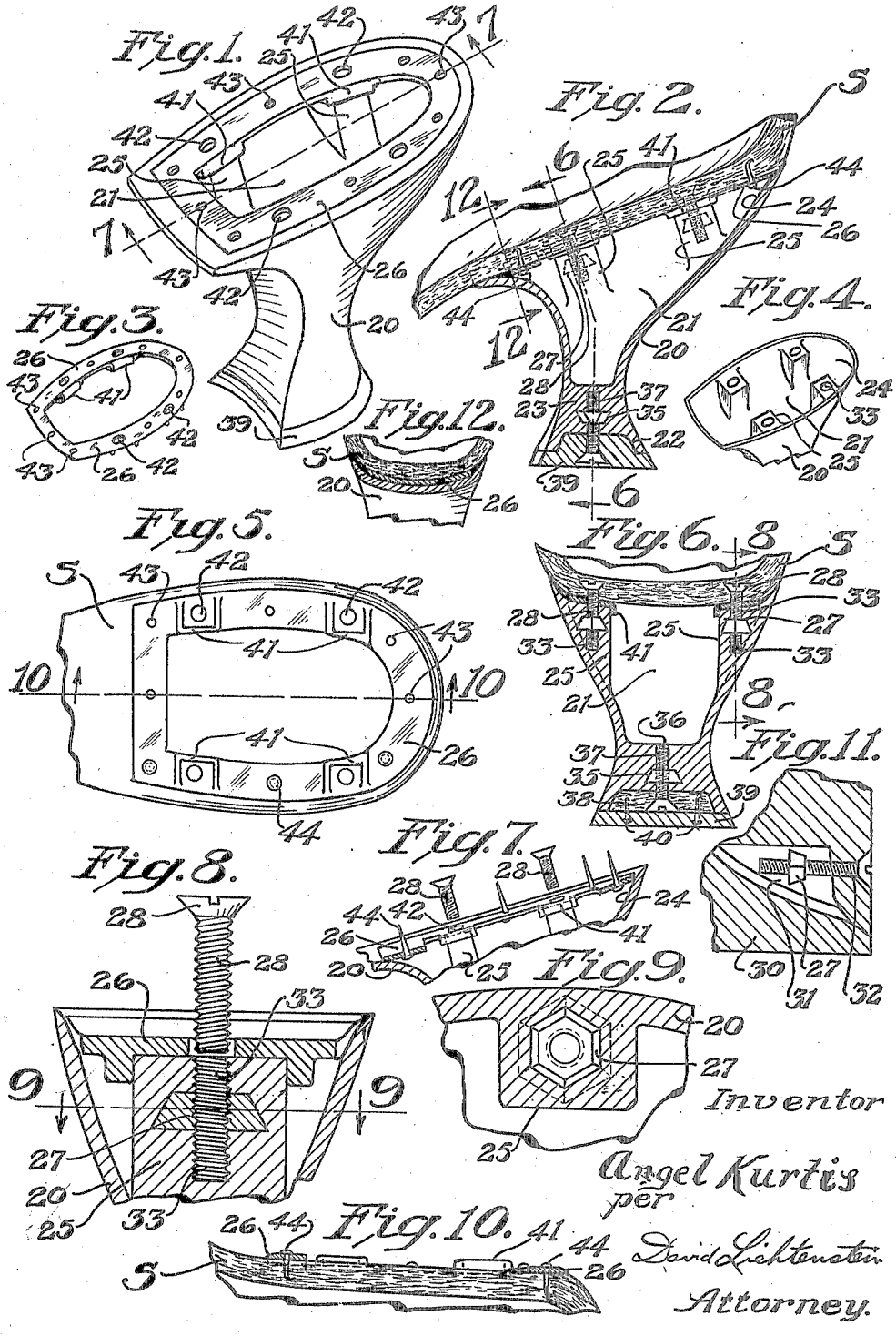
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ANGEL KURTIS (NOW BY JUDICIAL CHANGE OF NAME ANGELOS KURTIS)

METALLIC HEEL FOR SHOES AND THE LIKE

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ANGEL KURTIS, NOW BY JUDICIAL CHANGE OF NAME ANGELOS KURTIS, OF BOSTON, MASSACHUSETTS.

METALLIC HEEL FOR SHOES AND THE LIKE.

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To all whom it may concern:

Be it known that I, ANGEL KURTIS, a subject of the Government of Greece, but who is a declarant for citizenship in the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Metallic Heels for Shoes and the like, of which the following is a specification, reference being had to the accompanying drawing, forming part thereof.

My invention relates to metallic heels for shoes, and has for its object to provide a cast heel, of light-weight material as aluminum for example, which is designed to be anchored to the shoe bottom to become securely associated therewith and which is interiorly supplied with reinforcing means for engaging with the anchoring means employed in coupling the heel with the shoe.

Another object is to provide a shoe heel, cast of light-weight material, as aluminum, with internally embedded reinforcing means for assuring a secure and reinforced coupling connection with the heel and shoe uniting elements and the heel and tread uniting elements.

Another object is to provide a metallic heel of the hollow type with an auxiliary tap-plate which serves to form a base for the shoe bottom to set on and also serves to lock the heel with the shoe solidly and rigidly against play or twist therebetween.

These stated objects and other objects which will appear as the description of the invention proceeds, are attained in the use of the mechanism illustrated in the accompanying drawings, and the invention resides in certain novel features which are hereinafter first fully described and then more especially pointed out in the appended claims.

The terms employed herein are used in the generic and descriptive sense to designate the elements illustrated, and are therefore not primarily intended as terms of limitation.

In order to illustrate my invention, I have shown in the accompanying drawing, without being limited thereto, an embodiment thereof, wherein:

Fig. 1 represents a perspective view showing a heel of my type with the correlated tap-plate set and supported within the top opening thereof;

Fig. 2 represents a fragmentary, vertical, longitudinal sectional view taken centrally through a shoe supplied with my type of heel;

Fig. 3 represents a perspective view of the heel tap-plate;

Fig. 4 represents a perspective view of the top of the heel before receiving the tap-plate therein;

Fig. 5 represents a bottom view of the heel section of a shoe, showing the tap-plate affixed thereto;

Fig. 6 represents a sectional view taken substantially on line 6—6 on Fig. 2;

Fig. 7 represents a vertical, longitudinal sectional view taken substantially on line 7—7 on Fig. 1;

Fig. 8 represents a sectional view taken on line 8—8 on Fig. 6, showing the coupling element removed therefrom;

Fig. 9 represents a sectional view taken substantially on line 9—9 on Fig. 8;

Fig. 10 represents a sectional view taken on line 10—10 on Fig. 5;

Fig. 11 represents a schematic, sectional view taken through the heel mould, showing the manner of supporting the tapped members to be embedded within the heel casting; and

Fig. 12 represents a sectional view taken on line 12—12 on Fig. 2.

Like numerals refer to like parts throughout the several views of the drawing.

The numeral 20 represents a metallic heel member which is cast of light-weight metal, as for example aluminum, with the hollow top section 21 and the tread socket section 22, between which sections is positioned the solid section 23, as shown in Figs. 2 and 6. Said heel member 20 may be shaped in contour to conform to any conventional style of heel desired, as for example, the French heel shown in the drawing.

24 represents the top or mouth of the heel member 20 which is preferably provided with the auxiliary supporting lugs 25 which project upwardly within the hollow section of the heel member and preferably terminate in a relatively concave manner, as shown in Fig. 4, and are preferably positioned around the heel, as shown in said figure,

with the vertical centers thereof preferably set substantially at right angles to the plane of the top of the heel, as shown in Figs. 2 and 7. The outer faces of said lugs 25, particularly at the tops thereof, are preferably flat, as shown in Fig. 4, to engage with interlocking means provided on the tap-plate 26, which will be hereinafter more fully described.

27 represents the tapped members or nuts, which are preferably made of steel, or other suitable hard metal, to provide for a strong thread with which to engage the heel coupling screws 28, which are preferably of the flat-head machine screw type and made of hard metal, as steel for example. Said tapped members or nuts 27 may be made of any suitable shape and are preferably of the flat-faced and outwardly tapered type, as shown in the drawing, which, as may be understood, when embedded within the casting, will stay set against turning or moving from their set positions therein. 30 represents a section of the heel mould which shows schematically the means of supporting the tapped members or nuts 27 in position within said mould to become embedded within the heel lug which is to be formed in the space 31 therein shown. 32 represents the supporting screw on which the tapped member 27 is received and held set within the mould, and which screw is itself held in the mould as shown. It will be here noted that by supporting the nut 27 in the aforesaid manner, namely, on a screw threadedly fitting within the same (as 32 which has the threads extending on either side of the position of the nut 27), the metal poured into the mould 30 will fill the space 31 and settle around the nut 27 and the screw 32, whereby the nut 27 becomes embedded in the casting and the screw 32, which supports the nut 27 and projects into the space 31, will form a thread in the casting on either side of the nut so that when the mould screw 32 is ultimately unscrewed and removed from the heel casting, a tapped hole 33 on either side of the nut 27 will be formed, as shown in Fig. 8, which registers with the tapped hole of the nut 27 and is exposed to the top of the heel, as shown in Fig. 4.

Similarly the tapped member or nut 35 may be embedded within the heel casting in the solid section 23 thereof, as shown in Figs. 1 and 6, and may be similarly provided with the registering tapped hole 36 into which may be screwed the lift anchoring or coupling element, as the screw 37, for example, which securely couples the heel socket piece 38 which is preferably made of leather and to which the tread lift 39 may be secured by any suitable means, as the clencher brads 40 (Fig. 6). Said coupling screw 37 may be employed to support the tread lift direct, as indicated in Fig. 2, where the lift shown is a rubber heel shaped to fit within the heel socket 22, with the tread section of the lift made integral with the socket insert section.

The tap-plate 26, which is preferably made horseshoe-shaped, as indicated in Figs. 1, 3 and 5, may be made of any suitable material, as for example, steel, and may be so designed as to be stamped out of sheet stock; or if preferred, may be die cast. In either case, the characteristics which are necessary to attend the same for functioning, as is herein required, may be provided to equal advantage.

In the drawing, I have represented the tap-plate 26 as a casting plate, wherein 41 represent the downwardly projecting lugs which form a socket for receiving the tops of the heel lugs 25, as shown in Figs. 1, 2, 6 and 7. Said tap-plate 26 is preferably concaved slightly to fit within the heel member 20 and to rest on the lugs 25 thereof, as shown in Fig. 6, with the outer edge of said plate 26 preferably setting just inside of the outer edge of the top of the heel member 20. Further, said plate is provided with the anchor or coupling screw holes 42, which are positioned to register with the holes 33 of the heel member 20, and the clencher nail holes 43 which accommodate the clencher nails or brads 44, as shown, and by means of which the tap-plate 26 is securely attached to the shoe bottom S.

Having thus described the parts of my invention in detail, the manner in which the same may be employed is as follows:

First, it will be observed that the employment of the tapped member or nut in the heel member, as herein disclosed, permits of the use of the ordinary light-weight aluminum in the construction of the heel member, which is desirable, but supplies the same with a reinforced anchoring medium which overcomes the disadvantages and trouble encountered when relying upon threads cut in the relatively soft aluminum stock for providing tapped holes with which to engage the screw types of anchoring or coupling elements. Said tapped members 27, as may be understood, may be made of different, and a relatively harder, metal than the heel member, and if desired, may be hardened or treated to stand up in the heel against any ordinary strain directed thereagainst, whereby the heel not only becomes a much safer element than is otherwise possible, but the life of the heel is greatly increased. The setting of said tapped members is effected in the moulding operation of the heel as aforementioned, and special moulds may be designed to render the work of associating the tapped member of the heel both rapid and easy and at very little extra expense.

Second, it will be observed that the heel member, as herein disclosed, with the embedded nut feature, may be associated directly with the shoe without the absolute necessity for the employment of the tap-plate shown and described herein; it being observed, however, that the tap-plate serves to provide for a more rigid connection between the heel member and the shoe and a positive lock to hold the heel member solid with the shoe and against play or twist; further, it serves as a guide plate to the operator by which the exact position of the heel on the shoe may be determined; and finally, it serves as a brace for the heel member and the shoe as well as a firm support for the shoe setting thereon. These latter functions warrant the use of said tap-plate in connection with the heel, and this combined use, as herein disclosed, assures comfort and safety to the wearer besides adding life to both the shoe and the heel.

The tap-plate 26 is properly positioned on the shoe bottom S, as is shown in Fig. 5, and is affixed thereto through the medium of the brads or clencher nails 44 which set in the plate holes 43 provided therefor. With the tap-plate thus affixed to the shoe, holes registering with the tap-plate holes 49 are provided in the shoe bottom to receive the coupling screws 28. The shoe is thus made ready to receive the heel member 20, which is set to include the tap-plate therein, as shown in Fig. 1, with the top edge of the heel adjacent to the shoe and the lugs 25 registering with the sockets provided in the tap-plate and formed from the lugs 41. The coupling or anchoring screws 28 are then inserted through the holes provided therefor in the shoe bottom and the holes 42 of the tap-plate to engage with the tapped holes 33 of the heel member; said screws 28 being preferably of sufficient lengths to assure of engagement with the tapped members 27 which are embedded in the heel member for the purpose of engaging said screws to provide an absolutely reinforced and reliable holding means therebetween for coping with the strains and stresses set up thereagainst and without which reinforcement the aluminum heel cannot possibly be depended upon, especially when relying wholly upon the engagement of said screws with aluminum threads cut in the heel itself. It will thus be understood that the screws 28 may be screwed in tight into the heel member and without danger of stripping the threads in the latter. That feature will permit of absolute take-up to solidly and rigidly anchor the heel to the shoe, and in that manner overcomes the disadvantages attending the use of the ordinary types of aluminum heels which have been faulty, unreliable, and unsafe because of the relatively delicate and weak anchoring means provided the same. The tap-plate is simple and inexpensive to manufacture, and the introduction of the embedded tapped members in the heel, as well as the provision of the lugs for receiving the same, adds very little expense to the cost of manufacture of the heel member over the ordinary types in use. The work of attaching the tap-plate and heel member with the shoe is simple and requires no great degree of skill on the part of the operator, and the result of its use necessarily assures of a neat and lasting job, possessing the safety feature which is obviously most desirable.

Similarly, the application of the tapped member or nut in the bottom of the heel, which is employed for engaging with the coupling screw which couples the tread lift of the heel with the heel member, possesses advantages which are obviously most desirable, especially when the heel is made of aluminum, in which event it allows for a screw take-up between the coupling screw and the heel member for securely engaging the tread lifts with the heel member.

It is a known fact in the manufacture of aluminum heels that the finely gauged threads of the tapped holes provided therein, are entirely too susceptible to becoming stripped to render the same practical. Wherefore my invention is directed to remedy such consequences.

While the preferred embodiments of my invention have been described in detail, it will be understood that I do not wish to be limited to the particular construction set forth, since various changes in the form, material, proportions, and in the details of construction may be resorted to without departing from the spirit and scope of the invention, or destroying any of the advantages contained in the same, heretofore described and defined in the subjoined claims.

Having thus described my invention in detail, what I claim as new is:

1. The combination of a hollow metallic heel member having plate supporting lugs interiorly therein, which are supplied with tapped holes for engaging with coupling screws; a perforated tap-plate adapted to be secured to a shoe bottom and provided with means for interlockingly fitting said lugs of said heel member for supportingly setting the plate within said heel member, and screw holes registering with the tapped holes of said heel member; and coupling screws adapted to engage the heel member with the tap-plate in set position and to anchor said heel member securely to the shoe.

2. The combination of a hollow metallic heel member provided with interior lugs positioned about the mouth section of the heel member and supplied with hardened nut members embedded therein and registering with openings exposed to the top of the

heel; and a tap-plate adapted to fit within the mouth of the heel member and provided with socketed sections for interlocking said interior lugs of said heel members, screw holes registering with the exposed openings of said heel member, and brad holes for receiving the clencher brads for securing said tap-plate to the shoe bottom; and coupling screws adapted to fit said screw holes provided in said tap-plate and to engage with the nut members of said heel member for engaging the latter with said tap-plate in set relation with the shoe.

3. The combination of a hollow metallic heel having tapped lugs provided on the inside of the heel; a tap-plate shaped to fit the top of the heel and provided with interfitting sections adapted to engage said tapped lugs, nail perforations for securing the plate to the heel section of the shoe, and screw holes registering with the tapped holes of said tapped lugs of the heel; and coupling screws adapted to securely engage and couple the aforesaid heel and tap-plate in working relation with the shoe.

In testimony whereof, I hereunto affix my signature, this fifteenth day of January, 1921.

ANGEL KURTIS.