July 23, 1946. R. MALING 2,404,586

METHOD OF MAKING FOOTWEAR

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Fig. 1.

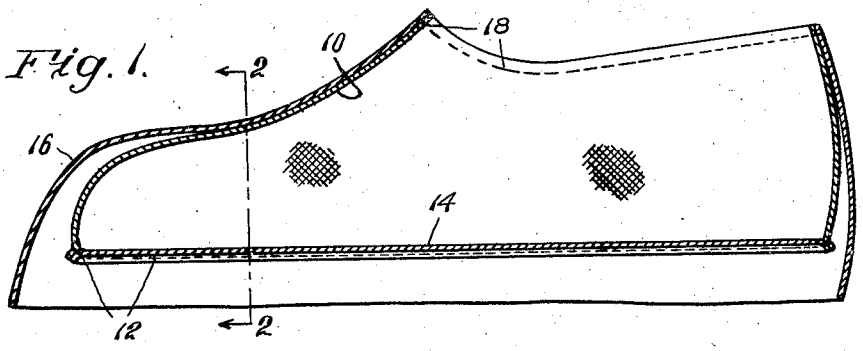


Fig. 2.

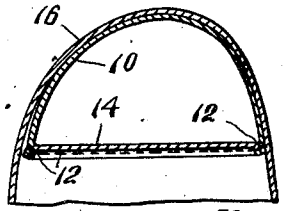


Fig. 3.

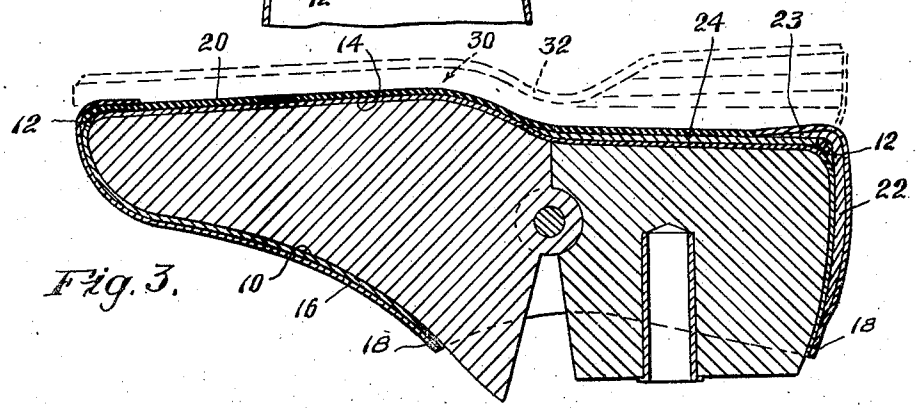
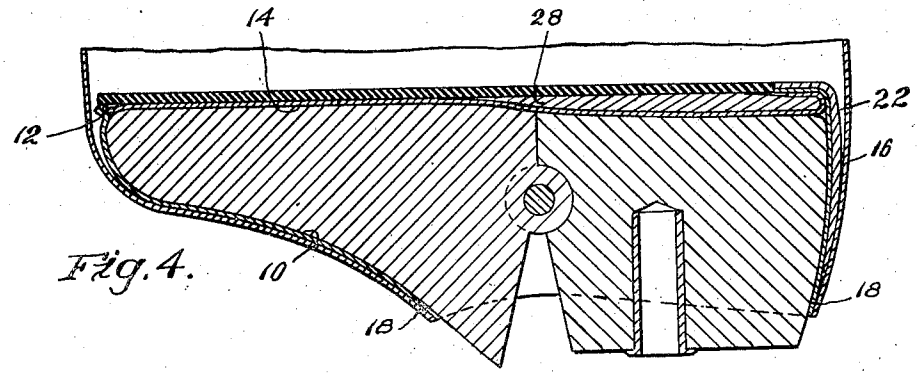


Fig. 4.



INVENTOR.

Roy Maling

BY his Atty.

John H. McKenna

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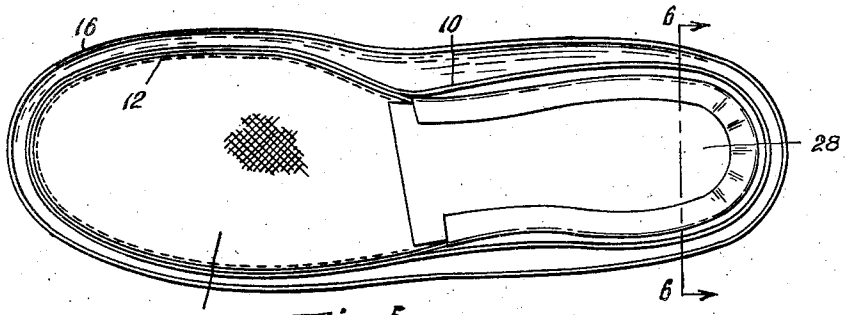


Fig. 5.

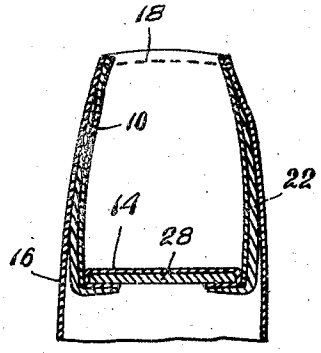


Fig. 6.

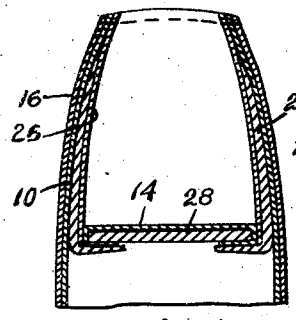


Fig. 7.

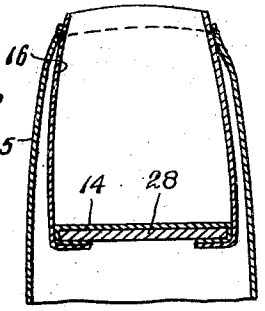


Fig. 8.

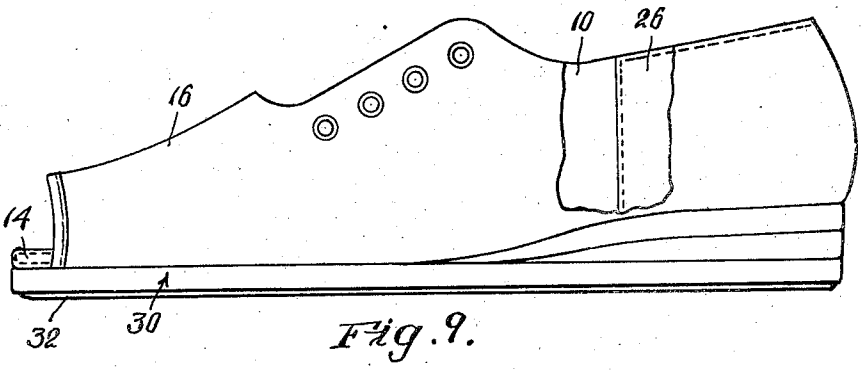


Fig. 9.

INVENTOR.
Roy Maling
BY his Atty.
John H. McKenna

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UNITED STATES PATENT OFFICE

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METHOD OF MAKING FOOTWEAR

Roy Maling, West Roxbury, Mass.

Application December 9, 1944, Serial No. 567,362

1 Claim. (Cl. 12—142)

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This invention relates to improvements in shoe-making methods and shoe structures produced thereby.

Shoes made according to conventional so-called slip-lasted methods have certain manufacturing advantages as compared with shoes having regularly lasted uppers in that various manufacturing economies may be availed of, and a slip-lasted product usually has superior qualities of flexibility as compared with regularly lasted footwear. However, a slip-lasted upper, especially a leather upper, cannot practically be made to fit an inserted last with the nicety and uniform tightness that is attainable when the upper is pulled over a last and made to conform precisely to the last contour.

It is an object of my present invention to provide a method of making shoes which combines certain advantageous features of both slip-lasted and regularly lasted procedures in that an inner upper structure comprising a lining and sock lining is completely slip-lasted and the upper proper is completely regularly lasted over the slip-lasted inner structure after a last has been slipped into the inner structure.

Another object is to provide a shoe structure having a completely slip-lasted lining and sock lining inner upper unit, and a completely regularly lasted outer upper unit.

A further object is to provide in a shoe structure a complete inner sock pre-stitched throughout while free of a last, to whose top edge the shoe upper is stitched all around the foot opening in a conventional manner, whereby said upper becomes anchored on a last slipped into the inner sock, for an effective lasting of the upper all around the shoe.

Still another object is to provide a shoe structure having a lining and sock lining stitched together to provide a complete sock while the lining is free of a last, and having a layer of cushioning material applied, after insertion of a last in the sock, in covering relation to the under surface of the sock lining for constituting an insole and filler to which the upper may be lasted.

Yet another object is to provide a slip-lasted inner sock from which the upper is suspended and over which, while on an inserted last, the upper may be lasted throughout the extent of the upper.

It is, moreover, my purpose and object generally to improve upon prior shoe-making methods and prior shoe structures, especially shoes of the so-called slip-lasted variety.

In the accompanying drawings:

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Figure 1 is a longitudinal cross-section of a shoe upper structure embodying features of my invention, the upper being in suspended relation to the lining;

Figure 2 is a cross-sectional view on line 2—2 of Figure 1;

Figure 3 is a longitudinal section through the shoe structure of Figures 1 and 2 with a last inserted in the prestitched lining and sock lining unit, and with the upper lasted over upon an insole and filler unit;

Figure 4 is a longitudinal section through a modified shoe structure on a last prior to lasting of the upper;

Figure 5 is a bottom plan view of the bottom of the shoe of Figure 4 prior to applying of the insole and filler layer;

Figure 6 is a cross-sectional view on line 6—6 of Figure 5;

Figure 7 is a cross-sectional view similar to Figure 6 but showing a counter pocket element stitched to the lining;

Figure 8 is a cross-sectional view similar to Figures 6 and 7 but having an exterior pocket element stitched to the upper which latter has no lining, the pocket element having a lasting allowance for lasting the rear part of the upper; and

Figure 9 is a side elevation of an open toe shoe having a counter pocket on the lining on its side which is toward the upper.

Referring to the drawings, the lining 10 may be of fabric or any other suitable shoe lining material and, in Figs. 1–3 is shown stitched at 12 to a sock lining 14 all around the shoe to provide a complete sock into which a last may be inserted after the stitching of lining to sock lining has been accomplished.

The upper 16 is preliminarily stitched at 18 to the lining around the foot opening in a conventional manner so that the upper, after a last has been inserted in the sock, is suspended loosely from the lining on the last but is anchored at the top stitch line 18 so that every part thereof may be drawn to last shape by regular lasting procedures and turned over upon the sock lining 14, or preferably, upon an insole and filler layer 20 of cushioning material. This layer 20 may be a relatively thin sheet of sponge rubber one-eighth of an inch in thickness, for example, or it may be a plastic substance, such as a cork composition or the like, spread over the under surface of the sock lining 14 and allowed to set or partially set prior to lasting of the upper. In any case, however, the layer 20 will be readily flexible and pliable as compared with conven-

tional relatively stiff insoles which heretofore have been necessary adjuncts to a lasted forepart. According to my invention, the insole filler layer **20** does not need to be stiff for the lasting because the lining and sock lining preliminarily are secure in their covering relation to a last inserted therein, the insole filler layer **20** being primarily a cushion between the lasted over portions of the upper and the relatively thin sock lining, to avoid discomforting ridges interiorly of the shoe which otherwise might be present due to the extra thicknesses of material at the marginal regions of the shoe, especially around its forepart.

The rear part of the shoe may have a counter **22** inserted between the slip-lasted inner sock and the loose suspended upper, any desired stiffening element **24** being embodied between the sock lining **14** and the counter flange **23** over which the upper is turned in the lasting of the rear parts of the upper. Obviously, if desired, a counter pocket may be provided on the lining **10** by stitching a sheet **26** to its inner surface as in Fig. 7, or to its outer surface as in Fig. 9, the pocket extending throughout the portion of rear part which is to be stiffened by a counter, the under side of the pocket being left open for insertion of a counter. In this case the lining is free of the sock lining at the rear part of the shoe so that the loose part of the sock lining may cover the counter flange as indicated in Fig. 7, which shows such an interior counter pocket on the lining **10**. As shown, both the upper **16** and its lining **10** have lasting allowance so that both may be lasted over upon the counter flange.

Similarly, a counter pocket may be provided exteriorly of the upper **16**, as shown in Fig. 8, by stitching a strip **25** to the exterior surface of the upper **16**, and leaving the under side of the pocket open for reception of a counter between the upper **16** and the strip **25**. In this case, the upper may be a fabric-lined sheet material requiring no separate lining, and it may terminate at the under plane of the sock lining, the pocket strip **25** having lasting allowance for the lasting of rear parts of the shoe.

Although the construction illustrated in Figs. 1–3 provides an effective and economical shoe which can have superior qualities of flexibility at the forepart in conjunction with adequate supporting stiffness at the rear part, the lining **10** does not need to be stitched to the sock lining **14** all around the shoe. In the constructions of Figs. 4–7 and 9, the lining and sock lining are stitched together only around the forepart and

the sock lining projects rearward free of the lining. Preferably the free rear part of the sock lining covers a stiffener element **28** at the rear part, having its marginal edge portions turned over the edges of the stiffener **28** and cemented to its under side as shown in Figs. 4, 6, 7 and 8. This enables the sock-lining-covered stiffener **28** to be swung out of the way for inserting a counter in any of the ways heretofore suggested and then the covered stiffener **28** may be moved into covering relation to the counter flange, interiorly of the shoe and prior to insertion of a last therein, over which and the counter flange the upper may be effectively lasted, and the covered stiffener **28** provides a finished base surface interiorly of the lasted shoe.

Any desired sole and heel structure may be applied to my lasted upper, preferably by cement, although a suitable welt strip (not shown) might be provided all around the shoe by means of which an outsole might be stitched on according to well known procedures.

In Figs. 3 and 9, I have represented a platform and heel unit **30** of laminated construction cemented in place and having an outsole **32** thereon, but it will be understood that the features of my present invention relate to improvements in the upper structure and that any desired and suitable base structure may be applied thereto.

My herein disclosed method and structure provide shoes which can be made in substantial part by economical slip-lasted procedures and whose uppers may be lasted throughout to attain the advantages which are well known attributes of a lasted upper, but embodying at the forepart qualities of flexibility not heretofore attainable in a shoe having a lasted forepart, so far as I am aware.

I claim as my invention:

The method of making a shoe upper structure comprising the steps of stitching an upper and lining together at their edges which are to be uppermost in the shoe, stitching the lining to a sock lining all around the edges of the latter thereby to provide a complete sock from whose top edge the upper is loosely suspended, inserting a counter between the lining and upper at the rear part of the shoe, followed by inserting a last in the pre-stitched sock to slip-last the sock, and then applying a sheet layer of pliable material to the under side of the sock lining, and lasting the upper over upon the sheet layer all around the extent of the upper.

ROY MALING.