H. C. TYSSE.

INTERMEDIATE SOLE FOR SHOES.

APPLICATION FILED JULY 7, 1915.

1,221,632. Patented Apr. 3, 1917.

Fig. 1.

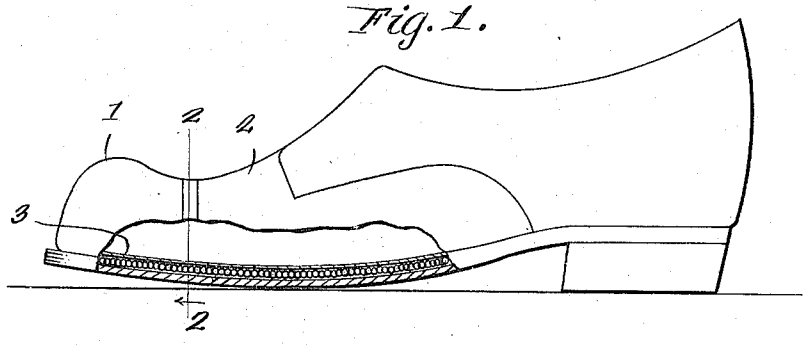


Fig. 2.

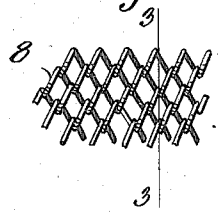
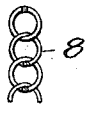


Fig. 3.



Witnesses
Guy M. Spring.
W. E. Talk Jr.

Inventor
Hans. C. Tysse.

By Richard Cleveland.
Attorney

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HANS CHR. TYSSE, OF MANISTEE, MICHIGAN.

INTERMEDIATE SOLE FOR SHOES.

1,221,632. Specification of Letters Patent. Patented Apr. 3, 1917.

Application filed July 7, 1915. Serial No. 38,516.

To all whom it may concern:

Be it known that I, HANS CHRISTIAN TYSSE, a citizen of the United States, residing at Manistee, in the county of Manistee and State of Michigan, have invented certain new and useful Improvements in Intermediate Soles for Shoes, of which the following is a specification.

My invention relates to the manufacture of boots and shoes in which an air space or chamber is formed between the inner and the outer sole of the shoe.

Boots and shoes as at present constructed have an inner and an outer sole. Between these soles and extending around the outer edge of the same is a narrow strip of leather of uniform thickness, known as the welt connecting the sole proper to the upper. The space inside the welt and between the lower and upper sole is ordinarily filled solid with ground cork, glucose or cement or with some other plastic or non-plastic substance called a filler. This filler being a solid mass pressed in between the soles forms a ready conductor of heat or cold, absorbs and retains moisture, or is powdered, and in use creeps and bunches under the foot, and becomes unsanitary and uncomfortable and offers a ready means whereby colds, la grippe and other ailments are contracted.

My invention consists in the use of a metallic substance built into boots or shoes in one or more pieces consisting of wire so bent, coiled or twisted as to give a sufficient and uniform support between the lower and upper soles inside the welt without entirely filling the space but leaving air spaces between the coils or corrugations and forming a slightly yielding resilient and comfortable footing that will not creep or bunch in use or permit the escape of natural heat, from the foot through the sole of the shoe.

In describing my invention in detail reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is an elevation of a shoe, partly broken away, equipped with my improved intermediate sole; Fig. 2, is a fragmentary view in plan of the intermediate metallic sole and Fig. 3, is a view in section taken on the line 3—3 of Fig. 2.

Referring now to the drawings by numerals, 1 designates as an entirety a shoe equipped with my improved metallic intermediate sole. The shoe 1 is of an accepted design in that it may be said to consist of an upper 2, an inner sole 3, a welt 4, and an outer sole 5; the welt, as hereinbefore pointed out, being interposed between the inner and the outer soles whereby to provide an air space or chamber 6 therebetween.

In lieu of the filler generally found in the chamber 6 I substitute a metallic strip of a size to fit the chamber 6 and to engage with the underside of the inner sole and the upper side of the outer sole to afford a resilient yielding cushion for the former and a means whereby the latter is held in spaced relation to said inner sole to preclude transmission of heat and cold as well as moisture thereto. Thus an air space is provided which will, under ordinary conditions, and as before pointed out, preclude transmission of heat and as a result maintain the foot of the wearer in a normal state.

The intermediate sole 8 shown in Figs. 2 and 3 is made up of a plurality of independent helices interlocked to extend in longitudinal alinement and afford when assembled a yielding resilient cushion element for both the inner and the outer sole. The convolutions constituting the respective helices are spaced sufficiently to create, in effect, diamond-shaped openings in the intermediate sole when referred to as an entirety as well as the air space deemed necessary for reasons hereinbefore pointed out.

From the foregoing, taken in connection with the accompanying drawings it is evident that the filler or intermediate sole will yield to every movement of the foot and in no way stiffen the sole of the shoe to in this manner render its use objectionable; and that in reality the use of a filler of the nature pointed out will decrease rather than increase the manufacturing cost of the shoe.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is:—

In a shoe, an inner sole, an outer sole, and an intermediate sole comprising a plurality of individual wire strands bent to form a plurality of helices, the several convolutions constituting each helix being interlocked with the convolutions of the adjacent helices, said intermediate sole forming a cushion support for the inner sole and a means for spacing the inner and the outer sole, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HANS CHR. TYSSE.

Witnesses:
HAZEL SWANSON,
OLGA PETERSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."