

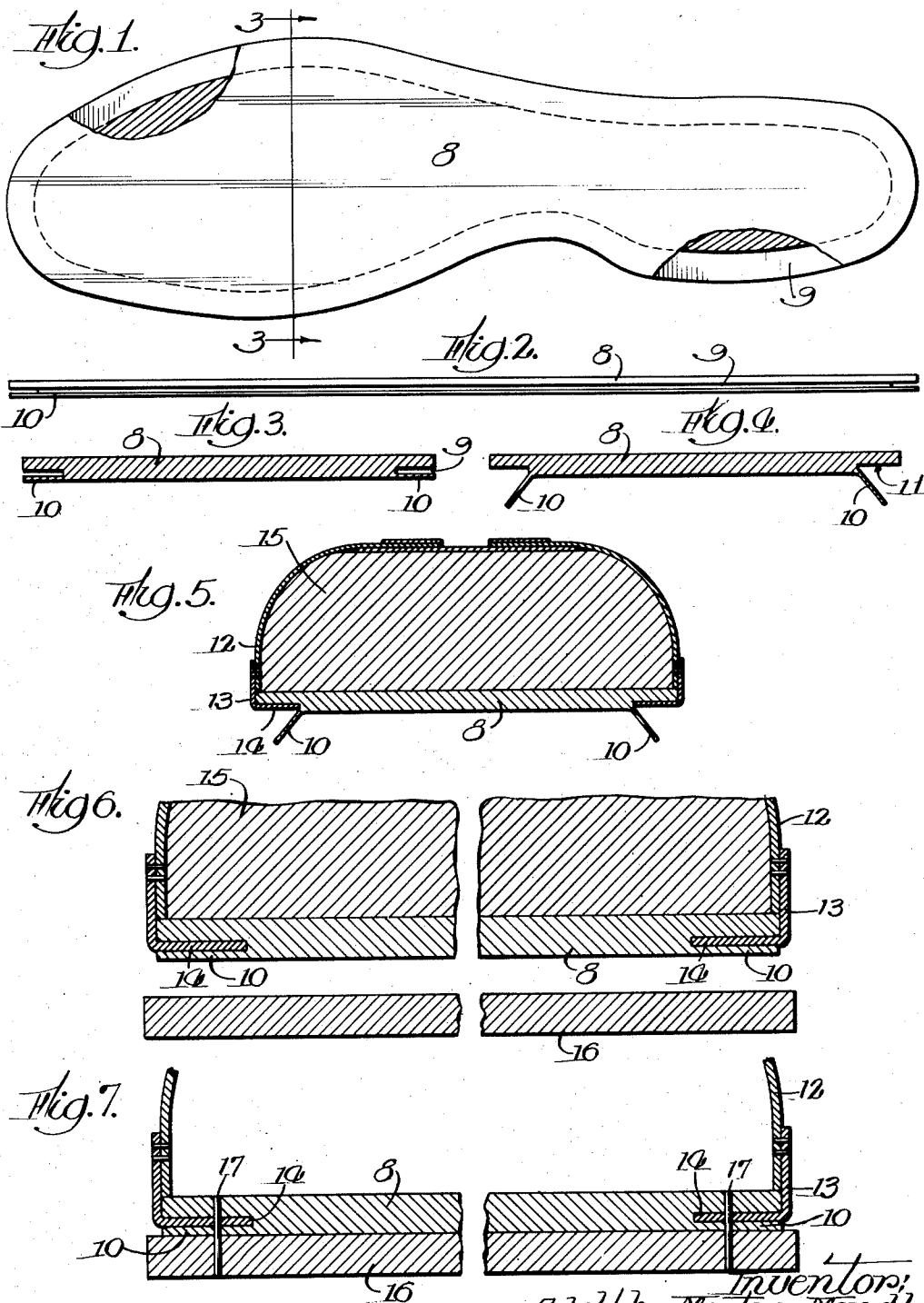
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FOOTWEAR

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## UNITED STATES PATENT OFFICE

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FOOTWEAR

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6 Claims. (Cl. 12-142)

This invention relates particularly to boots or shoes of various kinds which for convenience will be designated as shoes, and to the method of manufacturing the same. The objects of the present invention are to provide an improved method of manufacturing shoes whereby they may be rapidly made and may be quickly removed from the lasts; to provide a process whereby shoes may be readily made by unskilled labor; to provide an improved shoe which will be economical to manufacture and which will be particularly comfortable and durable in use; to provide a shoe having an insole and an outer sole which may be made, without turning; to provide means for making a particularly effective seam or joint between the upper and the sole; to provide a sole having a kerf or channel around the periphery thereof for receiving the edge of the upper or a welt strip; and to provide such other improved features of construction and improvements in manufacture as will appear more fully hereinafter.

In the accompanying drawing illustrating this invention,

Figure 1 is a plan view of a sole or insole with parts broken away to show the peripheral kerf or channel;

Figure 2 is a side view of the same;

Figure 3 is a sectional view taken on the line 3-3 of Figure 1;

Figure 4 is a view similar to Figure 3 showing the edge or flange-like portion below the channel bent away from the body portion to permit the insertion of the upper or welt;

Figure 5 is a cross sectional view showing the insole mounted on a last with the upper in engaging position;

Figure 6 is an enlarged detail similar to Figure 5 showing the flange returned to normal position with the edge of the upper or welt cemented in the channel and showing the outer sole in position to be applied; and

Figure 7 is a view similar to Figure 6 showing the parts stitched together.

I am aware that it has heretofore been proposed to slit portions of the sole to permit application of the upper but such slitting and application usually results in ridges or bulges around the insole. In accordance with the present invention I provide a sole or insole 8 having a kerf or channel 9 extending around the entire periphery thereof, a novel feature of this channel being that it is rectangular in cross section and preferably of the same thickness as the edge of the welt or upper which is to be inserted there-

in. This kerf or channel is cut out in practice by means of knives suitable for such purpose. After this inner sole has been formed the flange-like portion 10 thereof below the channel is bent or pressed downwardly to make a relatively wide peripheral opening for receiving the upper. Glue or cement is then applied to the upper surface of the channel as indicated at 11 preparatory to receiving the edge of the upper or the welt for connecting the upper with the sole. As shown in Figure 5, the upper 12 is provided with a welt or connecting strip 13, the inner edge 14 being provided with a coat of cement and then brought or drawn in all of the way around the sole and cemented to the surface 11. After the edge has been drawn in and secured to the sole in this manner, the underlying strip or flange 10 is then forced upwardly or into engagement with the portion 14, cement being applied to one or both of the opposed surfaces so that these parts will be accurately cemented together as illustrated in Figure 6. The welt is of the same thickness as the channel so that when the portion 10 is cemented thereto the periphery of the sole will be of the same thickness as in its original form and without any bulges or ridges. After the joint has thus been formed between the upper and the sole around the entire periphery thereof, the shoe may be removed from the last 15 and the outer sole 16 applied thereto as indicated in Figure 7. The outer sole may be cemented to the inner sole if desired but is preferably stitched thereto as indicated at 17 around the entire periphery, such stitching extending through the welt or edge 14 so that all of the parts are thoroughly secured together.

While it is apparent that the edge of the upper might be inserted in the channel to complete the joint, the use of the welt makes it much easier to fit the top to the sole without excessive wrinkling or bulging. Furthermore the use of a connecting member such as a strip or welt 13 enables the manufacturer to make the welt of good or high grade leather and to use a cheaper leather in the upper, thus making the shoe more serviceable than if the cheaper leather were used throughout. There is also a saving in the manufacturing due to the use of such connecting member as it permits getting more pieces out of a hide by closer cutting and there is less waste due to trimming. Furthermore, by means of this method of manufacture the lasting can be successfully done by hand thereby avoiding the cost and upkeep of expensive lasting machines, but if such machines are utilized, the lasting may be

performed more rapidly. This process also permits the lasting to be accomplished without the use of tacks which avoids wear or destruction of the lasts which occurs by the use of tacks. For

5 this reason the lasts used in applicant's process will last indefinitely whereas when tacks are used a last will ordinarily serve for the manufacture of only about two hundred shoes. The soles  
10 finished are substantially smooth and flat without the necessity of a filler such as commonly used and the shoes will ordinarily be flexible as well as easy to manufacture.

The completed shoe is made without any filler  
15 between the insole and the outer sole such as commonly used, which not only saves cost in manufacture but also cost in material. While the drawing illustrates the general method of manufacture and the completed structure, it is appar-  
20 ent that the upper will assume various forms after the shoe has been worn which may depend upon the style of the shoe as well as the foot of the wearer.

It will also be observed that my improvements  
25 may be applied to various kinds and styles of shoes other than illustrated herein and therefore I do not wish to be limited to the particular structure herein shown and described except as specified in the following claims in which I claim.

30 1. A shoe comprising an upper, a welt extending around the lower periphery of the upper, an insole having a peripheral channel of the same thickness as the welt, the lower portion of the welt being cemented in said channel, an outer  
35 sole, and stitching through the outer sole and inner sole and the enclosed portion of the welt for fastening said parts together.

2. The method of making footwear, which consists in providing an inner sole, forming a chan-  
40 nel of uniform thickness around the periphery thereof, then bending the lower portion of the sole adjacent to the channel downwardly and applying a coat of cement to the walls of the channel, then taking an upper and fastening a  
45 welt to the lower edge thereof, then applying cement around the lower edge of the welt, and forming the edge into the channel and cementing the same to the adjacent surface of the channel, then returning the bent-away portion to normal  
50 position and cementing it to the edge of the welt, then applying an outer sole to the inner sole

and finally stitching through the outer sole, inner sole and enclosed portion of the edge of the welt.

3. The method of making shoes, which consists in forming an upper, securing a welt to the lower  
80 portion of the upper, providing an inner sole with a channel around the entire periphery thereof of substantially the same thickness as the welt, then inserting the welt in the channel and cementing the same therein, and finally stitching  
85 an outer sole to the inner sole with stitching passing through the channeled portion of the inner sole whereby the inner sole, welt and outer sole are united by such stitching.

4. The herein described method of making  
90 footwear which consists in forming an inner sole of suitable configuration, then forming a kerf around the entire periphery thereof which is of substantially the same thickness as the thickness of the material to be inserted therein, then bend-  
95 ing down the portion of the material below the kerf to make a relatively wide peripheral opening, then applying cementitious material to the upper surface of the kerf, then forming an upper and sewing a connecting strip around the lower  
100 edge thereof, then inserting the free edge of the connecting strip in the kerf and cementing the same to the upper surface thereof, then closing the portion below the kerf against the inserted  
105 portion of the strip and cementing the same thereto, then applying an outer sole to the inner sole, and finally stitching through the outer sole, inner sole and inserted portion of the connecting strip to fasten the parts together.

5. A shoe including a sole having a flat upper  
110 surface and having a channel extending around the periphery thereof, a connecting strip which is substantially L-shaped in cross section, having one branch secured in the channel and the other branch projecting upwardly around the sole, an  
115 upper having its lower edge abutting against the sole, and means fastening the upper to the connecting strip.

6. In an article of footwear of the character set forth, the combination of a sole having a recess around the periphery, an upper having its lower  
120 edge terminating at the sole, a connecting strip embracing the lower portion of the upper and extending into said recess, means fastening the connecting strip to the upper, and means fastening the connecting strip to the sole.

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