

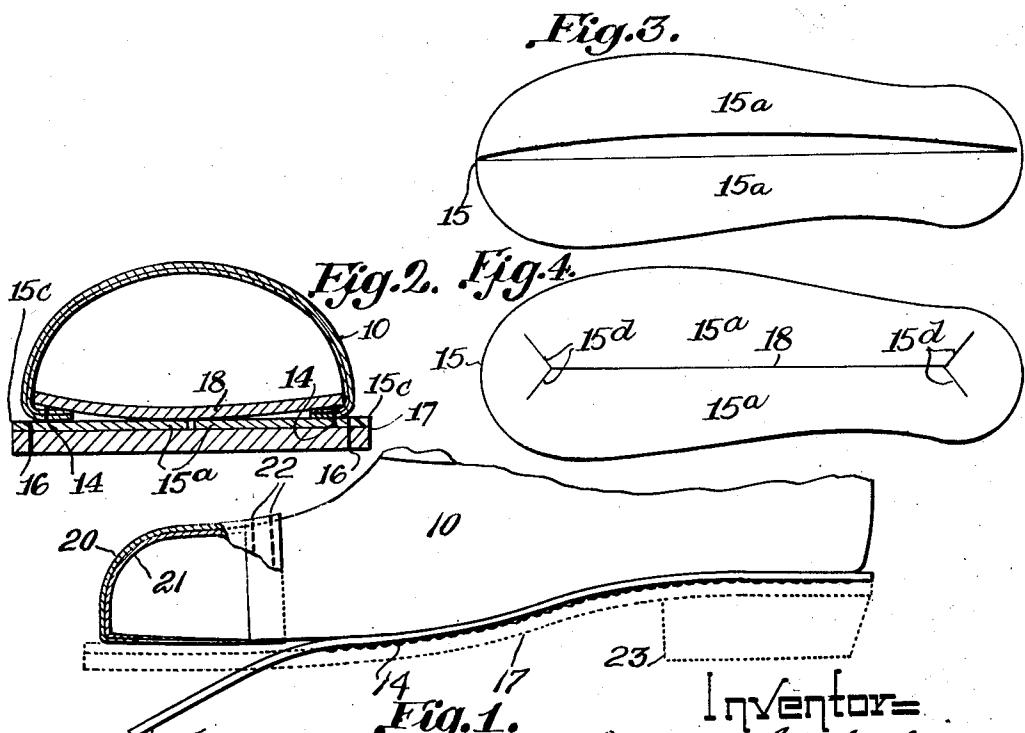
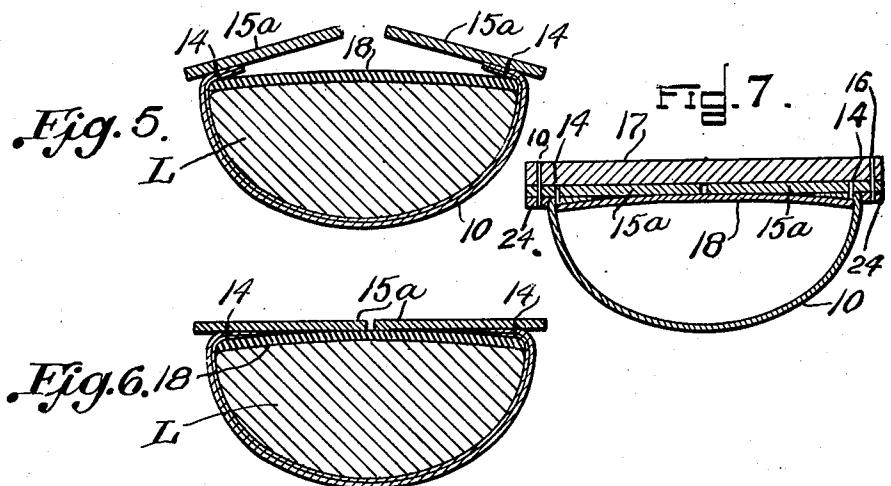
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METHOD OF MAKING BOOTS AND SHOES

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METHOD OF MAKING BOOTS AND SHOES

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1 Claim. (Cl. 12—142)

My invention relates to boots and shoes and method of making same, the object of the invention being to provide a boot or shoe of simple, serviceable and inexpensive construction and also to provide a simple and inexpensive method of making the same whereby the cost of production and the equipment or machinery required for its production as well, are reduced to a minimum.

To these ends I have provided a new boot or shoe having a bottom structure comprising three superposed soles including an intermediate sole whose marginal portion is secured to the lower marginal portion of the upper and which is divided vertically and longitudinally from toe to heel; an innersole to which the longitudinally divided intermediate sole is cemented or otherwise fastened, and an outersole that is fastened by stitches, cement or the like to the intermediate longitudinally divided sole.

As will appear later this construction greatly simplifies production and makes it possible to dispense with considerable machinery in the production of several different types of shoes having the peculiarities of construction just described and it is possible, but optional, to further materially reduce the cost of production by utilizing two separate strips of leather for the intermediate sole.

Other features of my invention including the new method referred to above are hereinafter pointed out.

In the accompanying drawing:

Figure 1 is a side elevation of a partially made welt type of shoe constructed in accordance with this invention.

Figure 2 is a transverse sectional view taken through the fore-part of the shoe shown in Fig. 1.

Figure 3 illustrates one kind of divided intermediate sole which may be employed in my new shoe.

Figure 4 illustrates another form of divided intermediate sole.

Figures 5 and 6 are sectional details illustrating steps in the process of making the shoes illustrated in the drawing.

Figure 7 is a sectional view illustrating a modification.

The embodiment of my invention illustrated in Figs. 1 and 2 is a welt type of shoe comprising an upper 10 which may, as shown, include a lining. Between these two parts may be arranged the usual counter, not shown, fastened in position by stitches and cement as usual.

As shown in Fig. 2 the lower marginal portion 55 of the upper 10 throughout the circuit thereof

is turned inwardly and fastened by stitches 14 to the marginal portion of a longitudinally divided intermediate sole 15 at sufficient distance from the edge of the latter to leave a projecting marginal welt portion 15c extending all the way around the shoe and which may be fastened by stitches 16 to the marginal portion of an outersole 17. Or if it is desired to omit the stitches 16 the outersole 17 may be cemented to the intermediate sole 15, or it may be both cemented and stitched.

Upon the inner faces of the intermediate sole 15 and the inturned marginal portions of the upper is cemented or otherwise fastened an innersole 18.

In Fig. 3 I have illustrated one form of intermediate sole which, as shown, may consist of two separate side strips 15a of leather disposed side by side when in the shoe, each of said strips being preferably made with an outwardly bowed inner edge and with an outer edge which may, as shown, conform roughly to the curvature of its side of the shoe when the latter is finished. The bowed shape of the inner edge of each strip is, however, not essential although it is advantageous when the lasting operation is performed as presently described.

In Fig. 4 I have illustrated another form of leather intermediate sole having side strips 15a which are produced by slitting the sole-shaped blank longitudinally as at 18 without completely dividing the blank into two separate parts. Preferably, the slit 18 is bifurcated at its opposite ends so that it can be opened wider than would be the case with a slit that was straight from end to end. This is found advantageous while stitching the upper to the opposite sides of the intermediate sole which is accomplished by means of a post sewing machine or the like since it allows both the upper and the intermediate sole 40 to be held flatwise on the work-support of the machine as the row of stitches 14, Figs. 1 and 2, is produced. It will be clear also, that the opening slit 18, permits the sewing mechanism to extend therethrough during this sewing operation if desired in addition to rendering the structure desirably flexible at this point in the process of making the shoe.

When a counter is included in the shoe the outer leather or the like of the upper is first 50 stitched to the intermediate sole leaving the lining loose at the heel of the shoe after which the counter is placed in position between outer leather and lining with cement and then the lining and the flange of the counter may be 55

stitched to the intermediate sole by means of a post sewing machine.

The important steps involved in the preferred process by which the shoe illustrated in Fig. 1 is made are that the bottom marginal portion of the upper is first sewed or otherwise fastened to the outer marginal portion of an intermediate sole that is divided longitudinally from toe to heel as shown, for example, in Figs. 3 and 4; 10 then the upper with the attached intermediate sole is lasted, preferably by hand but otherwise if desired, onto a last L, supporting an innersole to which latter the opposite side strips 15a of the intermediate sole are attached by cement, 15 or otherwise if desired, after being drawn together as far as permitted by the last, as shown in Figs. 5 and 6, and then the outersole is fastened in position upon the outer side of the intermediate sole as shown, for example, in 20 Fig. 2.

The welt type of shoe illustrated in Figs. 1 and 2 is strong and durable and its construction permits of its being produced by the above described method which dispenses with the use of 25 the pulling-over machine heretofore required; which dispenses with the use of the two kinds of lasting machines heretofore required, and which dispenses with the use of a welt stitcher such as has heretofore been required.

30 In producing the type of shoe illustrated in Fig. 7 the stitches 16 are employed as shown to secure a welt strip 24 in position upon the marginal portions of the intermediate sole. This construction also dispenses with the use of 35 lasting machines.

In making the above shoes the marginal portion of the upper, whose vamp is made shorter than the soles of the shoe, is sewed to the intermediate sole 15 as described, but since the vamp of the upper has no toe of its own the line of 40 stitches 14 starts at one side of the forward end of the upper and is carried around the rear part of the shoe to the opposite side of said forward end. Then the shoe is drawn on to a last and a 45 molded toe cap 20 having a toe stiffener 21 cemented therein is slipped on to the toe of the last with its rear portion overlying the vamp of the upper to which it is cemented. After the cement has set the last is removed and the rear portion of the toe cap further secured in place by trans- 50 verse lines of stitches 22 sewed by a cylinder sewing machine.

The intermediate sole 15 is sewed to the outer leather of the upper independently of the lining so that the counter of the shoe may now be installed between the outer leather and lining as described in connection with Fig. 1. 5

The inwardly extending flange of the toe cap is now cemented to the intermediate sole after which the stitches 14 are continued around the toe to further fasten the toe cap to the intermediate sole 15. Thereafter the shoe is lasted 10 by hand as illustrated in Figs. 5 and 6, the side strips 15a of the intermediate sole being at this point drawn over on to an innersole 18 (not shown in Fig. 1) to which they are cemented, and lastly, the shoe is completed by applying the 15 outersole 17 and heel 23 as indicated by dotted lines.

From the above description it will be seen that my invention provides for the production economically, expeditiously and accurately of welt 20 shoes, flexible turned shoes with cemented outersoles and flexible turned McKay stitched shoes, and that a great deal of the machinery heretofore required is entirely dispensed with.

It is also a fact that when the form of intermediate sole illustrated in Fig. 3 is employed in making men's welt shoes a comparatively great saving in cost can be effected because of the fact that they can be made up of small scrap parts which heretofore could not be used for sole 30 leather because of their small size. In the larger sizes the saving with this kind of sole will be at least four to six cents a pair.

What I claim is:

The method of making a boot or shoe which 35 consists in fastening the inturned lower marginal portion of a toe-less upper, while the latter is unsupported from within, directly to the top or inner side of the marginal portion of an intermediate sole, said fastening extending from a 40 point at one side of the forepart near the toe rearwardly around the heel and thence forwardly along the opposite side of the upper to a point near the toe; then inserting a last within the upper; then applying a flanged toe-cap to the toe 45 of the last and fastening the rear end thereof to the forward end of the upper; then removing the last; then fastening the toe portion of the intermediate sole to the flange of the toe-cap, and then fastening an outersole to the intermediate sole. 50

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