Oct. 27, 1931. J. D. ZUBIA ET AL 1,829,253

DETACHABLE SHOE HEEL

Filed June 10, 1930

Fig. 1.

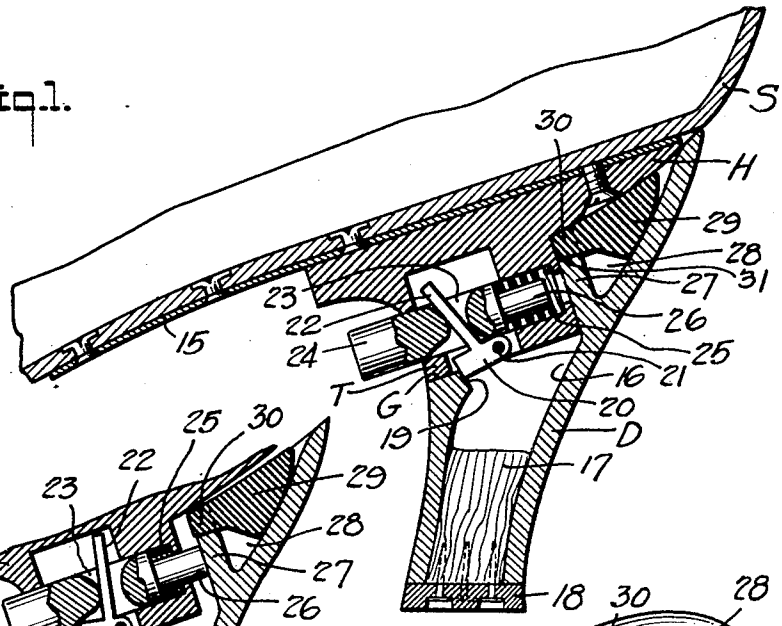


Fig. 2.

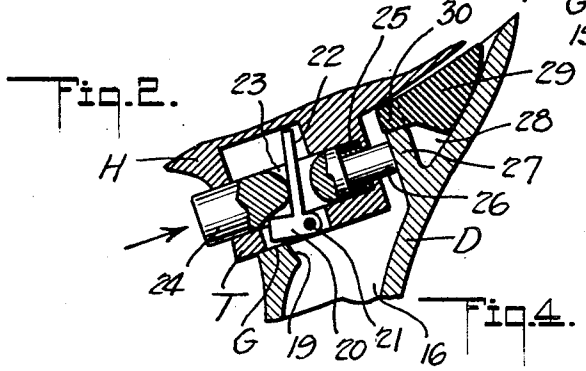


Fig. 4.

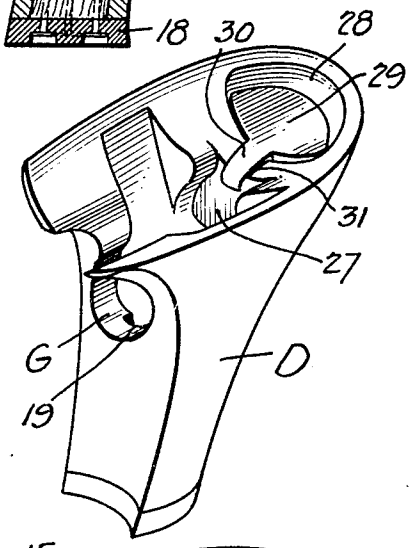


Fig. 3.

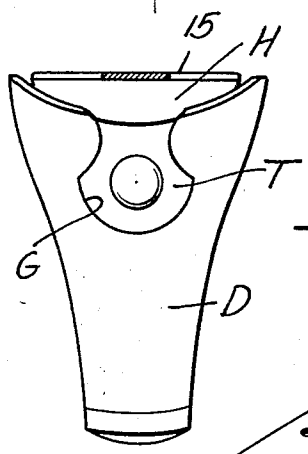
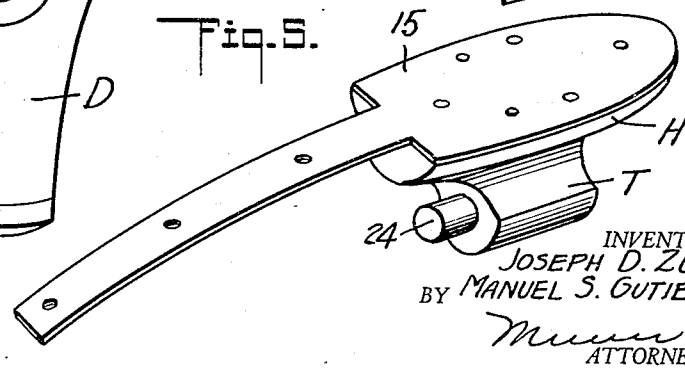


Fig. 5.



INVENTORS
JOSEPH D. ZUBIA
BY MANUEL S. GUTIERREZ
ATTORNEYS.

Patented Oct. 27, 1931

1,829,253

UNITED STATES PATENT OFFICE

JOSEPH D. ZUBIA AND MANUEL S. GUTIÉRREZ, OF LOS ANGELES, CALIFORNIA

DETACHABLE SHOE HEEL

Application filed June 10, 1930. Serial No. 460,222.

Our invention relates to detachable shoe heels of the character embodied in our pending application Serial No. 446,087 filed April 21, 1930, and it is a purpose of our invention to provide in a detachable shoe heel, a heel of a unitary light and hollow structure as distinguished from a built-up heel, and which heel is cast from metal or molded from a suitable composition to produce a heel having the desirable characteristics of lightness, cheapness, and a permanency of form.

It is also a purpose of our invention to provide a detachable shoe heel having means associated with the latch for securing the heel to the shoe, which is operable to aid in removing the heel from the shoe, thus greatly facilitating such removal even under adverse conditions such as when the contacting parts of the heel and shoe have become rusted or covered with mud.

A further purpose of our invention is the provision of a resilient medium interposed between the shoe and the heel which is operable when the heel is attached to the shoe to prevent even the slightest movement of the heel on the shoe in order that the heel may properly function to support the heel end of the shoe and without any wobbling movement.

We will describe only one form of detachable shoe heel embodying our invention, and will then point out the novel features thereof in claims.

In the accompanying drawings:

Fig. 1 is a fragmentary view showing in vertical longitudinal section, one form of shoe having applied thereto one form of detachable heel embodying our invention.

Fig. 2 is a view similar to Fig. 1 showing the released position of the parts for holding the heel of the shoe incident to removal of the heel.

Fig. 3 is a vertical transverse sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is a detail perspective view of the heel detached from the shoe.

Fig. 5 is a detail perspective view of that part of the device which is permanently attached to the shoe.

As in our pending application, our present invention includes a metal plate 15 adapted to be permanently secured to the under side of a shoe S, and to which latter is secured a head H. A tongue T is formed on the head, and is adapted to be received within a correspondingly shaped groove G of a heel D, the tongue extending longitudinally of the head and the groove transversely of the heel so that when the heel is applied to the head it will be properly positioned to support the rear end of the shoe.

The head H has a convex surface to fit the concave surface on the upper end of the heel D, but this concave surface is not continuous in the present form of heel by reason of the fact that the heel is hollow and cast from suitable metal or molded from a suitable composition of material. Those surfaces which coact to form a surface of concave form are clearly illustrated in Fig. 4. The heel D may be of any desired shape, but in the present instance, the heel for a woman's shoe is shown which is of the Spanish type. The heel is preferably constructed of an aluminum alloy in order that it may be light and strong, and, as will be clear from Figs. 1 and 4, it is hollow to provide a compartment 16 in which a plug 17 of wood or other suitable material is received and frictionally retained therein, and to the lower end of which plug is secured a tip 18 of leather or rubber in order to form the bottom sole for the heel. As best shown in Fig. 4, the front wall of the heel adjacent the groove G is recessed as indicated at 19 to form a keeper for a latch lever 20 pivoted at 21 in the tongue T and provided with an arm 22 which extends through a slot 23 of a plunger 24, the latter being movable in a suitable opening in the tongue for the purpose of moving the latch 20 into and out of engagement with the keeper 19. This plunger is normally urged forwardly or outwardly by means of a spring 25 and to a position in which the lever 20 is projected to engage the keeper 19 for latching the tongue T against removal from the groove G.

The inner end of the plunger carries a lug 26 which is adapted to engage a partition 27 of the heel D only when the plunger is forced inwardly, as illustrated in Fig. 2, and for

the purpose of aiding and effecting removal of the heel from the shoe. This partition 27 is formed interiorly of the heel D and in spaced relation to one end of the latter to provide an intervening pocket 28 in which a body 29 of resilient material such as rubber is adapted to be received. This body 29 is provided with an extension 30 projecting into a groove 31 of the partition 27 and in such manner that the extension is locked in the groove to hold the body 29 against displacement from the pocket and in proper position therein to effectively perform the function for which it is intended. It is important to note that the forward end of the extension 31 projects beyond the forward side of the partition 27 to provide a yielding abutment for the rear end of the tongue T.

In practice, the heel D can be applied to the shoe by presenting the concave side of the heel to the convex side of the head and so that the groove G is alined at its open end with the rear end of the tongue T. By advancing the heel from this position. the tongue is moved into the groove and, when pushed home therein, the latch 20 engages the keeper 19 and thus secures the tongue against displacement from the groove. The heel is therefore now locked to the shoe.

With the heel applied as described, the resilient body 29 is under compression in order to take up any lateral or transverse play of the heel in respect to the head. The extension 31 is likewise under compression by reason of the fact that the rear end of the tongue abuts the extension. Thus, the extension operates in conjunction with the latch 20 to prevent any longitudinal movement of the tongue in the groove and in a manner to secure the heel against movement longitudinally of the head. It will thus be seen that the heel, when once applied, is secured against even the slightest wobbling movement upon the head.

To effect removal of the heel from the shoe, it is only necessary to press the plunger 24 inwardly against the tension of the spring 25 to move the latch out of engagement with the keeper 19, when the heel may be removed by pushing it rearwardly to withdraw the tongue T from the groove G. Should the heel become jammed upon the head by reason of rust, or mud entering between the heel and head or between the tongue and groove, the removal of the heel will be rendered more difficult, but by provision of the lug 26, removal of the heel is facilitated even under these adverse conditions. When pushing the plunger 24 inwardly, the lug 26 is moved rearwardly beyond the tongue T to engage the partition 27 thereby forcing the heel rearwardly and loosening the same in respect to the head and tongue so that complete removal of the heel can be readily effected.

Although we have herein shown and described only one form of detachable shoe heel embodying our invention, it is to be understood that various changes and modifications may be made therein without departing from the spirit of the invention and the spirit and scope of the appended claims.

We claim:

1. In combination, a shoe, a heel, coacting means on the heel and shoe for detachably securing the heel to the shoe, a rubber body carried by the heel so as to be compressed when the heel is attached to the shoe to prevent transverse movement of the heel on the shoe, and an extension on the rubber body compressible to prevent longitudinal movement of the heel on the shoe.

2. A detachable heel for shoes, comprising a unitary hollow structure provided interiorly with a partition to form a pocket, said partition having a groove therein, and a compressible body in the pocket having an extension secured in the groove so as to project from one side of the partition.

3. In combination, a shoe having a tongue thereon, a heel having a groove therein receiving the tongue, a latch on the tongue for detachably securing the latter within the groove and including a plunger yieldably urged to one extreme position in which the latch is effective to secure the tongue against displacement from the groove and manually movable to another extreme position in which the tongue is removable from the groove, and a lug on the plunger engageable with the heel when the plunger is movable to the second mentioned position to forcibly move the heel in removing the tongue from the groove.

4. A combination as embodied in claim 3 wherein the heel is hollow and provided interiorly with a partition against which the lug is adapted to abut when releasing the latch to aid in removing the tongue from the groove.

5. In combination, a shoe having a head secured thereto, a tongue on the head, a heel having a groove therein for receiving the tongue, a partition in the heel, a latch in the tongue for engaging the heel to secure the tongue against removal from the groove, said latch including a plunger yieldably urged to a latching position and manually movable to a released position, a lug on the plunger adapted to abut said partition to aid in removing the tongue from the groove to permit detachment of the heel from the head, and a resilient member secured within the heel so as to be interposed between the latter and the head for securing the heel against any wobbling movement on the head.

6. A combination as embodied in claim 5 wherein said partition is provided with a groove in which said resilient means is secured.

JOSEPH D. ZUBIA.
MANUEL S. GUTIÉRREZ.