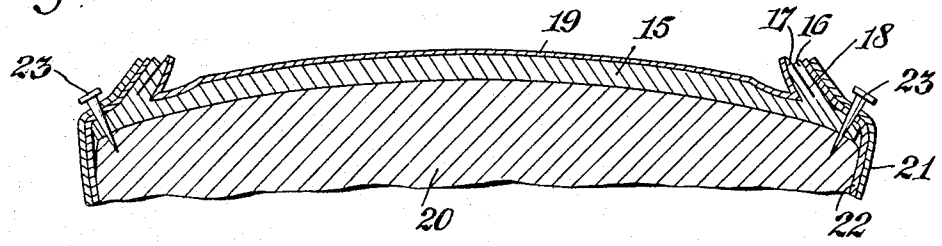
June 22, 1937. H. L. SUTCLIFFE 2,084,874

SHOE AND METHOD OF MAKING SAME

Filed April 30, 1936 2 Sheets-Sheet 1

Fig. 1.



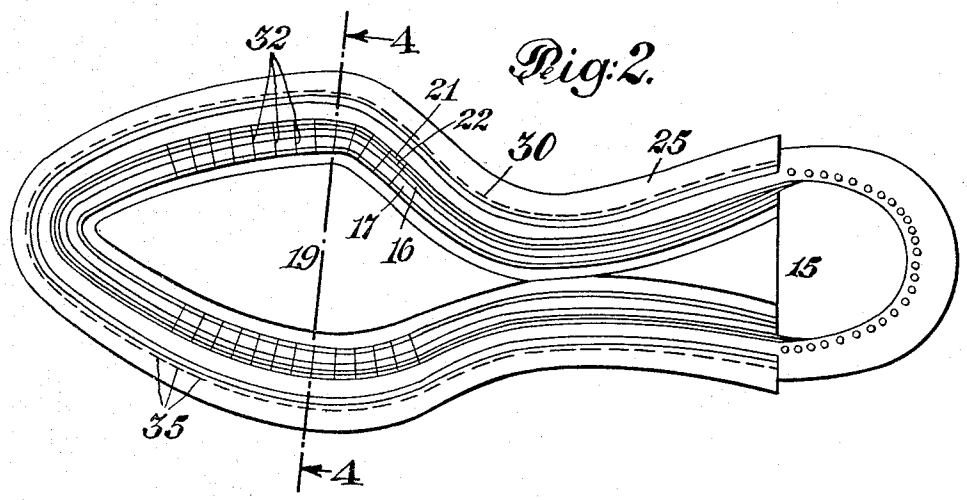


Fig. 2.

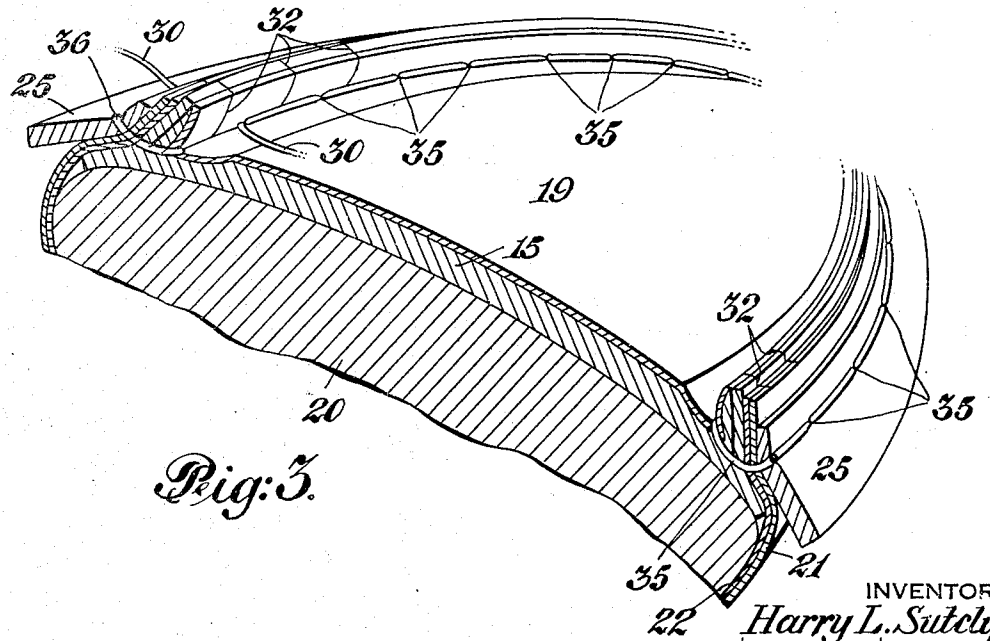


Fig. 3.

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Filed April 30, 1936 2 Sheets-Sheet 2

Fig. 4.

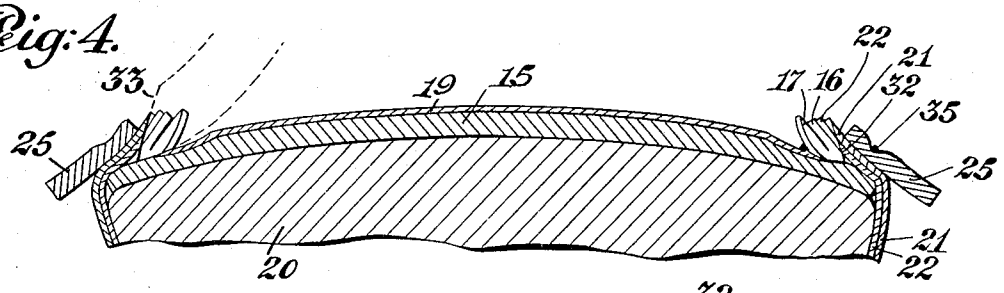


Fig. 5.

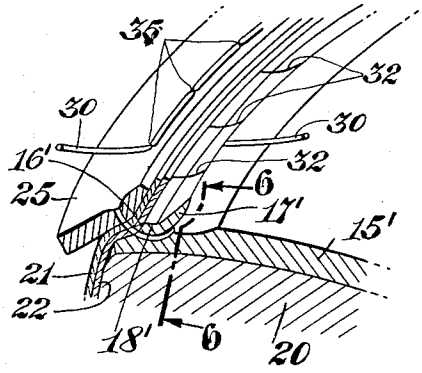


Fig. 6.

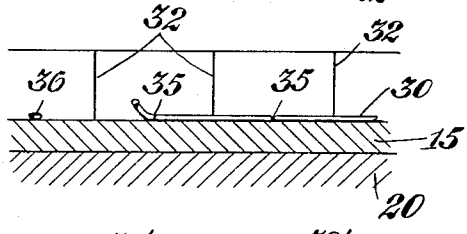


Fig. 7.

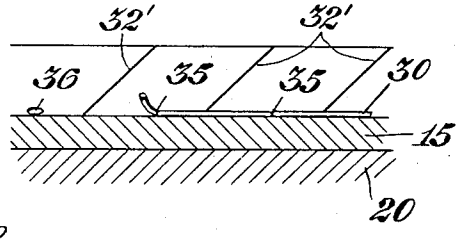


Fig. 8.

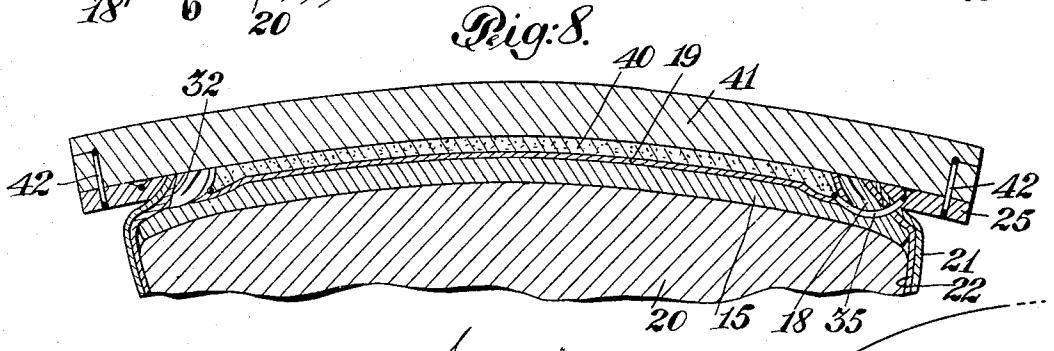
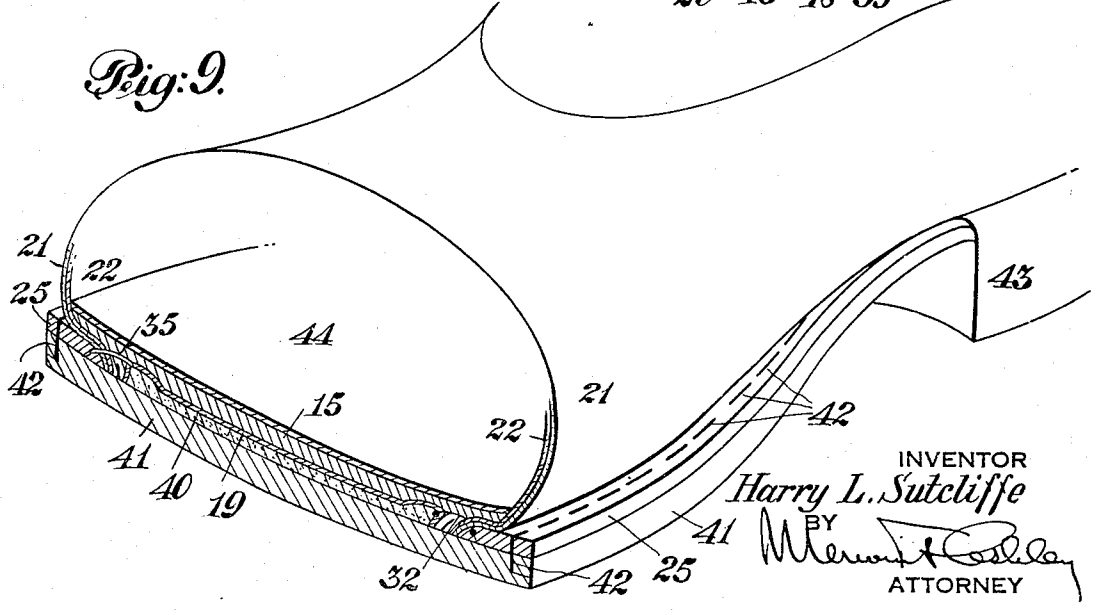


Fig. 9.



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Patented June 22, 1937

2,084,874

UNITED STATES PATENT OFFICE

2,084,874

SHOE AND METHOD OF MAKING SAME

Harry L. Sutcliffe, Brooklyn, N. Y., assignor to The Del-Mac Shoe Process Corporation, New York, N. Y.

Application April 30, 1936, Serial No. 77,103

9 Claims. (Cl. 12—142)

My invention relates to shoes in which an integral marginal rib is formed on a sole member to facilitate attachment of the upper parts of the shoe to the sole. Such ribs are commonly found in welted shoes, the rib being defined by and between the roots of marginal lasting lips erected from the surface of the sole member, or between an edge shoulder or a lip and the leaf of a marginal stitch channel. In shoes having stitched inseams such ribs are commonly referred to as the "between substance" through which the stitching passes. When the upper parts of the shoe are secured in inseamed relation to such a rib, a stiff marginal ridge is formed which greatly detracts from the flexible qualities of the shoe.

It is a principal object of my invention, therefore, to provide an improved shoe in which the inseam rib is transversely divided into a plurality of sections or segments to render the shoe more flexible.

During the lasting of the shoe it is necessary, however, that the inseam rib be maintained as rigidly as possible so that it will withstand the strain of the lasting operations. It is therefore a further object of my invention to provide an improved method whereby the inseam rib may be segmented after the upper parts have been assembled in lasted relation to the sole member.

Moreover, where the inseam of the shoe is secured by stitching, it is highly desirable to maintain the rigidity of the rib during the stitching operations in order that it will afford proper resistance to the penetration of the awl and the needle. Also, were the rib to be segmented before stitching of the inseam it might easily happen that some of the stitches would coincide with some of the slash cuts dividing the rib, thereby weakening the construction. To slash the rib after the inseam is sewn would imperil the stitching.

It is a further object of my invention, therefore, to provide an improved method in accordance with which the inseam rib of a stitched shoe may be slashed progressively between stitches as the inseam is sewn. Other and further objects will appear from the following specification.

Referring to the drawings which form a part of this specification:

Figure 1 is a cross sectional view illustrating an upper tack-lasted to a lip channeled insole, the section being taken transversely of the ball portion of the shoe.

Figure 2 is a plan view of the shoe shown in Figure 1 after a welt has been applied and the inseam has been sewn, the inseam rib being transversely slashed between stitches of the sewing thread at the ball portion.

Figure 3 is a perspective view, partly in section and on a larger scale, illustrating the manner in which the slash cuts may be formed progressively as the inseam is sewn.

Figure 4 is a cross section taken thru slash cuts at or about line 4—4 of Figure 2 and further illustrates the manner of forming the slash cuts.

Figure 5 is a view partly in section and partly in perspective showing the formation of a progressively slashed seam in a shoe having a shouldered insole.

Figure 6 is a view taken on line 6—6 of Figure 5.

Figure 7 is a view similar to Figure 6 illustrating a slight modification in which the slash cuts extend obliquely to the surface of the insole.

Figure 8 is a sectional view of the shoe shown in Figures 1–4 after the inseam has been trimmed, the bottom filler applied, and the outsole attached, the section being taken through a slash cut on the left and exposing a stitch on the right.

Figure 9 is a perspective view of the completed shoe transversely divided at the forepart to disclose the finished relationship of the parts.

The drawings are merely illustrative and disclose my invention as applied to welt shoes only. In making welt shoes it is usual to provide an insole such as 15 having an integral outer lip 16 and an inner lip or channel leaf 17 which are erected from the flesh side of the insole forwardly of the heel seat and cemented together to form an integral lasting rib 18, the rib being reenforced by the margins of a layer of fabric 19.

The insole is then secured to a last 20 and the upper 21 and its lining 22 are pulled over the last and secured in lasted relation to the insole as by staples or temporary lasting tacks 23—23 etc. After lasting the upper parts are sewn, together with a welt 25, to the marginal rib 18, the stitches of the sewing thread 30 extending thru the welt, the upper parts, the inner and outer lips, and the fabric 19, any temporary tacks 23 being removed as the stitching progresses.

In accordance with my invention a plurality of transverse incisions or slash cuts 32—32 etc., are made thru the inner portion of the marginal seam comprising the lips 16 and 17 and the upstanding margin of the fabric 19 to reduce the stiffness of the shoe bottom at the ball portion. These slash cuts are preferably extended to a depth corresponding to the bottom of the inseam thread and may also extend thru the upper parts, if desired. However, I prefer not to cut through the upper parts at the inseam although the sweep of the slashing blade 33 may pass thru the untrimmed surplus portions of the upper parts as shown.

I have found that it is undesirable to effect the slash cuts before the inseam is formed because the segmented portions of the inseam are then too weak properly to resist penetration by the awl and the needle and, unless the cuts are most

carefully spaced and the stitching carefully gauged, the subsequently formed stitches may coincide with the slash cuts. To form the slash cuts **32** after the inseam is sewn would be impractical because the pre-formed stitches would then be located directly in the path of the slashing blade.

Therefore, I have conceived that the slash cuts may be advantageously formed progressively as the inseam is sewn, a cut being made in advance of each stitch. The procedure followed is best illustrated in Figures 3–7 in which a hand stitched seam is shown in the course of its formation. After completion of a stitch **35**, an awl hole **36** is formed for the reception of the next stitch; a transverse slash cut is then made intermediate the stitch and the awl hole, whereupon the next stitch is formed, and so on entirely about the inseam or such parts thereof as may be desired. I have illustrated the slash cuts as formed only at the margins of the ball portion of the shoe, leaving the seam comparatively stiff throughout the shank and toe portions where great flexibility is neither necessary nor desirable.

From the foregoing it will be clear that the slashed portions of the inseam appear as a plurality of segments or sections linked together in articulated relation by the stitches of the inseam thread and connected to the insole by the integral roots of the lips forming the rib **18**.

Although I have described and illustrated the inseam as hand sewn, I desire to have it understood that it may be stitched by machine and the slash cuts may be effected automatically as the machine sewn seam is formed. Attachments for a standard inseam stitching machine have been devised for this purpose by Edward Quinn and form the subject matter of a separate application for patent now in preparation.

The shoe is completed in the usual manner. That is to say the surplus portions of the welt, the rib and the upper parts are trimmed, filler material **40** is assembled, and an outsole **41** is attached to the welt by an outer line of stitching **42**. A heel **43** is applied, the last is removed, a sock lining **44** is assembled, and all other usual and necessary operations are performed.

My invention is applicable to all types of shoes having a ribbed sole member and Figure 5 illustrates the upper parts lasted and stitched, together with a welt, to a shouldered and channeled insole **15'**, a slashed rib **18'** being defined between the shouldered edge **16'** and the inner face of a channel leaf **17'**. The slash cuts may be extended obliquely to the surface of the insole rather than perpendicular thereto, if desired, and are so illustrated at **32'** in Figure 7. They may also be formed to extend transversely through the inseam rib at any desired angle, all such modifications being within the scope of my invention as hereafter claimed.

In all such cases it will be found that the transverse slash cuts or incisions, formed in accordance with the method above described, will greatly enhance the flexible qualities of the shoe without impairing its structural strength, shape holding or wearing qualities.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A shoe comprising a sole member having a marginal rib formed on a face thereof inwardly of its edge, an upper, stitches securing the upper to the sole member and extending thru said rib, said rib having cuts formed transversely therethru between successive stitches.

2. A shoe comprising a sole member having a marginal rib formed on a face thereof inwardly of its edge, an upper, stitches securing the upper to said sole member and extending thru said rib, said rib comprising a plurality of articulate sections defined between transverse cuts extending entirely therethru, each section of the rib carrying one of said stitches.

3. A shoe comprising a sole member having a marginal rib formed on a face thereof inwardly of its edge and defined by and between integral lip portions erected from the face of the sole member, an upper, stitches securing the upper to the sole member and extending thru said rib, said rib having transverse cuts formed therein and extending entirely therethru between successive stitches.

4. A shoe comprising a sole member having a marginal rib formed on a face thereof inwardly of its edge and defined between an edge shoulder and a marginal channel, an upper, stitches securing the upper to the ribbed portion of the sole member and extending thru said rib, said rib having transverse cuts formed therein and extending entirely therethru between successive stitches.

5. In shoe making methods wherein a stitched seam is formed to secure the upper parts of a shoe to the margins of a sole member, that improvement which comprises making a transverse cut in the margin of the sole member in advance of each of a plurality of the stitches progressively as the seam is formed.

6. In shoemaking methods wherein a stitched seam is formed to secure the upper parts of a shoe to the margins of a sole member, that improvement which comprises forming an awl hole in advance of a pre-formed stitch to receive the next succeeding stitch and transversely slashing the margin of the sole member between said pre-formed stitch and said awl hole, and then forming said next succeeding stitch.

7. In shoemaking methods wherein a stitched seam is formed to secure the upper parts of a shoe to the margins of a sole member, that improvement which comprises forming an awl hole in advance of a pre-formed stitch to receive the next succeeding stitch and transversely slashing the margin of the sole member thru the between substance thereof intermediate said pre-formed stitch and said awl hole to the depth of the stitching, and then forming said next succeeding stitch.

8. In shoemaking methods wherein a stitched seam is formed to secure the upper parts of a shoe to a marginal rib carried by a sole member, that improvement which comprises forming an awl hole in advance of a pre-formed stitch to receive the next succeeding stitch and transversely slashing thru said rib between said stitch and said awl hole, and then forming said next succeeding stitch.

9. In shoemaking methods wherein a stitched seam is formed to secure the upper parts of a shoe to a shouldered and channeled sole member, that improvement which comprises forming an awl hole in advance of a pre-formed stitch to receive the next succeeding stitch and forming a transverse cut between said pre-formed stitch and said awl hole, said cut being extended thru the between substance of the sole member lying intermediate the shoulder and the channel thereof, and to a depth corresponding to the bottom of the channel, and then forming said next succeeding stitch.

HARRY L. SUTCLIFFE.