Nov. 13, 1962 A. CORTINA 3,063,168

REPLACEABLE RUBBER SHOE HEEL

Filed May 12, 1961

FIG. 1.

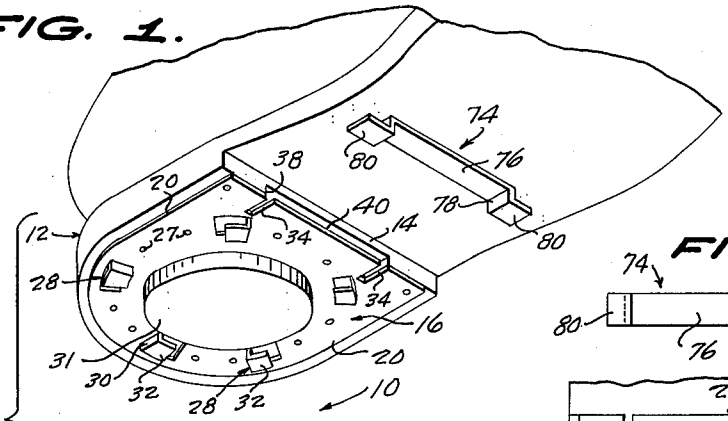
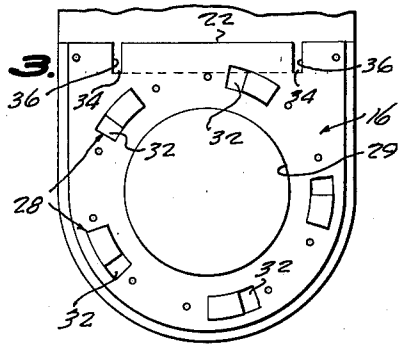
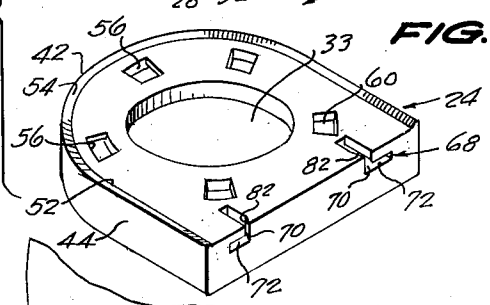


FIG. 2.

FIG. 3.





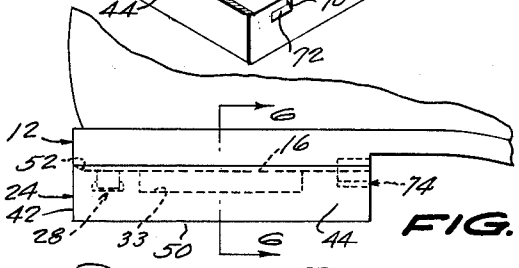


FIG. 5.

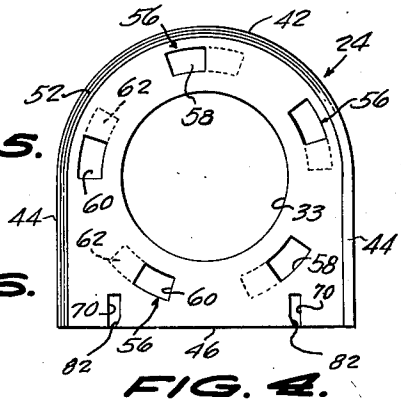


FIG. 4.

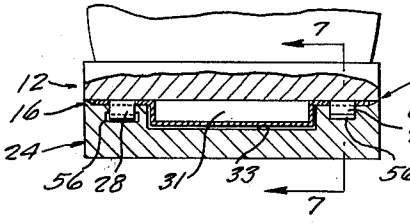


FIG. 6.

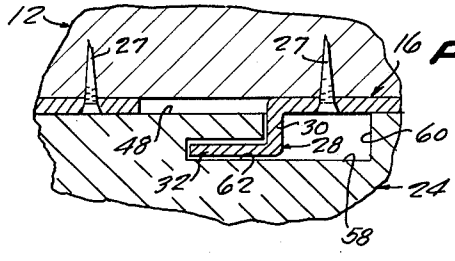


FIG. 7.

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REPLACEABLE RUBBER SHOE HEEL

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6 Claims. (Cl. 36—36)

This invention relates to a novel replaceable rubber shoe heel.

The primary object of the invention is the provision of a more practical and efficient detachable rubber shoe heel which enables the wearer of shoes to readily replace, or to interchange heels in cases of uneven heel wear, without having to go to the trouble, inconvenience, and expense of resorting to a shoemaker or shoe repair man.

Another object of the invention is the provision of a rubber shoe heel assembly of the character indicated above, which has the appearance and other characteristics of conventional rubber heels.

A further object of the invention is the provision of an assembly of the character indicated above, which involves a standard leather heel base, an attaching plate to be nailed to the heel base, and a rubber heel which is formed, in its upper surface, with circumferentially spaced locking slots adapted to receive L-shaped locking tongues, fixed to the attaching plate, upon rotation of the rubber heel relative to the attaching plate, in one direction, and a removable locking key which is engaged in slots in the forward edge of the heel and in a slot in the forward edge of the heel base, and prevents reverse rotation of the rubber heel relative to the heel base and the attaching plate.

A still further object of the invention is the provision of an assembly of the character indicated above, wherein the peripheral edge of the attaching plate is inset relative to the peripheral edges of the heel base and the rubber heel, and the rubber heel has an upstanding peripheral rib which reaches to the underside of the heel base and conceals the attaching plate.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawings:

FIGURE 1 is an exploded perspective view of a heel assembly of the present invention;

FIGURE 2 is a bottom plan view of the locking key;

FIGURE 3 is a bottom plan view of the attaching plate and heel base;

FIGURE 4 is a top plan view of the rubber heel;

FIGURE 5 is a side elevation of the heel assembly;

FIGURE 6 is a transverse vertical section taken on the line 6—6 of FIGURE 5; and,

FIGURE 7 is an enlarged fragmentary vertical transverse section taken on the line 7—7 of FIGURE 6.

Referring in detail to the drawings, wherein like numerals designate like parts throughout the several views, the illustrated heel assembly **10** comprises a heel base **12** having a transverse front edge **14**; an attaching plate **16** having an arcuate rear edge **18** and parallel side edges **20**, which are inset relative to the related edges of the heel base **12**, and a front edge **22** which is flush with the front edge **14** of the heel base; and a flexible and compressible rubber heel **24** which is of the same shape and dimensions as and is registered with the heel base **12**.

The attaching plate **16** is a flat rigid plate of minimal thickness consistent with strength and rigidity, and can be of non-corrosive lightweight material, such as aluminum or plastic. The attaching plate is fixed to the underside of the heel base **12**, in any suitable manner, as by means of nails **27** extending through holes (not shown) distributed around the attaching plate. A centered circle

of locking tongues **28** is concentrically spaced from the arcuate rear edge **18** of the attaching plate and is rearwardly spaced from the transverse front edge **22** of the attaching plate. The attaching plate **16** is indented with a circular depression **29** which is within and is concentrically spaced from the locking tongues **28**, which provides a downwardly extending boss **31**.

The locking tongues **28** comprise perpendicular downwardly extending standards **30**, which are disposed diametrically relative to the circle of locking tongues, and the standards **30** terminate, at their lower ends in horizontal right-angular feet **32**, which are slightly larger than the standards, and which extend in the same circumferential direction.

The front edge **22** of the attaching plate **16** is formed with a pair of rearwardly extending parallel slots **34** which are located near to and are equally spaced from the side edges **20** of the attaching plate. The laterally outward sides **36** of the slots **34** are flush with the ends **38** of a transversely elongated recess **40** formed in the underside and in the front edge **14** of the heel base **12**, the slots **34** and the recess **40** being provided to receive portions of a locking key which is hereinafter described.

The rubber heel **24** has an arcuate rear edge **42**, parallel side edges **44**, a straight transverse front edge **46**, and a flat upper surface **48** which is parallel to the bottom surface **50** of the heel. An upstanding attaching plate concealing rib **52** rises from the upper surface of the heel and extends along the rear edge **42** and the side edges **44**, and terminates at the front edge **46**. The rib **52** can be triangular in cross section, and have an upwardly and laterally outwardly faced upper surface **54**, which, at its elevated outer end, bears against the underside of the heel base **12**, around the rear and side edges of the attaching plate **16**, when the rubber heel is in place. The upper surface **48** of the rubber heel **24** is formed with a centered shallow circular socket **33**, which is concentrically spaced from the rear edge of the heel and from its front edge, and is adapted to conformably receive the circular boss **31** of the attaching plate **16**.

The upper surface **48** of the rubber heel **24** is indicated by a centered circle of spaced arcuate circumferential slots **56**, which is concentrically spaced around the circular socket **33**. The locking slots **56** are herein shown as being five in number, to receive a corresponding number of locking tongues **28**. The locking slots **56** comprise arcuate circumferentially extending rectangular cross section recesses **58**, having flat radial closed ends **60**, the other ends of the recesses opening to shallow flat horizontal circumferentially extending sockets **62**, which are spaced downwardly from the upper surface **48** of the heel **24**, and are at the bottom of the recesses **58**, as shown in FIGURE 7.

The front edge **46** of the heel **24** is formed with a pair of rearwardly extending locking key receiving slots **68** which are L-shaped and comprise vertical arms **70**, which open to the top of the heel and which are located to register with the front edge slots **34** of the attaching plate **16**, and horizontal arms **72** which extend laterally outwardly from the lower ends of the vertical arms **70**.

A locking key **74** is provided for locking the rubber heel **24** to the attaching plate **16** and the heel base **12**, which serves to preclude rotation of the rubber heel **24**, relative to the attaching plate and the heel base. The key **74** comprises a transversely elongated flat bar **76** which has downwardly offset longitudinally outwardly extending L-shaped portions, on its ends, which include relatively short perpendicular standards **78** and relatively long horizontal feet **80**.

The locking key **74** is put into place with its bar **76** engaged in the front edge recess **40** of the heel base **12**,

above the attaching plate, with the standards 78 engaged in the front edge slots 34 of the attaching plate 16, and in the vertical arms 70 of the front edge slots 68 of the rubber heel 24, and the horizontal feet 80 engaged in the horizontal arms 72 of the slots 68. For frictionally holding the locking key 74 in place, one side of the vertical arms 70 of the slots 68, at the forward ends thereof, have thereon triangular, laterally inwardly extending retaining lugs 82, which define restricted necks 84, at the forward ends of the slot arms 70, through which the standards 78 of the locking key must be forced to gain entrance to the slots 68, and which thereafter hold the locking key 74 in place, to the extent that a suitable prising implement is required to withdraw the locking key out of the heel slots 68.

Although there has been shown and described herein a preferred form of the invention, it is to be understood that the invention is not necessarily confined thereto, and that any change or changes in the structure of and in the relative arrangements of components thereof are contemplated as being within the scope of the invention as defined by the claims appended hereto.

What is claimed is:

1. A shoe heel assembly comprising a heel base, an attaching plate fixed to the underside of the heel base, a centered ring of circumferentially spaced L-shaped locking tongues on and extending downwardly from the attaching plate, and a heel having its upper surface bearing against the underside of the attaching plate, said heel having a correspondingly centered ring of the same diameter of correspondingly circumferentially spaced locking slots opening to its upper surface, said locking tongues being rotatably engaged in the locking slots securely locking said heel in said assembly, and a second key-like locking means securing said heel with said tongues and slots in rotatably engaged position against reverse rotational disengaging movement.

2. The assembly as defined in claim 1, said heel having an upstanding rib on the upper surface extending along the side and rear edges thereof, the said side and rear edges of said heel directly engaging corresponding side and rear edges of said attaching plate.

3. The assembly as defined in claim 1 having a rotary guide and centering means concentric with and disposed within said ring of interlocking tongues and slots of the said attaching plate and heel, said guide means comprising a circular body depending downward from said plate and a mating circular depression within the upper portion of said heel, dimensioned and centered to receive said depending circular body and guide said locking tongues and slots into rotary locking engagement.

4. The shoe heel assembly as defined in claim 1, both the heel base and heel having substantially aligned front edges, a transverse elongated recess in the front edge of the heel base opening to its underside, laterally spaced L-shaped locking key slots formed in the front edges of the heel and attaching plate, said slots having vertical portions opening through the attaching plate to its upper surface and oppositely lateral slot portions extending from the lower ends of the said vertical portions, and a removable locking key comprising an elongated bar portion engaged in the said heel base recess, said bar portion having dependent L-shaped elements on its opposite ends comprising standards engaged in the vertical portions of the said key slots and horizontal lateral portions fixed to and extending from the lower ends of said standards engaged in the lateral extending portions of the said key slots.

5. A shoe heel assembly comprising a heel base, an attaching plate fixed to the underside of said base, a ring of circumferentially spaced substantially L-shaped locking tongues extending downwardly from said plate, each said locking tongue comprising a vertical standard having a horizontal foot on its lower end extending circumferentially of said ring, a heel rotatably locked in said assembly with its upper surface bearing against the underside of said plate, said heel having a corresponding ring of circumferentially spaced locking slots opening to its upper surface, each slot correspondingly spaced and extending circumferentially, and sized to receive, rotationally engage and lock each L-shaped locking tongue, whereby the heel is rotatively secured to said assembly.

6. The shoe heel assembly as defined in claim 5 having a rotary guide and centering means concentric with and disposed within said ring of locking tongues and slots of the said attaching plate and heel, said guide means comprising a circular body extending downward from said plate and a mating circular depression within the upper portion of said heel, dimensioned and centered to receive said circular body and guide said tongues and slots in rotary locking engagement.

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