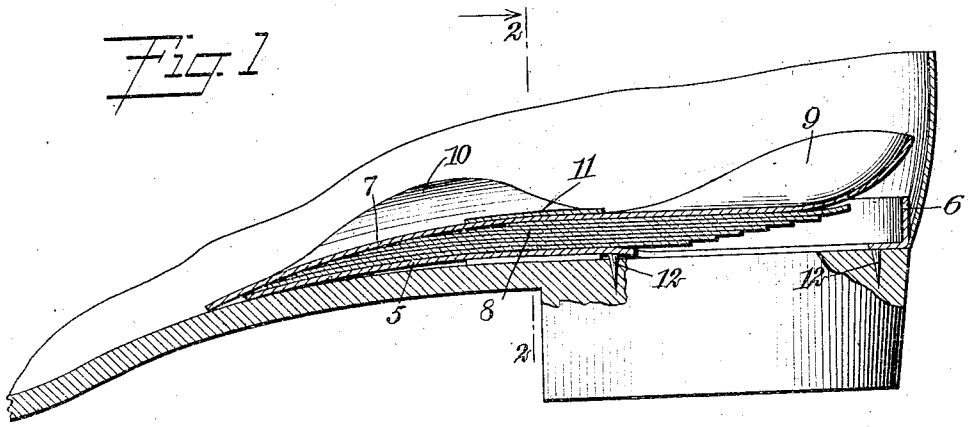
No. 891,090. PATENTED JUNE 16, 1908.

J. F. MITCHELL.

SHOE SOLE ATTACHMENT.

APPLICATION FILED NOV. 12, 1907.

Fig. 1



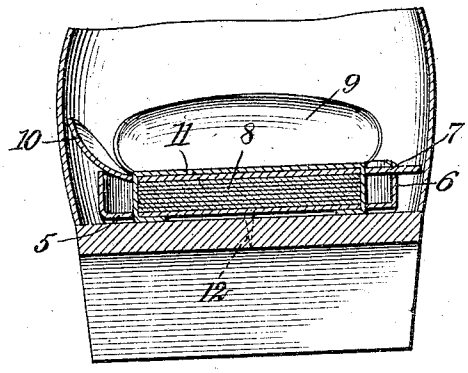


Fig. 2

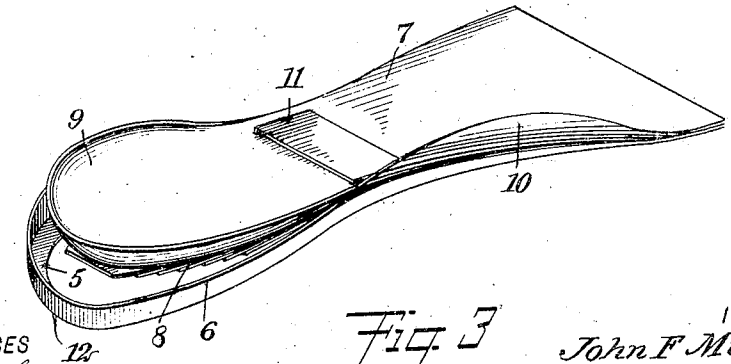


Fig. 3

WITNESSES

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JOHN F. MITCHELL, OF TOPEKA, KANSAS.

SHOE-SOLE ATTACHMENT.

No. 891,090. Specification of Letters Patent. Patented June 16, 1908.

Application filed November 12, 1907. Serial No. 401,790.

To all whom it may concern:

Be it known that I, JOHN F. MITCHELL, a citizen of the United States, and a resident of Topeka, in the county of Shawnee and State of Kansas, have invented a new and Improved Shoe-Sole Attachment, of which the following is a full, clear, and exact description.

This invention is an improvement in sole attachments for shoes, embodying in its construction both an instep support and a spring heel, the same being designed to neatly conform to the under surface of the foot, whereby the pressure brought to bear thereon will be substantially uniformly distributed.

The invention further resides in certain novel features of construction and combination of parts, as will be hereinafter described in detail and set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 illustrates the preferred form of my improvement in central longitudinal section, as applied to a shoe; Fig. 2 is a cross-section of the same on the line 2—2 of Fig. 1; and Fig. 3 is a perspective view of the attachment removed from the shoe.

In the construction of the attachment, I employ a base-plate 5 of sheet metal, which is shaped to substantially conform to the sole of the shoe and extend about three-quarters of the length of the same, whereby it will reach from the heel to the ball of the foot. At the heel end of the base-plate it is provided with a marginal outwardly-turned flange 6, which gradually tapers to nothing as the forward portion of the plate is approached.

Secured in any suitable manner to the forward end of the base-plate 5, and also to an inner sole 7, is a leaf-spring 8, which extends rearwardly over the heel and is composed of a number of leaves successively falling short of each other at the forward end of the attachment in passing from the base-plate to the inner sole, and also successively falling short of each other at the opposite or heel end of the attachment in passing from the inner sole to the base-plate; this construction of the spring, as will be observed in Fig. 1, giving the forward end of the attachment a rounded form which will conform to the arch or instep of the foot, thereby providing a support for the same, and also providing the attachment with a spring heel. The inner sole 7 is also preferably constructed of sheet metal and is formed with a dished or concave heel 9, which neatly conforms to this portion of the foot, preventing the same from spreading under pressure and uniformly distributing the weight thereon on the cushioned or fleshy part of this member. At one side of the inner sole 7 it is extended to provide an outwardly-flaring wing 10, at the inside of the foot, to conform to and support the instep at this point.

The base-plate, the inner sole and the several leaves of the leaf-spring, are not only secured together at their forward ends as before stated, but are also bound together at a point intermediate the instep and heel by a clamp 11, which, as will be observed from Figs. 2 and 3, is in the nature of a sheet metal clip or band passing through slots in both the inner sole and base-plate, and abutting against the edges of the leaf-spring.

In order that no slipping of the attachment may take place when it is applied to the shoe, the base-plate is provided with tapered pins 12 located over the heel, and are of such length as to be forced into the leather when the weight of the body is brought to bear on the inner sole.

It will be noted in Figs. 1 and 2, that the base-plate 5 is cut out at the heel, which permits of the depression of the spring heel to a lower point than would otherwise be possible, in addition to making the attachment somewhat lighter in construction.

It is apparent that my invention instead of being made in the nature of an attachment, may if desired be formed as a part of the shoe when the latter is manufactured; also various other immaterial charges may be made in the construction shown and described, without departing from the nature of the invention as defined in the claims annexed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1 An attachment for the inside of shoe soles, comprising a base-plate shaped to conform to the sole and having an upwardly-projecting marginal flange at the heel end thereof, an inner sole shaped to conform to the under surface of the foot, and a leaf-spring arranged between the base-plate and inner sole.

2. In a shoe, a leaf-spring located over the heel and instep of the shoe sole, the leaves of which successively fall short of each other in passing upwardly at the forward portion of the spring, and successively fall short of each other at the heel end of the spring in passing downwardly, whereby a support for the instep of the foot and a spring heel is provided.

3. An attachment for shoes, comprising a base-plate having an upwardly-turned marginal flange and provided with means for passing into the sole of the shoe an inner sole, and a leaf-spring located intermediate the base-plate and inner sole, the leaves of which successively fall short of each other at their forward ends in passing from the base-plate to the inner sole, and successively fall short of each other at the rear or heel end in passing from the inner sole to the base-plate, whereby a spring heel and a support for the instep of the foot is provided.

4. An attachment for shoes, comprising a base-plate, an inner sole, and a leaf-spring located intermediate said base-plate and inner sole, with the leaves of the spring successively falling short of each other at the heel of the attachment in passing from the sole to the base-plate whereby a space is provided between the plate and spring at the heel, which permits of the yielding of this end of the spring when pressed toward the plate.

5. An attachment for the inside of shoe soles, comprising a base-plate, an inner sole, a leaf-spring intermediate the base-plate and inner-sole, and a band binding together the inner sole, base-plate and leaf-spring, located intermediate the heel and instep of the attachment.

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

JOHN F. MITCHELL.

Witnesses:
W. C. LOUCKS,
J. FRANCES MITCHELL.