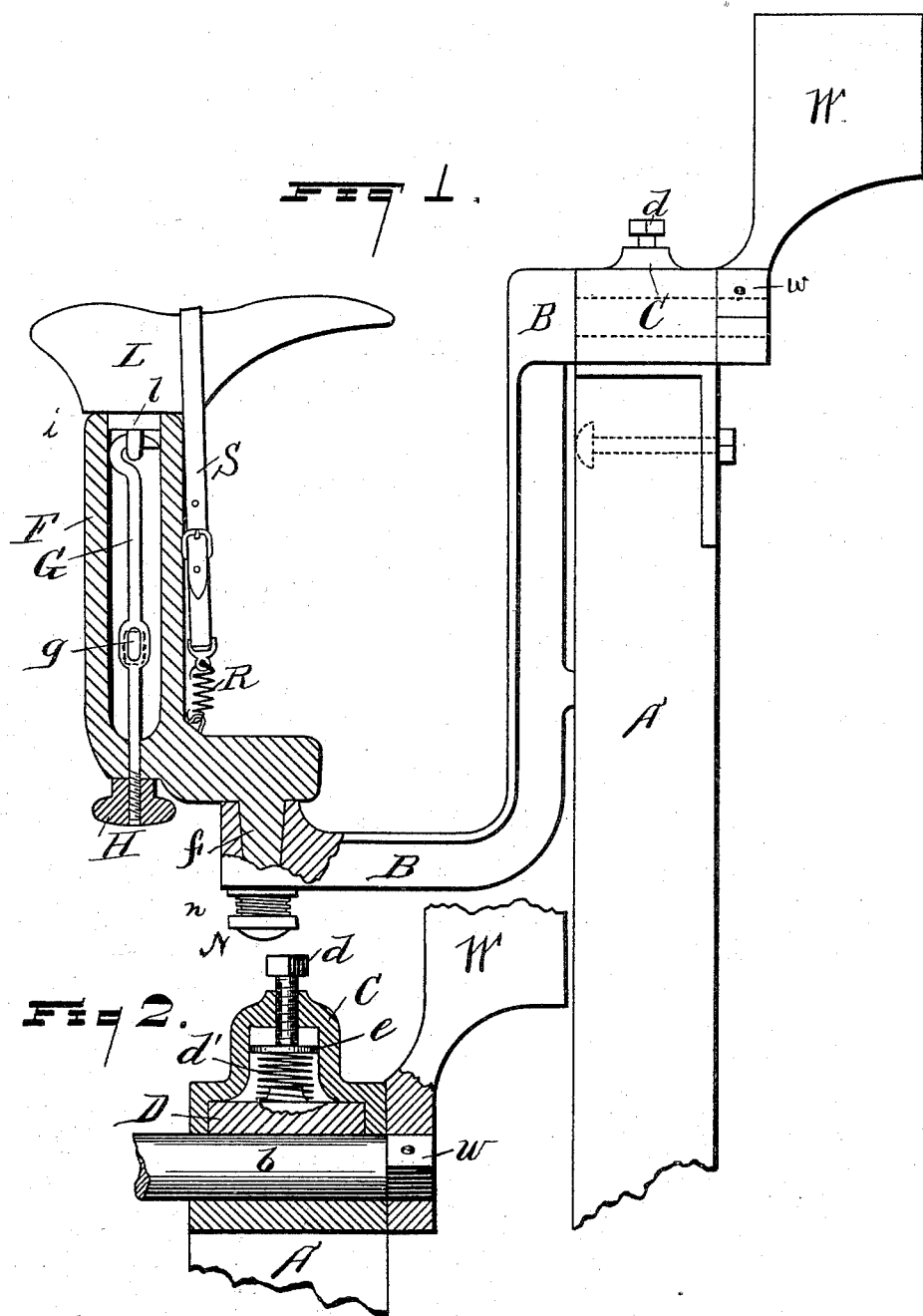


J. GRANT.
LAST SUPPORT.

Patented Mar. 21, 1893.



WITNESSES

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LAST-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 493,765, dated March 21, 1893.

Application filed February 2, 1891. Serial No. 379,879. (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 Province of Ontario, Canada, have invented a new and useful Improvement in Last-Supports, of which the following is a specification.

This invention relates to supports for lasts and has for its object, a last supporting arm so arranged that it will hold the last so as to present a boot or shoe placed upon it in any position relative to the workman; presenting any part of the boot or shoe to be operated upon, and presenting it always at the same height in front of the workman and in practically the same location.

A further object of my invention is to hold the arm supporting the last securely in the position in which it is placed so that it will not be thrown out of position in working about it or striking upon it with the force usually employed by an operator. I attain these results by means of the devices shown in the accompanying drawings as hereinafter described.

In the drawings Figure 1 shows an elevation partly in section. Fig. 2 shows a detail of the clamp or holding device.

A represents a standard springing from the floor and bearing at its upper extremity a box or journal bearing within which is received the journal *b*, of an L shaped arm B; the end of the journal *b* has secured to it a weight W, as shown in the drawings the weight W has a square socket in it, and slips upon the squared end of the journal *b* where it is secured by a pin *w*.

On the top of the box or journal bearing is a loose piece D resting above the journal *b*, against which it is pressed by a compression spring *d'*, and a compression screw *d*, the compression screw *d* getting its bearing from the walls of the dome C, beneath which is the compression spring *d'*, the clamp D and a washer *e*. The arm B has two parts one of which always remains horizontal, while the other extends vertically or in any oblique line from the journal *b* to the horizontal part of the arm B.

At the end of the horizontal part of the arm B is a second receptacle for a journal into which is inserted the journal *f* of the arm F.

The arm F always remains parallel to what may be termed the radial part of the arm B; it may be turned on the journal *f* in a complete circle, and consequently presents to the workman any side of the last L borne at its upper end opposite the axis of the journal *b*, and the revolution of the arm B on its journal *b*, presents to the workman either the top, bottom or sides of the last as may be desired and always practically in the plane of the axis of the journal *b*. The counterweight W always substantially balances the arms B and F and their connecting mechanism, together with the holding rod and last, in whatever position they may be turned. This enables them to move easily and freely without binding, and it also serves to steady the apparatus when in use. By means of the circumferential bearing of the last in connection with the rotation of the upright arm F, together with the freedom of movement and the facility with which the position of the last may be changed, a solid and immovable support for the last is afforded under any and all circumstances, whereby the apparatus is much more efficient than other devices of a similar character which do not possess similar qualifications.

The clamp D with the spring *d'* and clamping screw *d*, enables the workman to hold the parts in any position in which they may be placed. A precisely similar clamping device may be used between the arm B and the journal *f*, or as is shown in the drawings, the journal *f* may be slightly coned and clamped in place by means of the nut N and spring *n*. The upright part of the arm F is hollow and its upper end is fashioned to receive a tenon *l* on the shank of the last L; the shape of the tenon and the hollow part are immaterial provided the one fits the other with reasonable accuracy. On the tenon *l* is an eye *i*, within which is received a hook on the end of a rod G. The end of the rod G extends through the upright part of the arm F and is terminated with a screw, upon which the nut H is screwed, and by means of the screw and nut H the rod G is drawn downward until the last L is held firmly upon the end of the arm F. In place of the screw and nut H the rod G may be drawn down more quickly by the use of a cotter or wedge passing through the eye

g, and a slot through the walls of the upright part of the arm F; the slot in the walls being placed nearly opposite the eye g, as indicated by the dotted lines. A holding strap S is held 5 to any convenient point on the horizontal part of the arm F by a spring R. The holding strap S serves to hold the work upon the last.

The last L, as shown in the drawings is an iron last but the tenon l, and eye i, may be 10 easily attached to a wooden last and a wooden last can then be held in the same way. When the last L is removed from the arm F, the rod G is drawn out from the interior of F and is utilized to draw the last from the interior of 15 the boot or shoe if desired.

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 an upright arm and 20 its support, a rod substantially centrally located with reference to said arm provided with a hook adapted to engage the last and hold it upon the upper end of said upright arm upon a bearing for the last substantially circumfer-

ential to said rod, means for tightening said 25 rod, and a spring actuated strap adapted to engage said last when in position and hold the work thereon, substantially as described.

2. The combination of an upright arm adapted to be rotated upon a bearing which 30 is eccentric to its axial line, the support therefor adapted to be rotated horizontally in an upright fixed standard, a counterweight attached to the axis of said horizontal support, a rod substantially centrally located with ref- 35 erence to said arm, provided with a hook adapted to engage the last and hold it upon the upper end of said upright arm upon a bearing substantially circumferential to said rod, means for tightening said rod, and a 40 spring actuated strap adapted to engage said last when in position and hold the work thereon, substantially as described.

JOHN GRANT.

In presence of—

EFFIE I. CROFT,

CHARLES F. BURTON.