Oct. 16, 1923. 1,471,042

A. E. LEWIS

RESILIENT HEEL

Filed July 18, 1921

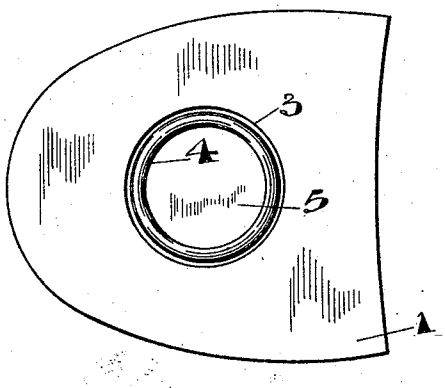

Fig. 2.

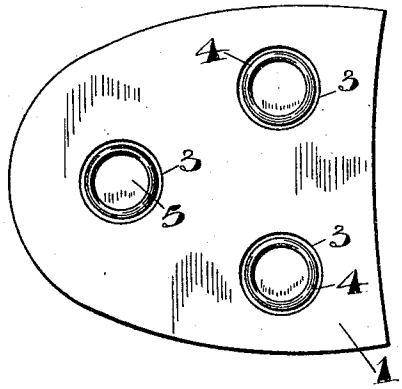

Fig. 3.

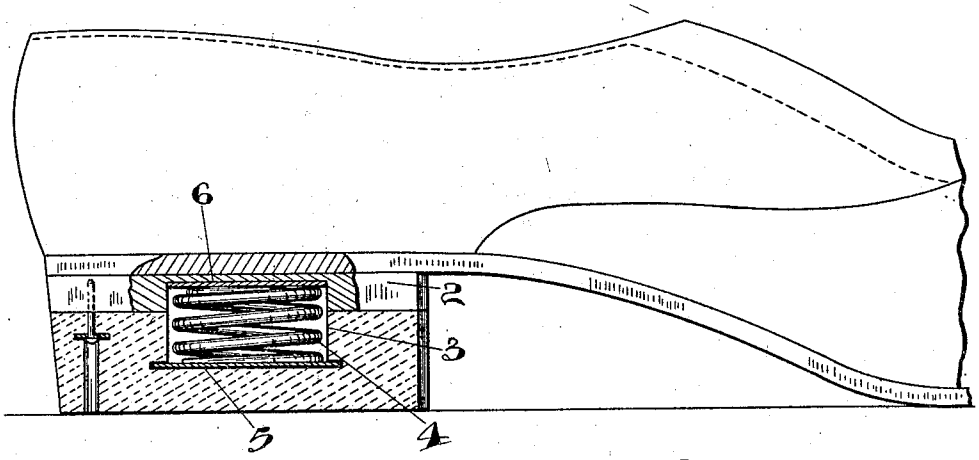

Fig. 1.

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UNITED STATES PATENT OFFICE.

ALONZO E. LEWIS, OF INGERSOLL, ONTARIO, CANADA.

RESILIENT HEEL.

Application filed July 18, 1921. Serial No. 485,520.

To all whom it may concern:

Be it known that I, ALONZO E. LEWIS, of Ingersoll, in the county of Oxford, in the Province of Ontario, Canada, a subject of the King of Great Britain, have invented certain new and useful Improvements in Resilient Heels, of which the following is a specification.

This invention relates to the heels of boots and shoes, and my object is to produce a heel which will be more elastic than the ordinary rubber heel without the sacrifice of strength and durability.

I attain my object by providing the heel with an internal spring cushion and means for distributing the pressure of the cushion so that there is no localized pressure below the wearer's heel, and no concentration of wear at the middle of the tread surface of the boot heel.

The invention is hereinafter more specifically described and is illustrated in the accompanying drawings in which—

Fig. 1 is a longitudinal section of part of the shoe with my improved heel in position;

Fig. 2 a plan view of the same;

Fig. 3 a plan view showing a modification.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

1 is a heel preferably formed of a rubber compound or other relatively soft and resilient composition, which is secured to the leather lift 2 of the shoe by the nails 12 and washers 13 which are embedded in the rubber at a level above that of the bottom of the recess 3. Centrally of this heel is formed a spring cushion which is adapted to bear against the rubber heel, and also against the lift of the heel 2 of the shoe. By the substitution of an elastic cushion for the solid rubber of an ordinary rubber heel a much greater degree of resiliency is maintained than is possible with such heels without sacrificing any of the wearing qualities. This cushion is preferably formed as follows. A recess 3 is formed in the heel extending part way down from the top thereof. In this recess is located a coil spring 4 bearing against the bottom of the recess, and against the shoe heel 2. To distribute the pressure, it is preferable to mold in the rubber heel, at the bottom of the recess, a thin metal plate 5, and a similar metal plate 6 is provided against the upper end of the coil spring bearing. It is also preferable to recess the heel 2 to partly receive the coil spring 4, as in this way a longer and therefore a more equably acting coil spring may be employed. While I prefer to use one spring, yet a plurality of recesses and a plurality of springs may be employed as indicated in Fig. 3, and such a construction would fall within the scope of my invention.

Various other modifications of the construction are possible which would fall within the scope of my invention.

What I claim as my invention is:—

1. In a heel for boots and shoes, the combination of a leather heel; a rubber heel below the leather heel forming the tread portion of the heel, a cylindrical recess being formed partly in the rubber and partly in the leather; means securing the rubber heel to the leather engaging the rubber heel above the level of the bottom of the recess; a coil spring fitted in said recess and substantially filling the same; a circular metal plate; and a pressure distributing plate fitted over the upper end of the spring.

2. In a heel for boots and shoes, the combination of a leather heel; a rubber heel secured below the leather heel and forming the tread portion of the heel, a cylindrical recess being formed partly in the rubber and partly in the leather; means securing the rubber heel to the leather engaging the rubber heel above the level of the bottom of the recess and a coil spring fitted in said recess and substantially filling the same.

Signed at Ingersoll, Canada, this 8th day of July, 1921.

ALONZO E. LEWIS.

Witnesses:

SAMUEL H. NAGLE,

JOHN L. LAWRENCE.