No. 715,754. Patented Dec. 16, 1902.

H. & J. R. CAMPBELL.

INSOLE.

(Application filed July 31, 1901.)

(No Model.)

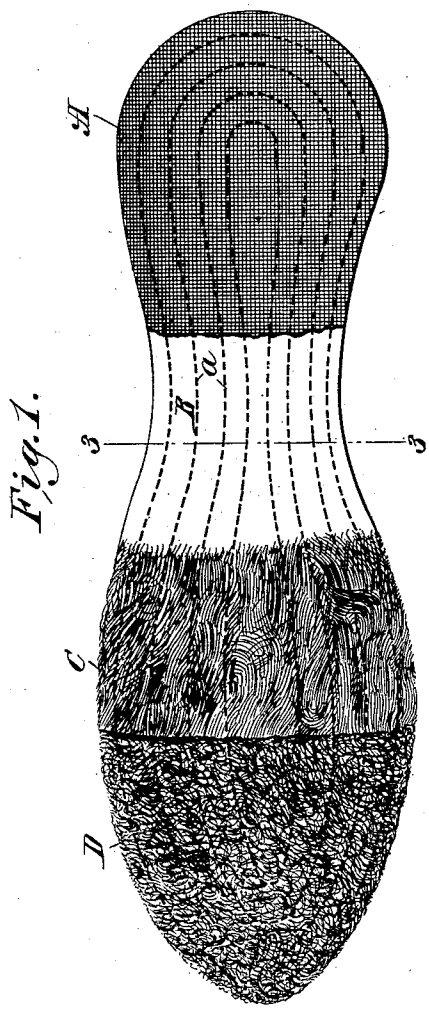

Fig. 1.

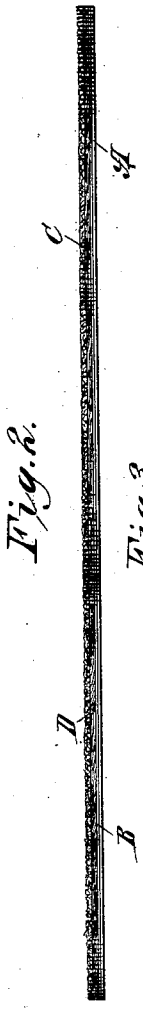

Fig. 2.

Fig. 3.

Fig. 5.

Fig. 4.

WITNESSES:

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HILDA CAMPBELL AND JOHN R. CAMPBELL, OF NEW YORK, N. Y.; SAID JOHN R. CAMPBELL ASSIGNOR TO SAID HILDA CAMPBELL.

INSOLE.

SPECIFICATION forming part of Letters Patent No. 715,754, dated December 16, 1902.

Application filed July 31, 1901. Serial No. 70,324. (No model.)

To all whom it may concern.

Be it known that we, HILDA CAMPBELL and JOHN R. CAMPBELL, citizens of the United States, and residents of New York, borough of Manhattan, in the county of New York and State of New York, have made and invented certain new and useful Improvements in Insoles, of which the following is a specification.

Our invention relates to an improvement in insoles for boots and shoes, and more particularly to that kind made in part of hair or wool, the object being to produce an article of this character wherein all the advantages possessed by those as heretofore made shall be retained and which shall in addition thereto possess other advantages not found in those which have preceded it in that it shall be adapted to better absorb and retain moisture or perspiration, particularly the poisonous parts thereof, shall not be liable to shrinkage or distortion, and wherein the wearing or lasting qualities thereof will be greatly enhanced. Heretofore these insoles have been made with a base consisting of sized cloth or fabric and a layer of hair stitched thereto, the claim being that the cloth or fabric being a stronger absorbent than the hair the moisture from the feet would be drawn through the hair into the cloth base, thereby protecting the feet from dampness. Certain objections, however, have been urged against this insole in that if the cloth base were thin the moisture from the feet would cause it to shrink, and by reason of its adhering to the insole of the shoe caused by the sizing in the cloth or fabric the motion of the foot in walking materially added to the shrinkage and distortion thereof. Again, it was found in many instances that in putting on the boot or shoe containing this insole the latter would slip forward and bunch or wrinkle in the forward part of the shoe. To overcome these faults or objections, strips of steel have been added to the insole to preserve its shape; but the ridges caused thereby have been found to interfere with the comfort of the wearer. Again, a heavy stiff cloth has been used; but the additional sizing in the cloth has proved to be objectionable in that it acted on and caused a "drawing" of the feet and excessive perspiration thereof. Further, it has been found that the large amount of sizing and foreign matters contained in the heavy cloth, felt, or felted fiber placed directly below the layer of hair materially destroyed the absorbent powers of said cloth, so that after a brief period of wear—say four or five days—such insoles became worthless. In overcoming these objections and in carrying out the objects of our invention we have constructed our improved insole with a base consisting, preferably, of sized cloth and paper, next a layer of vegetable fiber, preferably jute, and next an upper or top layer of hair, preferably curled horsehair or carded wool, although from actual test and experience we have found that one or more of these elements may be omitted without materially destroying the effectiveness of the article, as hereinafter explained.

In the accompanying drawings, Figure 1 is a plan view of our improved insole, portions of the same being broken away to show the several elements going to make up the same. Fig. 2 is an edge view of the same. Fig. 3 is a sectional view of the insole. Figs. 4 and 5 are sectional views of modifications.

The base of the insole preferably consists of the cloth or fabric A, and above it and on it the paper B, preferably a non-absorbent paper, the cloth A containing glue or sizing, whereby a certain amount of stiffness is imparted thereto and the cloth caused to adhere with more or less firmness to the shoe, this base protecting the foot from dampness underneath. By the addition of the non-absorbent paper B the base is rendered more durable, stiffer, and less liable to shrinkage and distortion. Further, the paper being nonporous also prevents the sizing in the cloth or on the underneath side of the paper from acting on and drawing the feet and from causing excessive perspiration thereof, although we have found that either the cloth may be omitted. as shown in Fig. 4, in which event the paper is preferably sized on its under side, or the paper omitted, as shown in Fig. 5. As a matter of fact in some instances we have used with good effect an insole wherein both the paper and cloth were omitted. Above the paper is a layer of vegetable fiber C, preferably jute, and above this fiber a layer of

hair, preferably horsehair or carded wool, both the fiber and hair being united to the base by stitching *a*. The purpose and function of the fiber are to act as an absorbent and that of the hair to keep the feet out of contact with the damp fiber. Experience with this improved insole has shown that when it is first used the moisture from the feet is drawn down into the base, as in the case of the old form of insole, but that from continued wear the fiber gradually mats or felts, and therefore gradually becomes the stronger absorbent, thus preserving the hair above it in a comparatively dry condition and also the base, the effect being that the feet are kept dry and also to a large extent the leather of the boot or shoe, the insole protecting it from the perspiration, which acts to rot or otherwise destroy it. While the hair is to a certain extent an absorbent of moisture, it is far less effective in this direction than the fiber, due to the fact that the surface of the hair is oily and resists moisture, while the fiber, owing to its perfect cleanliness and the absence therefrom of foreign matters and substances, acts as a powerful absorbent. While the fiber is loose, we have found that the base acts as a stronger absorbent and draws the moisture down into the same; but from continued wear we have found that as the fiber becomes packed, matted, or felted it becomes the stronger absorbent and retains practically all the perspiration or moisture, it having been found in actual practice that whereas the old form of hair insole would last but a short time, varying from five or six days to four or five weeks, our improved form of insole will last from two to twelve months before becoming unfit for use.

From the above it will be understood that our improved insole is practically non-shrinkable, due to the fact that the fiber, being the stronger absorbent, receives the moisture, which would otherwise be all absorbed by the base and the bottom of the shoe, that it is far more effective in use, as it will receive and retain a greater amount of moisture and the injurious parts of the perspiration than either the hair or base, and thereby practically keep dry both the feet and the leather of the boot or shoe, and that it is sufficiently stiff to retain its proper shape.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

An insole, consisting of an absorbent base, a layer of jute the fibers of which are loosely placed upon the base, and a superposed layer of hair also in a loose unfelted unwoven state, said layers of jute and hair being united to each other and to the base by stitching, substantially as described.

Signed at New York, in the county of New York and State of New York, this 26th day of July, A. D. 1901.

HILDA CAMPBELL.
JOHN R. CAMPBELL.

Witnesses:
GEORGE COOK,
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