April 13, 1926. 1,580,278

R. E. BARTELS

METHOD OF MAKING SHANK STIFFENERS

Filed June 30, 1922

Fig. 1.

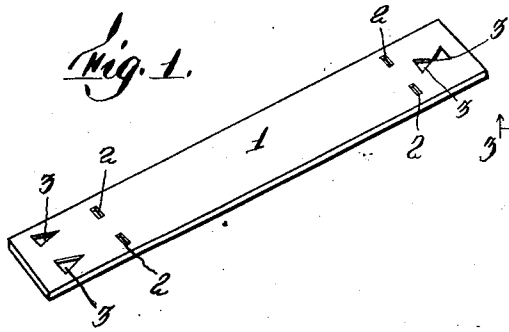
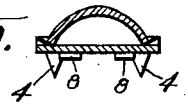




Fig. 2.

Fig. 5.



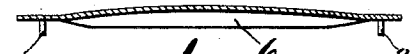


Fig. 3.

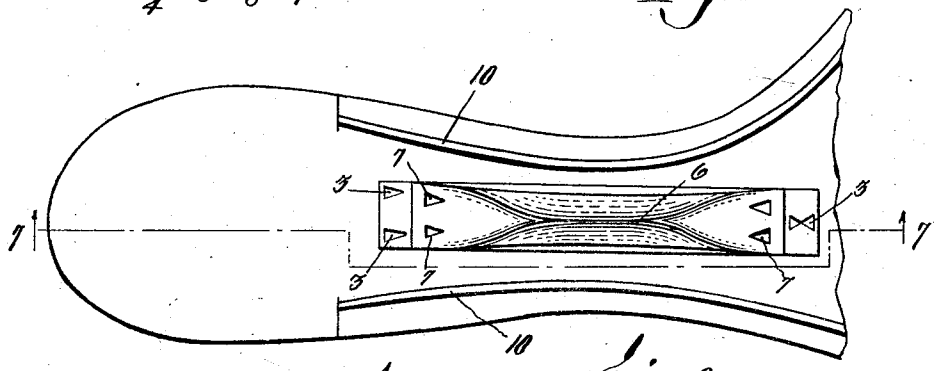


Fig. 6.

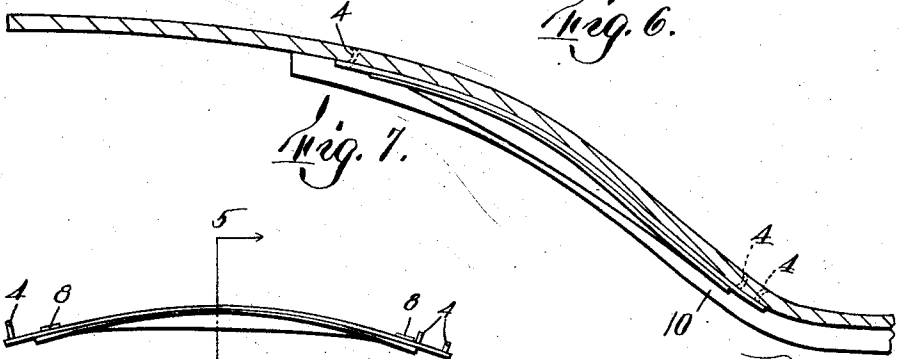


Fig. 7.

Fig. 4.

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Patented Apr. 13, 1926. 1,580,278

UNITED STATES PATENT OFFICE.

REINHARD E. BARTELS, OF LYNN, MASSACHUSETTS.

METHOD OF MAKING SHANK STIFFENERS.

Application filed June 30, 1922. Serial No. 571,859.

To all whom it may concern:

Be it known that I, REINHARD E. BARTELS, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Methods of Making Shank Stiffeners, of which the following is a specification.

This invention relates to shank stiffeners more particularly intended for welt shoes, though applicable to other types of shoes, and provides a construction by which great stiffness and strength may be provided with comparatively little weight. For this purpose the stiffener is substantially tubular in cross section between its ends where the stress of use is greatest, this tubular construction being preferably formed by two stiffener members or blanks fixed face to face, one of these blanks being curved laterally.

Means are also provided for interlocking the stiffener members the method of manufacture insuring against play between the members when in use.

For a more complete understanding of the invention, together with further objects and advantageous details and combinations of parts, reference may be had to the accompanying drawings in which—

Figure 1 is a perspective of the longer stiffener member as prepared for attachment with the shorter member.

Figure 2 is a plan of the shorter member prepared for assembly with the longer member.

Figure 3 is a longitudinal section on line 3—3 of Figure 2.

Figure 4 is a side elevation of the members assembled ready for incorporation in the shoe.

Figure 5 is a cross section on line 5—5 of Figure 4.

Figure 6 is a fragmentary inverted plan of a welt innersole showing the stiffener in position.

Figure 7 is a section substantially on line 7—7 of Figure 6.

One of the members forming the shank stiffener comprises a stiff substantially rectangular blank 1, preferably of metal, which is shown detached in Figure 1. The blank adjacent each end is provided with one or more slots 2, as shown a pair of such slots being provided adjacent each end of the blank. Outwardly of these slots the blank is punched out at 3 to form prongs 4 by which the stiffener may be fixed in position on the shoe. The other stiffener member is shorter than the blank 1 and is shown detached at 5 in Figure 2. This member, also preferably metallic, is curved laterally between its ends to form an arch-shaped portion 6 and adjacent its ends it has struck therefrom at 7 prongs 8 spaced to correspond with the slots 2. These two stiffener members are then assembled face to face with the prongs 8 extending through the slots 2 and folded against the remote face of the member 1 as shown in Figure 4. The combined stiffener is then molded longitudinally to the shape shown in Figure 4, the longer member 1 being on the convexed side of the stiffener. This curving of the stiffener causes the prongs 8 to be firmly and tightly interlocked with the member 1 so that all looseness or play between the members is eliminated. The arch 6 forms with the stiffener member 1 a substantially tubular stiffener, one face being flat and the other rounded. This forms an exceedingly stiff construction between the ends of the stiffener where strength is of most importance and it is flat at its ends where it is attached to the innersole.

In Figures 6 and 7 the stiffener so formed of the two members 1 and 5 is shown as attached to the innersole of a welt shoe between the stitch-receiving ribs 10, the prongs 4 extending into the innersole and clinched therein to fasten the stiffener in position.

Having thus described an embodiment of this invention it should be evident that various changes and modifications might be made therein without departing from its spirit or scope as defined by the appended claims.

I claim:

1. The method of forming a shank stiffener, which comprises forming a pair of flat blanks of stiff material, molding one of said blanks to a lateral curvature, interlocking said blanks face to face, and then molding the interlocked blanks to the desired longitudinal curvature.

2. The method of forming a shank stiffener, which comprises forming a pair of flat metal blanks one longer than the other, molding the shorter of said blanks to a lateral curvature, interlocking said blanks face to face, and then molding the interlocked blanks to the desired longitudinal curvature.

3. The method of forming a shank stiff-

ener which comprises forming a pair of flat stiff metal blanks, one of said blanks having spaced slots therethrough and the other of said blanks having tines spaced to pass through said slots, assembling said blanks face to face with said tines projecting through said slots, bending the projecting portions of said tines against the remote face of said slotted blank, and then molding the blanks to the desired longitudinal curvature.

4. The method of forming a shank stiffener which comprises forming a pair of flat stiff metal blanks, one of said blanks having spaced slots therethrough and the other of said blanks having tines spaced to pass through said slots, molding one of said blanks to a lateral curvature, assembling said blanks face to face with said tines projecting through said slots, bending the projection portions of said tines against the remote face of said slotted blank, and then molding the blanks to the desired longitudinal curvature.

5. The method of forming a shank stiffener which comprises forming a pair of flat stiff metal blanks one longer than the other, forming spaced slots in the longer of said blanks, and tines beyond said slots toward the ends of said blank, forming tines in the shorter of said blanks spaced to pass through said slots, uniting said blanks face to face by passing the tines of said shorter blank through the slots of said longer blank and clinching on the remote face of said longer blank, and then molding said blanks thus assembled to the desired longitudinal curvature.

6. The method of forming a shank stiffener which comprises forming a pair of flat stiff metal blanks one longer than the other, forming spaced slots in the longer of said blanks, and tines beyond said slots toward the ends of said blank, forming tines in the shorter of said blanks spaced to pass through said slots, molding said shorter blank to a lateral curvature, uniting said blanks face to face by passing the tines of said shorter blank through the slots of said longer blank and clinching on the remote face of said longer blank, and then molding said blanks thus assembled to the desired longitudinal curvature.

In testimony whereof I have affixed my signature.

REINHARD E. BARTELS.