

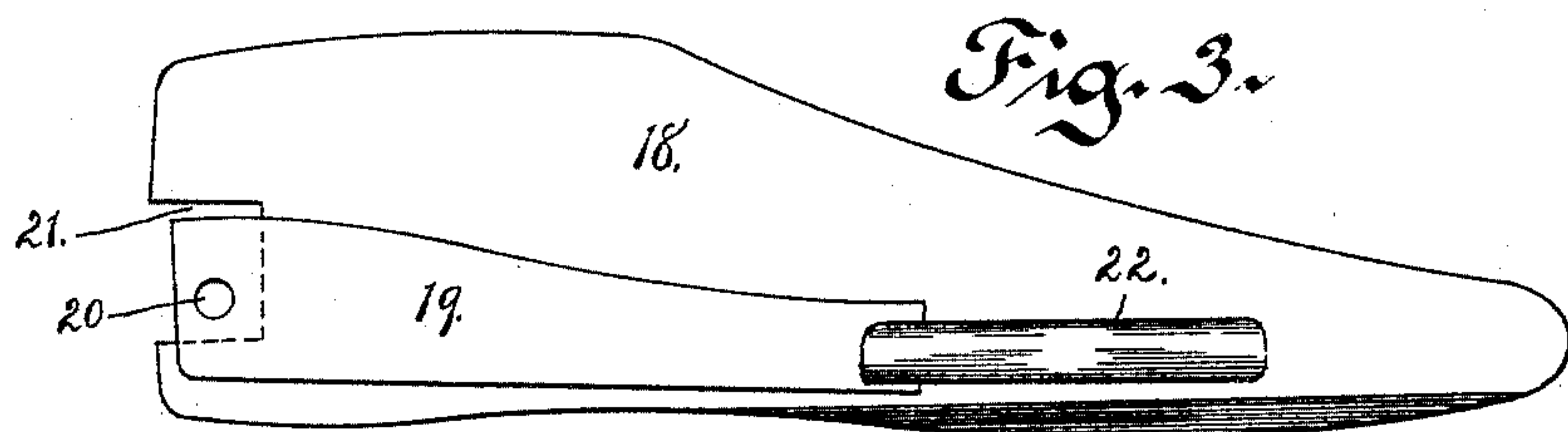
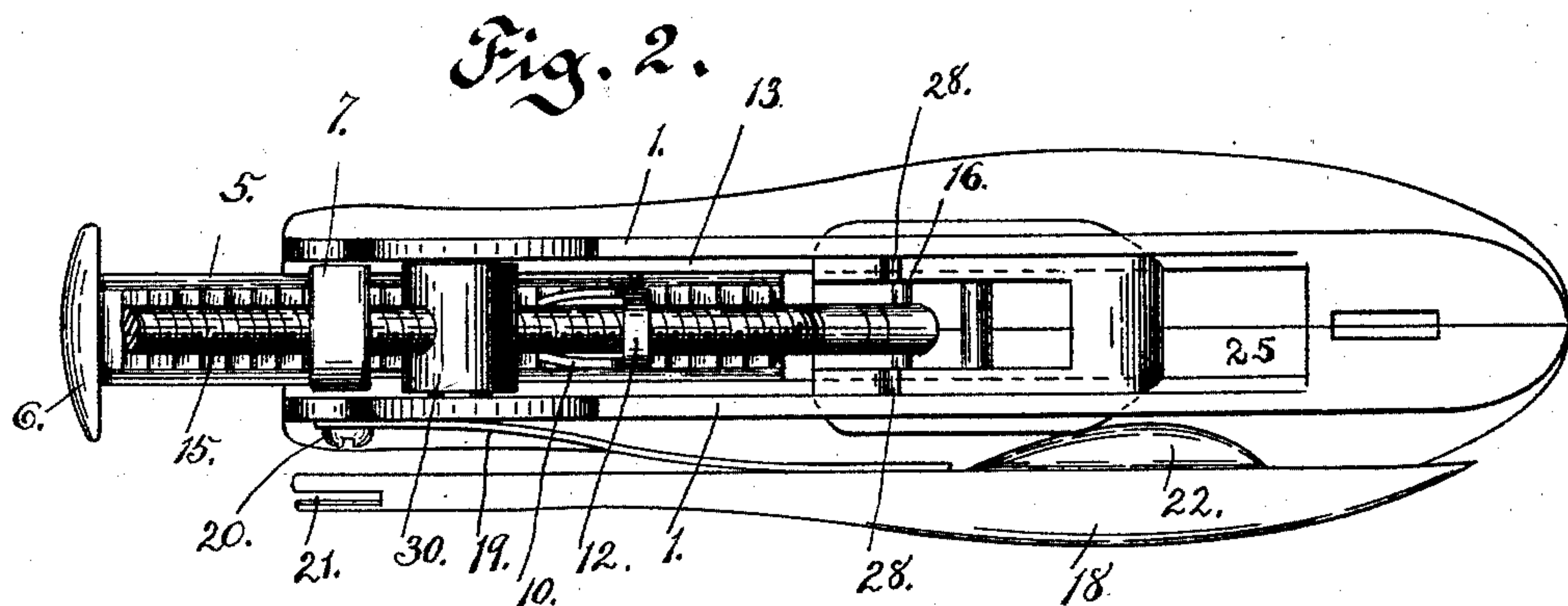
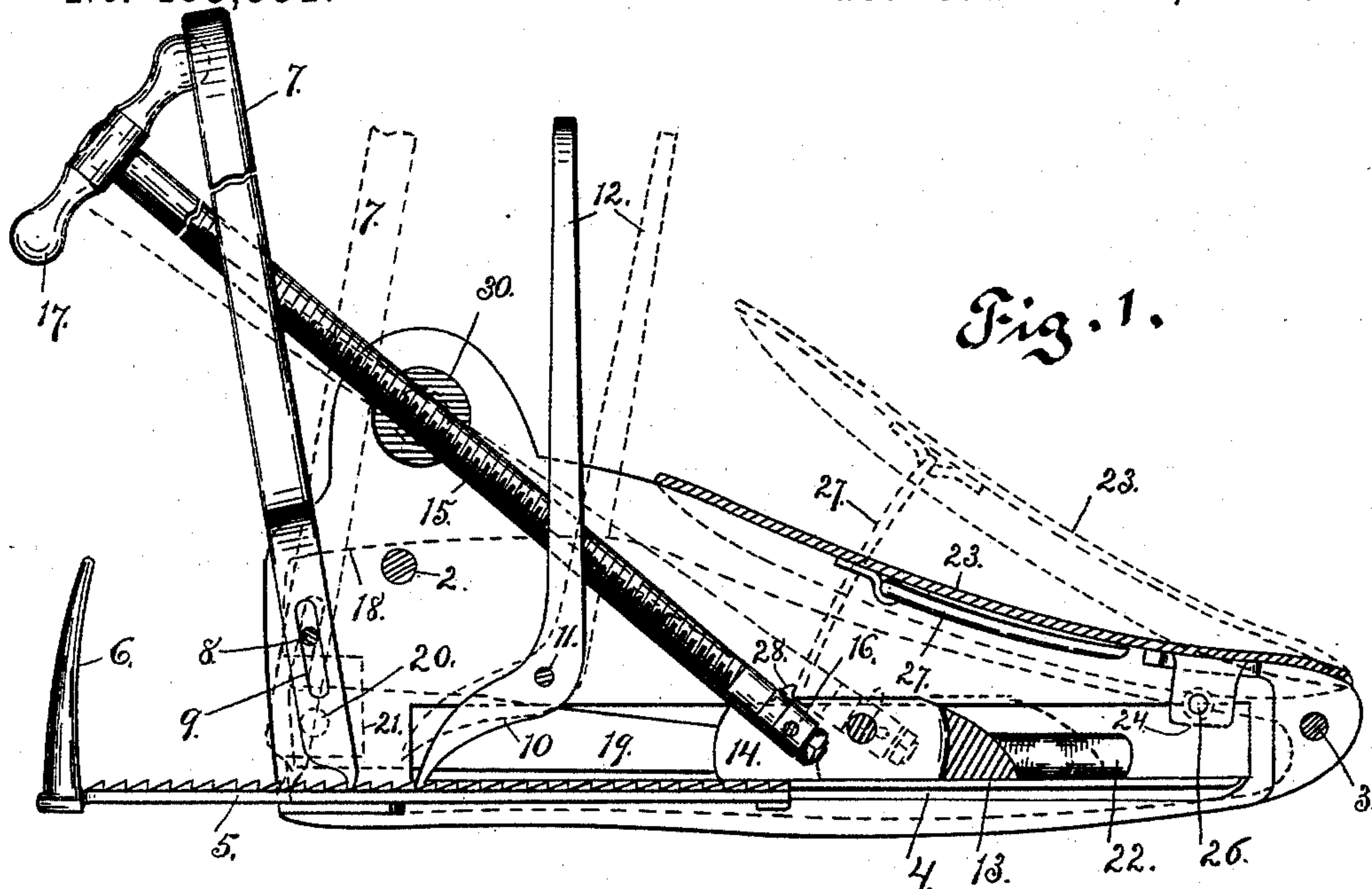
(No Model.)

2 Sheets—Sheet 1.

J. LYONS.  
BOOT STRETCHER.

No. 485,331.

Patented Nov. 1, 1892.



Otto Hordich. Witnesses: Inventor Joel Lyons.  
Kent Parker By, Wm T. Miller.  
Attorney.

(No Model.)

2 Sheets—Sheet 2.

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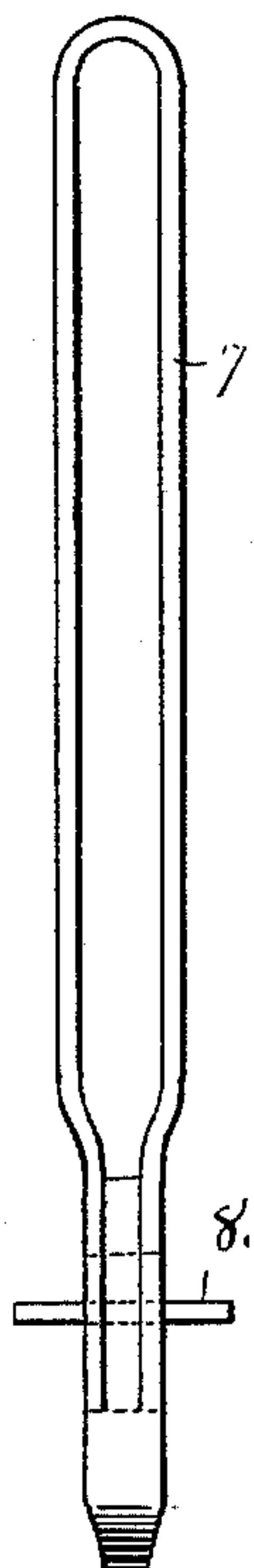


Fig. 4.

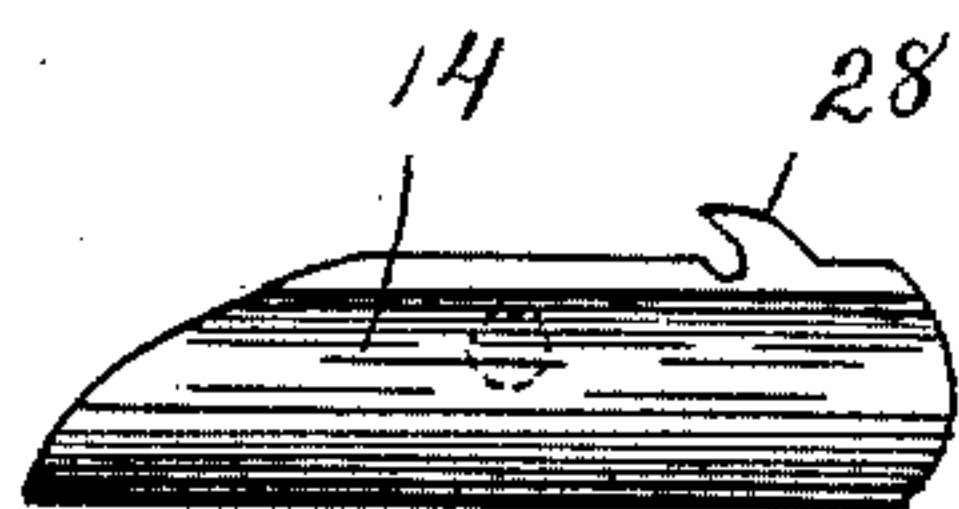


Fig. 6.

Witnesses:  
Otto Hoddick.  
Aunt Parker

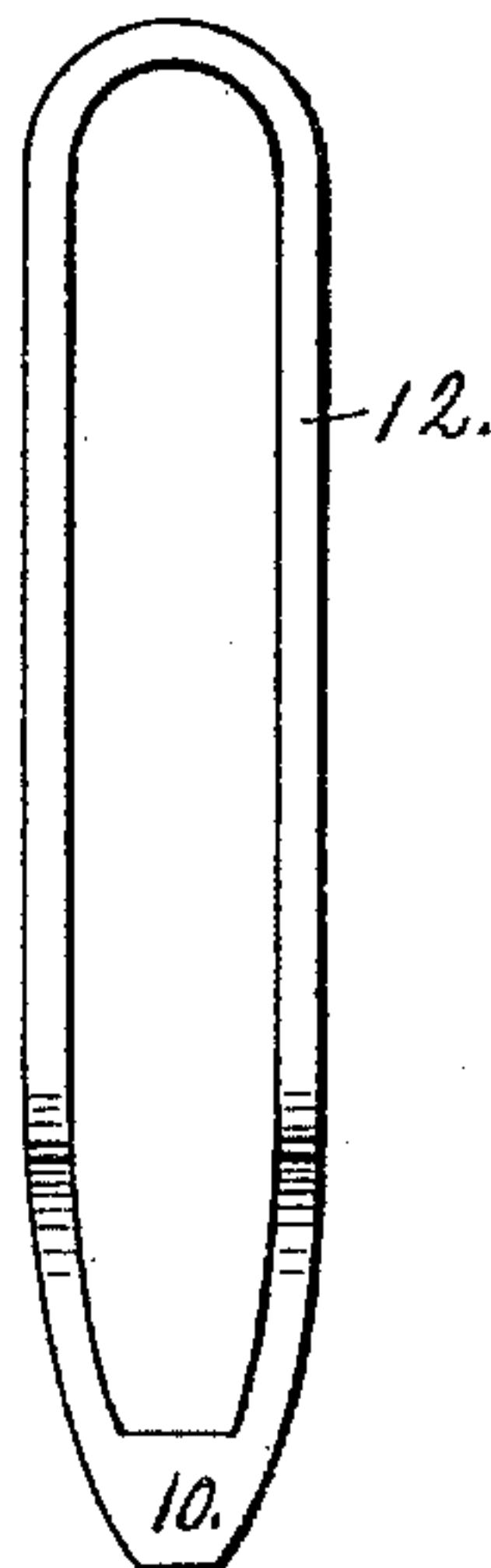


Fig. 5

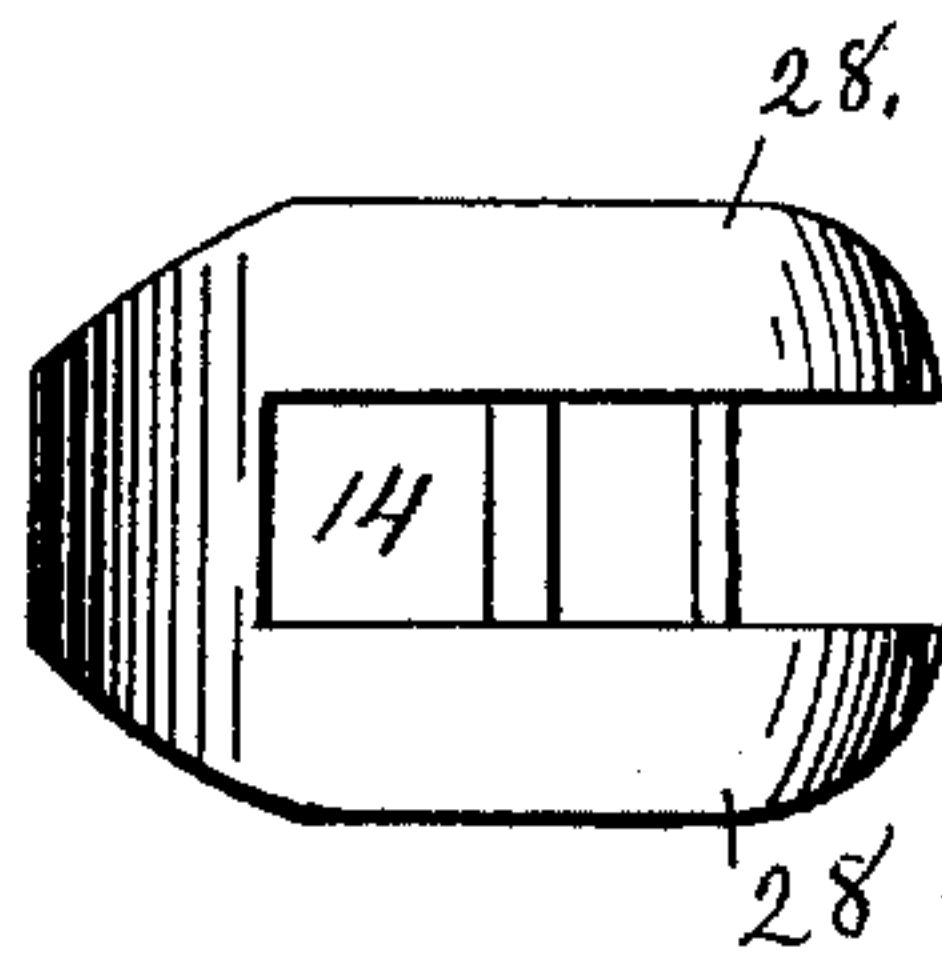


Fig. 7.

Inventor  
J. Lyons  
By Wm T. Miller.  
Attorney.



# UNITED STATES PATENT OFFICE.

JOEL LYONS, OF BUFFALO, NEW YORK.

## BOOT-STRETCHER.

**SPECIFICATION** forming part of Letters Patent No. 485,331, dated November 1, 1892.

Application filed June 11, 1890. Serial No. 355,038. (No model.)

*To all whom it may concern:*

Be it known that I, JOEL LYONS, a subject of the Queen of Great Britain, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Boot or Shoe Stretchers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in boot or shoe stretchers, its object being to produce a boot or shoe stretcher in which a boot or shoe may be stretched at the instep, toe, heel, or sides, or at either one of these places separately, and is readily secured in position within a boot or shoe and as quickly removed therefrom.

It consists, broadly, of a last having spring-pressed side plates and a loosely-pivoted top plate, these plates being operated by a manipulating screw secured to a sliding block, and a heel-plate secured to a horizontal tooth or rack bar, said heel-plate being operated and held in position by pivoted levers, all of which I will now proceed to definitely describe and claim.

In the drawings, Figure 1 is a central longitudinal section of my improved stretcher, showing the operating-levers in full. Fig. 2 is a top plan view with one of the side plates removed. Fig. 3 is a detail view of one of the side plates, and Figs. 4, 5, 6, and 7 are detail views.

Referring to the drawings, 1 1 are two vertical plates secured together at 2 and 3. These plates when secured together form the body of my improved last or stretcher.

At the base of the stretcher and in the inner sides of the plates 1 1 are cut the grooved recesses 4 4, into which the rack-bar 5 is fitted. This rack-bar 5, having the heel-plate 6 secured to its outer end, (which may be integral with it,) is made to slide back and forth in the grooves 4 4.

Loosely pivoted between the plates 1 1 is the lever 7, pivoted as seen in Fig. 1, the short

pin 8 passing through the elongated opening 9 and having its ends secured in the plates 1 1. This lever is arranged to secure the stretcher into position, which when released by the lever 7 is held in place by the pawl 10, pivoted as at 11. This pawl 10 has the upwardly-extending arm 12 for releasing the rack-bar and heel-plate when the stretcher is to be removed.

Just above the recess 4 4 are arranged the inwardly-projecting ledges 13 13, upon which the wedge or block 14 rides. This wedge or block 14 is made to travel back and forth upon the ledges 13 13 by the operating-bar 15, which is loosely journaled in a swivel-nut 16 at one end, said nut being pivoted into the wedge or block 14, as seen in Fig. 2, the operating-bar 15 being screw-threaded and passing up through the pivoted shaft 30, as seen in Fig. 1, and having the operating-handle 17 secured to its outer end.

Secured to the sides of the plate 1 1 are the side plates 18 18 for stretching the sides of the shoes. The plates 18 are adjustably secured in place by the short flat springs 19, which are secured to the inner surfaces of the plates 18 at their forward end and secured to the plates 1 at their rear ends by the screw 20, as seen in Fig. 2. The opening or cut-away portion 21 at the rear of the side plates 18 enables the operator to more conveniently adjust the screw 20, when required. At the forward ends of the side plates 18, at or about where the ball of the foot would come and on the inner surface of the plates, are arranged the projections 22, which ride upon the side surfaces of the wedge or block 14, thus separating the side plates as the wedge is brought nearer to the toe.

The top plate 23, resting over the forward end of the plates 1 1, has a downwardly-projecting lug 24 integral with its forward end, which when in position projects down into the toe of the stretcher through the slot or opening 25, formed by the plates 1 1, as they are secured together. A short pin 26, passing through the lug or projection 24, prevents the plate from being entirely removed.

Pivoted at or near the center of the top plate 23 and on its under side is the arm 27, which when placed in the position shown in



dotted lines in Fig. 1, having the ends resting against the projections 28 on the wedge 14, enables the operator to stretch the instep of the boot or shoe, and when the pivoted arm 27 is placed in the position shown in full lines the wedge or block 14 is permitted to travel in a forward direction without interfering with the top plate until it reaches the projection 24, and the projection 24, being raised by the forward end of the wedge, raises the forward end of the top plate, causing the boot or shoe to be stretched at that point.

In operation when it is desired to stretch a boot or shoe with my improved stretcher the stretcher is first placed into the boot or shoe so as to rest loosely therein. The pivoted arm 7 is then grasped and carried from the position shown in full lines to that shown in dotted lines in Fig. 1, the lever being permitted to rise in passing over the teeth of the bar to repeat the operation by reason of the elongated opening 9, through which the pin 8 passes. This operation is repeated until the stretcher is securely held in position. The lever 7 may then be released, the pawl 10 serving to hold the heel-plate in place.

The different parts of the boot or shoe may be stretched, as above described in the construction, the boot or shoe being stretched in its length by adding to the pressure given to the lever 7.

It will be seen that in stretching the ball of the foot the side plates, by reason of their peculiar attachment to the plates 1 and the pivoted contact between the projection 22 and wedge 14, will take a position somewhat as shown in Fig. 2, thus dividing the pressure and not overstraining the parts, as is

often the case with stretchers of different construction.

In removing the stretchers from a boot or shoe the operator has but to press the arm 12 of the pawl 10 forwardly, thus releasing the heel-plate.

I claim—

1. In a boot or shoe stretcher, the combination of a heel-plate secured to a rack-bar, said rack-bar sliding into the base of the stretcher and operated by a reciprocating lever and pivoted pawl having an upwardly-extending arm, spring side plates secured to the sides of the frame by their spring connections alone and having inwardly-projecting lugs operated upon by a reciprocating wedge or block, and a plate resting over the top of the frame, having a pivoted lever on its under side adapted for temporary engagement with a reciprocating wedge or block, said top plate further provided with a downwardly-projecting lug adapted to be raised by the reciprocating wedge or block, all combined and operating substantially as described.

2. In a boot or shoe stretcher, a frame having a movable top plate provided on its under side with a pivoted lever and a depending lug, in combination with a reciprocating wedge which operates against the pivoted lever and the depending lug, substantially as and for the purpose stated.

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

JOEL LYONS.

Witnesses:

O. E. HODDICK,  
LOUIS H. FRICK.