Jan. 13, 1925. 1,522,890

T. KRAP

ELASTIC INSOLE

Filed Sept. 23, 1922

Fig. 1.

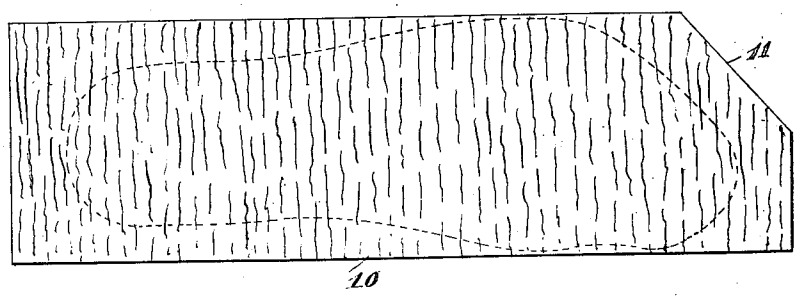


Fig. 2.

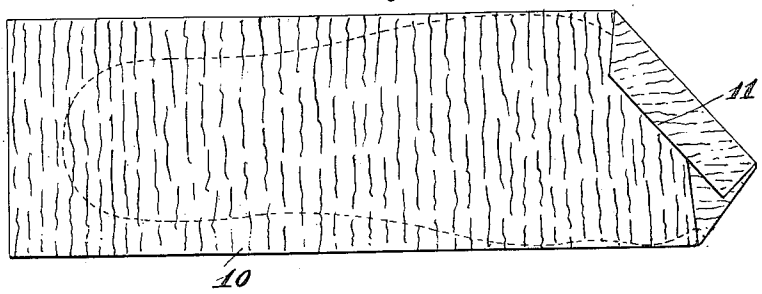


Fig. 3.

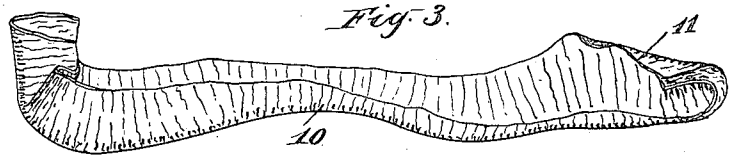


Fig. 4.

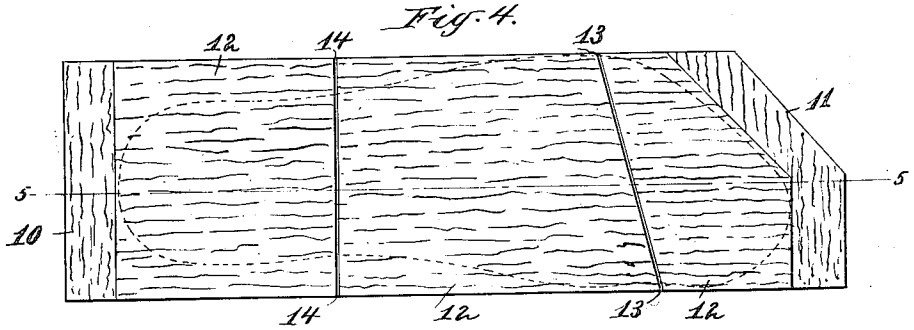


Fig. 5.

Inventor:
Teodoro Krap,
by his attorney,
Charles R. Searle.

Patented Jan. 13, 1925. 1,522,890

UNITED STATES PATENT OFFICE.

TEODORO KRAP, OF MEXICO, MEXICO.

ELASTIC INSOLE.

Application filed September 23, 1922. Serial No. 590,023.

To all whom it may concern:

Be it known that I, TEODORO KRAP, a citizen of Germany, residing at Mexico city, Federal District, Republic of Mexico, have invented a certain new and useful Elastic Insole, of which the following is a specification.

The invention relates to thin insoles to be worn within the socks or stockings, and the object of the invention is to provide a simple, easily applied and inexpensive insole having the required elasticity to mold automatically to the sole of the foot, and having absorbent and other qualities by which perspiration and exudations are absorbed and the foot protected from exterior cold and moisture, and the sensitiveness and tendency of the foot to perspire is reduced.

The invention consists in certain novel features and details of construction and arrangement by which the above and other objects are attained, to be hereinafter described and claimed.

The accompanying drawings form a part of this specification and show the invention as it has been carried out in practice.

Figure 1 is a plan or face view of a simple form of the insole before folding and application within the sock or stocking.

Figure 2 is a corresponding view showing the same in the partially folded condition.

Figure 3 is a side view of the same after application and use.

Figure 4 is a plan view of a supplemental insole to be superposed upon the insole shown in Figure 1.

Figure 5 is a section through the double insole thus formed, taken on the line 5—5 in Figure 4.

Referring to Figures 1, 2 and 3, the insole consists of a rectangular strip of long fibre paper corrugated, rippled, or craped transversely, having a body portion 10 of the same width as the foot of the wearer at its widest part and somewhat longer than the foot.

In applying the insole the wearer holds it extended upon the bared sole of the foot with portions projecting slightly beyond the latter at the toes and heel. The excess length at the front is folded over upon the toes and while thus held is inserted within the sock which has been partially turned to facilitate such insertion; the sock is then drawn upon the foot and the excess length at the heel folded automatically upon the latter.

In order to avoid an excess of material at the toes, a corner at the outside of the insole is removed by an angular cut as 11 so that in folding the paper upon the toes a pocket is formed conforming to the contour of the toes without excessive thickness at any part.

The paper is of such character as to resist wear and by reason of the transverse crinkles or corrugations, is elastic in the direction of the length of the foot, and has the property of absorbing dampness such as the natural exudations of the foot when confined in the shoe.

By moderately saturating the insole with paraffine the foot is protected against the moisture of the ground, and in some instances the upper face of the insole is given a thin coating of tallow which may if preferred be medicated, and which tends to soften the skin of the foot-sole and effect a cure of excessive foot perspiration.

When using the paraffined insole it is preferable to employ a second insole, not paraffined, to lie next the sole of the foot and thus lessen the feeling of cold due to the paraffine.

The most complete and efficient form of the invention is shown in Figures 4 and 5 and is designed to meet the exigencies of the human foot anatomically considered; when the foot is at rest and not supporting the weight of the body, it decreases in length and width, increasing again under the load. When walking these variations in size are continuous and the length further increased by the upward curvature of the toes followed by a return to the horizontal or plane position and a subsequent shrinking. These movements are not prevented by the shoes and the flexibility of the leather forming the shoe-upper even permits the curvature of the toes, but the shoe-sole retains its form and size and a continuous friction results between the sole of the shoe and the sole of the foot which is not sufficiently met by the sock and causes wear of the latter. The longitudinal elasticity of the single insole, due to the transverse corrugations, is sufficient to meet the rubbing produced by the successive changes in the length of the foot, which are the important variations, but does not provide for the continuous changes in width. The form shown in these Figures 4 and 5 provides for both types of variations. This is accomplished by superposing upon an insole 10 having transverse corrugations a sec-

ond insole 12 having its corrugations arranged longitudinally so as to expand and contract transversely or laterally, and in order that the effects of the elasticity of the two insoles shall not counteract each other the upper insole 12 is provided with two slits or cuts 13 and 14, the former before the two points of support for the foot, as at the root of the toes, and the other in the middle between the ball of the heel and those two points of support, that is, under the arch of the foot.

Thus arranged the lower insole 10 follows perfectly the movements of the foot in the longitudinal direction, while the upper insole 12 follows perfectly the movements of the foot in the transversal direction, with correspondingly beneficial effects upon the sole of the foot.

The advantages of the elastic insoles for socks and stockings are manifold:—They protect the foot against cold and against abrasions and excoriations. They lessen the tendency to perspire, and reduce sensitiveness and fatigue of the soles of the feet, especially when treated with a thin coating of tallow as above described. They prevent the formation of callousness, and prolong the useful life of the socks and stockings by lessening the frictional wear to which they are subjected and by avoiding the deterioration due to moisture caused by perspiration.

I claim:—

1. An insole comprising two superposed layers of corrugated paper having the corrugations of one layer extending transversely and those of the other longitudinally of such insole, and adapted to be worn within the sock or stocking.

2. An insole comprising two superposed layers of corrugated paper having the corrugations of the lower layer extending transversely of such insole, and the corrugations of said upper layer extending longitudinally of such insole, said upper layer being elastic laterally.

3. An insole consisting of a rectangular strip of corrugated paper having a body portion of substantially the same width as the widest part of the foot of the wearer and slightly longer than the foot, there being an angularly cut portion at the toe foldable to form a toe-receiving pocket, the excess length being automatically foldable upon the heel as the sock is drawn upon the foot.

4. An insole consisting of a rectangular strip of corrugated paper having a body portion of substantially the same width as the widest part of the foot of the wearer and slightly longer than the foot, the excess length being automatically foldable upon the heel as the sock is drawn upon the foot, the strip having at the toe-end a portion removed at an angle to the length to avoid excess of material over the toes.

In testimony that I claim the invention above set forth I affix my signature hereto.

TEODORO KRAP.