Nov. 29, 1966 J. M. RAKUS 3,287,833

SHOE HEEL AND ATTACHMENT MEANS THEREFOR

Filed March 1, 1965

FIG. 1

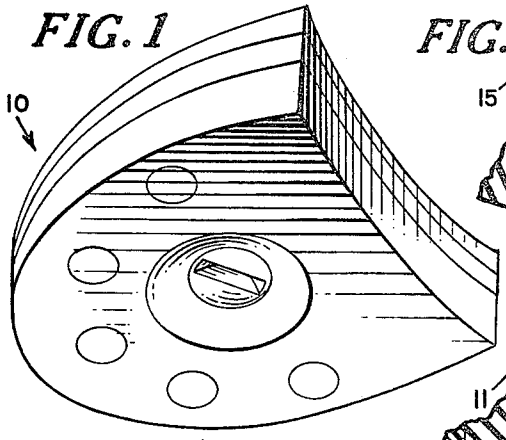


FIG. 5

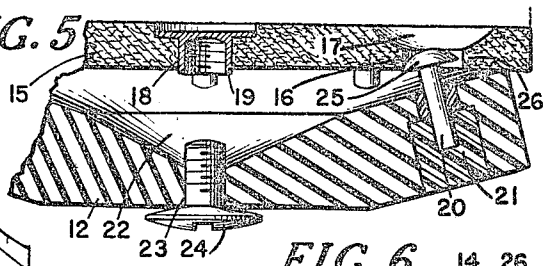


FIG. 6

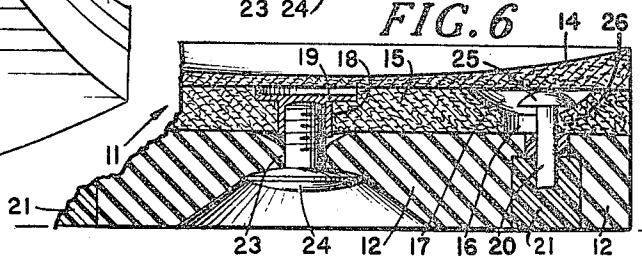


FIG. 2

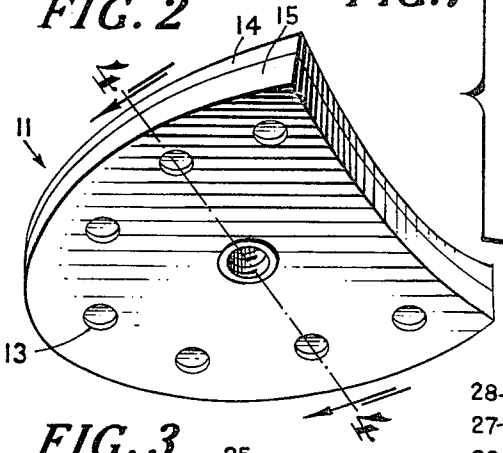


FIG. 7

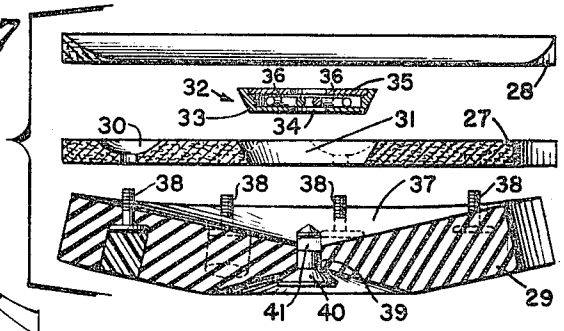


FIG. 8

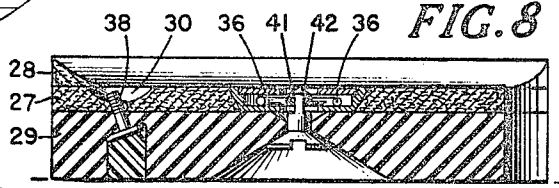


FIG. 3

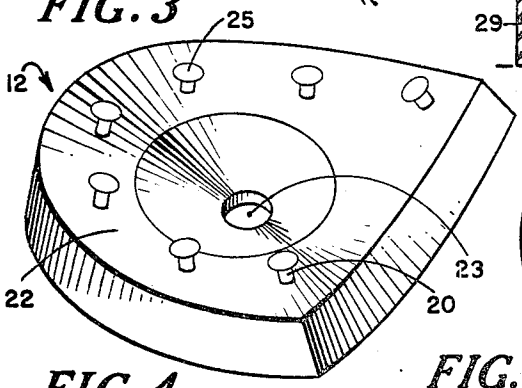


FIG. 9

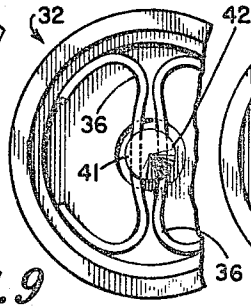


FIG. 10

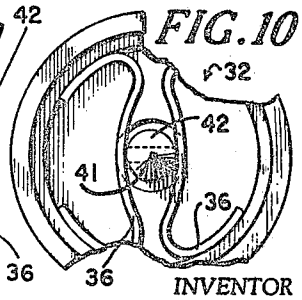
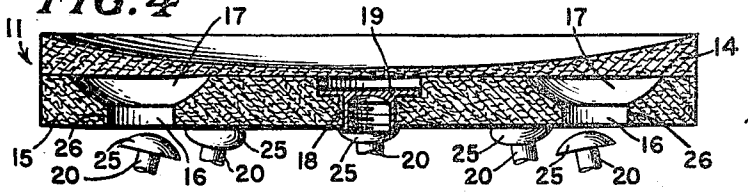


FIG. 4



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3,287,833

SHOE HEEL AND ATTACHMENT MEANS THEREFOR

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5 Claims. (Cl. 36—36)

This invention relates to shoes generally, and more particularly to heels for shoes and the attachment structure for securing the same to shoes.

The present invention is specifically directed on an improvement over my prior Patent No. 3,083,478 in the details of the heel securing structure.

Interchangeable or adjustable heels provided by the prior art have not taken into account economies of manufacture or adaptation to the myriads of sizes of shoes for both men and women which are provided by shoe producers. In other words, such heel assemblies should be economical to produce with conventional equipment to render production of the products competitive with the production of ordinary common heel assemblies now in use.

The primary object of the present invention is to provide an improved more positive securing structure for detachably mounting a heel member on a shoe.

A specific object of this invention is to provide a plurality of releasably engageable cooperating members by which a shoe heel may be securely retained on the shoe and yet be quickly detached therefrom.

With the foregoing and other objects in view the invention resides in the following specification and appended claims, certain embodiments and details of construction being illustrated in the accompanying drawings in which:

FIGURE 1 is a perspective view of the heel assembly comprising the invention;

FIGURE 2 is a perspective view of the heel base portion of the assembly of FIGURE 1;

FIGURE 3 is a view of the resilient wear surface of the heel assembly of FIGURE 1 separated from the base of FIGURE 2;

FIGURE 4 is a section view taken along the line 4—4 of FIGURE 2 with the heads only of the wear member of FIGURE 3 being illustrated in spaced but aligned position prior to assembly;

FIGURE 5 is a sectioned view illustrating the members of FIGURES 2 and 3 aligned with each other just prior to assembly;

FIGURE 6 is a view similar to FIGURE 5 illustrating the heel members in assembled condition, and

FIGURE 7 is an exploded view of a modified form of this invention;

FIGURE 8 is a view in section of the form of the invention illustrated in FIGURE 7 with the parts in assembled condition;

FIGURE 9 is a detail in plan of the retaining structure for the form of the invention shown in FIGURES 7 and 8 illustrating the quick detachable element in locked position with the cover thereof removed for illustration purposes, and

FIGURE 10 is a view similar to FIGURE 9 but illustrating the element turned ninety degress to effect disassembly.

With particular reference to the drawings the heel assembly **10** includes a heel base **11** and a resilient heel **12**. The base **11** includes a plurality of generally peripherally arranged pockets **13** as are clearly illustrated in FIGURE 2. The base **11** includes a two part laminate with the upper member **14** being secured to the shoe sole not shown and the lower member **15** being provided with the pockets **13**. Each pocket includes an opening **16** extending inwardly of the lower surface of member **15**. The

opening **16** leads into an enlarged inner chamber **17** which opens to the lower surface of the upper member **14** of the assembly to thereby define a retaining lip **26** for a purpose to be described. The member **15** is provided with a generally centrally located passage **18** in which is supported a headed, internally threaded retaining nut **19**.

The resilient heel member **12** includes a plurality of upwardly extending retainer studs **20**. Each retainer member is imbedded in wear members **21** peripherally arranged about the member **12** and spaced so as to align with the pockets **13** upon assembly. The upper surface **22** of the member **12** is in the nature of a conical depression and a passage **23** is provided at the apex of such depression. A retaining threaded bolt **24** extends through passage **23**.

To assemble the member **12** on the member **11** the flanged heads **25** of the retainers **20** are aligned with pocket openings **16** as shown in FIGURE 5. Pressure is applied to the bolt **24** so as to deform the central area of the member **12** upwardly as viewed in FIGURES 5 and 6. The bolt engages the nut **19** and may be threaded therein as by means of a coin, or a shoe horn or the like in the manner of a screwdriver. The deformation of the member **12** causes the retainer studs **20** to assume a vertical attitude as shown in FIGURE 6 with the flanged heads **25** engaging over the pocket lips **26** to thereby create a plurality of detachable securing elements. In addition to these elements and the central securing bolt, the deformation of the upward extending recess **22** will cause an inherent suction effect against the lower surface of the member **15**. Thus the member **12** will be quite firmly held in engagement with the base assembly **11**. On the other hand, one need only release the bolt **24** to break the suction and permit the inherent resiliency of the member **12** to cause disengagement of the stud heads **25** from the lips **17** and thereby remove the member **12** from a shoe to which it is attached.

The present invention is readily adaptable to the form of heel design illustrated in FIGURES 15 and 20 of Patent No. 3,083,478, these being the elliptical and circular forms respectively. In the circular form particularly, the provision of equally spaced peripheral pockets and retainer studs will permit a rotation of the member **12** to a number of wear positions equal to the number of pockets. In other words, if a portion of the heel edge is worn, the wearer need only take a coin, release the bolt **24**, index the member **12** to a new position and reapply the bolt.

The modified form of the invention illustrated in FIGURES 7 through 10 includes a heel base **27** with a sole adapter **28** and a resilient wear member **29**. The base **27** is provided with a plurality of pockets **30** of a form similar to pockets **13** of the preferred form of the invention. The base **27** is further provided with an inwardly tapered opening **31** to accommodate and support a snap fastener assembly **32**. Assembly **32** is preferably formed of aluminum and includes a housing **33** having an opening **34** in a bottom wall. The housing **33** includes a cover **35** to retain therein a pair of identical, cooperating spring members **36**.

The member **29** is provided with an upper surface which is a conically shaped recess **37** from which extends in a vertical direction before assembly, a plurality of retaining studs **38** which are equal in number and spacing to the pockets **30** of member **27**. Centrally of member **29** at the apex of surface **37** there is provided a passage **39** through which extends a securing bolt **40**. The bolt **40** is provided with oppositely disposed grooves **41** and **42** along the shank thereof.

To assemble the parts of this form of the invention, the member **29** is moved to a position adjacent member

27 so that retainers 38 align with pockets 30. Pressure is then applied axially of bolt 40 to deform the member 29 upwards into suction producing contact with the lower surface of the member 27. The grooves 41 and 42 of bolt 40 become aligned with portions of springs 36 to detachably lock the bolt against retraction. The retainers under the deforming action of member 29 move angularly outwardly as is evident in FIGURE 8 to retain the peripheral portions of members 29 in a manner similar to the retaining action of headed studs 20 and pockets 13 of the preferred form of the invention. To disassemble this form of the invention it is merely necessary to rotate the bolt 40 ninety degrees as by a coin to spread the spring elements as shown in FIGURE 10, whereby on suction break and due to the inherent resiliency of member 29 the bolt will be removed from engagement with assembly 32 and the retainers 38 will disengage the pockets as they resume a vertical attitude as in FIGURE 7.

Other modifications of this invention as to specific shapes and details of construction which would be obvious to one skilled in the art are deemed to be within the general scope of this invention and the appended claims.

I claim:

1. A heel construction for a shoe including a sole which comprises a deformable heel member, said heel member including a recessed upper surface of substantially conical shape, a heel base secured to the shoe sole, said heel base being provided with a plurality of generally peripherally arranged, spaced pockets with each pocket having a retaining lip spaced from the sole, a generally centrally positioned attachment means carried by the heel base, a plurality of retainers carried by the heel member in similar spacing relation to said pockets of the heel base, and a centrally disposed securing means carried by the heel member for engagement with the attachment means, whereby upon deformation of the heel so that the upper conical recess is flattened against the heel base, the retainers enter and engage the retaining lips of the pockets and a suction is produced and releasably maintained by said securing means when engaged with said attachment means.

2. The invention according to claim 1 wherein said retainers comprise studs with outwardly flanged heads and wherein said pocket lips are defined by the reduced entrance portion of said pockets to accommodate the heads of the retainers in locking engagement when the heel member is assembled on the heel base.

3. The invention according to claim 1 wherein the heel member securing means is secured to the base by a quick detachable snap fastener.

4. The invention according to claim 1 wherein the heel member is circular and the pockets and retainers are equally spaced about the periphery so that the heel member may be rotatably indexed to a number of positions equal to the number of pockets.

5. The invention according to claim 1 wherein the retainers extend vertically upward from the conical surface prior to assembly and move into engagement with the lips of the pockets upon deformation of the heel member during assembly.

References Cited by the Examiner

UNITED STATES PATENTS

2,440,404	4/1948	Johansson	36—36
3,083,478	4/1963	Rabus	36—36

FOREIGN PATENTS

567,368	2/1924	France.

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