Feb. 5, 1946. S. SUSSWEIN 2,394,216

BOX TOE SHOE CONSTRUCTION

Filed Oct. 25, 1944

Fig. 1

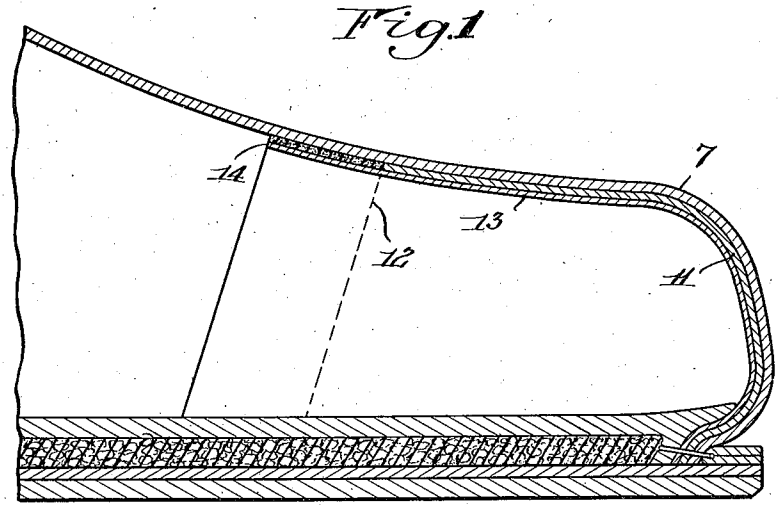


Fig. 4

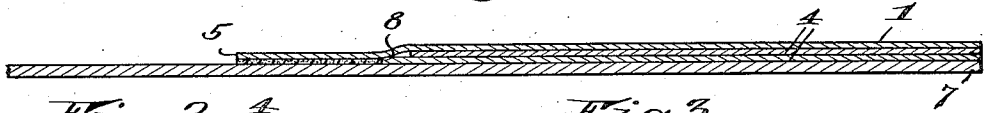


Fig. 2

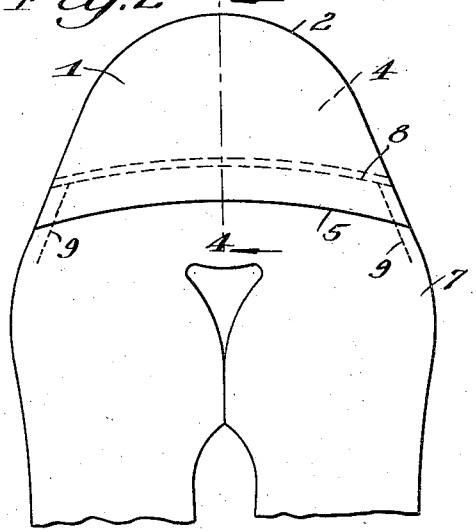


Fig. 3

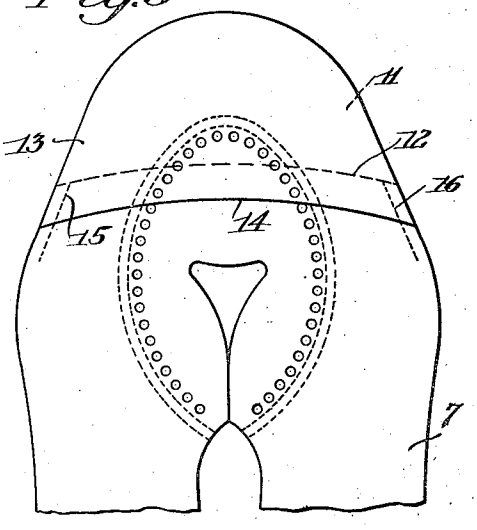


Fig. 5

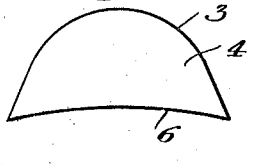
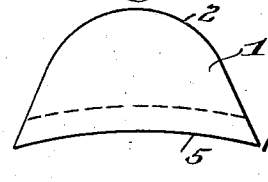


Fig. 6



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BOX TOE SHOE CONSTRUCTION

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Application October 25, 1944, Serial No. 560,236

3 Claims. (Cl. 36—77)

This invention relates to a box toe shoe construction and has for its purpose to afford a stiff, durable, and efficient box toe for an unlined leather shoe such that a toe box of maximum stiffness can be used without harm to the stocking or foot of the wearer.

Heretofore, it has been impossible to use the most effective stiffeners with unlined shoes because of the absence of protection to the foot or stocking from the adhesive and other materials saturating the stiffener element, as a consequence of which it has been the practice to employ with an unlined shoe a felt or other soft, pliable stiffener containing no adhesive impregnating material, and it is a particular purpose of the invention to afford a construction that enables using in an unlined shoe any type of toe box or stiffener.

Another object of the invention is to provide a structure in which the leather upper is unlined, and the toe portion is provided with a shield that prevents the stocking or foot coming in contact with the toe box or stiffener, the interior of the shoe being thus protected from the adhesive or other impregnating material in the stiffener.

A further purpose of the invention is to afford a shield for use in connection with the upper of an unlined leather shoe, and arranged at the toe portion of the shoe so as to provide a pocket to house any type of stiffener.

An additional object of the invention is to afford a construction that enables producing an unlined leather shoe with a box toe that is as stiff, durable, and as well shaped as a lined shoe structure.

Still another purpose of the invention is to afford a shield that can be attached to the upper before or after the stiffener of an unlined shoe and permits the use of any type of stiffener, including those that are inserted to permit punching, stitching, or otherwise ornamenting the toe before lasting, the type that are inserted just previous to lasting and which harden immediately upon exposure to the atmosphere, or any other character of stiffener irrespective of the stage of manufacture of the shoe at which it is inserted or the conditions under which it hardens.

To these and other ends, the invention consists in the construction and arrangement of parts that will appear clearly from the following description when read in conjunction with the accompanying drawing, the novel features being pointed out in the claims following the specification.

In the drawing:

Fig. 1 is a longitudinal sectional view of the forward part of a shoe constructed in accordance with a preferred embodiment of the invention;

Fig. 2 is a plan view of an upper, with the shield attached to receive the toe box or stiffener, previously to lasting;

Fig. 3 is a similar view of an upper with the shield and toe box or stiffener attached, after being subjected to punching and stitching ornamenting operations, previously to lasting;

Fig. 4 is a longitudinal sectional view on line 4—4 of Fig. 2;

Fig. 5 is a plan view of the stiffener, and Fig. 6 is a plan view of the shield used with the stiffener, and showing in dotted line the area of the shield that is attached to the upper.

In the manufacture of leather shoes using a lining, where the toe portion is plain and unornamented, a toe box or stiffener can be used that is kept sealed in an airtight container until ready to be applied to the upper, and the upper must be lasted immediately atfer application of the stiffener which quickly hardens upon exposure to the atmosphere, whereas with shoes in which the toe is punched, stitched or otherwise ornamented, a stiffener is attached to the upper prior to the ornamenting operations, and is moistened with alcohol before lasting to cause hardening of the stiffener, and the present structure is intended to permit the use of any of such stiffeners with unlined shoes made from calf, heavy suede, bucko, or other plump weights with which a lining is not used.

This object may be carried out in various ways by providing a shield attached to the leather upper, affording a pocket to receive the stiffener, and a protective layer between the stiffener and the interior of the shoe so as to prevent contact of the stocking with the stiffener or with the adhesive impregnating material.

In the structure shown, which constitutes a preferred embodiment of the invention, this is accomplished by employing a shield or protecting element 1, as shown in Fig. 6, which is preferably made of drill or other heavy fabric with a forward edge 2 conforming to the shape of the forward edge of the upper and of the forward edge 3 of the toe box or stiffener 4, shown in Fig. 5, while the rear edge 5 of the shield is preferably so shaped that when in position, it extends generally parallel to the rear edge 6 of the stiffener and is spaced substantially rearwardly of the latter, preferably a distance of approximately one-half inch.

Referring to Fig. 2, 7 designates the leather upper blank which is of conventional form, and the shield or protecting element 1 is attached to the inner surface of the toe portion of the upper by a band of cement extending from the rear edge 5 of the shield forwardly about half an inch to approximately the point indicated by the dotted line 8. The rear portion of the shield 1 is thus securely attached to the upper along its entire rear edge, and to prevent the possibility of

the shield accidentally loosening at its opposite ends, it may be additionally secured by lines of stitching 9 located adjacent to the edges of the upper and shield and extending from points approximately coincident with the forward boundary 8 of the cemented area to points spaced rearwardly from the rear edge 5 of the shield.

When the shield is thus attached, it covers the entire forward or toe portion of the upper and provides a pocket or space between the upper and the shield within which to position the toe box or stiffener, which may be inserted just before the lasting operation. The stiffener 4 is positioned between the upper and shield with its rear edge substantially coincident with the forward edge 8 of the cemented area of the shield, and its forward curved edge 3 coinciding with the forward edges of the upper and shield. The complete assembly is then lasted and the shoe completed by attaching the upper, stiffener, and shield to the inner sole, in the usual manner.

The structure and procedure above described applies particularly to the type of stiffener that dries and hardens immediately upon being removed from a sealed container and exposed to the atmosphere, and where the toe portion of the shoe is to be punched or stitched for ornamentation, another type of stiffener is usually employed, to permit its attachment to the upper in advance of lasting. The stiffener generally used for this purpose is prepared for lasting and hardening by the application of a solvent such as alcohol, and in carrying out the invention with this type of stiffener, the stiffener 11 is preferably first positioned and cemented to the upper, see Fig. 3, along its rear edge 12 and over an area of approximately one-half inch. Following this, the shield 13 is laid over the stiffener and cemented to the upper along an area extending from its rear edge 14 to the rear edge of the stiffener indicated by the dotted line 12, such cemented area being preferably about one-half inch in width. The shield element is preferably also secured to the upper by lines of stitching 15 and 16 extending approximately from the forward boundary 12 of the cemented area of the shield rearwardly beyond the rear edge 14 of the shield.

After the shield is thus attached to the upper over the stiffener, the upper can be punched and stitched for ornamentation purposes, as shown in Fig. 3, such punching and stitching extending through the stiffener and through the shield. When the ornamenting operation is completed and the upper ready for lasting, the alcohol or other solvent is applied to the stiffener by lifting the forward part of the shield and brushing the alcohol over the front and back of the stiffener, after which the upper, shield, and stiffener which has been suitably moistened, is lasted, and attached to the inner sole for the usual shoe completing operations.

While the invention has been described with reference to a certain specific structure, it is not confined to the details herein disclosed, and this application is intended to cover such modifications or changes as may come within the purposes of the invention and the scope of the following claims.

I claim:

1. In a shoe of the type including an inner sole and an upper having an integral toe portion and vamp and its inner surface exposed between the toe and heel portions, the combination with a stiffener selected from the group consisting of stiffeners that dry and harden quickly upon exposure to the air and stiffeners that dry and harden quickly after moistening with a solvent, said stiffener being located in contact with the toe portion of the upper, of a shield covering the stiffener and extending rearwardly beyond the rear edge of the stiffener for a substantial distance affording a wide attaching band, said shield being spaced from the toe portion of the upper and the stiffener being held in place at its rear edge solely by contact with the upper and shield, and a layer of cement between said attaching band of the shield and the inner surface of the upper affording a pocket in advance thereof within which the stiffener is located, the front edge of said layer of cement abutting the rear edge of the stiffener, and the edge portions of the shield, stiffener, and upper being secured to the inner sole.

2. In a shoe of the type including an inner sole and an upper having an integral toe portion and vamp and its inner surface exposed between the toe and heel portions, the combination with a stiffener selected from the group consisting of stiffeners that dry and harden quickly upon exposure to the air and stiffeners that dry and harden quickly after moistening with a solvent, said stiffener being located in contact with the toe portion of the upper, of a shield covering the stiffener and extending rearwardly beyond the rear edge of the stiffener for a substantial distance affording a wide attaching band, said shield being spaced from the toe portion of the upper and the stiffener being held in place at its rear edge solely by contact with the upper and shield, a layer of cement between said attaching band of the shield and the inner surface of the upper affording a pocket in advance thereof within which the stiffener is located, the front edge of said layer of cement abutting the rear edge of the stiffener, and lines of stitching adjacent to the edges of the shield and upper and extending parallel to said edges from approximately the forward edge of said cemented band to beyond the rear edge of the shield to prevent loosening of the end portions of the cemented band of the shield prior to lasting, the edge portions of the shield, stiffener, and upper including said stitched portions being secured to the inner sole.

3. In a shoe, the combination with an inner sole, an upper, and a hard, stiff toe box located in contact with the toe portion of the upper, of a shield covering the toe box and extending rearwardly beyond the rear edge of the toe box for a substantial distance affording a wide attaching band, said shield being spaced from the toe portion of the upper and the stiffener being held in place at its rear edge solely by contact with the upper and shield, and a layer of cement between said attaching band of the shield and the inner surface of the upper affording a pocket in advance thereof within which the stiffener is located, the front edge of said layer of cement abutting the rear edge of the toe box, and the edge portions of the shield, toe box, and upper being secured to the inner sole.

SAMUEL SUSSWEIN.