F. E. TOOTHAKER.

SHOE AND SHOE SHANK STIFFENER.

APPLICATION FILED DEC. 15, 1919.

1,426,427. Patented Aug. 22, 1922.

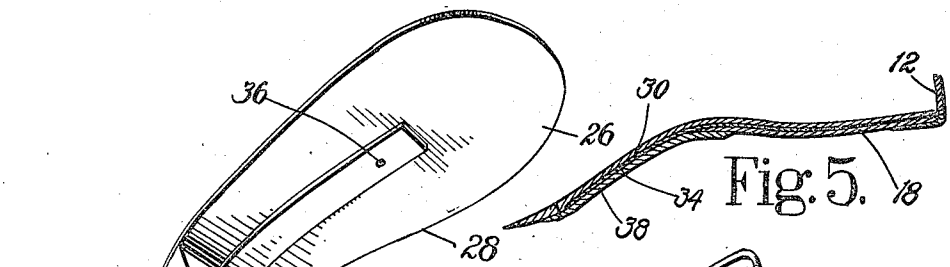

Fig. 5.

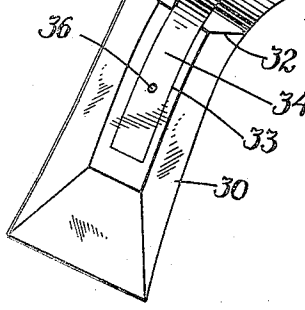

Fig. 3.

Fig. 1.

Fig. 4.

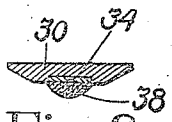

Fig. 6.

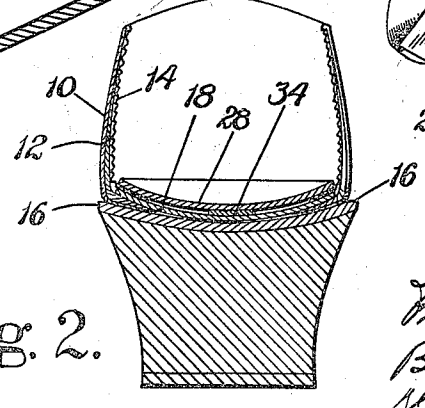

Fig. 2.

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UNITED STATES PATENT OFFICE.

FRED E. TOOTHAKER, OF SWAMPSCOTT, MASSACHUSETTS, ASSIGNOR TO UNITED SHOE MACHINERY CORPORATION, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SHOE AND SHOE-SHANK STIFFENER.

1,426,427. Specification of Letters Patent. Patented Aug. 22, 1922.

Application filed December 15, 1919. Serial No. 345,004.

To all whom it may concern:

Be it known that I, FRED E. TOOTHAKER, a citizen of the United States, residing at Swampscott, in the county of Essex and State of Massachusetts, have invented certain Improvements in Shoes and Shoe-Shank Stiffeners, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

My invention relates to the manufacture of shoes, and more particularly to the conformation of the shank stiffener and its relation to the lining and counter of a shoe.

For purposes of illustration, but without intent of limitation thereby, the invention is herein shown in its application to the manufacture of turn shoes having molded counters such as are used in the making of turn shoes according to the method disclosed in Patent No. 1,302,994, granted May 6, 1919, on an application filed in the name of Jesse K. Thissell.

In accordance with that method of making shoes, the molded counter is provided with a bottom piece, known as a tuck, inserted within the counter and secured to the inturned flange at the lower edge thereof. Heretofore it has been customary to use in conjunction with such a counter in a turned shoe, a shank stiffener made of leatherboard or other non-flexible material the rear portion of which is shaped to fit within the heel seat portion of the shoe and to project forwardly through the shank of the shoe substantially to the ball line. The additional thickness caused by the tuck at the heel of the shoe is however disadvantageous, for example, in that the shoe frequently can not be properly placed on the last during the relasting operation. On the contrary, the heel of the last is prevented from taking its proper place in the heel seat of the shoe, the displacement often being such as to distort the shoe upper to an undesirable extent. Moreover, in a shoe as heretofore made in accordance with that method, there is a portion of the shank stiffener, just in front of the forward edge of the tuck, which is not directly supported either by the tuck or by the sole, and which, accordingly, is likely to break down when the shoe is worn.

The present invention has for an object, without disclaimer of other utility, so to construct a shoe, for example of the above mentioned type, as to enable the last to be properly seated in the shoe upper to produce a foot engaging surface on the inside of the shoe corresponding to the lines and draft of the shoe upper as intended by the designer. With this object in view, the shank stiffener of the shoe is shaped to fit within the heel portion of a shoe and to project forwardly through the shank portion of the shoe and has its heel seat portion fitting within the counter of the shoe a thickness less than that of its forward portion. As herein illustrated the shank stiffener has its heel portion reduced in thickness an amount corresponding approximately to the thickness of the bottom piece or tuck of the counter. By thus compensating for the additional thickness of the tuck in the counter it will be apparent that, when the shoe is relasted, the last will properly seat itself in its intended position in the heel portion of the shoe.

A further object of the invention lies in the elimination of the unsupported or bridging portion of the shank stiffener. With this object of the invention in view, the reduced rear portion and the thicker forward portion of the shank stiffener may be connected by a portion tapered or bevelled in accordance with the forward edge of the tuck.

A further feature of the invention lies in the provision in such a shank of a groove or recess in the forward and thicker portion of the shank to receive a strip of metal such as is commonly used as a reinforcement for a turn shoe shank stiffener.

The above and other objects and features of the invention will now be described in connection with the accompanying drawings illustrating a preferred embodiment of the invention.

Fig. 1 illustrates a turn shoe, partly broken away, and partly in section, to show the shank stiffener of the present invention in its relation to the other parts of the shoe;

Fig. 2 is a cross section through the heel portion of the shoe of Fig. 1;

Fig. 3 is a perspective view of the improved shank stiffener, showing its under side;

Fig. 4 is a perspective view, partly in section, showing a form of counter which may be used with the shank stiffener of this invention;

Fig. 5 is a longitudinal section through the shank stiffener and counter, showing also a plumper which may be used therewith; and

Fig. 6 is a cross section through the forward portion of the shank stiffener and plumper of Fig. 6.

In the drawings, 10 represents the upper, 12 the counter, 14 the lining, and 16 the sole of a turn shoe. In accordance with the method of manufacturing turn shoes disclosed in the said Patent No. 1,302,994, the counter of this shoe is molded prior to its insertion in the shoe and is provided with a bottom piece or tuck 18 secured to the counter prior to its insertion in the shoe as by suitable metallic fasteners 20. The forward portion of the tuck is beveled or tapered as indicated at 22.

The counter having been fastened by suitable means to the sole of the shoe and the shoe having been turned, the lining is brought into position to cover and conceal the upstanding portion of the counter with its lower edge overlapping the tuck as indicated at 24. The tuck and the lower edge of the lining are covered by the shank stiffener indicated at 26. In order to compensate for the extra thickness caused by the use of the tuck which would prevent the last from being properly seated in the heel portion of the shoe at the time of the relasting operation and which would consequently result in an undesirable distortion of the upper of the shoe, the shank stiffener is reduced in thickness at its rear portion as indicated at 28, the reduced rear portion and the thicker forward portion 30 being preferably connected by a tapered portion 32 corresponding to the beveled edge 22 of the tuck. The thick forward portion of the shank stiffener is preferably provided with a groove at 33 to receive the forward end of a metal reinforcing member 34, such as is commonly used in connection with shank stiffeners, held in place in the illustrated embodiment of the invention by suitable tacks 36.

If it is desired to provide the shoe with a rounded or cottage roof shank, a plumper 38 (Figs. 5 and 6) may be provided, underlying the forward portion of the shank stiffener and suitably attached thereto. The plumper may or may not extend rearwardly beyond the forward edge of the tuck, but if it does so extend it will, as shown in Fig. 5, preferably underlie the tuck and be separated at its rear end from the stiffener thereby. When so arranged, obviously the counter will be held between the parts 38 and 28 of the shank stiffener, while the margin of the lining will be covered by the part 28.

It is thus apparent that the combined thickness of the tuck and of the rear portion of the shank stiffener is approximately equal to the thickness of the forward portion of the shank stiffener instead of being substantially greater so that there is no extra thickness of material in the heel seat of the shoe, with the result that the second last may be brought down into its proper position and the shoe given its intended form.

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

1. A turn shoe having an upper provided with a lining, a counter disposed between the upper and the lining and having a bottom piece, and a shank member fitting within said counter, overlying an inturned edge of the lining, and having a portion extending forwardly into the shank of the shoe, the portion of said shank member fitting within the said counter being reduced in thickness as compared to its forward portion an amount corresponding to the thickness of said bottom piece.

2. A turn shoe having a counter provided with a bottom piece and a shank stiffening member having its heel portion superimposed upon the bottom piece, the heel portion of the shank stiffener being reduced, as compared to its forward portion, to compensate for the presence of said bottom piece.

3. A turn shoe having a counter provided with a bottom piece, and a shank stiffening member having its heel portion superimposed upon the bottom piece, the shoe being provided with a lining whose margin is held between the bottom piece and the heel portion of said member, and the heel portion of the shank member being provided with an overlying reinforcement adding to the thickness of its center enough to compensate for the thickness of the lining about the edge.

4. A turn shoe having a counter provided with an attached bottom piece with a beveled edge and a shank stiffening member having its heel portion superimposed upon the bottom piece, the heel portion of the shank member being of a uniform thickness substantially less than that of the forward portion, and the two portions being connected by a tapered portion, arranged to fit the beveled edge of the bottom piece.

5. A turn shoe having a counter provided with a bottom piece and a shank stiffening member provided with a metal reinforcement and having its heel portion superimposed upon the bottom piece, the heel portion of the shank member being of a thickness less than that of the forward portion by a sufficient amount to compensate for the thickness of the bottom piece, said reinforcement

overlying the heel portion of the shank member and being embedded in the forward portion.

6. A shank stiffener shaped to fit within the heel seat portion of a shoe provided with a bottom piece and to project forwardly to approximately the ball line of the shoe, and having a heel seat portion of a thickness substantially less than that of its forward portion, to compensate for the thickness of the bottom piece.

7. A shank stiffener having a heel seat portion which is recessed to receive a bottom piece in the heel seat of a shoe without adding to the thickness of the shoe bottom, and provided with a reinforcing member the forward portion of which lies in a groove formed in the under surface of the shank stiffener.

8. A shank stiffener shaped to fit within the heel seat portion of a shoe and to project forwardly to approximately the ball line of the shoe, and having a heel seat portion which is recessed to fit over and receive a bottom piece in the heel seat of a shoe without increasing the thickness of the shoe bottom.

9. A shank stiffener having a heel seat portion of substantially less thickness than its forward portion and provided with a reinforcing member, and a plumper underlying the forward portion of the reinforcing member and separated therefrom at its rear end so that a bottom piece in the heel seat of a shoe may be arranged with its forward edge between the stiffener and the plumper.

10. A turn shoe having a counter provided with a bottom piece, a shank stiffening member having its heel portion superimposed upon the bottom piece, the heel portion of the shank stiffener being reduced, as compared to its forward portion, to compensate for the presence of said bottom piece, a reinforcing member for said shank stiffener, and a plumper underlying the forward portion of the reinforcing member.

11. A turn shoe having a counter provided with a bottom piece, a shank stiffener member having its heel portion superimposed upon the bottom piece, the heel portion of the shank stiffener being reduced as compared to its forward portion, to compensate for the presence of said bottom piece, a reinforcing member for said shank stiffener, and a plumper underlying the forward and middle portions of the shank stiffener, and extending under the forward portion of said bottom piece.

12. A turn shoe comprising, in combination, an upper and a lining secured together about the top of the shoe, a molded counter between the upper and the lining, a shank stiffener having a member overlying the lower margin of the lining, and a co-operating member below the lining and secured to the counter, said members having a combined thickness approximately equal to the thickness of that part of the shank stiffener immediately adjacent to them.

13. A turn shoe comprising, in combination, a sole, a molded counter having a portion in a plane substantially parallel to the sole, and a shank stiffener having one portion overlying and a second portion underlying said portion.

14. A turn shoe comprising, in combination, a sole, an upper secured at one edge to the sole, a lining secured to the opposite edge of the upper, a molded counter between the upper and lining having an inturned lower margin, a piece of stock covering and secured to said inturned lower margin, a second piece of stock overlying the first piece with the free margin of the lining between them, and a shank stiffener meeting said pieces of stock at the forward end of the counter without change in the total thickness of the shoe bottom, said stiffener being integral with at least one of said pieces of stock.

In testimony whereof I have signed my name to this specification.

FRED E. TOOTHAKER.