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1,854,057

SHOE HEEL

Filed July 1, 1931

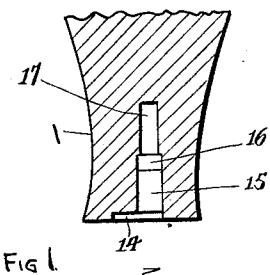


FIG. 1

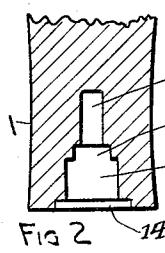


FIG. 2

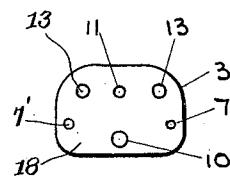


FIG. 6

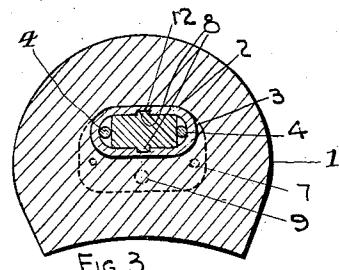
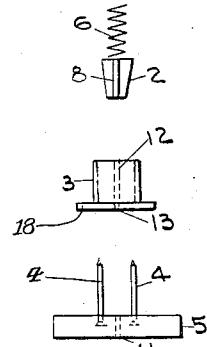
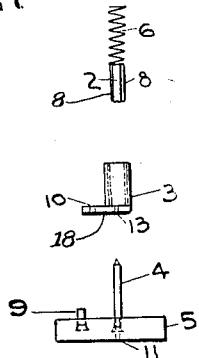


FIG. 3

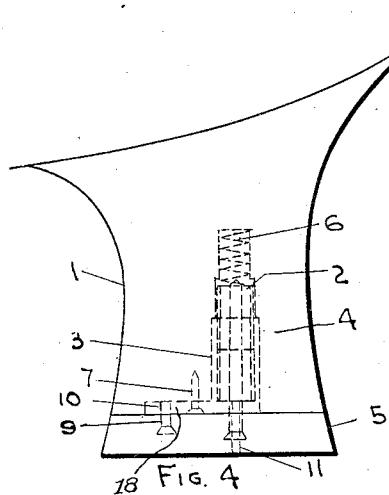


FIG. 4

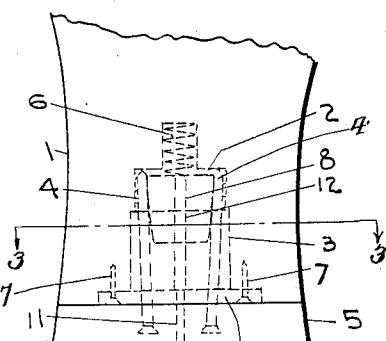


FIG. 5

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# UNITED STATES PATENT OFFICE

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## SHOE HEEL

Application filed July 1, 1931. Serial No. 548,192.

This invention relates to a shoe heel embodying a removable tap and has for its primary object to provide, in a manner as hereinafter set forth, a heel of such class which may be readily adapted for dancing or for ordinary wear, as desired.

A further object of the invention is to provide a heel of the character aforesaid wherein the tap is maintained in position by the operation of a spring pressed wedge, and wherein the tap may be readily removed when desired by releasing the spring pressure on the wedge.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts as hereinafter more particularly described, and as illustrated in the accompanying drawings wherein is shown an embodiment of the invention, but it is to be understood that the description and drawings are to be considered as illustrative rather than limitative.

In the accompanying drawings in which like numerals are employed to designate like parts throughout the several views:—

Figure 1 is a sectional elevation of a heel in accordance with this invention showing the parts thereof in disassembled relation.

Figure 2 is a view similar to Figure 1 but taken at a right angle thereto.

Figure 3 is a section taken on the line 3—3 of Figure 5.

Figure 4 is a side elevation of the heel.

Figure 5 is a front elevation thereof.

Figure 6 is a bottom plan of the plate which carries the housing for the tap securing wedge.

Referring to the drawings in detail, the numeral 1 indicates a shoe heel formed in its lower face with a socket having portions 14, 15, 16 and 17 of successively diminishing diameter. Disposed within the socket portion 14 is a plate 18 which is maintained in position by suitable holdfast devices 7 which extend through openings 7' in the plate and into the heel 1. Formed integrally with the plate 18 is an open top housing 3 which is disposed within the socket portion 15.

Seated against the lower face of the heel

1 and the lower face of the plate 18 is a tap 5 which conforms in contour to the lower face of the heel 1. Projecting upwardly from the tap 5 are a pair of pins 4 which extend into the housing 3 adjacent the inner face of the latter. Preferably the housing 3 will be of oval shape in cross section as shown, with the pins 4 in alignment with respect to the major cross sectional dimension of the housing. The pins 4 extend through suitable openings 13 formed in the plate 18. The pins 4 are maintained in frictional engagement with the inner face of the housing 3 by means of a wedge 2 which preferably is of rectangular construction in cross section as shown, but which may be of any suitable formation to bear against the pins 4. The wedge 2 is provided on opposite sides thereof with ribs 8 which are slidably mounted within grooves 12 formed in the inner face of the housing 3 and extending throughout the height of the latter. As more clearly shown in Figure 2, the wedge 2 tapers from top to bottom in order that the pins 4 will be forced apart into snug engagement with the inner face of the housing 3 upon the exertion of a downward force on the wedge 2. A constant downward force is maintained on the wedge 2 by means of a coiled spring 6 which is disposed within the socket portion 17, and the lower end of which abuts against the upper face of the wedge 2. In order that any twisting of the tap 5 may be prevented, and consequently the pins 4 protected from strain, the tap 5 is provided with a stud 9 which projects upwardly therefrom into an opening 10 formed through the plate 18.

When it is desired to remove the tap, a suitable tool, not shown, may be inserted through an opening 11 through the tap 5 and plate 18 and extended into the housing 3 to be pressed against the lower face of the wedge 2 to force the latter upwardly against the compression of the spring 6. Upon forcing the wedge 2 upwardly, the latter no longer contacts the pins 4, and the latter may be readily withdrawn from the housing 3 merely by pulling on the tap 5. In order to prevent dirt or the like from penetrating into the heel socket, the opening 11 preferably will

be normally closed by means of a suitable plug, not shown.

It is thought that the many advantages of a shoe heel in accordance with this invention will be readily apparent, and although the preferred embodiment of the invention is as illustrated and described, it is to be understood that changes in the size, shape and arrangement of parts may be made, so long as such changes fall within the scope of the invention as defined in the appended claims.

What I claim is:—

1. In combination with a shoe heel formed in its lower face with a socket, a tap seated against the lower face of the heel and having a plurality of pins extending into the socket, and a vertically movable wedge disposed between the pins for engaging the latter to maintain the tap in position.
2. In combination with a shoe heel formed in its lower face with a socket, a housing within the socket, a tap seated against the lower face of the heel and having a plurality of pins extending into said housing, and a vertically movable wedge disposed between the pins for forcing them in frictional contact with the inner face of the housing to maintain the tap in position.
3. In combination with a shoe heel formed in its lower face with a socket, an open top housing disposed within the socket, a tap seated against the lower face of the heel and having a plurality of pins extending into said socket, a vertically movable wedge disposed between the pins and within the socket, and a tension element bearing against the upper face of the wedge to force the pins into frictional engagement with the inner face of the housing to maintain the tap in position.
4. In combination with a shoe heel formed in its lower face with a socket having a lower portion of greater area than the remaining portion, a plate disposed within the greater area portion for closing the lower end of the socket, a housing carried by the plate and projecting upwardly therefrom into said remaining portion of the socket, a tap seated against the lower face of the heel and having a plurality of pins extending through said plate into said housing, and a wedge disposed between the pins for pressing the latter into frictional engagement with the inner face of the housing to maintain the tap in position.
5. In combination with a shoe heel formed in its lower face with a socket having a lower portion of greater area than the remaining portion, a plate disposed within the greater area portion for closing the lower end of the socket, a housing carried by the plate and projecting upwardly therefrom into said remaining portion of the socket, a tap seated against the lower face of the heel and having a plurality of pins extending through said plate into said housing, a wedge disposed between the pins for pressing the latter into

frictional engagement with the inner face of the housing to maintain the tap in position, said plate having its lower face formed with an opening, and a stud secured to and projecting upwardly from said tap into said opening to prevent twisting of the tap.

6. In combination with a shoe heel formed in its lower face with a socket having a lower portion of greater area than the remaining portion, a plate disposed within the greater area portion for closing the lower end of the socket, an open top housing carried by the plate and projecting into said remaining portion of the socket, a tap seated against the lower face of the heel and having a plurality of pins extending through said plate and into said housing, a vertically movable wedge disposed between said pins and within said housing, and a tension element bearing against the upper face of the wedge for forcing said pins into frictional engagement with the inner face of the housing to maintain the tap in position.

In testimony whereof, I affix my signature hereto.

ALFRED E. NORRIS.

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