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C. M. RIDDOCK

2,023,441

SHOE HEEL

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Fig. 1.

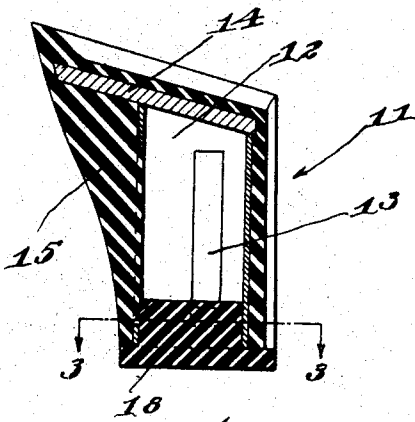
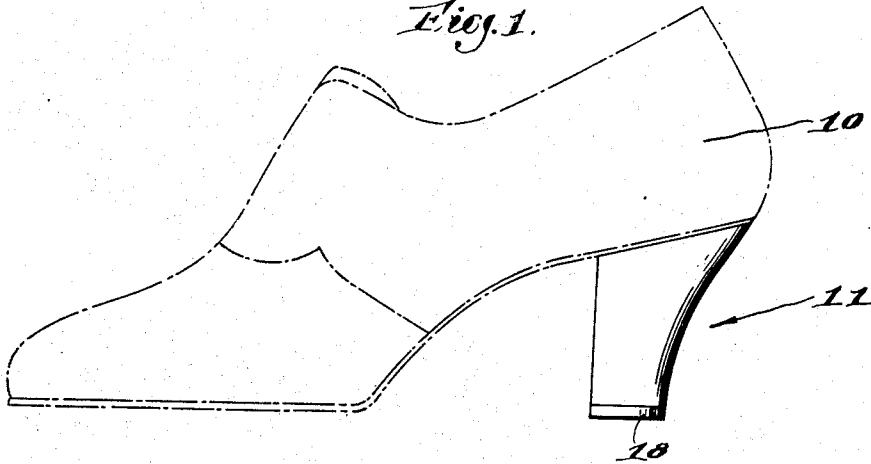


Fig. 2.

Fig. 3.

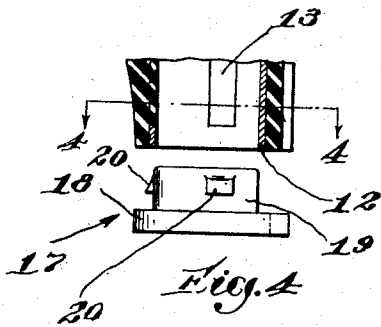
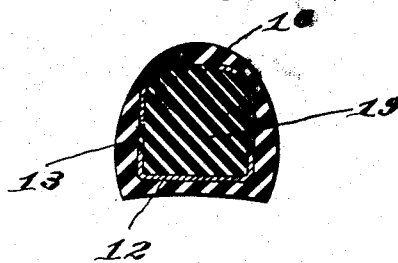
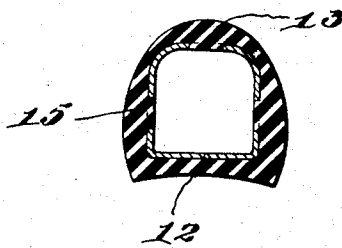


Fig. 4

Fig. 5.



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# UNITED STATES PATENT OFFICE

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## SHOE HEEL

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3 Claims. (Cl. 36—42)

My present invention relates to an improved heel for shoes and more particularly to a heel emphasizing certain qualities of durability and lightness.

5 The conventional heel now used offers considerable room for improvement with respect to weight, construction and durability and this is more particularly the case with the high heel used on ladies' shoes now in vogue. The inherent construction of the high heel necessarily promotes wear at points which may quickly cause a certain amount of instability on the part of the wearer requiring frequent repair.

10 With these considerations in mind, there has been designed a heel which comprises simpler and cheaper construction, increase in lightness and a detachable top lift feature likewise of simple but efficient character. Much consideration has also been given to providing a heel in which all possible weight is avoided and the present heel is thought to surpass in this respect.

The principal object of my invention is therefore an improved heel for shoes.

15 Another object is a hollow heel adapted to provide light weight characteristics.

Another object is a hollow heel construction provided with a detachable top lift member.

20 Still another object is a shoe heel of the character above described which is moulded from a plastic material.

Other objects and novel features comprising the construction and operation of my device will appear as the description of the same progresses.

25 In the drawing illustrating the preferred embodiment of my invention,

Fig. 1 is a broken line showing of a shoe in side elevation having the heel attached thereto.

Fig. 2 is a central vertical cross-section taken through the heel as removed from the shoe.

30 Fig. 3 is a cross-section taken on the line 3—3 of Fig. 2.

Fig. 4 is a vertical cross-section taken through the heel with the upper portion being broken away and with the top lift member being dropped out of engagement with the base of the heel.

Fig. 5 is a plan cross-section taken on the line 4—4 of Fig. 4 showing the construction of the inner core and shell.

Referring more in detail to the drawing 10 indicates a conventional ladies' shoe shown in side elevation with the improved heel being attached thereto and generally denoted by the reference numeral 11.

Fig. 2 is a vertical cross-section taken through the heel in its completely assembled state in

which 12 indicates a hollow core of metal or other substance shown as having a rectangular form but which may be constructed cylindrical or nearly so depending upon certain production requirements in later development work. The vertical surfaces of the core 12 are provided with a plurality of slots or openings 13. Positioned upon the upper edges of the core 12 is a flat curved fibre member 14 which is disposed at an angle as governed by the formation of the upper portion of the core 12 which may be square or angular at this point and which is further adapted to act as a strengthening body for receiving nailing or other means of fastening the heel to the shoe.

15 Completely surrounding the sides and top of the core 12 and fibre 14 is a pressed shell element 15 which is composed of a plastic material having a low density and adapted to be pressed about the core 12 and variably formed into heel styles and shapes. The plastic shell 15 is applied to the core 12 in conjunction with a metal post or stud not shown which is adapted to fit snugly throughout the interior of the core 12 so that the plastic shell 15 has inwardly protruding portions 16 corresponding to and filling in the opening 13. While there has been shown only three of such slots, it is to be understood that in practice more will be used, one reason being that since it is one of the objects of the invention to present a light weight heel, such a condition will be considerably enhanced by removing as much as possible of the metal core in this manner while still preserving the necessary supporting strength. Another reason for several of such formations being that increased holding means may be forthcoming thereby for the member about to be described.

20 This member is the top lift element generally denoted by the numeral 17 which comprises in detail a base portion 18 and a body portion 19. The body portion 19 is adapted to fit symmetrically within the core 12 which is seated upon the base portion 18 and about the body there has been formed a plurality of outstanding lip portions 20 corresponding to the number of slots 13 in the core 12 and so disposed on the body portion 18 as to engage against the shell portion 16 of the plastic material at a point just above the lower edge of the slots 13 when the core 12 is seated on the base 18. Inasmuch as the top lift element 17 is entirely composed of hard rubber or similar substance, a certain amount of resiliency is obtained which allows for the interengagement of the top lift within the core 12 25

while a very effective retarding means is provided by the lip portions 20 both in their contact against the plastic portions 16 and at the lower edge of the slots 13.

5 It is to be pointed out that in operation wear is first experienced on the top lift 17 at the base portion 18 which immediately causes instability on the part of a person wearing such a heel inasmuch as in this type of heel design  
10 the contacting surface is actually very small as compared to the rest of the heel due to its taper and hence means for interchanging this particular portion is much to be desired. In addition the heel is much lighter in weight due to  
15 its hollow construction and has very attractive building features since it is specified that various shapes and heel contours may be effected by this moulding operation without expensive mould equipment and with one core formation.  
20 Further there has been provided the fibre body 14 which is so incorporated with the rest of the heel that it forms an integral part therewith and yet adequately furnishes a solid portion for attaching the heel to a shoe.

25 While I have shown a particular form of my invention it is to be understood that various modifications in the construction thereof may be restorted to while still continuing to adhere to the spirit of my invention.

30 Having thus described my invention, what I claim is:

1. An improved heel for shoes comprising a

hollow metal core having a plurality of slots located through its sides, a flat fibre member angularly disposed on the top of the said core, a hard body formed from a plastic material having said core and said fibre member embedded therein and enclosing said fibre and the upper end of said core, a top lift member having a plug portion engaged within said core and a lower flange portion abutting the base of said core and the shell and provided with lip portions  
5 contacting with the shell and engaged with the lower edge of said core slots.

2. An improved heel for shoes comprising a hollow core having a plurality of vertical slots located through its sides, a flat fibre member  
15 angularly disposed on the top of the said core, a hard body formed from a plastic material having said core and said fibre member embedded therein and provided with inwardly protruding portions extending into said core slots,  
20 a top lift member seated in the base of said core and provided with lip portions contacting with said protruding portions.

3. An improved heel for shoes comprising a core provided with openings therethrough, a  
25 casing formed from a plastic material located about said core and provided with inwardly protruding portions extending into the said core openings, a top lift member engaged in the base of said core provided with lip portions contacting  
30 with said core opening edges.

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