

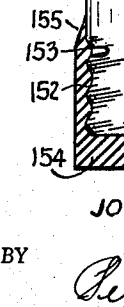
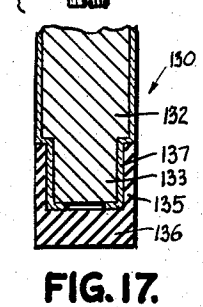
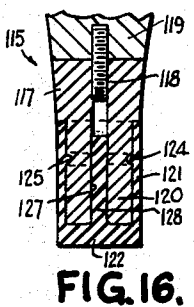
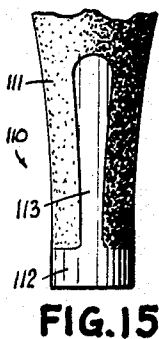
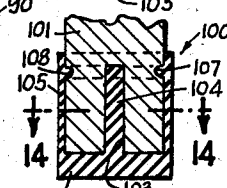
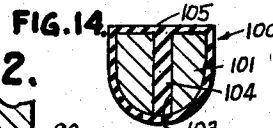
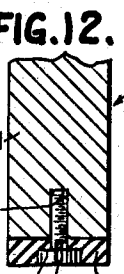
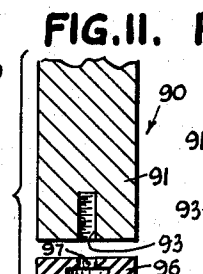
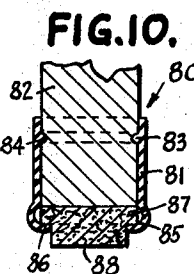
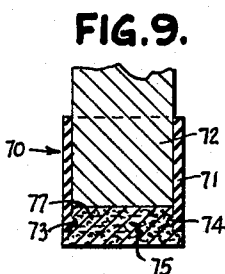
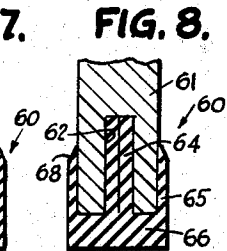
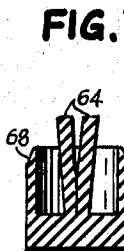
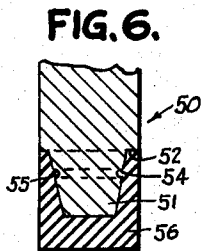
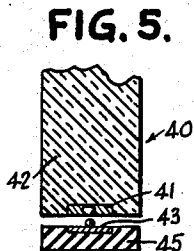
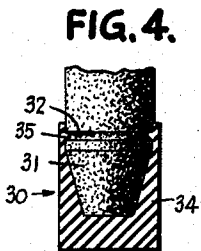
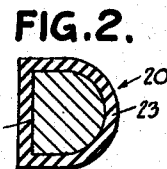
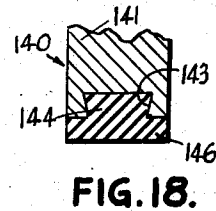
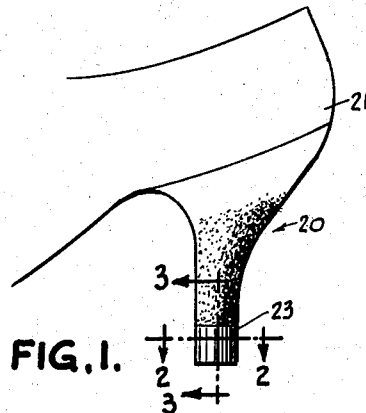
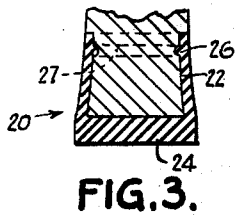
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SHOE HEEL CONSTRUCTION WITH REPLACEABLE TOP LIFT

Filed June 24, 1957



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1

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SHOE HEEL CONSTRUCTION WITH REPLACEABLE TOP LIFT

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2 Claims. (Cl. 36—36)

This invention relates to shoes and, more particularly, to a replaceable top lift for shoe heels.

It is well known that the heel tread portion of men's and women's shoes are subjected to the greatest amount of wear and require frequent replacement, particularly in women's shoes because of the relatively small tread area that naturally wears at a much higher rate than those of men's shoes. This frequent replacement is not only expensive, time-consuming and inconvenient, but also can result in permanent damage to the main heel portion. These tread elements are more commonly known as top lifts and are usually secured to the heel by cement, tacks, or screws. When replacing top lifts, it has been necessary to edge trim and edge set the top lift and then to burnish the edge with wax. The nails and screws not only enlarge the original holes in the heel so that they cannot be securely fastened thereto, but often split the wooden or plastic main heel portion, thereby necessitating even more expensive repairs. The frequent replacement of such lifts also inevitably damages the fabric or plastic covering on the main heel portion thereby detracting from the appearance of the shoes, and shortening the normal life thereof.

Accordingly, an object of the present invention is to provide a heel assembly for shoes having a replaceable top lift that is readily detachable from the main heel portion so as to overcome the aforementioned difficulties.

Another object of the present invention is to provide a main heel portion for shoes having a mounting at the lower end thereof for detachably receiving a replaceable top lift in which the parts are secured together by substantially self-contained fastening means.

Another object of the present invention is to provide a combination main heel and detachable lift assembly for use on women's shoes, in which the lift element is secured to the heel portion by self-contained surface-engaging fastening means.

Still a further object of the present invention is to provide a heel assembly for women's shoes that includes a replaceable lift unit having a flexible sleeve member for detachably securing a tread portion to the bottom of the main heel portion, and at the same time provide, what in effect is, a waterproof boot which protects the covering of the heel from the elements.

Other objects of the invention are to provide a heel assembly for shoes bearing the above objects in mind, which is of simple construction, has a minimum number of parts, is inexpensive to manufacture and efficient and practical in operation.

All of the foregoing and still further objects and advantages of this invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings, wherein:

Fig. 1 is a fragmentary side elevational view of a shoe embodying a heel assembly made in accordance with one form of the present invention.

Fig. 2 is a transverse cross-sectional view taken along line 2—2 of Fig. 1.

2

Fig. 3 is a longitudinal cross-sectional view taken along line 3—3 of Fig. 1.

Fig. 4 is a view similar to Fig. 3, showing a modified form of the present invention.

Fig. 5 is a view similar to Fig. 3, showing another form of the present invention.

Fig. 6 is a view similar to Fig. 3, showing a still further modified form of the present invention.

Fig. 7 is a longitudinal cross-sectional view of a lift unit forming a part of a further modified form of the present invention.

Fig. 8 is a view similar to Fig. 3, showing the lift unit of Fig. 7 in operative use.

Fig. 9 is a view similar to Fig. 3, showing another form of the present invention.

Fig. 10 is a view similar to Fig. 3, showing a still further modified form of the present invention.

Fig. 11 is an exploded longitudinal cross-sectional view showing a further modified form of the present invention.

Fig. 12 is a view similar to Fig. 3, showing the parts of the assembly shown in Fig. 11 in an assembled relationship.

Fig. 13 is a view similar to Fig. 3, showing another modified form of the present invention.

Fig. 14 is a transverse cross-sectional view taken along line 14—14 of Fig. 13.

Fig. 15 is a rear elevational view of a heel assembly made in accordance with a still further modified form of the present invention.

Fig. 16 is a view similar to Fig. 3, showing another form of the present invention.

Fig. 17 is a view similar to Fig. 3, showing a still further modified form of the present invention.

Fig. 18 is a view similar to Fig. 3, showing still another modified form of the present invention.

Fig. 19 is a view similar to Fig. 3, showing still another modified form of the present invention.

Referring now more in detail to the drawing, and more particularly to Figs. 1 to 3 thereof, a heel assembly 20 made in accordance with one form of the present invention is shown in operative association with a shoe upper 21. The upper end of the heel 20 is secured to the shoe upper, while the lower end thereof is of non-circular configuration and provided with a section 22 of reduced cross-sectional area. A sleeve 23, preferably of molded plastic material such as polyethylene or nylon, slidably receives the lower section 22 of the heel and is provided with a downwardly directed lift portion 24. The upper open end of the sleeve 23 is provided with a radially inwardly extending beaded portion 26 that is releasably received within a circumferential groove 27 in the reduced section 22. It will thus be recognized that the entire sleeve 23 may be selectively removed from the mounting formed at the lower end of the heel 20 and a new similar sleeve 23 used for replacement thereof. The beaded edge and cooperating groove provide a readily releasable fastening means for securing the parts together while the noncircular configuration of the parts prevents relative rotation therebetween.

In Fig. 4, a modified form 30 of heel construction is shown wherein the lower end of the main heel is provided with a mounting portion 31 of inverted truncated conical configuration. This member is also provided with a circumferential groove 32 that releasably receives the radially inwardly directed bead 35 of a replaceable lift element in the form of a sleeve 34, similar to that hereinbefore described.

In Fig. 5, a further modified form 40 of the present invention is shown wherein a female snap fastener element 41 is preferably molded integrally within the heel mounting portion 42 for releasably receiving a mating male snap fastener 43 that is integrally secured to the replaceable

3

lift element 45. In this assembly, the lift virtually can be snapped into and out of engagement with the main heel portion. However, in order to prevent relative rotation therebetween, the mating parts of the snap fasteners are preferably non-circular.

The modification 50 shown in Fig. 6 of the drawing is similar to that shown and described in connection with Fig. 4, in that the bottom of the heel member is provided with an inverted truncated conical section 51 which is recessed radially inwardly from the outside surface of the heel portion to provide a shoulder 52 so that upon assembly of the replaceable lift element 56 therewith, the parts form a single continuous surface. In a similar manner, the mounting portion 51 is provided with a circumferential groove or recess 54 for releasably receiving the radially inwardly directed bead 55 of the lift element 56.

Referring now to Figs. 7 and 8, a still further modified form 60 of the present invention is shown wherein the main heel member 61 is provided with a centrally disposed bore 62 for slidably receiving a split pin 64 that positions the sleeve assembly 65 thereon. The lower extremity of the sleeve portion 65 is in the form of a lift 66 while the upper edges of the sleeve are tapered to define inclined surfaces 68 for improving the appearance of the assembly. In a similar manner, this sleeve and lift assembly may be readily disassembled from the main heel portion and replaced when worn.

In Fig. 9, a modified form 70 of the present invention is shown wherein the lower end of the heel 72 is provided with a multi-part sleeve and lift assembly. The sleeve is provided with a radially inwardly extending bead 73 at its lower extremity for releasable engagement within a circumferential groove 74 in the section 77 of reduced diameter of a fibre or plastic lift element 75. The upper end of the sleeve 71 slidably receives the heel member 72 so that the bottom thereof is in direct surface contact with the replaceable element 75.

In Fig. 10, a modified form 80 of the embodiment disclosed in Fig. 9 is shown wherein the sleeve 81 is releasably engaged with the heel 82 by means of a radially inwardly directed bead 83 and a cooperating groove 84. However, the lower end 85 of the sleeve 81 is of bulbous configuration so as to provide an inwardly directed end portion that underlies the shoulder 86 formed in the replaceable lift element 87, whereupon the lower extension 88 of reduced cross-sectional area extends outwardly therefrom. In this assembly, as in the assembly discussed in connection with Fig. 9, it is only necessary to replace the lift portion after it has become worn.

Referring now to Figs. 11 and 12, a still further modified form 90 of heel construction made in accordance with the present invention is shown wherein the heel member 91 is provided with a central longitudinal bore 93 that threadingly receives a plastic screw 94, constructed of a suitable material such as nylon, which detachably supports a lift element 96 in proper assembly therewith. This lift 96 is also provided with a central bore 97 through which the screw extends and a counter bore 98 for receiving the head of the screw. It will be noted that the slot 95 in the screw head extends beyond the head of the screw and into the threaded stud portion so that in the event the lift and screw head are worn beyond the level of the counter bore, the screw may still be removed with little difficulty when replacement of the lift is necessary.

In Figs. 13 and 14, a modified form 100 of the present invention is shown which is quite similar to that discussed in connection with Figs. 7 and 8. In this embodiment, however, the non-circular heel portion 101 is provided with a longitudinal slot 103 that extends completely across the heel portion for slidably receiving a rib element 104 forming an integral part of the detachable sleeve 105. The lower exposed portion of the sleeve 105 is in the form of a lift 106, while the upper end thereof is provided with a radially inwardly extending bead 108 for

4

releasable engagement within a circumferential groove 107. The rib 104 operatively prevents relative rotation between the heel and sleeve so as to maintain the parts in proper operative relationship.

In Fig. 15, a modified form 110 is shown wherein the replaceable sleeve element 112 is provided with an upwardly directed tab 113 which overlies the rear surface portion of the heel 11 to provide a highly decorative and attractive visual effect.

In Fig. 16, a different form 115 of the present invention is shown wherein an intermediate member 117 is provided between the main heel 119 and the sleeve assembly 121. This member 117 is releasably secured to the heel 119 by means of a common connecting threaded stud 118, while the sleeve 121 is received upon the reduced diameter section 120 so as to provide a smooth continuous outside surface on the heel. The bottom of the sleeve 121 is provided with the lift 122 while the inside of the sleeve is provided with a centrally disposed positioning pin 128 that extends upwardly into a centrally disposed bore 127, in a manner hereinbefore described. A radially inwardly extending bead 125 of the sleeve 121 releasably engages with the matching groove 124 in the intermediate member 117. Thus, the sleeve 121 may be replaced when the lift portion 122 is worn. However, the intermediate member 117 may also be replaced, if desired, for utilitarian and beauty purposes.

In Fig. 17, a further modified form 130 of the present invention is shown wherein the heel member 132 is provided with a mounting at its lower end in the form of a section 133 of reduced cross-sectional area. A replaceable sleeve 135 is slidably received upon the reduced section 133 and has a lift portion 136 at its lower extremity. In this assembly, however, a fabric or plastic covering 137 encloses the heel portion 132 and extends downwardly intermediate the sleeve and reduced section so as to be secured in proper assembly thereon.

In Fig. 18, a still further simplified and modified form 140 of the present invention is shown wherein the heel member 141 is of preferably molded plastic material in which an inwardly diverging recess 143 is molded directly into the bottom thereof. This recess is arranged to releasably receive a correspondingly shaped plug 144 forming an extension of a changeable lift element 146. This plug 144 virtually snaps into and out of engagement with the heel 141 in the absence of any additional fastening elements, the shape of the respective plug and recess being such as to maintain the parts in proper assembled relationship, and still providing a heel construction of conventional shape and appearance.

In Fig. 19, a further modified form 150 of the present invention is shown, wherein the heel portion 151 is cylindrical, at least at its lower extremity, and is provided with an external thread 152 for cooperative engagement with internal thread 153 of the replaceable sleeve which has a thickened top lift portion 154 at its lower extremity. The top edge of this form may be tapered annularly as at 155 to blend in gracefully with the covering of the heel proper.

It will be recognized that in all of the aforementioned embodiments, the respective parts such as the heel member, the lift elements, and the various sleeve portions, may be constructed of substantially any desired material lending itself to the described purposes. It has been found that various forms of molded plastic material are ideally suited for this purpose in that they are inexpensive to manufacture, are highly wear-resistant, contain the preferable resilient and yielding characteristics, and which may be manufactured in substantially any desired color so as to provide a highly attractive appearance. On the other hand, such conventional materials as wood and leather may also be used, if desired, to obtain substantially comparable results.

While this invention has been described with particular reference to the construction shown in the drawing, it is

5

to be understood that such is not to be construed as imparting limitations upon the invention, which is best defined by the claims appended hereto.

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

1. A heel assembly for ladies' high heel shoes comprising, in combination, a main heel portion having its upper end adapted to be permanently secured to a shoe upper, only the lower part of said main heel portion comprising an integral mounting and being of reduced cross-sectional girth to provide a horizontal shoulder, and a replaceable top lift detachably secured to said mounting, said top lift comprising a tread and an attaching sleeve having a horizontal top edge, the peripheral wall of said sleeve being substantially uniform in thickness and said sleeve being dimensioned to completely snugly envelop the mounting with the top edge of the sleeve abutting said shoulder when the tread is against the bottom of the mounting, said shoulder presenting a substantial area to receive its distributed load, and the top edge of the wall of said sleeve bearing its distributed share of the load with the bottom of the heel, and the outer surface of said sleeve con-

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stituting a continuation of the surface of said main heel portion.

2. A heel assembly as set forth in claim 1, wherein said mounting includes a peripheral annular groove spaced from its bottom end, and the inner wall of the sleeve has a radially inwardly extending protuberance for releasably seating within said groove to secure said sleeve thereto.

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