Dec. 28, 1965 J. MILK ETAL 3,225,466

REPLACEABLE HEEL

Filed Aug. 14, 1964

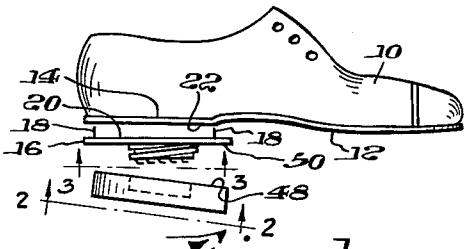


Fig. 1.

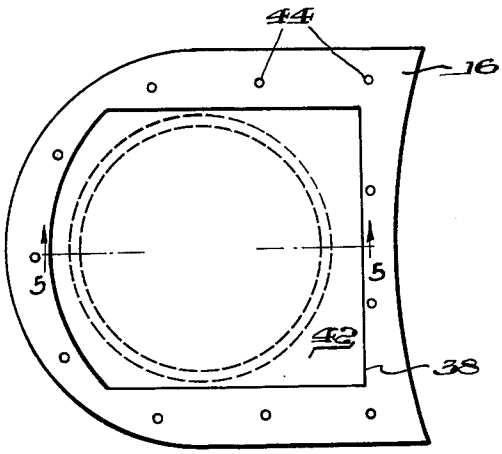


Fig. 2.

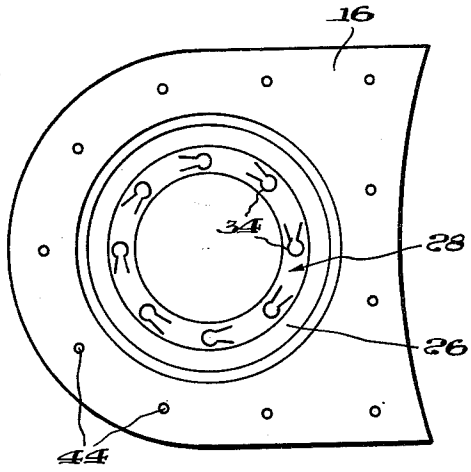


Fig. 3.



Fig. 4.



Fig. 6.

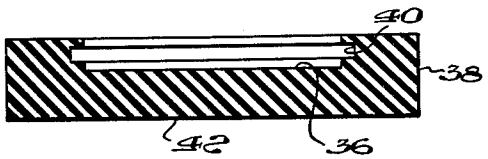


Fig. 5.

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United States Patent Office 3,225,466 Patented Dec. 28, 1965

3,225,466

REPLACEABLE HEEL

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Filed Aug. 14, 1964, Ser. No. 389,755
5 Claims. (Cl. 36—42)

This invention relates to a replaceable heel, and more particularly to a shoe construction having a readily attachable and detachable heel which permits the user to discard a worn heel section and replace it with a new heel as the need dictates.

In the conventional shoe construction, the heel, which is the most prone portion of the shoe to wear, is fixedly secured to the remainder of the shoe. In order to service the shoe, it is necessary to pull the worn section of heel away, this being a relatively difficult operation since the heel is fastened by nails or the like fasteners which make it difficult to pull the heel off of the shoe against the resistance of the fasteners. Shoe repairing operation, in the form of heel replacement is, therefore, a relatively difficult and time consuming operation which entails tearing of the worn part away from the shoe and nailing a replacement heel in its place.

One of the objects of the present invention is to simplify the repair operation and provide an attachment which is secured to the shoe and which is adapted for threadedly receiving a heel thereon, the heel being thereby readily securable to the shoe and subsequently removed, when worn, to provide a replacement heel.

A further object of the invention is to provide a heel construction which is reliably locked in place on the shoe and is not easily dislodged or removed while in service but which can nevertheless be removed at the time of servicing the shoe.

A further object of the invention is to provide an attachment member which is nailed or otherwise fastened permanently to the shoe and forms an attachment surface for locking the heel onto the shoe.

A still further object of the present invention is to provide a combination threaded connection and locking means which are cooperative with a replaceable heel so as to attach the heel to the shoe.

A still further object of the present invention is to provide bonding means between adjoining surfaces of the heel and the attachment means as well as between the attachment means and the shoe thereby reliably and securely connecting the portions of the shoe together.

The foregoing objects and features of the invention, together with additional objects and features, will become apparent from a consideration of the following description which proceeds with reference to the accompanying drawings, wherein:

FIGURE 1 is an exploded view of a shoe, attachment and replaceable heel;

FIGURE 2 is an enlarged view of the assembled heel, looking in the direction of the arrows 2—2 of FIGURE 1;

FIGURE 3 illustrates a view of the shoe attachment looking in the direction of the arrows 3—3 in FIGURE 1;

FIGURE 4 is an enlarged side elevational detail view of the attachment and metal retention ring;

FIGURE 5 is an enlarged side elevational detail view of the heel which is attachable and detachable to the shoe through the attachment illustrated in FIGURE 4; and,

FIGURE 6 is a metal ring which is secured to the attachment and serves as a locking means to retain said heel.

Referring now to the drawings, there is shown in FIGURE 1 a shoe **10** having the usual sole **12** and heel section **14** adapted to receive an attachment structure **16**. The attachment device **16** is secured by nails **18** to the underside of the sole **14** and its surface **20** is bonded to the surface **22**. The attachment is thus comprised of both mechanical secured and chemical bonding to the undersurface of the shoe **10** at its heel section **14**. Projecting from the attachment **20** is an externally threaded boss **26** with helical threads **27** formed integrally with the boss **26**.

At the end **28** of boss **26** is a metal retention ring **30** having prongs **32** which are nailed into the end **28** of the boss **26**. At the other side of the metal retention ring are a number of locking fingers **34** which lock within socket **36** of a replaceable heel section **38** having thread **40** which matches with the helical threads **27** of attachment **16**. The heel section **38** is retained on the boss **26** and serves both as a cushion, and as the ground-engaging heel. The surface **42** is wearable and when the heel section **38** is completely used, it is then discarded and a replacement heel section installed in its place.

In operation, the attachment **16** is secured by nails **18** to the sole **14**, the nails being passed through a series of holes **44**. The surface **20** is covered with a bonding agent of some suitable composition and which is effective for securing the attachment to the shoe by that means as well as the nails **18**. The attachment has a threaded boss **26** formed integrally with the attachment and a metal retention ring **30** is nailed permanently to the end of the boss through prongs **32** which penetrate the end of the threaded boss **26** and are mechanically fixed to said boss.

The heel **38** is then screw-fitted to the boss **26** and the locking fingers or projections **34** embed themselves within the socket **36** of the heel **38**, mechanically locking said heel to the boss **26** and holding it in place. If desired, the surface **48** may be covered with a bonding agent which adheres to the opposing surface **50** of the attachment **16**.

The shoe is thus usable with the heel member **38** until it becomes sufficiently worn to require replacement, at which time the heel **38** is counter-rotated on the boss **26**, threadedly disengaging from the boss **26** and a replacement heel **38** is installed in its place.

Although the present invention has been illustrated and described with certain selected example embodiments, it will be understood that these are illustrative and in no sense restrictive thereof. It is reasonably to be expected that those skilled in this art can make numerous revisions and adaptations of the invention to meet individual design requirements and it is intended that such revisions and adaptations as incorporate the herein disclosed principles will be included within the scope of the following claims as equivalents of the invention.

What is claimed is:

1. A shoe construction having a replaceable heel adapted for readily mounting and demounting operations, comprising: a mounting means adapted for securement with the sole of the shoe at the heel section thereof, a threaded projection extending perpendicularly from said mounting means, an annular member including a plurality of spaced nailing elements adapted to penetrate and thereby become secured to said threaded elements and including a plurality of spaced struck sections which are offset from the plane of said annular member, and a heel having a threaded socket which receives said threaded projection and is adapted to lockingly engage with said offset portions and said heel is fully threaded onto said projection.

2. A shoe construction adapted for use with a readily mounted and demounted heel which permits heel replacement to service the shoe, comprising: a flat base adapted to lie in flat facial engagement with the heel portion of the outsole of the shoe, means for permanently securing said flat base to said outsole for permanent connection therewith, a threaded boss projecting transversely from said flat base, means forming a metal locking ring including circumferentially spaced nailing elements which penetrate the end of said threaded boss and are secured

thereto, and a plurality of spaced laterally offset locking elements which are circumferentially spaced and are struck from said locking ring, and a replaceable heel having a threaded socket which threadedly receives and is detachably secured thereto, said locking elements being in locking engagement with the base of the socket in said replaceable heel to yieldably resist its unthreading movement.

3. A shoe construction adapted for use with a readily mounted and demounted heel which permits heel replacement to service the shoe, comprising: a flat base adapted to lie in flat facial engagement with the heel portion of the outsole of the shoe, means for permanently securing said flat base to said outsole for permanent connection therewith, a threaded boss projecting transversely from said flat base, means forming a metal locking ring including circumferentially spaced nailing elements which penetrate the end of said threaded boss and are secured thereto, and a plurality of spaced laterally offset locking elements which are circumferentially spaced and are struck from said locking ring, a replaceable heel having a threaded socket which threadedly receives said boss and is detachably secured thereto, said locking elements being in locking engagement with the base of the socket in said replaceable heel to yieldably resist its unthreading movement, and means for bonding the adjacent surface of said shoe and said base.

4. A shoe construction having a replaceable heel, comprising: a mounting base which is fixedly secured to the outsole of said shoe, a threaded projection which extends transversely from said element, locking means including integral spaced nails which are driven into said projection and are secured thereto, a plurality of spaced resilient projections which form raised sections of said locking means and are oriented to include unidirectional locking effort, and a replaceable heel having a threaded socket which receives said threaded projection and is engageable

with said locking elements at the base of said socket in threaded relation with said heel to resist unlocking movement thereof, said locking elements being yieldably depressed upon engagement with the base of said socket as said heel is screwed in a threading direction about said projection and into its operative position to be fully joined to said threaded projection.

5. A shoe construction having a replaceable heel adapted for convenient mounting and demounting operations, following wear thereof comprising: means forming a mounting attachment at the rear portion of said shoe and having securing means for permanent attachment to the shoe, threaded means extending from said attachment, locking means connected with said mounting attachment and including a plurality of spaced deformable locking elements which resist relative movement about said threaded means in one direction, a replaceable heel having a threaded socket threadedly receiving said threaded means and including a surface which is complementary with said locking elements and yieldably engageable therewith to resist unthreading movement when said heel is fully installed.

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