March 3, 1931. R. DAVIS 1,795,276

SHOE

Filed Aug. 21, 1930

Fig. 1.

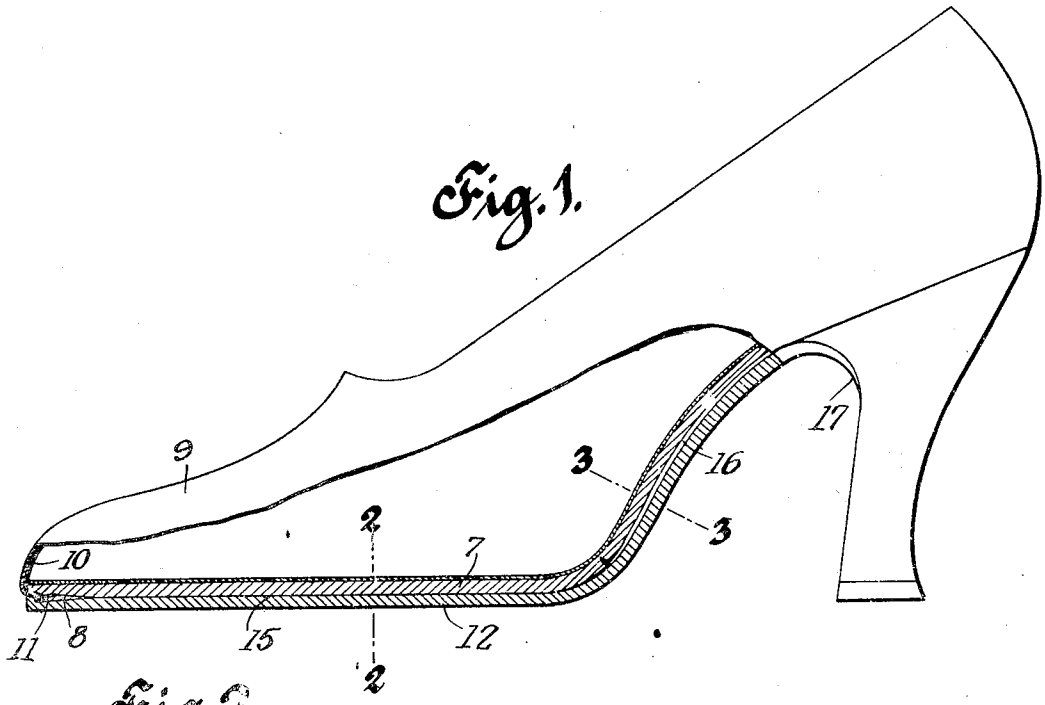
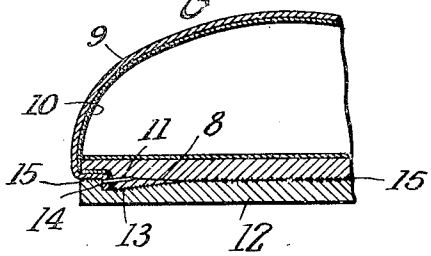


Fig. 2.



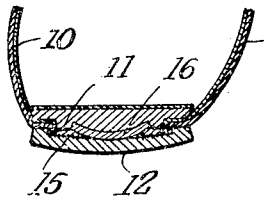


Fig. 3.

Fig. 4.

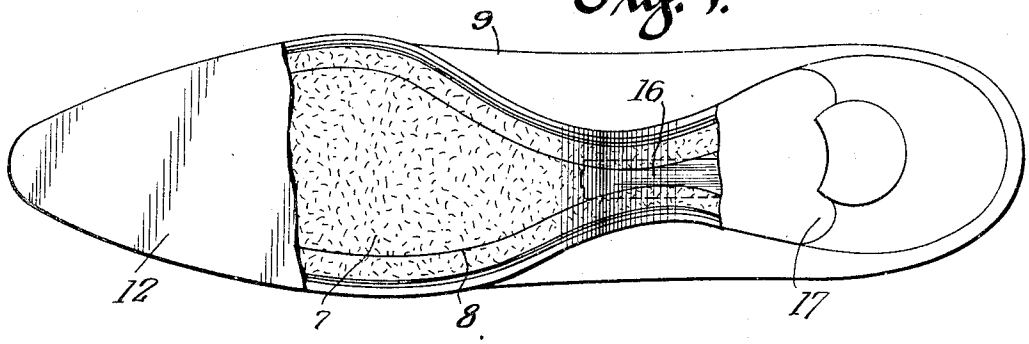
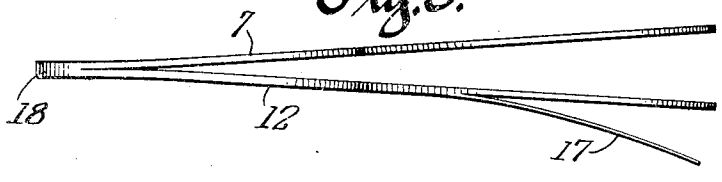


Fig. 5.



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UNITED STATES PATENT OFFICE

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SHOE

Application filed August 21, 1930. Serial No. 476,823.

This invention relates to both the manufacture and the structure of shoes.

Special objects of the invention are to improve the structure in the matters of durability, appearance, wearing qualities and comfort, and to enable the production of such a shoe at low manufacturing costs, with an economy of materials and labor.

An important feature of the invention is the entire concealment of all stitching, both inside and outside the shoe. This is accomplished by fastening the upper to an insole with suitable stitching and then fastening in place over the insole an outsole, which is fashioned to entirely cover and protect the stitching securing the upper and insole.

Other important novel features of the invention will appear as the specification proceeds.

The drawing accompanying and forming part of the specification illustrates a practical and commercial embodiment of the invention, but it should be understood that certain modifications and changes may be made without departure from the true spirit and broad scope of the invention.

In the drawing, Fig. 1 is a broken side elevation and part sectional view of a shoe constructed in accordance with and embodying features of the invention; Figs. 2 and 3 are broken enlarged cross-sectional details as on lines 2—2 and 3—3 respectively of Fig. 1; Fig. 4 is a broken bottom plan view of the shoe; Fig. 5 is a detail illustrating how both the insole and the outsole may be "split" from the same piece of leather.

The insole is designated 7 and is shown "channeled" in its underside about the edge as indicated at 8. This leaves a smooth unchanneled face inside the shoe as indicated in Fig. 1. The upper which is marked 9, together with the lining 10 are attached to the insole by channel stitching 11, which as indicated in Fig. 1 is on the bottom of the insole in a finished shoe.

The outer sole 12 is formed with a "gutter" in the upper face of the same and extending about the rim portion, in line with and adapted to receive the increased thickness provided by the channel stitching. This gutter is indicated in Fig. 2 as formed by an outwardly beveled cut 13 meeting a cut 14 normal to the plane of the outsole, the two forming a channel of approximately the proper depth and shape to fully receive the channel stitched connection between the insole and the upper, with its lining. This channel or gutter is shown disposed inwardly from the edge of the outsole sufficiently to leave the outer edge the full thickness of the outsole, so as to give a desired substantial appearance at the edge of the shoe.

The outsole is permanently but flexibly attached to the insole by cement 15, usually permitted to set while the outsole is held in place under pressure. This construction as best appears in Figs. 1 and 2, entirely covers the stitching, both inside and outside the shoe and brings the insole and outsole together in solid flat relation with no intervening air spaces and with no need for a "filler" of any kind. A smooth flat surface is presented to the foot, inside the shoe and the outside of the shoe is smooth and flat, assuring comfort to the wearer. The shoe is flexible, but at the same time, the parts are so secured together as to prevent stretching and bulging. Also, because of the fact that the insole and outsole are secured together throughout their areas of extent without any intervening filling material, lighter grades of leather may be employed and even so, the shoe will be longer wearing, because the outsole may be worn entirely through to the insole and still be useful.

A steel shank stiffener is shown in the illustration at 16, lying partly under the flaps of the channel cuts and fully covered by the outsole.

Also the outsole is shown as having a heel cover flap 17 secured in customary fashion over the breast of the heel.

In addition to the fact, that the insole and outsole may be made of rather thin and usually considered "inferior" grades of leather, the same may also be made of inferior thicker leather by "splitting" insoles and outsoles 7, 12, Fig. 5, from a single thick layer of leather 18. The lower piece, with the grain side downward, may then be split for the heel

flap and the upper piece be channeled on either its lower or upper side, depending on whether it is to be used with the same outsole piece or with some other outer sole.

The invention provides a particularly light, flexible, durable and long wearing, comfortable shoe, and enables the shoe to be made entirely on the last, it being unnecessary to remove the partly completed shoe from the last to perform any of the manufacturing steps. Repairs are easy, because if necessary, the outsole may be stripped off and an entire new outer sole be cemented on in place of an injured or worn outsole. The uppers may be attached to the insoles at one place by labor familiar with such work and the outer soles be affixed at an entirely different place. Thus labor and factory costs may be kept at a minimum.

The full thickness at the edge of the outsole protects the upper, where it turns in under the edge of the insole, meeting this inturned portion of the upper, substantially as indicated in Fig. 2. The structure is particularly light, the more so, because no nails or other metallic fastenings are necessary, except possibly for a screw or the like, such as may be employed for fastening the heel in place.

What is claimed is:

1. A shoe comprising an inner sole having a continuous, smooth, upper face and having a channeled lower face, an upper extending down about the edge of said inner sole, channel stitching securing the edges of said upper to said channeled lower portion of the inner sole, and a separate outer sole cemented in flat face-to-face engagement with said inner sole and having a gutter in the upper face of the same set inward from the edge of said outer sole and receiving the extra thickness formed by the channel stitching on the underface of the inner sole.

2. In a shoe structure, the combination of an outer sole having a gutter in the upper face of the same formed by an outwardly beveled cut and a cut normal to the general plane of the outsole, an inner sole having a continuous, smooth, upper face and channeled in the underface of the same, an upper extending down about the edge of the inner sole to the channeled under portion of the same, channel stitching securing the edge of the upper to the channeled portion of the inner sole, and said inner sole and outer sole being secured by cement in flat face-to-face engagement with the channel stitched portion of the inner sole and upper received within the gutter and definitely positioned by the outwardly beveled and normal cut walls of said gutter.

3. In a shoe structure, the combination of thin, continuous, inner and outer soles cemented together in coextensive face-to-face engagement without any intervening filler, an upper having its edges extending down about the edge of the inner sole, and channel stitching securing the edge of the upper to the underside of the inner sole, the outer sole having a gutter in the upper face of the same receiving said channel stitched portion of the inner sole and upper and whereby the flexibility of thin inner and outer soles is attained without exposed stitching either inside or outside the shoe.

4. The method of manufacturing shoes, which comprises splitting a layer of leather to provide a thin layer having a grain side for the outer sole and a thin layer having a flesh side for the inner sole, channelling the underside of the flesh layer, providing a gutter in the cut face of the grain layer, channel stitching the edge of an upper to the channeled face portion of the inner sole layer, and cementing the outer sole in face-to-face engagement over the lower face of the inner sole and with the guttered portion of the outer sole receiving the channel stitched portions on the underface of the inner sole.

In testimony whereof I affix my signature.

ROBERT DAVIS.