a standard, a last-holder mounted to rotate thereon and adapted to be tipped in the direction of the length of the last, and means to normally prevent the last-holder from tipping, while permitting it to be tipped when rotated to a predetermined point, substantially as described.

2. A work-support for boots or shoes, consisting of a standard, a last-holder mounted thereon to turn in a lateral plane and adapted to be tipped at times in the direction of the length of the last, and means to permit the holder to be tipped at a predetermined point, and to automatically lock it thereat from lateral movement, substantially as described.

3. A work-support for boots and shoes consisting of a standard, a last-holder mounted to turn laterally thereon, and adapted to be tipped in the direction of the length of the last, means to permit the last-holder to be tipped at a predetermined point, and a stop to limit the extent of tipping movement of the last-holder, substantially as described.

4. A work-support for boots and shoes consisting of a standard forked at its lower end, a sustaining member upon which said forked end is pivoted, stops to limit the rocking movement of the standard thereon, a last-holder mounted to turn laterally on the standard, and adapted to be tipped in the direction of the

length of the last, and means to normally prevent the last-support from tipping, substantially as described.

5 5. A work-support for boots or shoes consisting of a standard, a circular bearing thereon having an opening in its side, and a last-holder mounted to turn laterally upon the standard and engaging said bearing, rotation of said holder to bring its engaging portion
10 opposite the opening of the bearing permitting the holder to be tipped in the direction of its length, substantially as described.

15 6. A work-support for boots or shoes consisting of a standard, a rotatable and tipping last-holder thereon provided with a fixed last-pin and a movable heel-support pivotally mounted on the holder, controlled as to its po-

sition by the counter of the boot or shoe, substantially as described.

7. A work-support for boots or shoes consisting of a standard, a rotatable and tipping last-holder thereon provided with a fixed last-pin, and a spring-controlled heel-support pivotally mounted on the holder, and positioned by the counter of the boot or shoe, substantially as described. 20 25

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

LOUIS A. CASGRAIN.

Witnesses:

JOHN C. EDWARDS,
AUGUSTA E. DEAN.