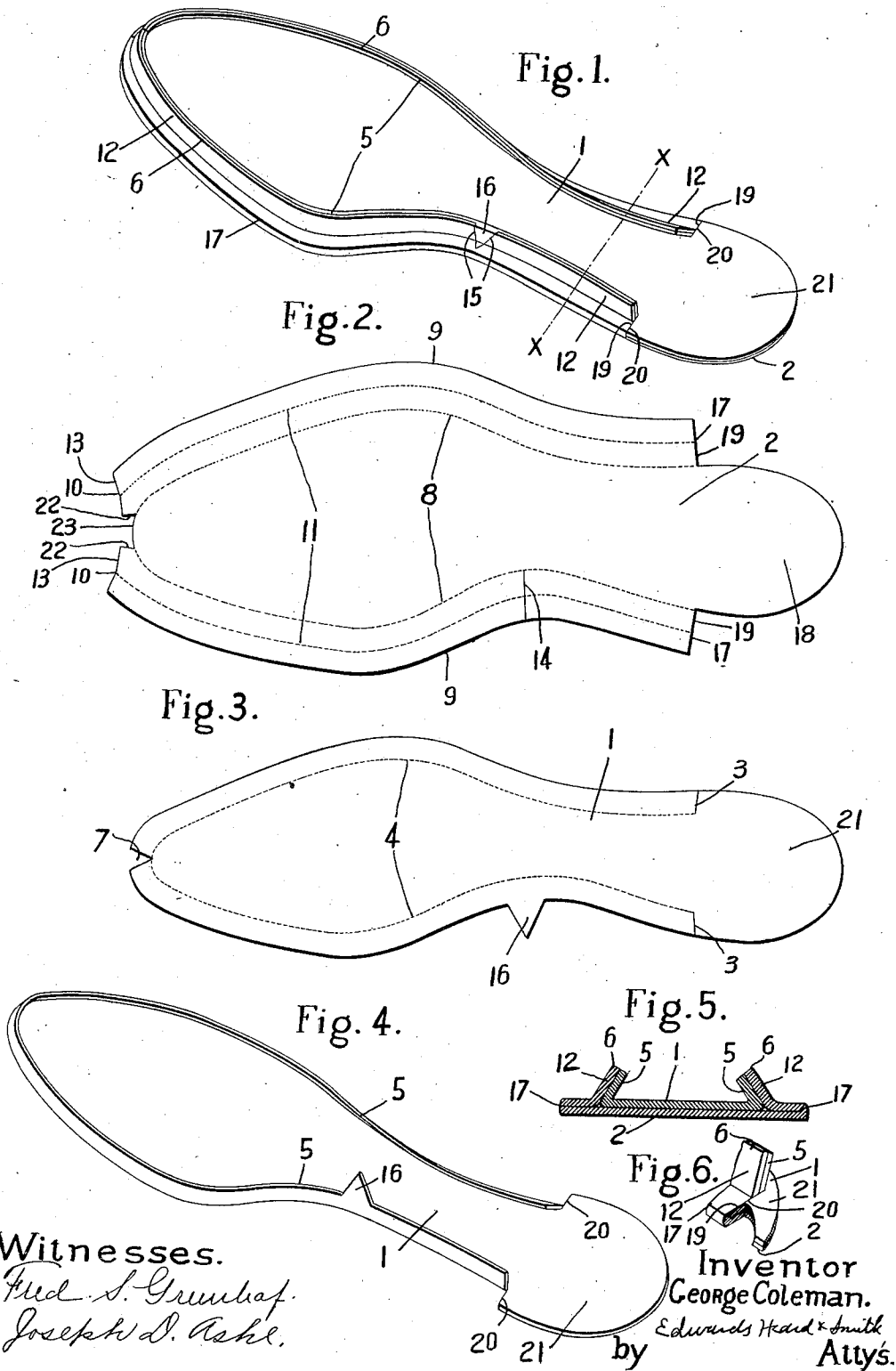


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 INSOLE.
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UNITED STATES PATENT OFFICE.

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INSOLE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE COLEMAN, a citizen of the United States, residing at Lynn, county of Essex, State of Massachusetts, have invented an Improvement in Insoles, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

10 This invention relates to insoles such as are used in the manufacture of so-called "Goodyear welt" boots and shoes and the principal object of the invention is to provide a novel insole which can be manufactured of split or other thin leather that at present has very little use.

I will first describe one embodiment of my invention and then point out the novel features thereof in the appended claims.

20 In the drawings, Figure 1 is a perspective view of an insole made in accordance with my invention; Fig. 2 shows the blank from which the layer on the inner face of the insole is formed; Fig. 3 is the blank from which the layer on the outer or lip-bearing face of the insole is formed; Fig. 4 is a view of the blank 1 with its edges turned up; Fig. 5 is a section on the line $x-x$, Fig. 1; Fig. 6 is a fragmentary view of a portion of the insole.

My improved insole is made of two layers 1 and 2 of thin leather, such, for instance, as split leather. The layer which constitutes the lip-bearing face of the insole is designated 1, and the layer which constitutes the opposite face of the insole, which is that face with which the foot has contact when the insole is made into a shoe, is designated by 2. The layer 1 is made from a blank 1 shaped as shown in Fig. 3, said blank having an exterior contour which is approximately the same as that of the insole to be made. This blank is provided with the slits 3 adjacent the heel and the side edges of the blank are folded upwardly along the dotted line 4, see Fig. 4, thereby to form the upturned edges 5 which constitute the inner face of the lip 6 of the insole. In thus folding up the edges 5 I propose to fold them into a position to make an acute angle with the face of the blank, as shown in Figs. 4 and 5, and in order to permit this lip to be readily folded up around the toe of the blank I propose to form the blank with the

notch 7, as seen in Fig. 3. The other layer 2 is formed from a blank having the shape shown in Fig. 2. Said blank has the heel portion 18 of the size desired for the heel of the insole and it has the body portion comprised within the dotted lines 8 corresponding to the desired size of the insole. On each side of the body portion are wings 9 extending from the toe to the heel. The rear ends 17 of these wings terminate at such points that when the two blanks 1 and 2 are superposed one on the other said ends 17 of the wings come opposite and in line with the slits 3 of the blank 1. At the toe these extensions 9 do not meet but are slightly separated from each other and the ends 10 thereof have the special shape shown in Fig. 2. In forming the layer 2 the wings 9 are first folded over flat against the body of the insole along the dotted lines 8, and then the edges of the wings are bent upwardly along the dotted lines 11 thereby to provide the upturned portions 12. These upturned portions 12 are also given an acute angle position. When the two parts of the insole are assembled the upturned edges 5 of the layer 1 set within the upturned edges 12 of the layer 2, and the edges 12 overlies the edges 5. Moreover, the portions 19 of the ends 17 of the wings 9 abut against the wall 20 on the heel portion 21 of the blank 1 formed by the slits 3, and the ends of the upturned edges 12 come flush with the ends of the upturned edges 5. When the wings 9 are folded the portion 22 of the ends 10 thereof will come into alinement with the edge 23 of the blank and the portions 13 of the ends 10 will meet and thus form a continuous edge 12. At the inner side of the insole I propose to make the wing 11 with one or more slits 14 so as to permit the portion of the wing just back of the ball of the insole to be folded, as above described, without placing it under undue strain. Where a single slit 14 is provided the folding operation will result in a notch or opening 15 being formed, and one way of filling this notch would be to provide the blank 1 with the tab 16 properly situated to fold over into the notch as the blanks are folded together, as seen in Fig. 1.

My improved insole is made from two layers throughout. The heel of the insole is made from portions of the same two super-

posed layers from which the body of the insole is formed. The feather edge 17 of the insole is formed by bending back on itself part of the layer 2 and is thus formed simply of two layers. The lip 6 is also formed from two layers. In practice I propose to use two layers of substantially the same thickness although this is not essential. Where this is done then the two layers forming the feather edge 17 have the same strength as the other parts of the insole and the lip 6 has also the same strength since it is made of two layers of the same thickness. Moreover, by reason of this construction wherein the portion 19 of the end of the wing abuts against the wall 20 on the layer 1, the insole will present a smooth surface where these edges meet.

As stated above, in forming the insole the edges 5 and 12 are both bent into an acute angled position. This folding or turning of the edges 5 and 12 is done in such a way (as by means of forms or dies heated if necessary) that said edges will be given a permanent set in the inclined or acute-angled position shown. There are two advantages which result from doing this. In the first place, this inclination of the edges 5 and 12 serves as a means for holding the two layers together, for it will be seen from Fig. 5 that the outer inclined edges 12 overlap the inner inclined edges 5, and since the edges 12 are given a permanent set in this inclined direction said edges will by their engagement with the upturned edges 5 hold the two layers 1 and 2 together. In the second place the acute angle groove formed between the lip 6 and the body of the insole constitutes a superior guiding edge for the guide of the welding machine used in sewing the insole to the upper and welt of the shoe. During this sewing process the inner lip of the insole is always held firmly against the guide of the welt-machine and where the lip has the permanent inclined position the acute angle thus formed between the lip and the insole makes a sort of groove for the guide which will obviate any possibility of the insole slipping off from the guide. Although it is not necessary, yet if desired the two layers 1 and 2 may be cemented together.

An insole embodying my invention is much more flexible than an insole made from a single piece of leather of sufficient thickness to permit of being channeled to form a lip and it is stronger than such an insole in that the lip composed of the two

layers of split leather will hold the stitches better than the lip formed by the channeling process. It is also of less weight than a one-piece insole above described and it can be made much cheaper because the split or thin leather from which it is made has very little value and is in some places regarded as almost waste product.

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

1. An insole composed of two superimposed plies or layers, one of said plies having its edges upturned and the other having its edges folded back on themselves and then upturned to overlie the upturned edges of the first-named ply, said two upturned edges being bent inwardly at an acute angle and constituting the lip of the insole.

2. An insole composed of two layers, each having a heel portion and a body portion, one layer having the edges thereof in front of the heel portion turned up, and the other layer having wings or extensions on its sides in front of the heel portion which are folded back against that portion of the face of said layer outside of the upturned edges of said other layer, thereby to form the feather edge of the insole, the edges of said wings being bent upwardly to overlie the upturned edges of said first-named layer thereby to form the lip of the insole.

3. An insole comprising two layers of thin leather, the layer on the lip-bearing face of the insole having a heel portion of the full width of the heel of the insole and a body portion of less width than the body of the insole whereby a shoulder 20 is presented on each side of said layer, said layer having upturned edges at the side of the body, and the other layer having a heel portion co-extensive with that of the first-named layer, a body portion, and wings on the sides of the body portion which are folded over against that part of the body outside of said upturned edges, the edges of said wings being upturned to overlie the upturned edges of the first-named layer, the heel ends of the folded over wings abutting the shoulders 20 formed on the first-named layer.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE COLEMAN.

Witnesses:

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THOMAS J. DRUMMOND.