Nov. 10, 1931. J. STARKS 1,831,268

DETACHABLE HEEL

Filed Jan. 8, 1930

FIG. 1.

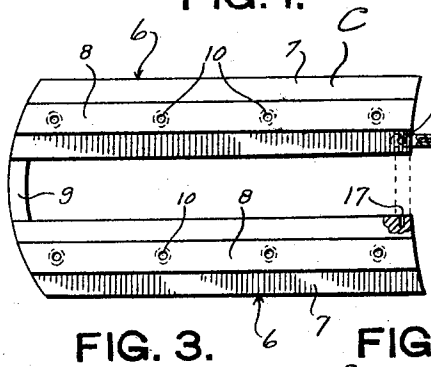


FIG. 2.

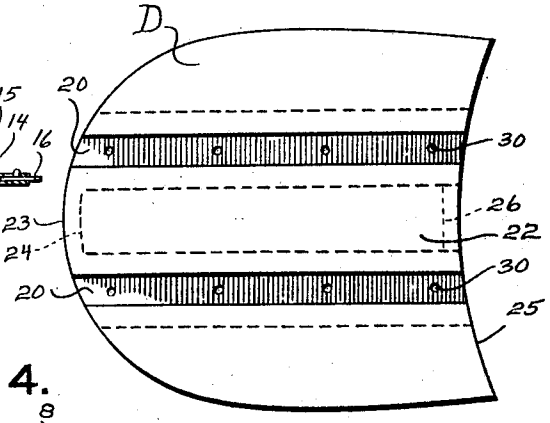


FIG. 3.

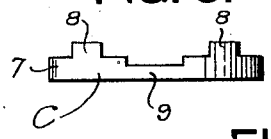


FIG. 4.

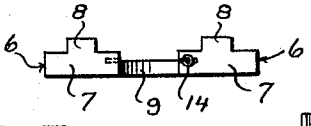


FIG. 5.

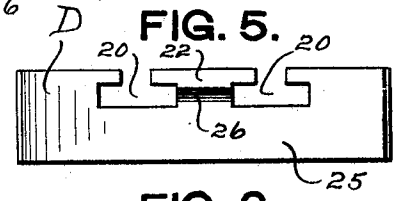


FIG. 6.

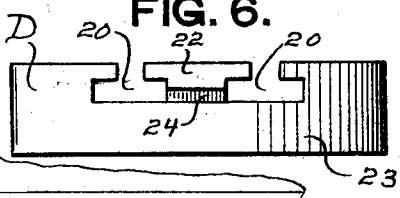


FIG. 7.

FIG. 8.

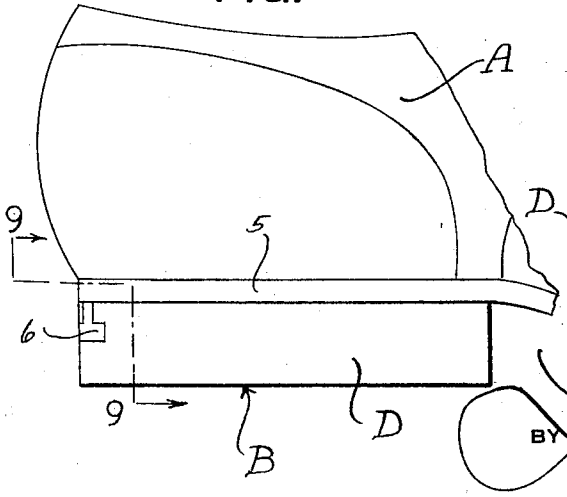
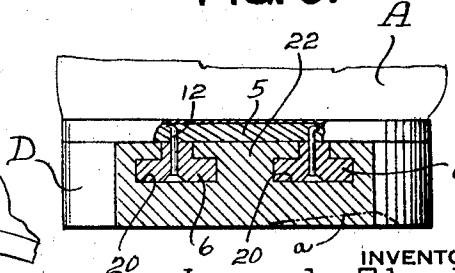


FIG. 9.



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UNITED STATES PATENT OFFICE

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DETACHABLE HEEL

Application filed January 8, 1930. Serial No. 419,374.

The present invention relates to detachable heels for boots and shoes and the primary object of the invention is to provide an improved heel which may be easily applied and removed without requiring the use of any tools.

A further object of the invention is to provide a detachable heel which will permit ready and easy changing of the heels from one shoe to another when worn and thus materially increasing the life of the heels.

A further object of the invention is to provide a detachable heel embodying a removable cushion adapted to be applied thru a sliding action longitudinally of the shoe with novel means for retaining the cushion in position.

A still further object of the invention is to provide a detachable heel embodying a holder or retainer adapted to be permanently applied to the heel portion of the shoe, and a cushion having an interlocking sliding fit upon the holder.

Other objects and advantages of the invention will be apparent during the course of the following detailed description, taken in connection with the accompanying drawings forming a part of this specification and in which drawings:

Figure 1 is a top plan view of the holder or retainer for permanent attachment to the heel of the shoe.

Figure 2 is a top plan view of the cushion or heel proper.

Figure 3 is an end plan view looking at the breast rear or counter end of the holder.

Figure 4 is an end plan view looking at the forward end of the holder and showing the latch in an open position.

Figure 5 is an end view looking at the forward end of the cushion.

Figure 6 is an end view looking at the rear end of the cushion.

Figure 7 is a fragmentary side elevation of the rear portion of a shoe showing the manner in which the holder is attached to the shoe and showing the cushion in position to be applied to the holder.

Figure 8 is a fragmentary side elevation showing the device applied to a shoe.

Figure 9 is a transverse section substantially on the line 9—9 of Figure 8.

In the drawings, and wherein similar reference characters designate corresponding parts thruout the several views, the letter A may designate a boot or shoe and B the improved detachable heel, embodying the holder or anchor portion C and the cushion or wheel proper D.

The anchor or holder C for attachment to the heel seat 5 of the shoe A may be formed of any suitable metal and includes a pair of parallel spaced apart T rails or guides 6 each embodying a horizontal flange portion 7 and an upstanding web portion 8. Formed integral with and connecting the rear ends of the guide rails 6 is an arcuate-shaped stay or tie 9 which as will be observed in Figures 3 and 4 is of a height less than the thickness of the flanges 7 and has its lower surface extending flush with the lower surface of the guide rails. The rear or counter end of the holder C is arcuated to conform with the normal shape of a heel at its rear or counter end. Each rail 6 is provided thruout its length with a suitable number of apertures 10 which extend vertically thru the webs 8 and which apertures have counter-sunk lower ends 11 for receiving the counter-sink heads of suitable fastening elements 12. The anchor or holder C is secured longitudinally of the shoe by means of the fastening elements such as nails or the like 12 passed thru the apertures 10 and preferably bent over in the heel seat 5.

The forward or breast end of the holder has a general concaved shape conforming to the breast of the heel and the forward end of the holder is provided with a pivoted latch or stay 14 for retaining the cushion D against forward longitudinal movement off the holder. This latch 14 is pivotally mounted at one end in one of the flanges 7 by a suitable pivot pin 15 and is intended to be swung to a transverse position between the forward ends of the rails 6 as shown by dotted lines in Figure 1. The free end of the pivoted latch 14 carries a spring pressed keeper 16 which is normally projected beyond the free end of the latch for engagement in a suitable opening 17 formed in the inner edge of one of the

flanges 7 in alignment transversely of the holder with the pivot pin 15. When the latch 14 is swung to a position with the keeper or detent 16 engaging in the opening 17, the latch acts to prevent forward sliding movement of the cushion D on the guide rails 6. The latch 14 is so mounted in one of the rails 6 as to extend substantially flush with the forward ends of the rails when in an operative position spanning the space between the forward ends of the rails.

The cushion or heel proper D may be formed of any suitable material such as rubber or the like and is provided in its upper side with a pair of parallel longitudinally extending T-shaped slots 20 extending from end to end of the cushion. These inverted T-shaped slots 20 form a T-shaped rib 22 extending thruout the entire length of the cushion. At the rear or counter-end 23 of the cushion, the web of the rib 22 is provided with a transverse way 24 of a height to snugly receive the arcuate stay 9 when the cushion is applied to the holder C. At the forward end or breast 25 of the heel the web of the rib 22 is formed with a transverse slot or way 26 for receiving the pivoted latch 24.

The inverted T slots 20 conform in cross section to the shape of the rails 6 so that when the cushion is applied thru rearward longitudinal movement along the rails, the upper surface of the cushion will engage the lower surface of the heel seat 5. Rearward movement of the cushion is limited by engagement of the rear stay 9 in the way 24 and in which position the outer surface of the stay and the rear ends of the rails 6 will be disposed flush with the rear curved end 23 of the cushion. After the cushion has been moved rearwardly for its limit on the holder C, the latch 24 is swung across the forward end of the holder into the groove 26 and the keeper 16 allowed to engage in the recess 17. This transverse swinging of the latch across the forward end of the rib 22 prevents forward movement of the cushion. In applying the cushion to the holder the latch 14 is swung so as to extend in longitudinal alignment with the rail to which it is pivotally connected and thus the latch will move in one of the inverted T slots 20 when the cushion is being moved into position upon the holder. By having the heads of the fastening elements 12 counter-sunk into the rails 6 so as to extend flush with the lower surfaces of the flanges 7 the fastening elements will not prevent free sliding movement of the cushion into position upon the holder.

If so desired, the cushion may be provided along the slots or channels 20 with suitable apertures 30 which align with the apertures 10 when the holder and cushion are in assembled relation. These apertures 30 are provided to aid in applying the holder in a proper position upon the heel seat. With the holder and cushion in assembled relation the device may be applied in a proper position upon the heel seat and by inserting a pointed instrument thru the aligning apertures 10 and 30, suitable marks may be made in the under surface of the heel seat 5 for the fastening elements 12. After so marking the heel seat the cushion may be removed from the holder and the holder applied to the heel seat by the fastening elements 12. If so desired however, the fastening elements may be driven thru the aligning apertures 10 and 30 without separating the members C and D during attachment of the device.

The rib 22 extends at the longitudinal center of the cushion so that the cushions may be applied to either heel of the shoe and this interchanging of the cushions will allow for the cushions to be changed from one shoe to another when the cushions become slightly worn at their outer rear portion as shown at "*a*" in Figure 9.

In applying the cushion to the holder it is merely necessary to swing the latch to a longitudinal position as shown in Figure 1 and by aligning the rear ends of the channels 20 with the forward ends of the rails 6 the cushion is moved longitudinally toward the rear of the shoe until the bottom of the cross grooves 24 abut with the arcuate stay 9. The latch 24 is then swung across the forward end of the rib 22 into the cross slot 26 and the detent 16 engages in the opening 17. Removal of the cushion merely requires releasing of the detent 16 and swinging the latch 14 into alignment with its rail 6 and after which the cushion may be removed by longitudinal movement toward the toe of the shoe.

From the foregoing description it will be apparent that a novel and improved detachable heel for boots and shoes has been provided which may be easily applied and removed from the shoe and without requiring the use of any tools whatsoever.

It will further be apparent that the retaining means for the cushion for preventing movement on the holder is so located as to not become broken or mutilated.

The heel may be sold as a unit embodying the holder C and the cushion D for attachment to a shoe, or the cushion D may be sold independently for attachment to shoes already provided with the holders.

Changes in detail may be made to the form of invention herein shown and described, without departing from the spirit of the invention or the scope of the following claims:

I claim:

1. A detachable heel comprising a holder embodying a pair of parallel spaced apart rails, a cross stay connecting the rear ends of the rails, said rails each having a series of vertical apertures thru the web portions, said apertures to receive fastening elements for attachment of the holder to the under side of

a heel seat; a cushion having a pair of parallel spaced apart channels in its upper side for slidably receiving said rails in interlocking relation, and a transverse horizontal groove provided in the front face of the cushion between said channels, a latch pivotally mounted at one end in the forward end of one rail for swinging movement into said groove, and means for releasably connecting the free end of the latch to the opposite rail.

2. A detachable heel comprising a holder embodying a pair of spaced apart rails of inverted T-formation, an arcuate cross stay connecting the rear ends of the rails at the flange portions thereof, said holder being adapted for attachment to the under surface of a heel seat and having a series of apertures provided in the web portion of each rail; a cushion having a pair of longitudinally extending channels provided in its upper side of inverted T-formation and providing a central T-shaped rib, an arcuate transverse groove provided across the rear end of the web portion of the rib, said groove to receive the arcuate stay for disposing the rear end of the cushion flush with the rear end of the holder, and a slot formed across the web of the rib at the forward end thereof; a latch pivotally mounted at one end in the forward end of one rail and adapted to be swung to a position across the forward end of the rib and into the slot provided across the front end of the rib, and a spring pressed keeper arranged in the free end of the latch for releasable engagement with the opposite rail.

3. In a detachable heel a holder embodying a pair of spaced apart rails, said holder being adapted for attachment to the under surface of a heel seat; a cushion having a pair of longitudinally extending channels formed in its upper side and providing a central rib, and a slot formed across the rib at the forward end thereof; and a latch pivotally mounted at one end to the forward end of one rail and adapted to be swung to a position across the forward end of the rib and into the slot provided across the front end of the rib, and a spring-pressed keeper arranged in the free end of the latch for releasable engagement with the opposite rail.

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