

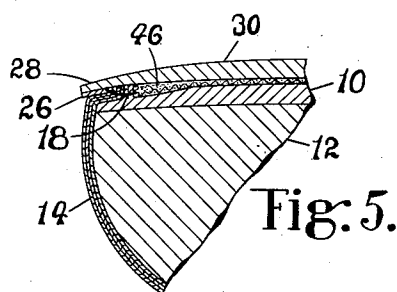
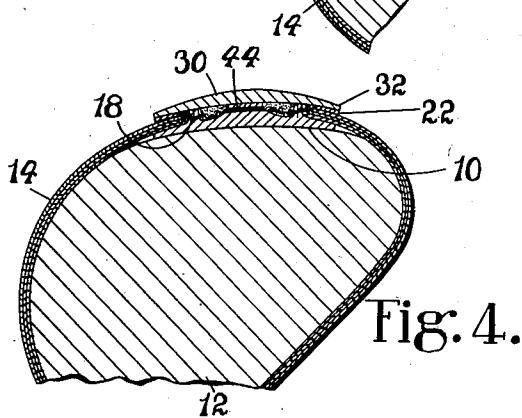
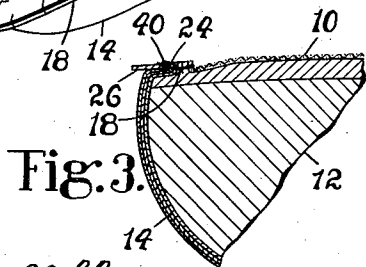
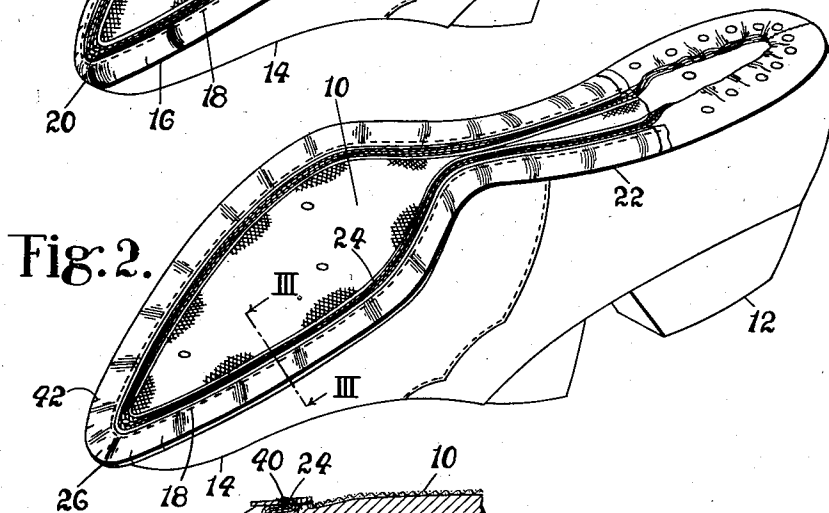
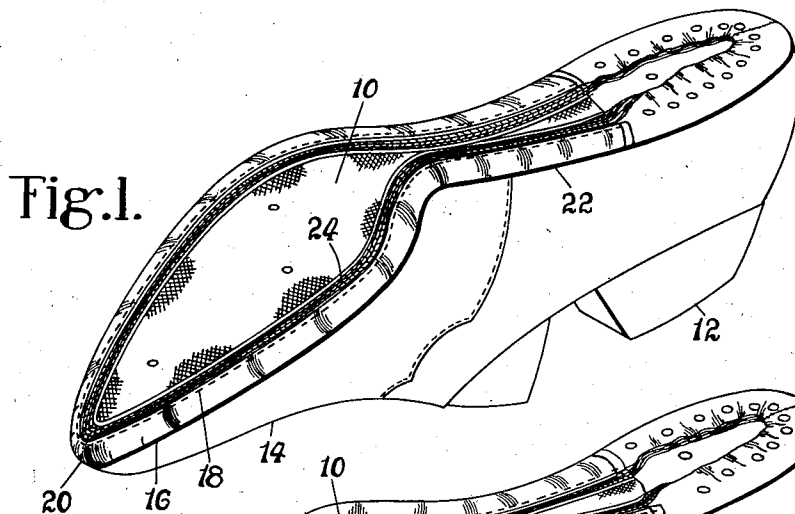
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METHOD OF MANUFACTURING SHOES

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METHOD OF MANUFACTURING SHOES

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3 Claims. (Cl. 12-142)

This invention relates to methods of manufacturing shoes and is illustrated herein with respect to the manufacture of a welted shoe having a cement-attached sole.

welt has a strong tendency to lie snugly against the shoe upper instead of standing out in the plane of the shoe bottom. This is conspicuously so at the toe of the shoe, indicated at 20 in Fig. 1, and at the shank portion, indicated at 22 in the same figure.

In order to prepare the welt and the edges of the stock (indicated at 24) resulting from the in-seam trimming operation for the reception of a sole, that portion of the welt 16 which extends outwardly from the in-seam about the forepart of the shoe is next separated from the shoe upper 14 so that that portion of the welt will stand out substantially in the plane of the shoe bottom, as indicated at 26 in Figs. 2 and 3. This brings the welt about the forepart of the shoe into such position that it will contact with the marginal portion 28 (Fig. 5) of the outsole 30 when the latter is applied to the shoe bottom and tends to eliminate excessive "rolling" of the edge of the sole and welt about the shoe upper at the forepart under the pressure applied by the pad of the cement sole attaching machine. In the shank of the shoe, on the other hand, it is desired that the edge of the sole shall hug the shoe upper (as illustrated at 32 in Fig. 4) as closely as possible and, therefore, the welt separating operation is not performed in the shank portion of the shoe.

The in-seam trimming operation tends to leave a sharp corner at the edge of the welt adjacent to the in-seam, as indicated at 40 in Fig. 3. To remove this and, therefore, to improve the shoe bottom for the cement attachment of the outsole 30, I moisten the stock adjacent to the in-seam before the in-seam pounding or rolling operation which is performed in such a manner as to force substantially the entire width of the welt against the shoe upper in the shank portion of the shoe while flattening the in-seam without forcing the outer portion at the welt against the shoe upper about the forepart of the shoe. If treated in this way the welt and the edges 24 of the stock produced by the in-seam trimming operation provide a substantially continuous surface for the reception of the outsole.

Pyroxylin cement is applied to the welt and the adjacent portion of the shoe bottom, preferably after the moisture above mentioned has had a chance to dry out, and is permitted to harden. Cement is also applied to the marginal portion of the suitably prepared outsole 30, is permitted to dry, activated with a suitable softener, and the outsole attached to the shoe bottom under

5 It is an object of my invention to improve the methods used in the manufacture of welted shoes the soles of which are attached with cement, such as one of the nitrocellulose cements that are now being used for securing soles to shoes, in such a manner as will cause the sole and welt to lie close to the shoe upper at the shank portion of the shoe without the production of a "rolled edge" on the sole at the forepart of the shoe.

10 The manufacture of a welted shoe in accordance with the improved method of my invention will now be described with reference to the accompanying drawing and the invention will be pointed out in the claims.

15 In the drawing,
20 Fig. 1 is a perspective view of a welted shoe after the welt has been attached and the in-seam trimmed;

25 Fig. 2 is a similar view of the shoe after the welt has been separated from the shoe upper at the forepart but with the welt lying close upon the shoe upper in the shank;

30 Fig. 3 is a cross sectional view at the forepart of the shoe, illustrating the condition of the welt after it has been separated from the upper and taken on the line III-III of Fig. 2;

Fig. 4 is a transverse section through the shank and Fig. 5 at the forepart of the shoe after its sole has been attached.

35 In the manufacture of shoes in accordance with my invention an upper and insole are assembled on a last and the upper is pulled over and lasted in the manner usual in the manufacture of Goodyear Welt shoes. As illustrated herein, an insole 10 of the type commonly spoken of as an Economy insole, is secured to the last 12, an upper 14 is assembled upon the last and is pulled over and worked into lasted position, being secured, for example, by staples (not shown) passing through the marginal portion of the shoe upper and the lip of the insole. A welt 16 (Fig. 1) and the upper 14 are then secured to the lip of the insole by stitching 18 after which the surplus upper material, as well as the projecting portion of the lip of the insole and of the welt adjacent to the in-seam, are trimmed off leaving the shoe in the condition shown in Fig. 1. It may be noted at this time that, due to the curvature of the different parts of the in-seam (that is, the seam by which the welt and the upper are secured to the lip of the insole) the

pressure applied with the aid of a suitable pad member.

The separating of the welt from the upper at the forepart of the shoe may be performed with a welt beating and slashing machine of the character used in the manufacture of Goodyear Welt shoes, in which case it may be advantageous also to slash the welt at the toe of the shoe, as indicated at 42 in Fig. 2. Or the welt may be separated from the shoe upper by a welt indenting and burnishing machine of the character used for the finishing of the welt of a Goodyear Welt shoe after the outsole has been attached, the machine being provided, however, with a smooth roll instead of with the indented roll commonly used in such a machine. Obviously the shoe may be provided with a metal shank piece, indicated at 44 (Fig. 4), and with a suitable bottom filler, indicated at 46 (Fig. 5). The edge trimming and setting operations, the heel attaching etc. may be performed in any suitable manner.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. That improvement in the manufacture of welted shoes having cement-attached soles which comprises separating the portion of the welt outside of the inseam from the shoe upper at the forepart of the shoe before the outsole is attached but letting the welt at the shank portion of the shoe lie against the shoe upper in substantially the position in which it is left by the welting operation, rolling the inseam and the adjacent stock in such a manner as to tend to force the welt against the shoe upper at the shank but to flatten the inseam at the forepart without forcing the outer marginal portion of the welt against

the shoe upper, and cement attaching an outsole to the shoe.

2. That improvement in methods of manufacturing soles which comprises securing a shoe upper in lasted relation to a lipped insole, stitching a welt to the lasting margin of the upper and the lip of the insole, inseam trimming the shoe and thereby removing the surplus portions of the upper, the lip of the insole and the welt and leaving the edge surface of material thereby produced in substantially the plane of the shoe bottom, treating the welt at the forepart of the shoe to cause its outer marginal portion to stand out from the shoe upper but leaving the welt at the shank portion of the shoe substantially in contact with the shoe upper, moistening the surface formed by the inseam trimming operation and rolling the inseam, and attaching a sole by pyroxylin cement to the edge surface produced by the inseam trimming operation and to the surface of the welt outwardly of the stitches of the inseam.

3. That improvement in methods of manufacturing shoes which comprises stitching a welt to the lasted margin of the upper and the lip of an insole, inseam trimming the shoe and thereby removing the surplus portion of the upper, the lip of the insole and the welt and leaving the edge surfaces of material thereby produced in substantially the plane of the shoe bottom, moistening the surface formed by the inseam trimming operation and rolling the inseam, and attaching a sole by pyroxylin cement to the edge surface produced by the inseam trimming operation and to the surface of the welt outwardly of the stitches of the inseam.

JOHN K. SMITH.