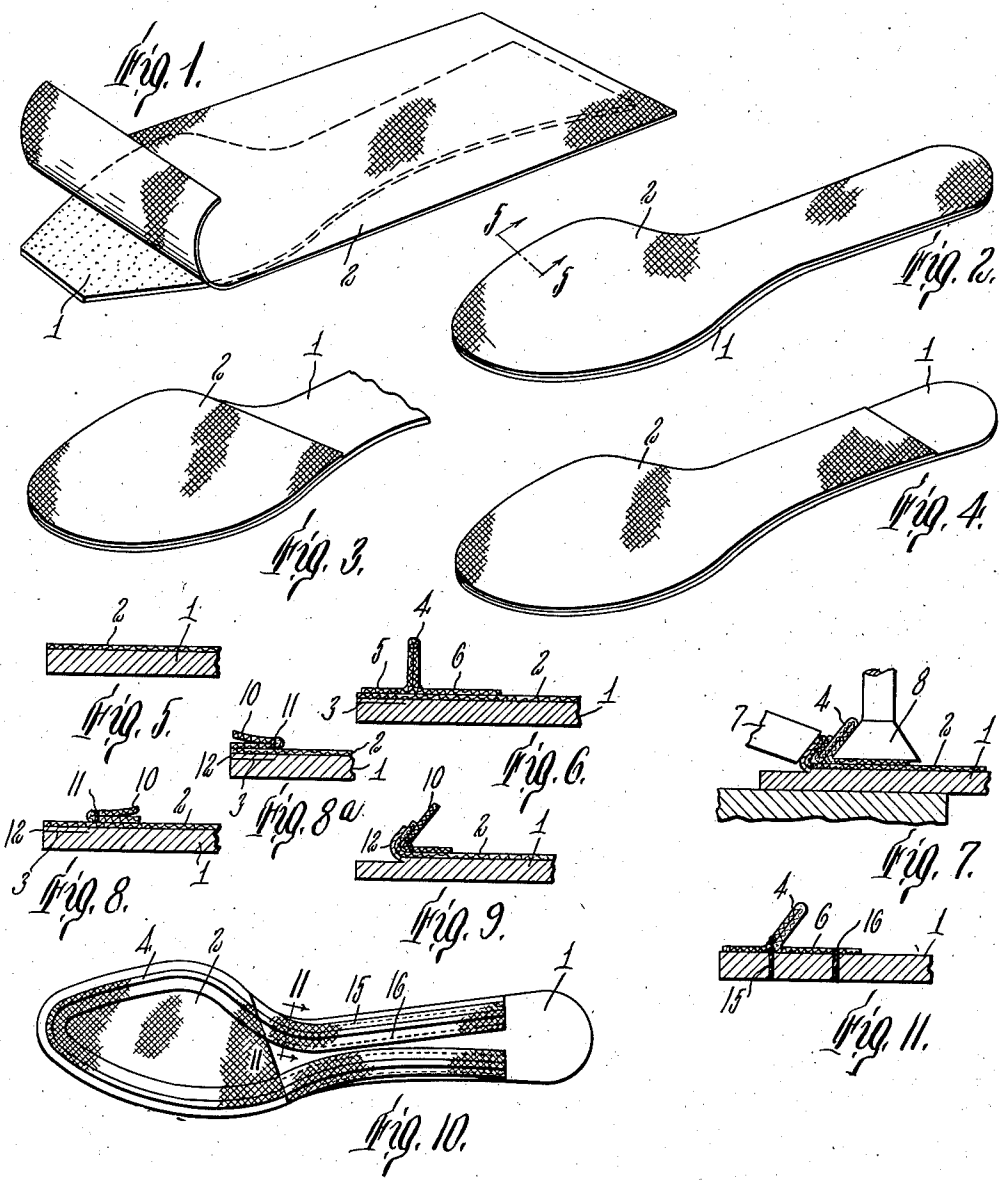
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INNERSOLE AND METHOD OF MAKING THE SAME

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INNERSOLE AND METHOD OF MAKING THE SAME

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This invention relates to innersoles for shoes, particularly of the welt type, and has for an object to produce an innersole from thin stock and provided with a non-floating inseam-receiving rib of ample strength and of sufficient size for guiding engagement with the inseam stitching machine, and without the possibility of grooves in the top face of the innersole developing during use.

A further object, in the preferred form, is to so construct the innersole that its strength during use is not dependent on the permanency of cement used in its construction. This makes it possible to employ relatively cheap and plentiful temporary cements in its construction.

Still another object of the invention is to provide a construction and a method of manufacture which entirely avoids the use of machines which may be difficult to procure.

The stock which may be employed for the innersole blank is much thinner than ordinarily employed in welt shoe construction, and too thin to receive an inside channel of any substantial depth.

For a more complete understanding of this invention, reference may be had to the accompanying drawing in which

Figure 1 is a perspective view of the thin sole blank partly reinforced with a fabric layer.

Figure 2 is a perspective view showing the reinforced blank rounded.

Figure 3 is a fragmentary perspective view of an innersole blank reinforced with fabric at the forepart only.

Figure 4 is a view similar to Figure 3, but showing the fabric reinforcement extended throughout the forepart and shank only.

Figure 5 is a detail sectional view on line 5—5 of Figure 2.

Figure 6 is a view somewhat similar to Figure 5, but showing the outside channel and a portion of the stitch-receiving rib.

Figure 7 is a sectional view showing the lip folded upwardly and backwardly against the rib member of Figure 6 to form the complete stitch-receiving rib.

Figure 8 is a view similar to Figure 6, but showing a modification.

Figure 8a is a view similar to Figure 8, but showing a further modification.

Figure 9 is a view similar to a portion of Figure 7 but showing the use of either of the constructions of Figures 8 and 8a when forming a completed stitch-receiving rib.

Figure 10 is a bottom plan view of an innersole employing the blank of Figure 3.

Figure 11 is a detail sectional view on line 11—11 of Figure 10.

Referring first to Figures 1 to 7, inclusive, a thin innersole blank 1, which may be too thin for use as an innersole for a welt shoe as heretofore constructed, has secured to one face thereof, as by cement, a reinforcing fabric layer 2. This blank thus reinforced may be rounded as shown in Figure 2 to form a reinforced sole-shaped blank, the reinforcement extending over the forepart shank and heel. If desired, however, the reinforcing layer may extend only through the forepart, as shown in Figure 3, or throughout the forepart and shank as shown in Figure 4.

For the purpose of this invention, the cement employed for applying the reinforcing need be only a cheap, temporary cement, as it is not relied upon to impart any substantial strength to the innersole after the innersole has been incorporated in the shoe.

For the purpose of providing a stitch-receiving rib for this blank, the innersole is channeled inwardly about its margin, as by the cut 3 of Figure 6, this channeling extending ordinarily throughout the extent to which the reinforcing fabric is applied, but at least about the forepart, and it may be extended through the shank and forepart, particularly when performed on a blank such as shown in Figure 4, or entirely around the innersole. The lip formed by this channeling operation includes the margin of the reinforcing fabric which extends entirely across the width of the innersole, and a very thin portion of the original blank, so thin in fact, that were it not for the reinforcing layer, it could not well be cut with the usual channeling machine. This lip or feather forms a portion of the stitch-receiving rib in the completed innersole, but it extends inwardly to such a small extent that it would not project sufficiently far from the surface of the innersole when turned up to form a guide for the machine by which the inseam fasteners are inserted, whether a sewing machine or a stapling machine, nor would it be sufficiently strong to form the entire rib.

The remaining portion of the rib is formed up by an additional rib member cemented or otherwise secured to the adjacent face of the innersole. As shown in Figure 6, it comprises a strip of fabric folded to form a double upstanding layer at 4 and with oppositely extending marginal flanges 5 and 6. This strip may be of bias fabric in order to facilitate conforming it to the

contour of the innersole, and the double layer 4 is of sufficent width to form a proper guide for the inseaming placing machine. Next, the marginal lip formed by the margin of the reinforcing layer and the portion of the blank above the cut 3, is turned upwardly and inwardly and cemented to the double layer 4, the entire rib being preferably inclined inwardly as shown in Figure 7. To facilitate the fixing of these parts together, a lip turning machine having an external hammer 7 for engagement with the upwardly turned lip may be employed, and the impact may be taken by a roller 8 against the outer conical face of which the doubled layer 4 may be supported. This securement of the parts of the rib together by cement is only necessary to hold the parts together prior to the inseaming operation, at which time, of course, the inseam fasteners are passed through the various components of which the rib is formed and secure them firmly together, the double layer 4 being of sufficient width to guide the innersole with respect to the inseaming machine, while the outer components formed by the outwardly and inwardly turned lip add to the substance through which the inseam fasteners are placed. It will be noted that the stitch-receiving rib includes the marginal portion of the fabric reinforcement and also includes an integral part of the original blank. Thus the rib is not a floating rib, but the cemented securement of the parts together need not be relied upon for imparting the desired strength to the rib and its securement to the innersole. Under present conditions where permanent cements are expensive and difficult to obtain, this is an exceedingly important factor. It will also be noted that no tucking of the fabric margin against the inner face of an upstanding rib is employed in constructing the rib, the fabric being applied to the flat blank, so that tucking machines, which are also not readily available, are wholly unnecessary. The only machines employed are the machines for inwardly channeling, for folding and applying the rib strip, and for turning the outer lip inwardly, which are freely available to the trade.

In Figures 8, 8a, and 9 is illustrated a modified construction of fabric rib portion which comprises only a single strip 10 folded substantially at its center of width and preferably stitched together adjacent to the line of fold at 11. This may be applied to the reinforced and channeled blank as shown in Figure 8 with its line of fold facing outwardly and substantially at the inner edge of the channel from the margin, after which the marginal rib formed by the channeling operation is turned upwardly and inwardly and cemented to the upper layer of the strip 10, as shown in Figure 9. In some cases it may be more convenient to apply the strip 10 substantially flush with the outer margin of the reinforced innersole blank, gaging its position directly by the margin of this blank. It may therefore be applied as shown in Figure 8a with its fold line facing inwardly, after which both the lip 12 and the strip 10 are turned inwardly together to form the structure of Figure 9. The line of stitching 11 is of value in that it tends to hold the rib upwardly and inwardly inclined in the position shown in Figure 9. Here again, it will be noted that the lip portion 12 when turned up is too low to form a proper guide for the inseam securing machine, but the strip 10 may be made of sufficient width to perform this function.

Particularly where the reinforcing fabric is terminated at the forward end of the shank portion, it is desirable to secure the shank portion of the folded fabric strip to the blank by means such as stitching, since there is no reinforcing strip 2 at the shank to provide the requisite strength for the inseam fastenings. For this purpose, stitching may be placed in the shank portion through the inner flange 6 or through the outer portion of the inwardly turned double rib 4, or both, as shown in Figure 11. The placing of the outer stitches at 15 has the function of tending to hold the rib inwardly inclined, which of course would not be accomplished by the line of stitching 16 passing through its inner flange. Where a very thin innersole blank is employed, and particularly where a more or less temporary cement is also used, this stitching is of considerable importance.

From the foregoing description of certain embodiments of this invention it should be evident to those skilled in the art that various other changes and modifications might be made without departing from the spirit or scope of this invention.

I claim:

1. A shoe innersole comprising a thin blank, channeled inwardly about its margin to form a marginal feather, a fabric reinforcement overlying and cemented to said blank from side to side at least over the forepart, a rib portion overlying and cemented to said reinforcement, said feather and the margin of said reinforcement being turned up and inwardly and cemented to said rib portion and forming therewith the inseam stitching rib.

2. A shoe innersole comprising an innersole blank, a reinforcing fabric layer cemented to the forepart across its full width on one side of said blank and terminating at the shank, a folded fabric strip extending throughout the forepart and shank inwardly of the margin thereof and at the forepart cemented to said layer and in the shank cemented to said blank, the forepart of said blank being inwardly channeled to form a lip including the margin of said layer, said lip being turned upwardly and inwardly and cemented to said fabric strip to form therewith a stitch-receiving rib around the forepart, said folded rib being stitched to said blank in the shank portion.

3. A shoe innersole comprising an innersole blank, a reinforcing fabric layer cemented to the forepart across its full width on one side of said blank and terminating at the shank, a folded fabric strip having a marginal flange secured to said layer and blank and extending throughout the forepart and shank inwardly of the margin thereof, the forepart of said blank being inwardly channeled to form a lip including the margin of said layer, said lip being turned upwardly and inwardly and cemented to said fabric strip to form therewith a stitch-receiving rib around at least the forepart, said folded strip being stitched to said blank in the shank portion through said flange.

4. A shoe innersole comprising an innersole blank, a reinforcing fabric layer cemented to the forepart across its full width on one side of said blank and terminating at the shank, a folded fabric strip having a marginal flange secured to said layer and blank and extending throughout the forepart and shank inwardly of the margin thereof, the forepart of said blank being inwardly channeled to form a lip including the margin of said layer, said lip being turned upwardly and in-

wardly and cemented to said fabric strip to form therewith a stitch-receiving rib around at least the forepart, said folded strip being stitched to said blank in the shank portion by stitches passing through the outer portion of said inwardly turned rib in position to maintain said rib inwardly inclined.

5. The method which comprises adhesively securing a fabric reinforcing layer to one face of a thin innersole blank, inwardly channeling said blank around at least the forepart to form with the margin of said layer a marginal lip, progressively applying and cementing a rib strip to the outer face of said layer inwardly of said lip, and then folding said lip and the margin of said layer up and inwardly and cementing said lip and margin to the outer face of said strip to form therewith the stitch-receiving rib of said innersole.

6. The method which comprises adhesively securing a fabric reinforcing layer to one face entirely across the forepart of an innersole blank, inwardly channeling said blank around the forepart, to form with the margin of said layer a marginal lip, progressively applying and cementing a folded fabric strip from the heel seat of said blank throughout the shank and forepart and in said forepart overlying said reinforcing layer, turning up said lip and cementing it to the outer face of said folded strip to form the complete stitching rib about the forepart, and in said shank portion stitching said folded layer to said blank.

7. A shoe innersole, comprising an innersole blank, a reinforcing layer cemented to a face of said blank at least at the forepart and adjacent to the outer margin, a folded strip having a marginal flange secured to said layer and blank and extending about the forepart and shank of said blank, at least the forepart of said blank being inwardly channeled to form a lip with at least a portion of the margin of said layer, said lip being turned inwardly and cemented to said strip to form therewith a stitch-receiving rib.

8. A shoe innersole, comprising an innersole blank, a reinforcing layer cemented to a face of said blank at least at the forepart and adjacent to the outer margin, a folded strip having a marginal flange secured to said layer and blank and extending about the forepart and shank of said blank, said blank being inwardly channeled about at least the forepart and extending as far back as said reinforcing layer to form a lip with the margin of said layer, said lip being turned inwardly and cemented to said strip to form therewith a stitch-receiving rib.

9. A shoe innersole, comprising an innersole blank, a reinforcing layer cemented to a face of said blank at least at the forepart and adjacent to the outer margin, a folded strip having a marginal flange secured to said layer and blank and extending about the forepart and shank of said blank, said blank being inwardly channeled about at least the forepart and extending as far back as said reinforcing layer to form a lip with the margin of said layer, said lip being turned inwardly and cemented to said strip to form therewith a stitch-receiving rib, said folded strip being stitched to said blank in the shank portion through said flange.

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