

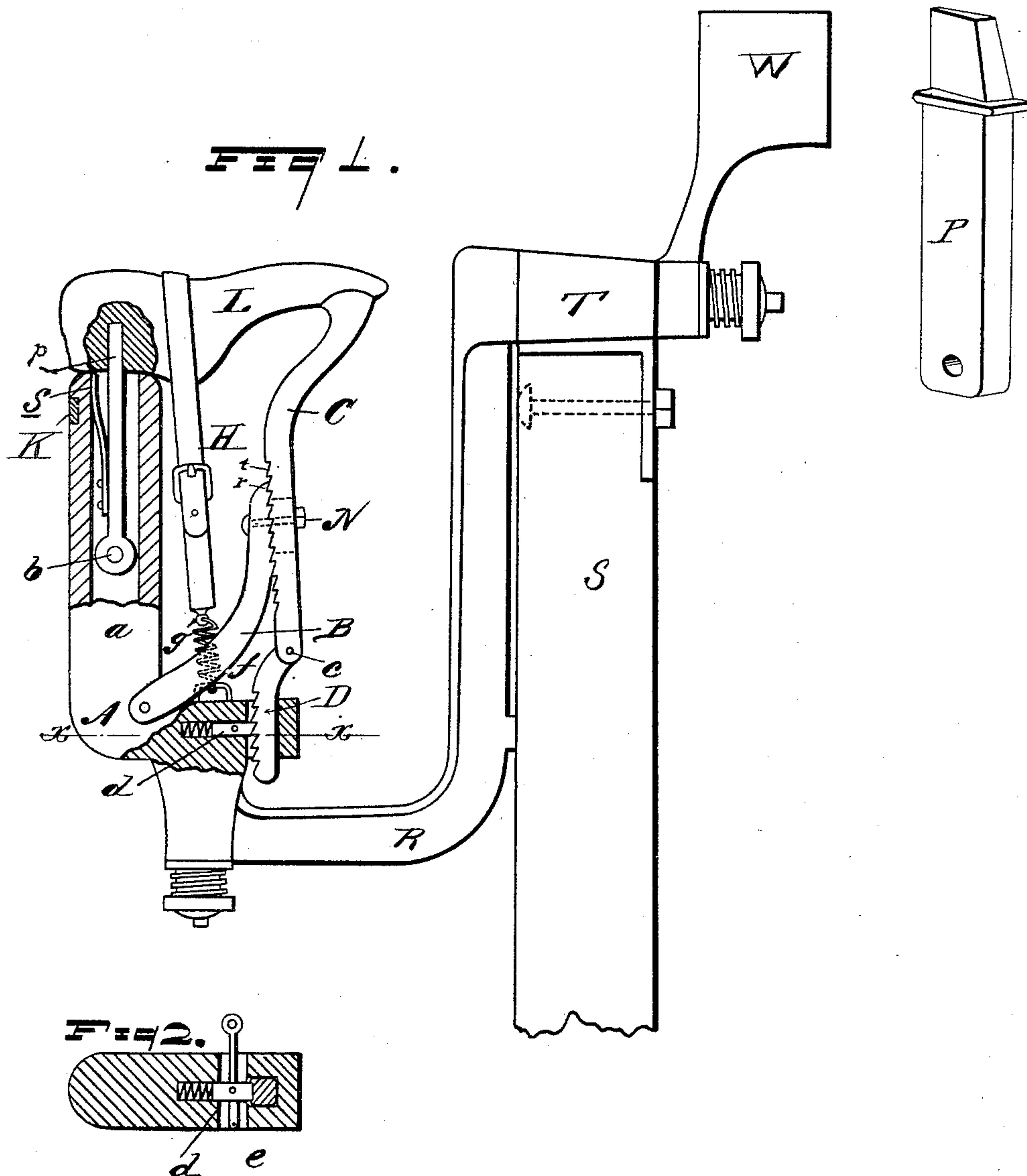
(No Model.)

J. GRANT.
LAST SUPPORTER.

No. 477,210.

Patented June 21, 1892.

Fig. 3.



WITNESSES
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UNITED STATES PATENT OFFICE.

JOHN GRANT, OF WINDSOR, CANADA.

LAST-SUPPORTER.

SPECIFICATION forming part of Letters Patent No. 477,210, dated June 21, 1892.

Application filed January 15, 1891. Serial No. 377,897. (No model.)

To all whom it may concern:

Be it known that I, JOHN GRANT, a citizen of the United States, residing at Windsor, in the county of Essex and Province of Ontario, have invented a new and useful Improvement in Last-Supporters, of which the following is a specification.

This invention relates to last-supporters for use in the manufacture or repairs of boots, and has for its object an improvement for such supports by means of which a last may be held securely in any desired position.

The invention consists in the parts and arrangement of parts herein shown and described, in which—

Figure 1 shows the assembled parts in elevation; Fig. 2, a section through X X of Fig. 1. Fig. 3 shows the form of pin used with an iron last.

A standard S, springing from the floor, supports the swiveled arm R, turning on a cone-bearing T and carrying a counter-weight W, that balances the working appurtenances in whatever position it may be placed.

On the forward end of the arm R is swiveled the horn A, of which one part forms the support of the heel of the last, and the support for the toe of the last is adjustably held by the other part. The heel-supporting part *a* is hollow and receives within the hollow a rod or pin *p*, hinged near the bottom of the hollow at *b*. The pin *p* projects above the heel-support and enters a hole in the last L. The pin *p* is pushed forward to the forward or toeside of the heel-support by a spring *s*. The toe of the last is supported on the toe-support C, which is hinged at *c* to a short ratchet-bar that passes through a hole in the horizontal part of the piece and is capable of a vertical movement with respect to the piece A. A brace B, hinged to the part A, extends upward and rests against that side of the toe-support C, which lies toward the heel-support *a*. The upper end of the brace B has ratchet-teeth *r* and rests against a short rack *t* on the side of the toe-support, and the two parts are held together firmly by a bolt and thumb-nut N. One of the pieces, either B or C, is slotted to permit of the adjustment of B along C. In the drawings the slot is shown in the toe-support C; but it may be in either one. The ratchet-bar D is held in position by a spring-

controlled pawl *d* and can be adjusted by drawing the pawl backward by means of the lever *e* (shown in Fig. 2) and moving the toe-support up or down, as desired. The brace B is forked at its lower end, and between the forks there is an eye *f*, to which is fastened by means of an intermediate spring *g* a strap H, formed into a loop and arranged to pass around the hollow of the last and to hold the last down on the heel and toe supports.

In order to use the heel-support with an iron last in place of the pin *p*, I use the pin P. (Shown in Fig. 3.) This pin is not round, but is rectangular in cross-section, and the upper end is bent backward at an angle to the main body of the pin, and the bent portion fits a corresponding recess in the iron last that is used with it. By means of this pin P and the strap H the iron last may be held firmly in place without the use of the toe-rest C, which may be dropped down out of the way.

In order to aid in securing the shoe or boot to the last and the arm supporting the last, I form near the upper end of the heel-rest a hole or cavity K, in which I insert a block of wood to receive a small nail driven into it through the leather of the boot or shoe leg and serving to hold the boot or shoe firmly down upon the last and the last firmly on the rest. This wooden block may be renewed, should it be injured or destroyed by driving nails into it.

The upper or bent portion of the pin P is slightly pyramidal in form, having its cross-section slightly larger at the lower part where it joins the main body of the pin than it is at the extreme upper end, and the bent portion may be triangular in cross-section, as a construction of this description furnishes a more secure holding than a true prism would.

Having thus described my invention, what I claim as novel, and desire to have secured to me by Letters Patent, is—

1. The combination of the heel-support *a*, containing the hinged pin *p*, the vertically-adjustable toe-rest C, the strap H, and straining-spring *g*, adapted to draw said strap downward, and thereby confine the last to the toe and heel supports, substantially as and for the purpose described.

2. In a last-support, the combination of a

heel-support, a hinged vertically-adjustable toe-support, and a holding-strap connected to the heel-support by an intermediate spring and adapted to pass around the hollow of the last and hold the same to the heel and toe supports, substantially as and for the purpose described.

3. In a last-supporter, the combination of the hollow supporting-arm *a*, the heel-supporting pin *P*, having its upper extremity triangular in form and its plane at an angle to the plane of the body, as shown and described, and a holding-strap *H*, arranged in combination with an iron last, substantially as and for the purpose described.

4. In a last-supporter, the combination of a hollow heel-supporting arm, a supporting-pin *P*, of which the upper extremity is shaped in the form of a truncated pyramid, and a holding-strap *H*, all combined and operating as described.

5. In a last-supporter, the combination of a heel-supporting arm of metal formed hollow and containing a hinged pin and a block of wood detachably inserted, as described, near the end of said heel-supporting arm, all combined and operating substantially as described.

6. In a last-supporter, the combination of a heel-supporting pin hinged within a hollow supporting-arm, a toe-support made in two parts hinged together, one of said parts being adjustable vertically with respect to said heel-support and the other of said parts being hinged to said first part and adapted to swing along the supported last, and a brace provided with means adapted to secure the said swinging part in position, substantially as and for the purpose specified.

7. In a last-supporter, the combination, with the heel-supporting arm, of a toe-support made in two parts hinged together, one of said parts being provided with a rack and adapted to engage with a holding-pawl on said heel-support and the other of said parts being also provided with a rack and adapted to engage with a toothed brace and to be secured by said brace in position, substantially as and for the purpose described.

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