March 7, 1939. P. G. LEHWALD 2,149,893

DETACHABLE HEEL

Filed Oct. 15, 1937

Fig. 1.

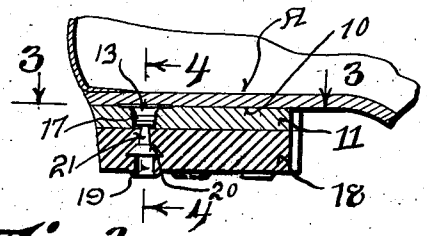


Fig. 2.

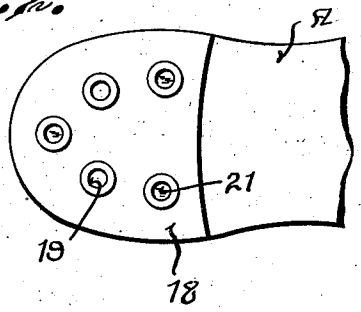


Fig. 3.

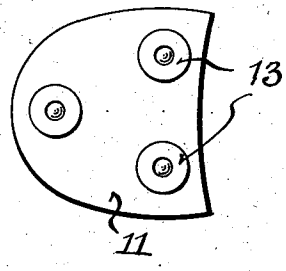


Fig. 4.

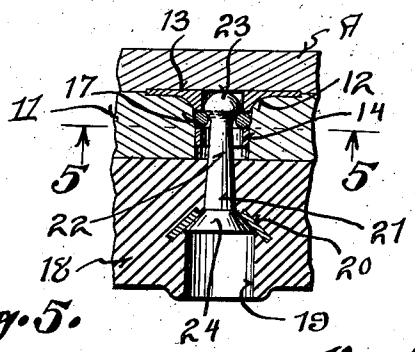


Fig. 5.

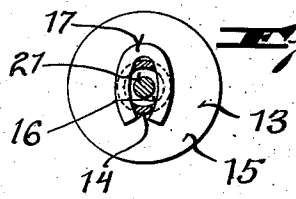


Fig. 7.

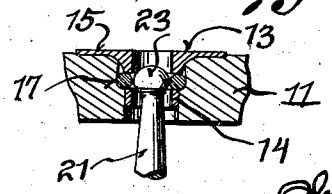
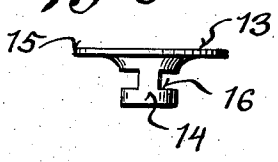


Fig. 6.



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UNITED STATES PATENT OFFICE

2,149,893

DETACHABLE HEEL

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2 Claims. (Cl. 36—36)

This invention appertains to boots, slippers, and shoes, and more particularly to novel means for securing the heel of a shoe in place.

It has heretofore been proposed to provide detachable rubber heels for shoes, in view of the fact that such heels possess the advantage of being readily renewed by laymen without the necessity of going to a shoemaker and that the heels of a pair of shoes can be interchanged when the heels become worn down on one side. However, all types of detachable heels, with which I am familiar, necessitate the use of a specially constructed heel and in some cases a specially constructed heel seat on the shoe. This prevented the ordinary types of heels, which are readily purchased in the open market, from being used and as far as I am aware the detachable and interchangeable heels have not proved commercially successful.

It is therefore one of the primary objects of my invention to provide novel means for quickly and detachably securing a heel of ordinary character, such as rubber, leather or composition, in place without the necessity of any change in the heel or heel seat, said means embodying studs insertible through the usual holes or nail washers of the heel into sockets carried by one of the lifts of the heel.

A further salient object of my invention is the provision of novel means for associating the sockets with the heel lift, whereby the sockets will be firmly held in place when the heel lift is nailed to the seat to form a permanent part of the shoe.

A further important object of my invention is the provision of novel means for forming the sockets themselves, whereby the inherent resiliency of the spring portion of the socket utilized for engaging the head of a stud will normally act against the material forming the heel lift, whereby said material will normally function to aid the resilient part to return to its normal position after expansion by the head of the stud.

A still further object of my invention is to provide novel means for detachably securing heels in position on shoes, which will be durable and efficient in use, one that will be simple and easy to manufacture, and one which can be placed upon the market and incorporated with a shoe at a small expense.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed, and illustrated in the accompanying drawing, in which drawing:—

Figure 1 is a fragmentary longitudinal section through a shoe showing a heel detachably connected therewith in accordance with my invention;

Figure 2 is a fragmentary bottom plan view of a shoe showing a heel attached thereto in accordance with my invention;

Figure 3 is a top plan view of a heel lift utilized in my invention showing the sockets connected therewith;

Figure 4 is an enlarged detail fragmentary view taken substantially on the line 4—4 of Figure 1, looking in the direction of the arrows, illustrating the novel construction of the means employed for detachably connecting an ordinary rubber heel in place on the shoe;

Figure 5 is an enlarged detail horizontal sectional view illustrating the construction of the socket, the view being taken substantially on the line 5—5 of Figure 4 looking in the direction of the arrows;

Figure 6 is an enlarged detail side elevation of the socket part of my fastener showing the resilient portion thereof detached therefrom; and

Figure 7 is a detail sectional view showing a stud being inserted in the socket and illustrating the material from which the lift is formed being compressed by the resilient portion of the socket.

Referring to the drawing in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter A generally indicates a shoe which can be of any preferred character, type or make. This shoe is provided with the usual heel seat 10 for the reception of the heel.

In accordance with my invention I utilize a heel lift 11 which can be constructed from any desired type of material, such as leather. This lift 11 is provided at spaced points with recesses 12 for the reception of the sockets 13 which form an important part of my present invention. As shown, I provide two spaced sockets at the front of the heel lift and one centrally disposed socket at the rear of the lift, but it is to be understood that any preferred number of sockets can be used.

Each of the sockets 13 embodies a sleeve 14 which is inserted in its recess 12 and an annular top plate or flange 15 which rests on the upper face of the heel lift. The sleeve 14 of the socket is provided with slots 16 on its opposite sides for the reception of the legs of a U-shaped spring 17. The legs of the spring are normally urged toward

one another due to the inherent resiliency of the material from which the spring is formed, and thus the legs normally tend to ride into the slots 16.

The sockets, including their springs, are forced into the openings 12 of the lift, and the lift is secured in place in any desired way, such as by the use of nails, cement or the like. Obviously, the top walls or flanges 15 of the sockets will be confined between the heel seat 10 and the lift 11, and thus be firmly held in place.

The lift 11 is adapted to receive the heel or wear lift 18 of the heel, and this heel can be of the usual construction and formed from any desired material, such as rubber. As in the ordinary construction of rubber heels, the same is provided at spaced points with openings 19 for the reception of the usual securing nails which extend through washers 20 embedded in the heel or wear lift 18.

In my invention, I eliminate the use of nails for holding the heel 18 in place, and in lieu thereof I employ novel stud members 21, which are inserted through the openings 19 into detachable locking engagement with the sockets 13 carried by the heel lift 11. These studs 21 embody a tapered shank 22 having a ball head 23 formed on their upper ends and a retaining head 24 formed on their lower ends.

In applying a heel to the lift, in accordance with my invention, it is merely necessary to force the studs through the heel 18 and into the sockets, and this will effectively hold the heel in place. When it is desired to remove the heels for interchanging the same on a pair of shoes or for entirely replacing the heels with a new set, a knife or similar instrument can be inserted between the lift 11 and the heel 18, and when the instrument is given a prying action the ball heads 23 of the studs will be forced out of the sockets, after which these studs can be removed from the worn heel and used over again, if so desired.

By referring to Figures 4 and 7, it will be noted that the material forming the lift bears directly against the spring 17 of each socket, and thus the material tends to hold the legs of the spring inward. When the springs are expanded by the insertion of the studs therein, the legs of the spring are forced outward against the material and the material acts to force the legs of the spring back to their normal position after the ball heads of the sockets have ridden past the springs.

From the foregoing description, it can be seen that I have provided an exceedingly simple and durable device, detachably connecting ordinary heels to a shoe without the use of permanent attaching members, such as nails.

Changes in details may be made without departing from the spirit or the scope of this invention, but what I claim as new is:

1. In a heel construction, a shoe lift provided with openings, socket members including sleeves fitted in said openings having slots on the opposite sides thereof, U-shaped springs fitted in said slots and bearing against the material of the lift, a wear lift having recesses therein, and removable studs insertible through the recesses in the wear lift into the sockets having ball heads for engaging the springs.

2. The combination with a shoe having a heel seat, of a heel lift provided with openings therethrough, sockets including sleeves fitted in the openings and annular flanges on the sleeves engaging between the heel seat and the upper face of the lift, means for securing the lift to the heel seat, the sleeves of the socket being provided with diametrically opposed slots, U-shaped springs having the legs thereof fitted in the slots, a wear lift having recesses alining with the sockets, and removable studs insertible in the recesses and through the wear lift into the sockets having ball heads for engaging the legs of the spring.

PAUL G. LEHWALD.