C. & P. MILLER.

Shoe-Stretcher.

No. 163,229. Patented May 11, 1875.

Fig 1

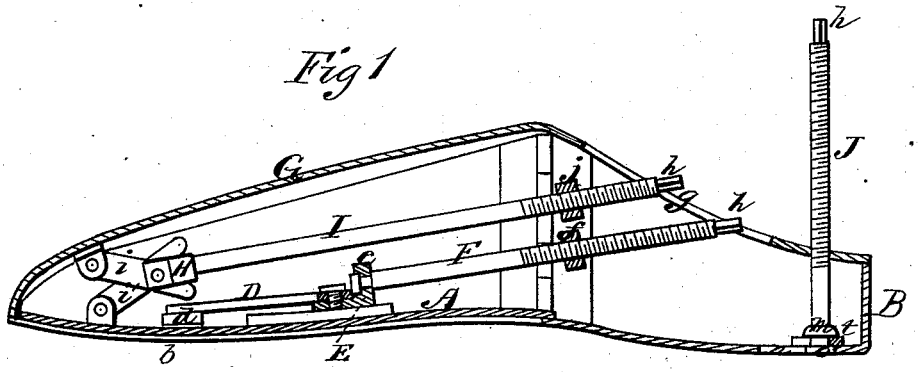


Fig 2

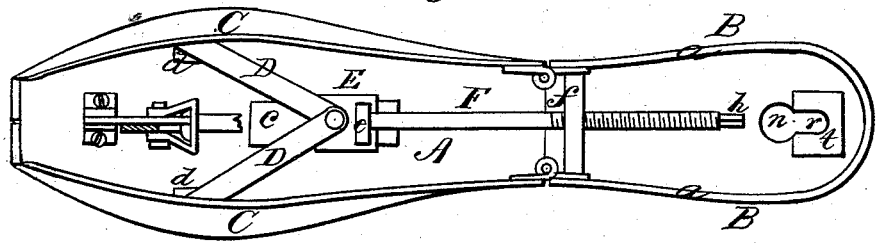


Fig 3

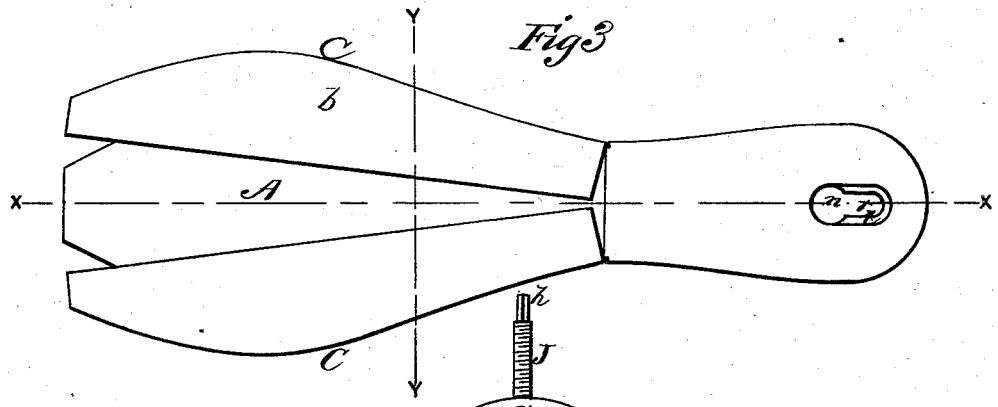
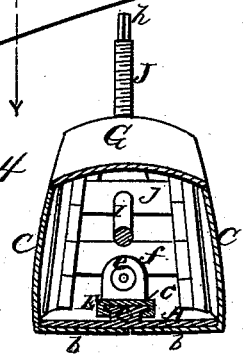


Fig 4



WITNESSES

Robert Cozzett

E. H. Bates

INVENTORS

Clemens Miller,

Peter Miller,

Shipman & Sawin & Co

ATTORNEYS

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

CLEMENS MILLER AND PETER MILLER, OF MARIETTA, OHIO.

IMPROVEMENT IN SHOE-STRETCHERS.

Specification forming part of Letters Patent No. **163,229**, dated May 11, 1875; application filed April 17, 1875.

To all whom it may concern:

Be it known that we, CLEMENS MILLER and PETER MILLER, of Marietta, in the county of Washington and State of Ohio, have invented a new and valuable Improvement in Shoe-Stretchers; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of our shoe-stretcher, and Fig. 2 is a plan view of the same. Fig. 3 is a top view, and Fig. 4 is a transverse vertical sectional view.

This invention has relation to improvements in boot and shoe stretchers, wherein provision is made for stretching the uppers laterally when the boot or shoe is too narrow; and the nature of the invention consists in devices, substantially as hereinafter described and claimed, for stretching the upper-leather at the instep or at the toe, whereby a device is produced capable of being used for stretching any desired part of boots or shoes, as will be fully understood from the annexed description.

In the annexed drawings, A designates the bottom plate of our improved shoe-stretcher, presenting, in its general conformation, the appearance of the sole of a boot or shoe, which plate is secured in any suitable manner to a counter-plate, B, the upper edges *a* of which incline downwardly and rearwardly, after the manner of a shoe-last. C represents the side plates, hinged to counter-plate B, so that they are adapted to vibrate outwardly from each other, for the purpose of stretching a boot or shoe laterally. These plates are, in their general appearance, of the form and shape of the side and of part of the top of the foot, and they are each provided with a bottom plate, *b*, which overlap, and, under circumstances hereinafter explained, will completely conceal plate A from view, inclosing it completely between them. Plates C are caused to vibrate outward, for the purpose of widening a shoe, in the following manner, to wit: Operating-rods D, of suitable strength, are pivoted to lugs *d*, projecting inward from, and rigidly secured to, plates C, and to a sliding plate, E, which latter has free endwise movement on a T-shaped rail, *c*, rigidly secured to bottom plate A, and is prevented from vertical displacement with relation thereto by the engagement of its flanged sides under the arms of the said rail, as shown in Fig. 4. Plate E has upon its rear end a perforated lug, *e*, adapted to receive the reduced front end of an actuating-rod, F, which is held to its engagement with the said plate by means of a suitable nut, applied upon its end, projecting through the said lug. Rod F is screw-threaded near its rear end, and passes through a correspondingly screw-threaded perforation in a brace-rod, *f*, connecting the sides of counter-plate B. It is also squared, after the manner of a key-post in a clock, for the purpose of using a detachable key for the purpose of operating rod F.

When rod F is caused to rotate by means of a key in one direction, such rotation will force slide-plate E forward toward the toe of the implement, actuating toggle or knee jointed rods D to force plates C outward from each other, thus increasing the distance between their outer lateral edges, and effectually stretching a shoe, in which the device may have been previously placed. An actuation of the said rod in an opposite direction will have the effect of drawing plates C inward again.

With a view to stretching the instep of a boot or shoe, and also the toe thereof, we have devised the following simple and effective device, to wit: A metallic plate, G, of such a shape as to completely close the opening of the stretching device left between the side plates C and the sides of counter-plate B, is arranged with its convexity upward over such opening, as shown in Fig. 1, a suitable slot or opening, *g*, being cut through its slanting rear portion, for the purpose of allowing access to be had to rod F. This plate is adapted to be thrown up at one or both ends, as follows: It is connected to plate A by toggle-jointed rods *i i'*, which rods are, respectively, pivoted to plate G and plate A, their reduced inner ends being then crossed and pivoted to a link or coupler, H, in the rear end of which a perforation is made, in which is secured the reduced front end of an actuating-rod, I. The rear part of this rod is of precisely the same

construction as rod F, and passes through a screw-threaded perforation in a brace, *j*, connecting the counter-plates, so that when the said rod is operated in one direction rods *i i'* will be more or less straightened, and will cause the front end of plate G to be raised vertically, effectually stretching the toe of a boot or shoe in which the implement may have been placed. J represents a screw-threaded rod, having an enlarged head, *o*, which is passed from below through a slot, *n*, in plate A into a screw-threaded perforation in the rear part of plate G, and which is provided, like rods F I, with a squared end, *h*. Rod J is held against endwise displacement, in relation to plate A, by means of a plate, *t*, rigidly secured to the upper side of plate A, and provided with a deep groove, *r*, under which the enlarged head *o* of the said rod is adapted to be engaged, thereby preventing all upward endwise displacement, all downward displacement being effectually obviated by means of a collar, *m*, on the said rod.

When rod J is caused to rotate in a given direction, plate G will be raised at its rear end, thereby enlarging or stretching the instep of a boot or shoe in which it may have been placed. By this means, also, during such actuation, rod J will be allowed to have a degree of lateral motion in the length of the device, thereby effectually preventing it from being bent and rendered inoperative.

What we claim as new, and desire to secure by Letters Patent, is—

1. The screw-threaded operating-rod J, in combination with the detachable instep-plate G, intermediate fixed sole-plate A, toggle-jointed rods *i i'*, link H, and actuating-rod I, substantially as specified.

2. The combination of the sliding plate E and T-rail *c* with the toggle-jointed rods D, plates C, and their actuating mechanism, substantially as specified.

3. The combination of the toggle-jointed rods *i i'*, link H, and their actuating-rod I with movable instep-plate G and intermediate fixed sole-plate A, substantially as specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

CLEMENS MILLER.
PETER MILLER.

Witnesses:
W. H. JOHNSON,
ANDREW ROSS.