W. H. FOSS.

SHANK STIFFENER.

APPLICATION FILED JUNE 29, 1921.

1,397,681. Patented Nov. 22, 1921.

Fig. 1.

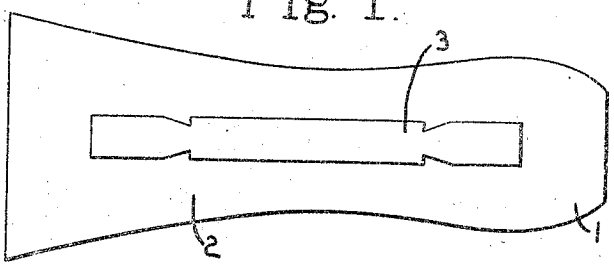


Fig. 3.



Fig. 2.

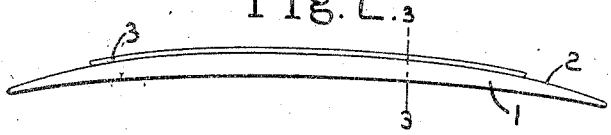


Fig. 5.

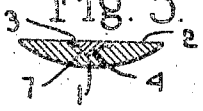


Fig. 4.

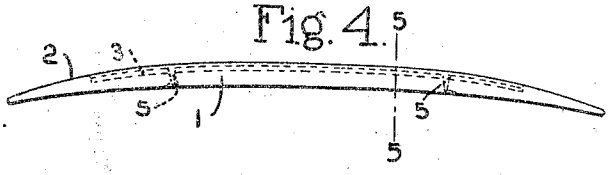


Fig. 6.

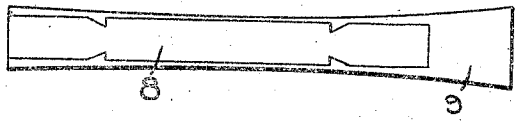
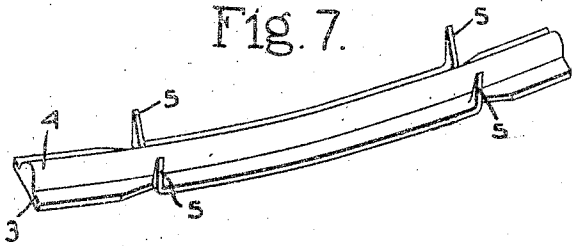


Fig. 7.



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UNITED STATES PATENT OFFICE.

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SHANK-STIFFENER.

1,397,681. Specification of Letters Patent. Patented Nov. 22, 1921.

Application filed June 29, 1921. Serial No. 481,252.

To all whom it may concern:

Be it known that I, WALLACE H. FOSS, a citizen of the United States, residing at Cambridge, county of Middlesex, State of Massachusetts, have invented an Improvement in Shank-Stiffeners, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to shank stiffeners for boots and shoes of the general type disclosed in my prior Patent No. 1,261,917 granted April 9, 1918.

In this type of shank stiffener the body portion is formed of a flexible leather-board or similar suitable material pressed into the required shape and provided on its upper surface with a longitudinally extending groove in which is mounted and secured a stiff resilient reinforce. Usually the entire device both the body portion and reinforce is curved longitudinally to present a convex upper surface.

The object of the present invention is to provide a shank stiffener of this type so constructed that the reinforce shall present a relatively wide flat upper surface conforming to the upper surface of the body portion and preferably coinciding substantially therewith so as to present when in place in the boot or shoe an entire upper surface which will be substantially flat transversely and will fit snugly and evenly against the surface of the innersole.

The object of the invention is further to provide such a shank stiffener in which the reinforce shall be secured in place by means which shall not project above the upper convex face so as to produce irregularities in the innersole.

The object of the invention is further to provide a shank stiffener which shall serve to a material extent as an arch support.

These and other objects and features of the invention will appear more fully from the accompanying description and drawings and will be particularly pointed out in the claims.

In the drawings,

Figure 1 is a plan view of a shank stiffener of the type adapted for men's shoes and embodying the invention;

Fig. 2 is a side elevation of the construction shown in Fig. 1;

Fig. 3 is a cross section taken on the line 3—3, Fig. 2;

Fig. 4 is a view similar to Fig. 3 but of a form wherein the entire reinforce is embedded in the body portion;

Fig. 5 is a view in cross section taken on the line 5—5 of Fig. 4;

Fig. 6 is a view similar to Fig. 1 of a shank stiffener of a kind adapted for ladies' shoes and with the reinforce brought down to the end of the body portion permitting the device to be slipped under the heel;

Fig. 7 is a perspective view of the reinforce looking toward the bottom.

The body portion 1 of the shank stiffener may be formed of leather-board or any other suitable material having the necessary characteristics. This body portion preferably is curved longitudinally as shown in Fig. 2 to conform to the shank and presents a convex upper surface 2 which is substantially flat transversely as shown in Fig. 3.

The reinforce is of a stiff resilent character and the preferred form embodying the invention is shown in perspective looking toward the bottom in Fig. 7. It is preferably rolled into the required shape from a suitable stiff metal such as steel and is of a size in cross section when finished as to have some resiliency, that is, to have the necessary give in the shoe, but is sufficiently stiff to stiffen the shank and perform the required functions of a shank stiffener and also to a material extent to act as an arch support. This reinforce comprises a relatively wide web 3 flat on its upper surface and a relatively narrow rib preferably substantially semi-circular in cross-section on its lower surface. This wide flat web 3 when the reinforce is in place extends in conformity to and preferably coincides with the upper surface of the body portion so that the entire shank stiffener presents a generally flat and even surface which it is highly desirable to secure in a device of this sort.

Suitable means are provided for securing the shank stiffener in place and as a preferred means pins 5 are struck out downwardly from the web as shown in Fig. 7. The reinforce is bent longitudinally to conform to the curvature of the body portion of the stiffener.

Referring to the construction illustrated

in Figs. 1, 2 and 3 where a large size shank stiffener for men's shoes is shown the body portion 1 is provided on its convex upper surface with a longitudinally extending groove 6. The reinforce inverted from the position shown in Fig. 7 is secured to the body portion with its rib 4 embedded in the groove 6 and with the flat surface of the web conforming to the upper surface of the body portion as shown in Fig. 2. The reinforce is held in place by driving the pins 5 through the body portion and bending them down thus firmly securing the reinforce in place without leaving any projections above the flat upper surface of the shank stiffener.

The construction illustrated in Figs. 4 and 5 is similar to that just described except that in this case the groove 7 in the body portion 1 corresponds in general cross section to the cross section of the reinforce so that when the reinforce is secured in place the upper flat surface of the web 3 not only conforms to the upper surface of the body portion 1 but substantially coincides at the sides of the web with the upper surface of the web.

The form of shank stiffener shown in Fig. 6 may be constructed either as shown in Fig. 3 or Fig. 5 but in this case the reinforce 8 is brought down to the very end of the body portion 9 as shown at the left, thus enabling the end of the stiffener to be placed beneath the heel of a boot or shoe when the shank stiffener is in place to serve as a reinforcement which is particularly desirable when a wooden heel is used or when an extra amount of reinforcement is for any reason desired.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A shank stiffener comprising a flexible body portion of suitable material curved longitudinally and provided on its convex upper surface with a longitudinally extending groove, a stiff resilient longitudinally curved metal reinforce comprising a relatively wide web flat on its upper surface with a relatively narrow rib on its lower surface, and means for securing the reinforce to the body portion with the rib embedded in the groove and with the flat surface of the web conforming to the upper surface of the body portion.

2. A shank stiffener comprising a flexible body portion of suitable material curved longitudinally and provided on its convex upper surface with a longitudinally extending groove, a stiff resilient longitudinally curved metal reinforce comprising a relatively wide web flat on its upper surface with a relatively narrow rib on its lower surface, and a plurality of pins struck out from the web and acting when driven through the body portion and bent down to secure the reinforce to the body portion with the rib embedded in the groove and with the flat surface of the web conforming to the upper surface of the body portion.

3. A shank stiffener comprising the construction defined in claim 1 in which the rib is substantially semi-circular in cross section.

4. A shank stiffener comprising the construction defined in claim 1 in which the groove in the body portion corresponds in general cross section to the cross section of the reinforce whereby when the reinforce and body portion are secured together the upper surface of the web and the upper surface of the body portion at the sides of the web substantially coincide.

5. A shank stiffener comprising a flexible body portion of suitable material provided on its upper surface with a longitudinally extending groove, a stiff resilient metal reinforce comprising a relatively wide web flat on its upper surface with a relatively narrow rib on its lower surface, and means for securing the reinforce to the body portion with the rib embedded in the groove and with the flat surface of the web conforming to the upper surface of the body portion.

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

WALLACE H. FOSS.