88. BOOTS SHOES & LEGGINGS.
Heel Cushion.
Internal Cushion.

No. 887,368. PATENTED MAY 12, 1908.

W. WILLET.

SPRING INSOLE.

APPLICATION FILED JUNE 19, 1905.

Fig. 1.

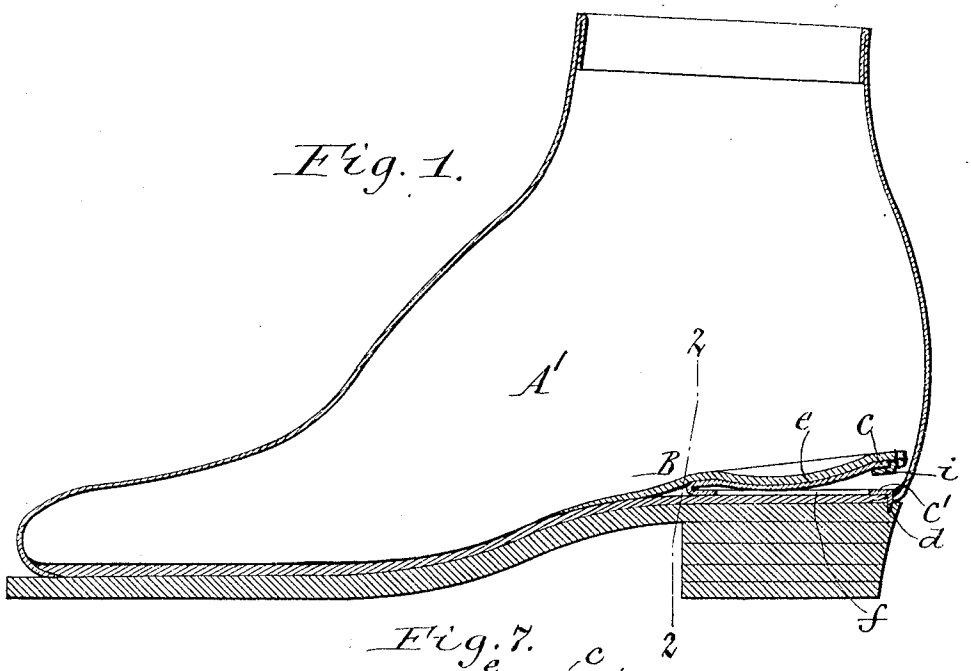


Fig. 7.

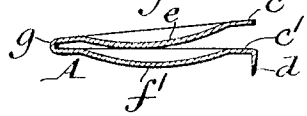


Fig. 4.

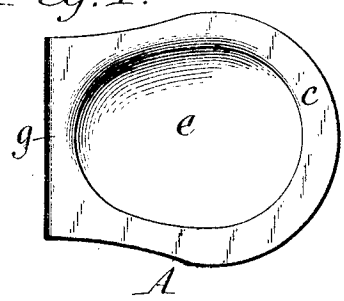


Fig. 3.

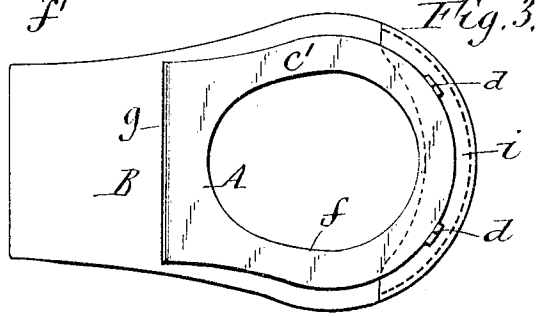


Fig. 6.

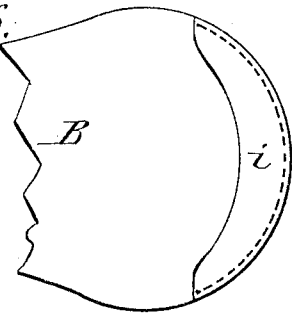


Fig. 2.

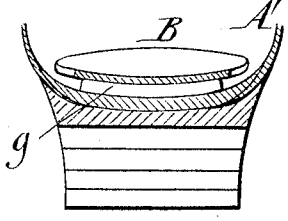
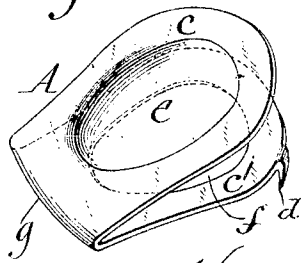


Fig. 5.



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BOOTS, SHOES & LEGGINS.
Heels, Cushion.
Sole and Cushion.

UNITED STATES PATENT OFFICE.

WARREN WILLET, OF BUFFALO, NEW YORK.

SPRING-INSOLE.

No. 887,368. Specification of Letters Patent. Patented May 12, 1908.

Application filed June 19, 1905. Serial No. 266,052.

To all whom it may concern:

Be it known that I, WARREN WILLET, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Spring-Insoles, of which the following is a specification.

This invention relates to a spring heel or insole for cushioning the heels of shoes and has the object to produce a heel or insole of this character which is simple in construction, easily applied to the shoes, comfortable in use and not liable to become displaced.

In the accompanying drawings:—Figure 1 is a longitudinal section showing a shoe provided with my improved spring insole. Fig. 2 is a fragmentary cross section in line 2—2, Fig. 1. Fig. 3 is a bottom plan view of the spring insole. Fig. 4 is a detached top plan view of the spring of the insole. Fig. 5 is a perspective view of the same. Fig. 6 is a fragmentary bottom plan view of the insole spring covering. Fig. 7 is a section showing a modified construction of the insole spring.

Similar letters of reference indicate corresponding parts throughout the several views.

My improved spring insole comprises two main parts, a spring A which is placed within the shoe A′ and a protecting cover B extending over the spring. The spring is preferably constructed of a single piece of sheet metal which is folded upon itself so as to form upper and lower leaves *c*, *c′* which are connected at their front ends and diverge rearwardly. The spring is placed with its lower leaf on the heel of the shoe so that the upper leaf is in position to support the heel of the foot.

In order to prevent the spring from becoming displaced or working forward in the shoe while in use its rear end is provided with retaining means for anchoring the same in the shoe. The means for this purpose shown in the drawings consists of two spurs *d* depending from the rear end of the lower leaf and adapted to impress themselves in the lower part of the shoe. Although one retaining spur is sufficient for holding the spring against forward movement in the shoe two of them are preferably employed and arranged on opposite sides of the center of the lower leaf whereby the spring is also held against lateral displacement in the shoe.

For the purpose of conforming the upper leaf of the spring to the convex underside of the foot heel this leaf is dished or deflected downwardly in its central part as shown at *e*. To permit of depressing the upper leaf thus dished the required extent while in use without making the spring unduly high the lower leaf is provided with a clearance space, in its central part below the dished part of the upper leaf. Upon depressing the latter its dish enters the clearance space of the lower leaf thus permitting the two leaves to approach each other closely while in use. This clearance space may be provided by forming an opening in the lower leaf, as shown at *f* in Figs. 1, 3 and 5, or by dishing the lower leaf downwardly to correspond with the upper leaf, as shown at *f′* Fig. 7.

The front ends *g* of the leaves are likewise dished downwardly or curved transversely so that the central part is lower than the sides thereof as shown in Fig. 2, thereby adapting this part of the spring also to the shape of that part of the foot which rests on the same and avoiding any discomfort.

Inasmuch as the spring when made of metal is comparatively cold and liable to produce an unpleasant feeling on the foot resting thereon a protecting cover B is provided for the same. This cover is made of leather or other pliable material and extends with its rear part over the top leaf of the spring while its front part is shaved to a thin edge and laps over the bottom of the shoe in front of the spring. The covering is retained in position and prevented from moving forwardly on the spring by means of a pocket or shoulder *i* formed on the rear end of its underside and fitting over the rear end of the upper spring leaf, as shown in Figs. 1, 3 and 6.

My improved spring insole can be readily placed in any of the shoes as now constructed and furnishes an elastic bearing for the heel of the foot in the heel of the shoe which relieves the jar on the spine rendering the same especially desirable for street railway motor-

men and other persons whose occupation requires them to stand for a considerable time on a vibrating support.

I claim as my invention:—

A spring insole comprising upper and lower spring leaves which are connected at their front ends, and a pliable covering arranged over the upper leaf and having a forwardly opening pocket on the underside of its rear end which receives the rear end of the upper leaf, substantially as set forth.

Witness my hand this 29th day of May, 1905.

WARREN WILLET.

Witnesses:
THEO. L. POPP,
E. M. GRAHAM.