

Jan. 16, 1945.

A. STERZIK

2,367,537

SHOE CONSTRUCTION

Filed Feb. 8, 1943

Fig. 1.

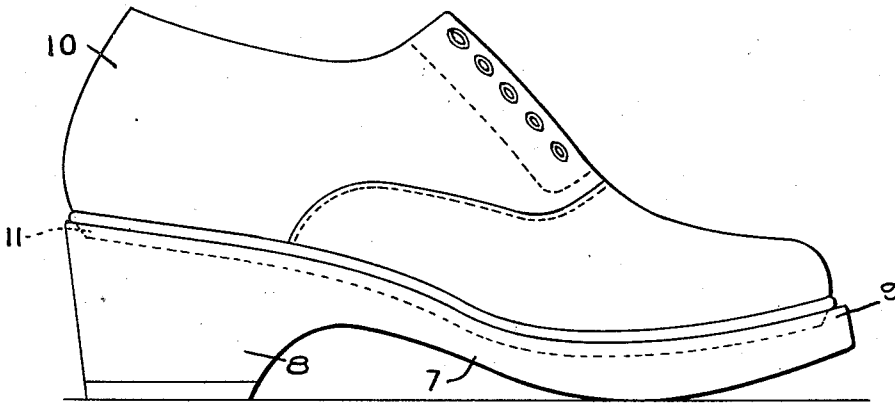


Fig. 2.

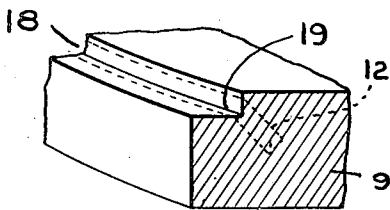


Fig. 3.

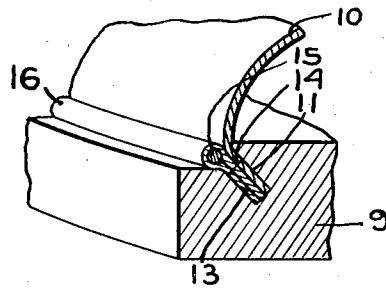
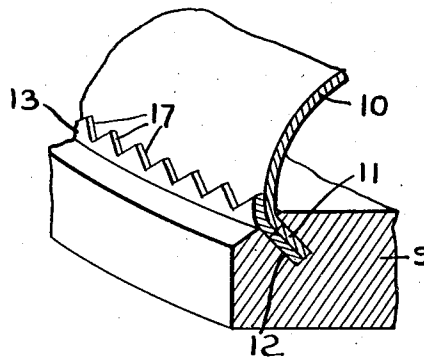
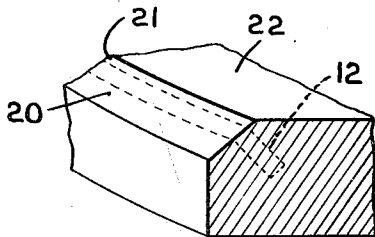


Fig. 5.

Fig. 4.



INVENTOR
Adolf Sterzik

BY

Paul H. H. H. H. H.

UNITED STATES PATENT OFFICE

2,367,537

SHOE CONSTRUCTION

Adolf Sterzik, St. Louis, Mo.

Application February 8, 1943, Serial No. 475,096

1 Claim. (Cl. 36-13)

This invention relates to shoes and particularly to that type of shoe having its bottom portion made of light non-flexible material such as wood or material of similar nature and constitutes an improvement over the invention contained in United States Patent No. 2,252,216 granted to the present applicant on August 12, 1941.

In the manufacture of shoes of the character indicated it is important that a durable union be established between the shoe bottom member and the shoe upper. Furthermore the union between the upper and bottom member must present a neat and attractive appearance having the necessary sales appeal.

The present invention provides novel and effective means for accomplishing the desired result. The bottom portion or margin of the shoe upper is reinforced by applying a strip of sheet material thereto. The margin of the upper and the strip are then anchored in a groove extending along the upper peripheral edge of the sole portion of the bottom member. This groove extends downward and obliquely inward into the material of the sole. The angular disposition of the slot imparts exceptional strength and resistance to damage to the shoe along the peripheral edge of its sole portion. If the groove were extended straight downward into the sole a thin relatively weak wall of material would be formed between the groove and the peripheral edge of the sole. The weakness of this wall is entirely overcome by employing the angularly disposed slot above described.

Not alone does the present invention provide a practical and structurally durable shoe but also one that is attractive in appearance. The reinforcing strip may be a simple strip of upper material or it may present a serrated or otherwise decorated edge so positioned as to be visible above and adjacent to the upper extremity of the anchoring slot. There are innumerable other forms which the reinforcing strip may present. It may be composed of a relatively thin strip of material folded around another strip of material or a cord with its margins brought into engagement with each other. A strip constructed in this manner would be assembled to the margin of the shoe upper with its corded edge uppermost. When the upper is assembled to the bottom member the corded edge of the reinforcing strip is so positioned that it will lie externally of the upper at the junction of the sole and upper. To further enhance the general appearance of the shoe the upper peripheral edge of its sole portion is moulded to produce a desired effect such as by form-

ing a shallow rabbet or an angularly disposed beveled face thereon.

The upper extremity of the attaching groove is situated within the limits of the moulded edge of the sole. In this way the mechanical means for attaching the upper to the sole is efficiently combined with the decorative features above suggested to produce a thoroughly serviceable and attractive shoe.

To present a better understanding of the invention specific embodiments thereof will be described and are illustrated in the drawing in which:

Fig. 1 is a side view of a shoe embodying the invention.

Fig. 2 is a partial sectional view illustrating a shoe bottom element in process of fabrication.

Fig. 3 is a partial sectional view illustrating a preferred form of union between the upper and bottom portions of the shoe.

Fig. 4 is a view similar to Fig. 2 illustrating another form of shoe bottom element partially completed.

Fig. 5 is a partial sectional view illustrating the construction of the union between the upper and bottom elements of a shoe employing the shoe bottom structure illustrated in Fig. 4.

The shoe bottom element 7 desirably is constructed of wood but may be moulded from plastic material having characteristics similar to that of wood. When wood is the material selected from which to make the bottom elements they are most economically manufactured upon an automatic contour lathe such as that employed in the manufacture of shoe lasts. The bottom 7 may have its heel portion 8 formed integral with the sole portion 9 or the heel 8 may be manufactured independently of the sole and subsequently rigidly attached thereto. To provide the necessary strength and wear resisting qualities the sole portion is constructed relatively thicker than a leather sole.

In the type of shoe with which the present invention is concerned the elements of the upper 10 are of such material and so constructed and assembled that the shoe can be completed without a lasting operation. To accomplish this result the bottom edge of the assembled upper must be accurately cut to size and shape and must include a margin 11 of uniform width to be received and anchored in a peripheral groove 12 in the sole 9. The position of the lower extremity of the upper and the margin 11 must be such that when the margin is anchored in the slot the shoe will assume its predetermined fit and contour.

The present invention is concerned chiefly with increasing the strength of the union between the shoe upper and its bottom element. An effective means for accomplishing this result is to provide a reinforcing strip 13 secured to the margin 11 of the shoe upper and anchored, together with the margin 11, in the groove 12. The strip 13 is secured to the margin 11 in any suitable manner such as by stitching as shown at 14. The strip 13 may be of the same width as the depth of the slot 11. When thus made its upper edge will lie flush with the top surface of the sole or as an alternative construction the strip may project above the slot in which case it is desirable to provide some decoration therefor as will appear hereinafter. Any suitable means may be utilized for anchoring the margin and the strip in the slot such as a durable waterproof cement. The decorative feature of the reinforcing strip may assume any desired form. Two specifically desirable forms are illustrated in Figs. 3 and 5. The strip shown in Fig. 3 is composed of flexible material either the same or of contrasting character to that of the material from which the upper is made. The strip is of double width bent back upon itself and embracing a cord 15 or other beading device at its upper edge. Its upper or beaded edge 16 is so positioned with respect to the margin 11 that the bead will rest upon the top face of the sole at the junction of the sole and the upper. The reinforcing strip illustrated in Fig. 5 is composed of a strip of flexible material secured to the margin 11 and of slightly greater width than that of the margin. Its upper edge which projects above the slot 12 is decorated with a suitable pattern such as scallops or a series of points 17. This strip may be of a single thickness or may consist of one or more thicknesses secured together.

It has been found that a substantial degree of control over the style and appearance of the shoe can be exercised by moulding the upper peripheral edge of the sole to produce a given effect. Desirable forms for shaping the sole edge are illustrated in the drawing. Referring to Fig. 2 the upper edge of the sole is moulded by cutting a rabbet 18 therein. Preferably the rabbet is relatively shallow in depth. After cutting the rabbet 18 the groove 12 illustrated in dotted lines in Fig. 2 is then cut into the sole downwardly and obliquely inward from the corner 19 of the rabbet. The cutting of the rabbet 18 and the groove 12 may be independent operations or both may be cut at the same time by utilizing a specially formed cutting tool. In this form of the invention it is desirable that the rabbet shall be relatively shallow and that the groove 12 shall be so positioned relatively to the walls of the rabbet that the inner wall of the groove will closely approach the upper extremity of the inner wall of the rabbet. As shown in Fig. 3 the margin 11 and the reinforcing strip 13 are assembled to the sole in such manner that the bead 16 of the reinforcing strip will lie upon the bottom wall of the rabbet and fit closely into position at the junction of the sole and the shoe upper.

In this form of the invention an effect is achieved which not only enhances the appearance of the shoe but also is closely related to the mechanical efficiency and over-all durability of the shoe. It will be noted that the main

portion of the sole retains its full normal thickness thereby providing sufficient wear resisting material for the tread of the shoe and at the same time the outer edge of the sole where it is visible has been substantially reduced in thickness thereby lending the appearance to the sole that it is of much lighter construction than would otherwise appear.

Referring to Figs. 4 and 5 another form of modifying or moulding the peripheral edge of the sole is illustrated. In Fig. 4 the upper edge of the sole is beveled to present an angularly disposed face 20. The upper receiving groove 12 shown in dotted lines in Fig. 4 is formed in the sole in such position that its upper extremity will remain entirely within the area of the face 20 and will allow at least a narrow portion thereof 21 to exist between its upper wall and the top face 22 of the sole. When the shoe upper 10 and the reinforcing strip 13 are anchored in the groove 12 in this form of the invention the decorated upper edge of the strip having the points 17 or other decorative device thereon appears at the junction of the sole and the upper thereby presenting an attractive appearance and furthermore the angularly disposed face 20 presents a novel and attractive external appearance which tends to minimize the otherwise relatively heavy appearance of the sole and generally tends to streamline the appearance of the shoe and present modern style contours.

In addition to the advantages above pointed out the present invention also offers an extremely effective means for rigidly uniting the shoe upper and its bottom element. The extra strength derived from the structure embodied in the invention resides to a large extent in the angular disposition of the anchoring slot 11. The direct upward pull of the upper tending to strip it from the sole when the shoe is worn is divided into component parts acting at different angles. The intensity of the pull acting outwardly in the direction of the slot tending to strip the margin 13 from the slot, is thereby substantially minimized.

I claim:

A shoe comprising an upper member of flexible material having an inwardly extending bottom margin accurately cut to shape, a strip of flexible reinforcing material of substantial width attached to the margin of the upper with its lower edge registering with the lower edge of the upper, a rigid sole member of the nature of wood including a unitary sole of substantial thickness and a heel rigidly secured thereto, said sole having a groove of substantially uniform depth and parallel side walls extending around the sole member near the edge thereof and projecting obliquely downward and inward in the said sole member, the width of the groove being the same as the combined thicknesses of the material of the upper and of the attached reinforcing strip, the margin of the upper and said attached reinforcing strip being cemented in said groove in which they fit to completely fill the same with a substantial portion of the reinforcing strip extending from the groove entirely around the shoe, and said shoe having a substantially horizontal sole ledge outside the reinforcing strip, the top of which is substantially below the upper level of the sole member inside the upper member.

ADOLF STERZIK.