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SHOE HAVING A MIDSOLE WITH AN UPWARDLY EXTENDING EDGE
PROJECTING LATERALLY BEYOND THE SHOE UPPER
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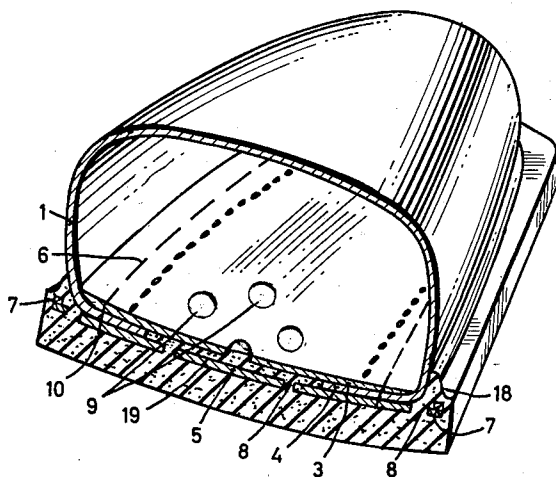


Fig. 1

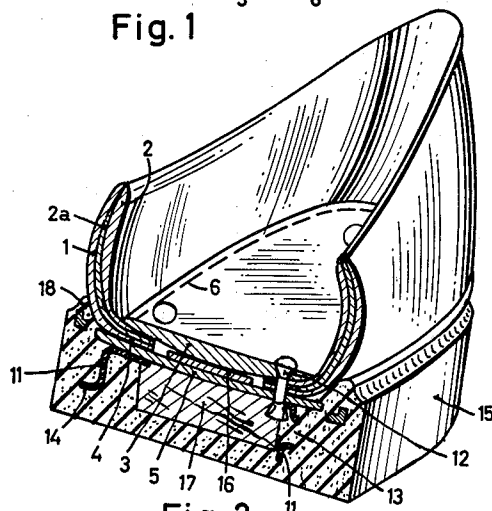


Fig. 2

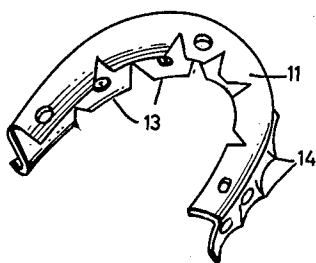


Fig. 3

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SHOE HAVING A MIDSOLE WITH AN UPWARDLY EXTENDING EDGE PROJECTING Laterally BEYOND THE SHOE UPPER

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The present invention relates generally to the shoe art, and more particularly to a shoe construction for boots or shoes which are used in sports, such as skiing, and which are not unduly heavy yet possess sufficient strength so as not to be adversely affected by the heavy stresses placed thereon during use.

Heretofore shoes have been manufactured by vulcanizing the outsole onto the upper. In the manufacture of some of these shoes an insole stitched to the upper is provided with apertures and the rubber sole vulcanized thereto with a portion of the rubber flowing into the openings for better securing the rubber outsole to the insole. Such a construction is disclosed in U.S. Patent No. 1,206,749. However, there has been great difficulty in manufacturing sports shoes having vulcanized soles because of the difficulty of providing a sufficiently strong bond between the sole and the upper even when using the above-described construction. Also, the sports shoes previously manufactured have been expensive and unduly heavy and so have hampered the wearer in performing the manipulative steps necessary in skiing and other sports.

With these defects of the prior art in mind, an object of this invention is to provide a boot for use in sports wherein the sole is vulcanized to the upper in a novel connection which possesses sufficient strength to withstand the heavy stresses placed thereon during use.

Another object of this invention is to provide a shoe construction of the type described wherein the shoe is relatively light compared with those of the prior art.

Still a further object of this invention is to provide a shoe which is waterproof and thus particularly adapted for skiing.

These objects and others ancillary thereto are accomplished according to a preferred embodiment of the invention wherein a shoe upper having a lasting margin is connected by stitching to an insole disposed within the upper and to a midsole disposed exteriorly of the upper, with both the midsole and the insole having openings formed therethrough. The outer edge of the midsole extends laterally outwardly of the upper and an upstanding or raised edge is provided thereon. The outsole, which is vulcanized to the upper, completely surrounds this raised edge and is disposed between the latter and the upper. During the manufacturing process the rubber of the outsole flows through openings in the midsole and insole so that a firm connection between the upper and the outsole is provided owing to the penetration of the rubber through the openings in the midsole and into a space between the insole and midsole which anchors the outsole to the upper. This anchoring is, of course, assisted by the stitching which retains the lasting margin of the upper, the midsole, and the insole together. The complete encircling of the bottom and a portion of the side of the upper as well as the midsole by the rubber renders the shoe waterproof.

Since the heel portion of this type of shoe is subject to particularly heavy stresses during use, it is reinforced with a metal rim secured by rivets to the midsole, the lasting margin of the upper, and the insole. The metal rim is vulcanized into the heel to strengthen it. The rim is provided with apertures through which the rubber flows and

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also has scallops for more securely anchoring the rubber to the upper and to strengthen the heel. A steel plate may be inserted into the heel portion of the shoe between the insole and the midsole and is adapted to the spring of the last to insure, and in fact increase, the stability of the shape of the shoe.

Additional objects and advantages of the present invention will become apparent upon consideration of the following description when taken in conjunction with the accompanying drawings in which:

FIG. 1 is a perspective of the toe portion of the shoe construction comprising the present invention with a portion thereof illustrated in section.

FIG. 2 is a perspective of the heel portion of the shoe with a portion thereof shown in section.

FIG. 3 is a perspective view of the metal rim which is incorporated into the heel.

Referring now to the drawings, a leather upper 1 has a lining 2 (FIGURE 2) along the interior surface thereof, there being a heel cap 2a in the rear part of the shoe. An insole 3 is disposed within the upper 1 and overlies the lasting margin 4 of the upper. A midsole 5 engages the lower surface of the lasting margin and these parts are connected together by means of stitching 6 passing through the insole 3, the lasting margin 4, and the midsole 5.

Midsole 5 is preferably formed of chrome leather and projects laterally beyond the contour of the upper so its entire periphery is disposed outwardly of the upper. An upwardly projecting strip 7, shown in FIGURE 1, is attached thereto along the total periphery thereof by any suitable means such as cementing or sewing. The midsole 5 has a plurality of openings 8 formed therethrough and insole 3 has a plurality of openings 9 formed therethrough for a purpose which will be explained in detail below. Openings 8 in the midsole may be disposed throughout the length thereof but are located in particular immediately inwardly of the raised edge 7. Alternatively, the upwardly raised edge portion, instead of being constituted by a separate strip, may form a single integral piece with the remainder of the midsole, as shown in FIGURE 2.

Then, in a known manner, the outsole 10 of rubber is applied to the shoe construction in such manner that the mass thereof flows through and fills the openings 8, the space defined between the midsole 5 and the insole 3, and the openings 9 of the insole. This mass completely surrounds the outer edge of the midsole 5 including the raised strip 7, and has a portion 18 which fills the space between the outer edge of midsole 5 and the upper and defines a lip at the upper end thereof which completely surrounds the lower edge of the upper. Thus, the outsole 10 is firmly anchored to the upper by being vulcanized thereto and because of the positive structural connection due to the mass passing through apertures 8, 9 and the central cavity 19 formed between the insole 3 and the midsole 5. It should be clear that this outsole 10 with its lip 18 also provides a waterproof construction.

With more particular reference to FIG. 2, the heel portion is illustrated having a metal rim or inset 11 secured in abutting relation to the lower surface of the midsole by means of rivets 12 which extend through the midsole 5, the lasting margin 4, and the insole 3. Openings 13 are provided through the metal rim which is scalloped at 14 so that the rim is firmly anchored in the rubber of the heel 15 where the heel and sole are vulcanized to the upper, and the metal rim gives good dimensional stability to the heel. A steel plate 16 is disposed between the insole 3 and the midsole 5 and extends between the edges of the lasting margin 4 of the upper. This plate is adapted to the spring of the last and insures retention of stability of the shape of the shoe.

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A wooden wedge or block 17 is disposed against the lower surface of midsole 5 for adding rigidity to the heel and has the additional function of saving that volume of rubber which is occupied by the wooden wedge. In all other respects the construction of this heel is the same as the construction of the sole illustrated and described with reference to FIG. 1.

It should be apparent from the drawings and the foregoing description that the shoe construction according to the present invention is exceptionally strong and may take great stresses without adversely affecting the shoe. Furthermore, it is absolutely watertight and thus possesses all of the desirable prerequisites for a sports shoe such as a skiing boot. In spite of the benefits of this construction, the manufacture thereof is considerably cheaper than those used previously in the art due to the fact that the outsole is vulcanized thereto.

It will be understood that the above description of the present invention is susceptible to various modifications, changes, and adaptations, and the same are intended to be comprehended within the meaning and range of equivalents of the appended claims.

What is claimed is:

1. A shoe having an upper provided with a lasting margin, a midsole, and an insole; said midsole, said lasting margin of said upper, and said insole being superposed upon each other; stitching for securing said superposed midsole, said lasting margin and said insole together; said midsole projecting laterally beyond the contour of said upper and having an upwardly raised edge portion; and a vulcanized outsole completely surrounding said laterally projecting and upwardly extending edge portion of said midsole and reaching to said upper, said outsole being made of a material different from that of which said midsole is made and said upwardly raised edge portion of said midsole serving as an anchor for said vulcanized outsole.

2. A shoe as defined in claim 1 wherein said upwardly raised edge portion is constituted by a strip secured to the remainder of said midsole.

3. A shoe as defined in claim 1 wherein said upwardly raised edge portion forms a single integral piece with the remainder of said midsole.

4. A shoe as defined in claim 1 wherein said midsole

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is provided with openings located at least in the immediate region of said edge portion thereof, a portion of said outsole filling said openings.

5. A shoe as defined in claim 4 wherein said midsole and said insole are spaced from each other so that there is formed a central cavity bounded on the top by said insole, on the bottom by said midsole, and on its sides by said lasting margin of said upper; said midsole being provided with openings which communicate with said central cavity; and a further portion of said outsole filling said last-mentioned openings as well as said central cavity.

6. A shoe as defined in claim 5 wherein said insole is also provided with openings which communicate with said central cavity, a still further portion of said outsole filling said last-mentioned openings.

7. A shoe as defined in claim 1 further comprising an approximately horseshoe-shaped metallic inset attached to the underside of said midsole in the region of the heel thereof, said inset being embedded within the heel portion of said outsole; said inset being provided with openings and with scallops; a further portion of said outsole filling said last-mentioned openings and said scallops being firmly embedded in said outsole, thereby firmly to anchor said inset to said outsole.

8. A shoe as defined in claim 7, further comprising a steel plate located in said heel region and being interposed between said insole and said midsole, said plate being adapted to the spring of the last and insuring the stability of the shoe.

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