(No Model.)

A. LEONARD, Jr.

Shank Stiffener for Boots and Shoes.

No. 235,541. **Patented Dec. 14, 1880.**

Fig. 1

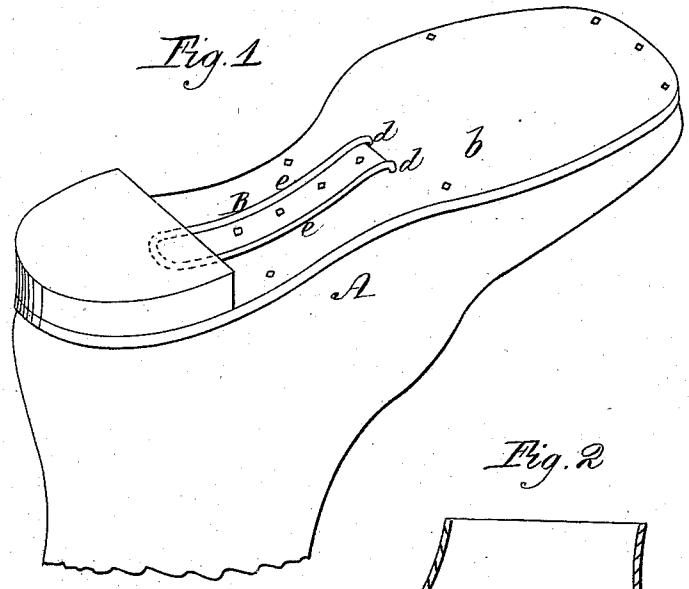


Fig. 2

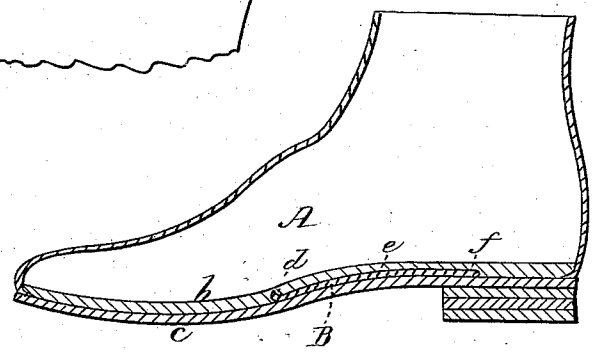


Fig. 3

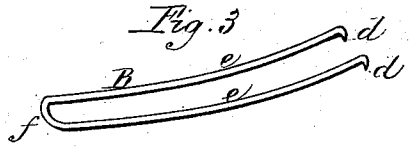


Fig. 4

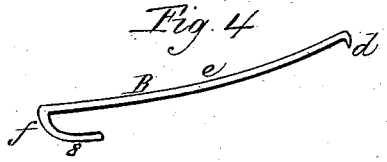


Fig. 5

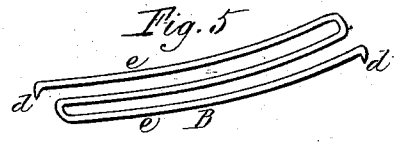
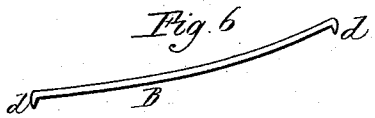


Fig. 6



Witnesses;
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C. R. Darling

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per P. C. Teschemacher
Atty

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UNITED STATES PATENT OFFICE.

ABNER LEONARD, JR., OF PLYMOUTH, MASSACHUSETTS.

SHANK-STIFFENER FOR BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 235,541, dated December 14, 1880.

Application filed October 18, 1880. (No model.)

To all whom it may concern:

Be it known that I, ABNER LEONARD, JR., a citizen of the United States, residing at Plymouth, in the county of Plymouth and State of Massachusetts, have invented an Improvement in Shank-Stiffeners for Boots and Shoes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of the bottom of a shoe having my improved shank-stiffener applied thereto. Fig. 2 is a longitudinal vertical section through a finished shoe having my stiffener applied thereto. Fig. 3 is a perspective view of the stiffener. Figs. 4, 5, and 6 represent modifications of the same.

The ordinary flat steel shank-stiffener in common use is objectionable, for the reason that in the operation of tapping or resoling the awl is liable to come into contact with the steel, and in driving pegs or nails special care has to be taken to avoid that portion of the shank in which the stiffener is located, as it offers a permanent obstruction which often interferes with and delays the work of repairing. These flat steel shank-stiffeners are furthermore objectionable on account of their liability to break in the operation of drawing the last out of the shoe after it is finished.

My invention has for its object to overcome these difficulties; and it consists in a shank-stiffener composed of wire bent to the required form to adapt it to fit the curve of the shank, and possessing the necessary stiffness and elasticity to prevent the shank from getting out of shape, said stiffener being provided with one or more points or projections adapted to be driven into the inner sole to render it self-fastening, a stiffener thus made offering no obstruction to the driving in of pegs or nails, while it is much cheaper than a flat steel stiffener, and at the same time equally durable and efficient.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents a boot or shoe; *b*, the inner sole, and *c* the outer sole. B represents my improved shank-stiffener, which is composed of spring-wire bent double into the shape seen in Figs. 1 and 3, the extremities of the wire at the open end of the stiffener being turned over, forming points or projections *d d*, which, in applying the stiffener, are driven into the inner sole, *b*, preferably near the ball, as seen in Figs. 1 and 2, these projections, which may be blunt or sharp-pointed, as preferred, thus serving, when driven into the inner sole, to hold the stiffener in place and render it self-fastening. The sides or portions *e e* of the stiffener are bent to fit the curvature of the shank of the boot or shoe, and these portions can be spread apart or bent while the stiffener is being applied, so as to fit a right or left boot or shoe, as may be found necessary.

The length of the stiffener is such that its end *f* will extend beneath the heel, and after being applied the outer sole, *c*, is fastened on, as usual, so as to confine the stiffener between the inner and outer soles. If desired, however, the position of the stiffener may be reversed, so that the points *d* will come beneath the heel.

My improved stiffener may be composed of spring-wire of any suitable kind or size which possesses the requisite stiffness and elasticity to adapt it for the purpose for which it is designed, and it is evident that a wire-stiffener, made as above described, presents many important advantages over one composed of flat metal, as it is much cheaper, and offers no obstruction to, and does not interfere in any manner with, the driving in of pegs or nails in tapping or resoling, thus removing a constant source of annoyance to shoemakers, as no special care has to be taken to avoid the locality of the stiffener, as heretofore.

Furthermore, a wire-stiffener made as described admits of more easily pegging on the shank filling, which is placed over the top or about the stiffener to round up the shank, for the reason that the awl will pass readily between the portions *e*, and consequently pegs can be driven into any portion of the shank-filling between these portions *e*, thus facilitating the operation of applying it, and at the same time causing it to be more securely held in place than where it is only possible to drive the pegs outside the edge of the stiffener, as

is the case where the ordinary piece of flat steel is employed.

I do not wish to confine myself to the exact form shown in Figs. 1 and 3, as this may be varied without departing from the spirit of my invention—for instance, as seen in Fig. 4, where the portion *e* on one side is dispensed with, the short bent portion 8 being intended to fit beneath the heel and prevent the portion *e* from turning; or the wire may be bent into the form seen in Fig. 5, with three parallel portions, in which case the extremities of the wire, and consequently the fastening-points, will be located at opposite ends of the stiffener; or the stiffener may consist of a single length of wire, curved, as shown in Fig. 6, and having a fastening-point at each end, which will answer well for light shoes.

I am aware that shank-stiffeners have heretofore been made of wire bent to form a stiffener, with no open ends, and soldered, with additional wires at its longitudinal center; and I am also aware that fastening-points have heretofore been attached to shank-stiffeners, and consequently I make no broad claim to either construction.

What I claim as my invention, and desire to secure by Letters Patent, is—

An open-end spring-wire shank-stiffener, B, provided with fastening-points *d d*, made by bending the ends of the wire forming the stiffener, as set forth.

Witness my hand this 15th day of October, A. D. 1880.

ABNER LEONARD, JR.

In presence of—

WM. P. STODDARD,

SUMNER LEONARD.