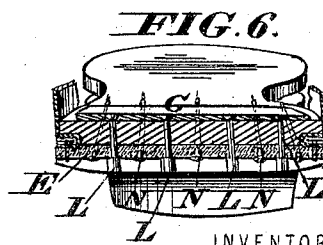
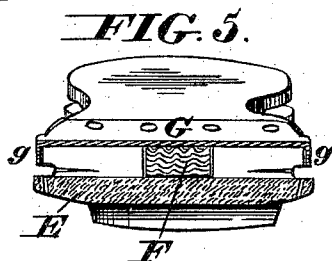
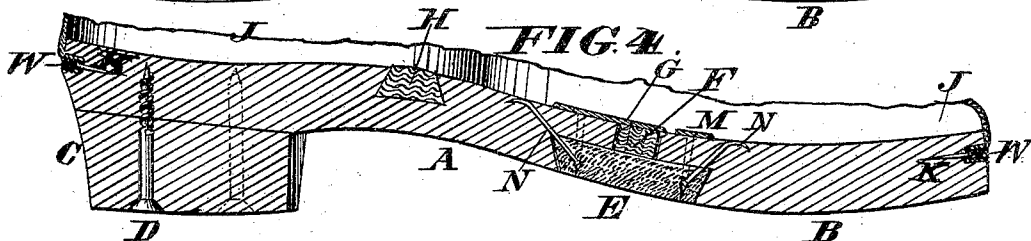
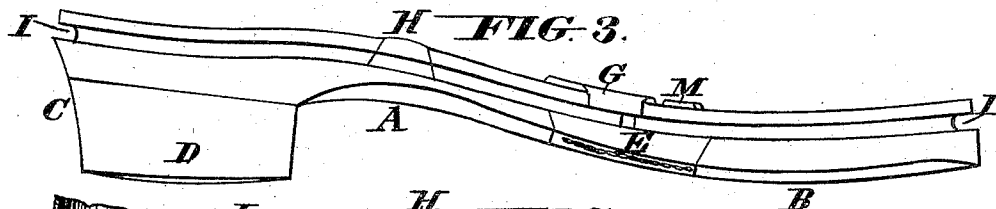
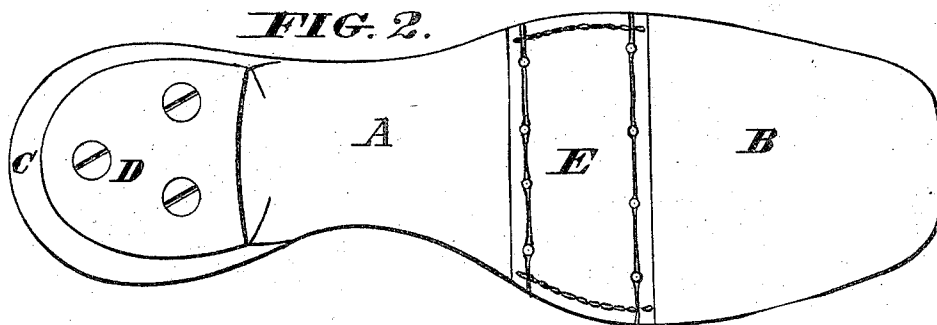
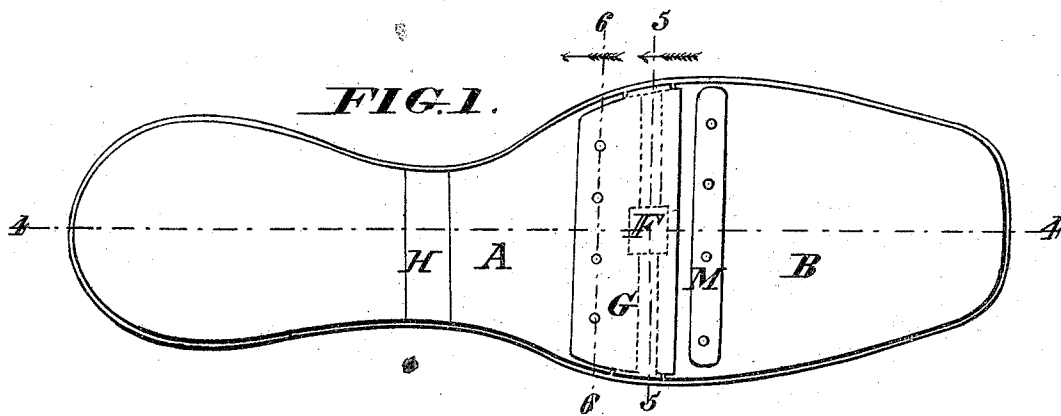


BOOTS AND SHOES.

Patented Jan. 25, 1876.



WITNESSES
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UNITED STATES PATENT OFFICE.

MATHIAS ROBLING AND FREDERICK HENKE, OF SCRANTON, PA.; SAID
ROBLING ASSIGNOR TO JAMES M. EVERHART, OF SAME PLACE.

IMPROVEMENT IN BOOTS AND SHOES.

Specification forming part of Letters Patent No. **172,779**, dated January 25, 1876; application filed
February 4, 1875.

To all whom it may concern:

Be it known that we, MATHIAS ROBLING and FREDERICK HENKE, of Scranton, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Improvement in Boots and Shoes, of which the following is a specification:

Our improved boot or shoe is constructed with a wooden sole, jointed beneath the ball of the foot, a section of leather being secured on the under side, in the manner hereinafter described, to render the sole flexible at this point, and a block or cushion of india-rubber, or other flexible material, is inserted in the central part of the joint, above the said section of leather. The joint is covered by a metallic plate attached at one side, or by a sheet of rubber or other flexible material, as preferred. To afford a spring or slight flexibility to the shank of the sole beneath the hollow of the foot, a cavity is cut in the shank from above, and a cushion of rubber or other elastic material is introduced.

In the accompanying drawings, Figure 1 is a plan or top view of a sole for a boot or shoe illustrating our invention. Fig. 2 is an under-side view thereof. Fig. 3 is a side view of the same. Fig. 4 is a central longitudinal section of the same. Fig. 5 is a transverse section on the line 5 5, Fig. 1. Fig. 6 is a transverse section on the line 6 6, Fig. 1.

The two portions A B of the sole are each made in one piece of tough wood. The heel C may be made in one with the piece A, if preferred; but we prefer to form it separately and attach it thereto by means of screws D, permitting the ready repair of the heel when worn. The object of making the sole A B in two separate parts is to afford flexibility beneath the ball of the foot; and to this end we employ as a continuation of the sole a section, E, of sole-leather, and above this, in the central part of the joint, between the adjacent faces of the parts A B, we insert a block, F, of rubber or other compressible or elastic material, the upper surface being covered by a plate, G, of sheet metal, attached by one edge only, so as to afford the necessary play; or it may be covered by a piece of sheet-rubber or

other elastic material, which can be attached to both edges.

The leather section E is preferably made in dovetail shape, and is secured by oblique nails N, clinched or bent in the act of driving. These nails are introduced through channels in the leather of sufficient depth to prevent any danger of a separation of the parts by the wearing away of the sole. The leather section is further secured by rivets L, of copper or other metal, those which attach one edge of the leather constituting the means of attaching the rear edge of the metallic plate G, and those attaching the front edge of the leather section being clinched over a strip of metal, M. The rivets L are constructed with cylindrical heads of sufficient length to still hold the section of the sole securely after it is partly worn.

By passing the rivets L vertically and the nails N obliquely through the sole we throw them out of line with each other, and provide a secure mode of attaching the leather section to the wooden sole, and thereby attaching the two parts of the jointed sole together without the weakening effect on the wood which would be caused by inserting the nails and rivets in one plane.

The manner of making up the joint as above described is particularly illustrated in Figs. 4 and 6, the rivets L being shown in dotted lines in Fig. 4.

The ends of the metal plate G are turned down over the edges of the sole, as shown at g in Fig. 5, so as to cover the joint or opening, in the center of which the elastic block F is inserted.

Beneath the hollow of the foot we cut from the upper side of the shank a cavity of considerable width, and preferably in dovetailed shape, filling the same with a block, H, of soft rubber. This device enables us to afford the necessary spring or slight flexibility to the shank of the sole without removing so much of the material from the under side as to impair the strength of the sole by cutting across the grain.

In finishing the boot or shoe the entire upper surface of the sole is covered by a suitable insole, in customary manner.

For the attachment of the upper J we provide a groove, I, extending completely around the sole. In this groove the edge of the upper is introduced, and it is secured by horizontal nails K as far as the wood extends. Said nails are constructed with round or button heads, so that they will not pull through the leather. At the point where the sole-leather E is introduced this is stitched to the upper, as illustrated in Fig. 6.

The fold of the leather is so tightly embedded in the deep-edged groove of the sole that the sides of the groove gripe and confine it so as to relieve the nails of any direct or drawing strain, an additional welt or fold of leather, W, being introduced to completely fill the groove, said welt being held by the same nails that hold the upper. It will also be seen that the mode of construction renders the driving of the nails perfectly easy and direct.

The finished shoe has the appearance of one made completely of leather, while it is highly superior to a leather shoe in cheapness, comfort, and healthfulness, the wooden sole being, as is well known, a good non-conductor both of heat and moisture.

The under surfaces of the sole and heel may be protected with metal in any usual or suitable manner, for mining purposes and for general purposes.

We are aware that wooden-soled shoes have before been made with uppers secured by nailing within a groove or channel around the edge of the sole. This therefore we do not

broadly claim. In our invention great practical superiority is found in the construction of a deep groove with parallel sides, and the use of an additional welt, which is secured by the same nails by which the edges of the upper are held within the groove, so that while the nails are completely concealed the whole is wedged within the deep parallel-sided groove in such a manner as to completely prevent any direct draft upon the nails.

The leather, as thus applied in a groove of the form devised by us, would, in fact, hold with tolerable security without any nails at all.

The following is claimed as new:

1. The wooden sole and heel A B C, constructed, as herein described, with a deep parallel-sided groove, I, extending around its edge, and a dovetailed recess in its shank, in combination with the upper J and welt W, secured within the groove I by the same nails K, and with a cushion, H, filling the dovetailed recess in the shank, all as set forth.

2. The combination of the leather section E, applied and secured substantially as set forth, with the divided wooden sole A B.

3. The combination of the jointed sole A B, leather section E, cushion F, covering-plate G, washer M, rivets L, and nails N, applied substantially as herein set forth.

MATHIAS ROBLING.
FREDERICK HENKE.

Witnesses:

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