July 14, 1942. F. L. AYERS 2,289,335

SHOE AND METHOD OF MAKING THE SAME

Filed Oct. 12, 1940

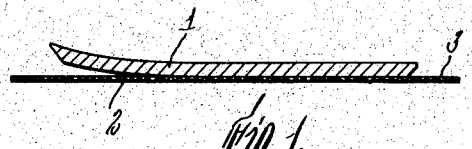

Fig. 1.

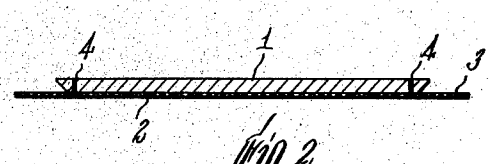

Fig. 2.

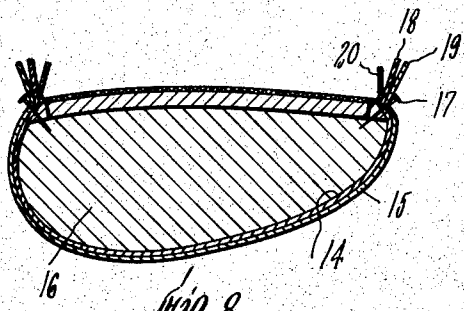

Fig. 8.

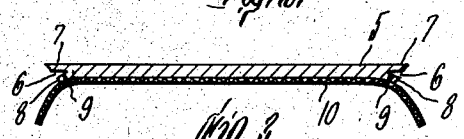

Fig. 3.

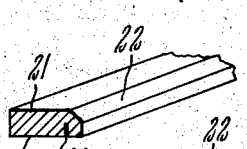

Fig. 4.

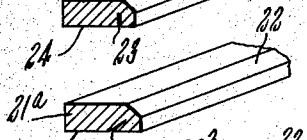

Fig. 5.

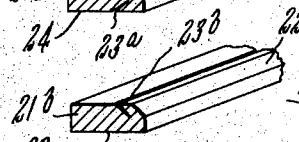

Fig. 6.

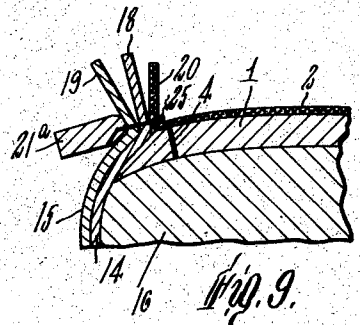

Fig. 9.

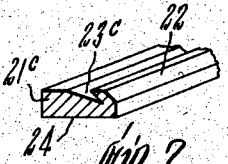

Fig. 7.

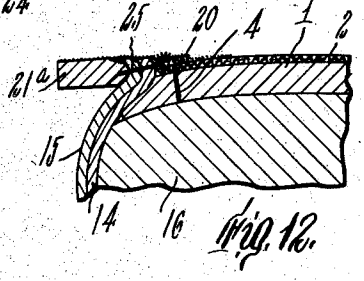

Fig. 12.

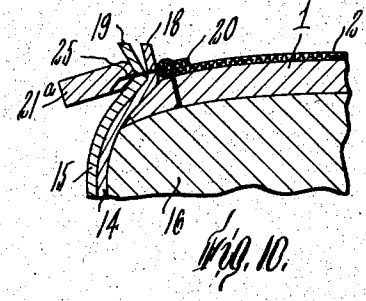

Fig. 10.

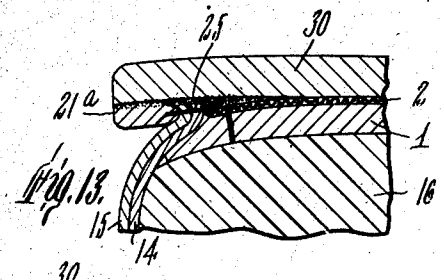

Fig. 13.

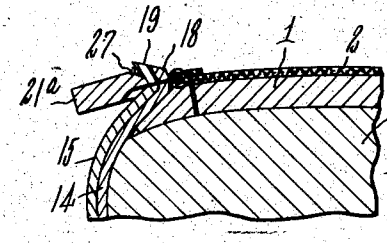

Fig. 11.

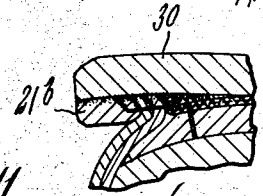

Fig. 14.

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Patented July 14, 1942

2,289,335

UNITED STATES PATENT OFFICE

2,289,335

SHOE AND METHOD OF MAKING THE SAME

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Application October 12, 1940, Serial No. 360,925

4 Claims. (Cl. 12—142)

This invention relates to shoes of the general type illustrated in my Patent No. 2,065,786 granted December 29, 1936, wherein the shoe sole is secured to the lasted shoe by permanent cement and with the shoe lasted to present an outwardly directed marginal fin to which is permanently cemented a locking strip also secured to the outersole. More particularly, though not exclusively, this invention relates to such shoes of the close edge type in which there is no welt simulating stitching securing the locking strip to the outersole.

As shown in my patent hereinbefore noted, the locking strip overlies the inseam stitching and is cemented thereto. The present invention provides a construction easier to assemble than the patented construction and in which less care is required to avoid application of the cement to undesired portions of the shoe upper. Instead of applying the locking strip after the inseam stitching has been placed and the parts trimmed, in accordance with this invention this strip is applied during the insteam stitching operation and is lightly attached to the shoe by such stitching. This stitching may pass through the top face of the locking strip, in which it is preferably seated in a slit therein so that it is concealed in the finished shoe. The stitching may pass through the lower face of the locking strip but whether through the top or bottom faces it extends to the upper materials through its inner edge face. This stitching is quite insufficient as a permanent method of securing the locking strip, but it serves to correctly locate it on the shoe and to act as a guide in the application of the cement and as a shield to protect the outer surface of the upper thereabove from accidental application of cement thereto.

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

Figures 1, 2 and 3 are transverse sectional views showing different constructions of innersole any of which may be used to advantage in practicing this invention.

Figures 4 to 7, inclusive, are perspective views of locking strip constructions, any one of which may be employed.

Figure 8 is a lateral cross section through the forepart of a last showing the innersole of Figure 2 in position and the upper pulled over.

Figure 9 to 13, inclusive, are detail sections to a larger scale than Figure 6 and through one side only showing successive operations in the making of the shoe.

Figure 14 is a view similar to Figure 13, but showing the locking strip of Figure 6.

Figures 1, 2 and 3 illustrate certain innersole structures especially suitable for use in connection with the present invention. In Figure 1 the innersole structure comprises an innersole 1 shaped to the bottom of the last and on one face of which, which will be the lower face in the completed shoe, is a layer 2, preferably of canvas or other similar material, of considerable strength, which in the forepart, and in the shank also, if desired, is extended outwardly beyond the edge of the portion 1 as shown at 3. The portions 1 and 2 as shown in this figure are cemented together face to face. Figure 2 shows a construction somewhat similar to Figure 1, but the layers 1 and 2 are secured together about their margins as by the line of stitching 4. This stitching may be in lieu of or in adidtion to the cement bond between the parts 1 and 2. This layer 2 may well be the cement coated canvas commonly employed in the so called "Gem" innersoles. In Figure 3 the upper member of the innersole structure shown at 5 is slit inwardly around its edges as at 6 to form upper and lower lips 7 and 8. To the lower face of the portion 5 there is secured, as by the stitching 9 passing through the lip 8, a layer of canvas or similar material such as 10. This layer 10 may be secured by cementing it to the outer face of the member 5 in addition to or in lieu of the stitching 9. The innersole is temporarily secured to the last with the fabric layer outermost and with the edges of the body portion 1 of the structure substantially flush with the side edges of the last as shown in Figure 8. The upper materials 14 and 15 are then assembled and pulled over the last 16 and temporarily secured as by the lasting tacks 17 with the margins 18 and 19 of the upper materials extending outwardly and overlying the margin 20 of the canvas layer such as 2 or 10.

It is preferable to thread side last with a light thread between the lasting tacks in order to insure tight securement of the upper after which these tacks are pulled.

There is also provided in continuous length a locking strip 21 (Figure 4), 21*a* (Figure 5), 21*b* (Figure 6) or 21*c* (Figure 7) preferably of thin leather and having its inner lower edge as at 22 trimmed off or rounded. This locking strip may be provided with a slit 23 or 23*a* extending inwardly from either its top or bottom face for a portion of its depth. As shown in Figure 4, the slit 23 is arranged substantially at right angles to the top surface 24, while in Figure 5 the slit

in the top face 23*a* is shown as inclined toward the beveled or rounded edge 22. In Figure 6 the slot 23*b* is made in the under or flesh side of the locking strip inclined toward its inner edge, while in Figure 7 the lower face is grooved out as shown at 23*c*. This grooving out allows more room to receive the out-turned upper margins as will later appear. The locking strip and the upper margins 18 and 19 and the margin 20 are then secured together as by the inseam stitching 25. When the top slit strip of Figures 4 or 5 is used, the outer face of this stitching is embedded in the slit 23, 23*a*, respectively, the material of the locking strip closing over this stitching and concealing it from view. Whatever locking strip construction is employed, the stitching passes through substantially the inner edge face of the locking strip into the upper materials so that the lower face of this strip will be approximately in line with the trimmed upper margins and lower face of the innersole so that no sole filler is required and no heating out of this strip. This attachment of the locking strip is rather weak and could not be relied upon as a final securing of the locking strip in position, in this respect differing materially from the usual welt strip as applied to a welt shoe, but it does serve to secure the locking strip temporarily until the strip can be more effecetively secured by other means. The locking strip may be fed in to the point of stitching to the inseam stitches by a guide similar to the usual welt guide but, particularly when a close edge shoe is being made, the guide may be considerably smaller. Next, with or without a preliminary rough trimming, the margin 20 is turned inwardly and cemented by permanent cement to the outer face of the innersole structure as shown in Figure 10, thus enclosing the inner loops of the inseam stitching. Then the upper material margins are trimmed off as shown in Figure 11 close to the outer face of the folded-in margin 20 and being somewhat extended outwardly beneath the locking strip 21. Ordinarily the trimmed edges extend in the neighborhood of ⅛ to ¼ of an inch beyond the inner edge of the locking strip 21, the parts then being in substantially the positions shown in Figure 11 with the locking strip extending outwardly and forming with the trimmed upper margins a V shaped space 27. The outer face of the shoe outer may then be roughened within the space 27, if this is found necessary or desirable, and a permanent cement such as pyroxylin cement is then applied to the lower face of the locking strip, within the space 27, to the exposed edges of the upper materials, and the fabric layer 2 extending somewhat inwardly of the margin 20. The presence of the locking strip 21 at this time acts to define one edge of the space for receiving the cement and it projects out sufficiently far to make it easy to avoid the application of cement to portions of the upper above the strip 21 in the finished shoe. The cement penetrates well into the inseam stitching and between the upper parts and the fabric layer 2 and subsequent pressure so forces it in that the cement bond with the stitching is substantially as effective as though the locking strip were later applied and cemented to the top face of the stitching as is shown in my previous patent hereinbefore mentioned.

An outersole 30 is then applied and cemented thereto under pressure as shown in Figures 13 or 14, depending on whether the locking strip is slit from the upper or lower face, respectively. The outersole and the locking strip may then be edge trimmed and the shoe finished in the usual manner. This construction makes possible the formation of a close edge shoe of the type shown in my patent with a considerable simplification in handling of the parts and the attaching of them together.

If it is desired to make a shoe simulating in appearance a welt shoe, a locking strip of sufficient width to receive outersole stitching may be employed and the outersole be stitched to the locking strip as well as cemented thereto and to the upper and innersole margins. This method is applied about the forepart of the shoe and if desired may be extended into the shank or even entirely around the heel, but where it is employed about the forepart only, the shank and heel portions may be lasted as desired, or if this method has been brought into the shank of the shoe, the lasting of the heel portion only will proceed in accordance with any of the known methods. The slit or groove in the face of the locking strip permits the innersole stitches to become embedded in the strip. When the slit is in the top face of the strip they thus do not show in the finished shoe. The securement of the locking strip by the inseam stitching is not relied upon as a permanent securement since the strip could easily be torn away were it not for the cementing of it in position.

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

I claim:

1. The method of making a shoe, which comprises pulling over and temporarily securing an upper to a last with the upper margins in face-to-face contact with a marginal portion on an innersole structure, simultaneously stitching a locking strip through its inner edge face to said marginal portions and upper margins, turning the marginal portion inwardly and securing it to the exposed surface of the innersole structure inwardly of the stitching, trimming the upper margins, applying cement to the lower face of said locking strip between said margins and locking strip, and to said marginal portion, and applying an outersole to the shoe.

2. The method of making a shoe, which comprises pulling over and temporarily securing an upper to a last with the upper margins in face-to-face contact with a marginal portion on an innersole structure, simultaneously stitching a locking strip through its inner edge face to said marginal portion and upper margins, turning the marginal portion inwardly and securing it to the exposed surface of the innersole structure inwardly of the stitching, trimming the upper margins, roughing the top face of said trimmed margins, applying cement to the lower face of said strip, between said margins and locking strip, and applying an outersole to the shoe.

3. A shoe having an innersole having an extended lower layer folded inwardly about its margin adjacent to the outer edge of said innersole, upper materials secured to said innersole by stitches passing through said layer at the line of fold and enclosed by said folded margin, and with the margins of said upper materials outwardly turned, a locking strip permanently cemented to the upper face of said outwardly turned margins and having the inseam stitches extending through its inner edge face, and

an outersole underlying and cemented to said innersole, upper margins, and locking strip.

4. A shoe having an innersole having an extended lower fabric layer having its margin folded inwardly and secured to its lower face, upper materials secured to said innersole by stitches passing through said layer at the line of fold and lying between said folded margin and said lower face, a locking strip having the inseam stitches extending through its inner edge face, and between which strip and said innersole the upper materials extend, said upper materials, locking strip, folded portion of said fabric layer and inseam stitches being bonded together by permanent cement, and an outersole secured in position beneath said innersole, the margins of the upper materials and said locking strip.

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