April 28, 1942. C. I. SIMON 2,281,390

COMPOSITION SHOE HEEL

Filed Oct. 5, 1939

Fig. 1.

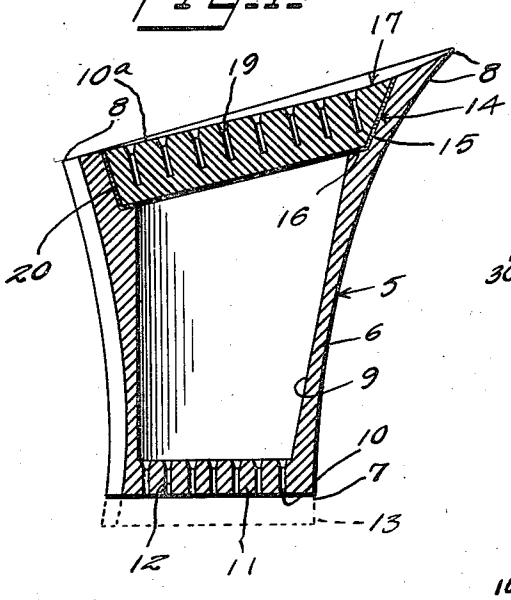


Fig. 4.

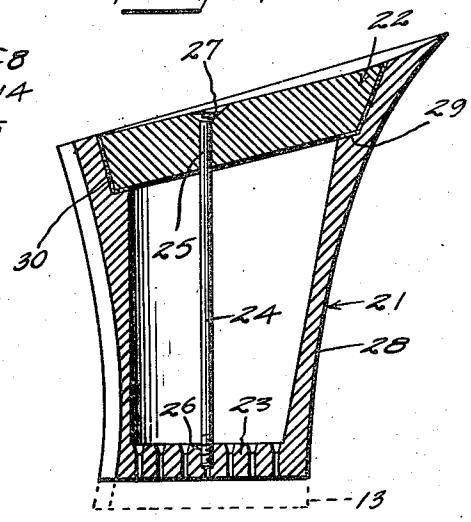


Fig. 2.

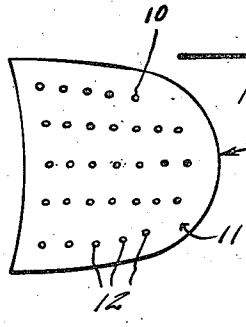
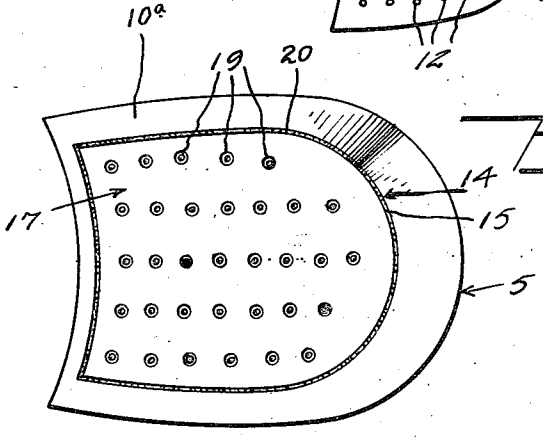


Fig. 3.



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COMPOSITION SHOE HEEL

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9 Claims. (Cl. 36—34)

This invention relates to molded articles more particularly to hollow articles formed from acetate extrusion molding compounds or such compounds in use now or later which may act in a similar manner.

The invention aims to produce, in a manner as hereinafter set forth, molded hollow shoe heels from molding compounds either by extrusion or pressure molding.

The invention further aims in the production of the shells of hollow shoe heels from acetate molding compounds which offer manufacturing possibility for the heel that was not to be found in phenolic or such other molding compounds as have been previously used, as the acetate molding compounds provide the heel with a better sheen, greater pliability and not subject to as rapid breakage as heels produced from the other compounds referred to.

The invention further aims in the production of a shoe heel including a molded hollow shell having integral therewith an apertured closure at its lower end of the same material as the shell and in the form of what may be termed an abutment for a leather heel lift to be secured thereagainst by holdfast means and with the apertures in the closure providing for an expansive characteristic to thereby prevent the closure from breaking or splitting when the aforesaid holdfast means are driven into the closure to secure to the latter the lift.

The invention further aims in the production of a shoe heel including a hollow shell of the desired contour, a closure for and integral with the inner face of the shell at the lower end of the latter, an insert within the shell at the upper end of the latter, and said insert and closure capable of receiving holdfast means without the splitting thereof when securing the closure to a leather heel lift and when securing the insert to the body of the shoe.

The invention further aims in the production of a shoe heel including a molded hollow shell of the desired contour formed with an internal seat thereon in proximity to its upper end, a closure for the lower end of the shell arranged within and integral with the latter for the reception of the securing means for a leather shoe lift, an insert within the upper end of the shell, mounted on and anchored to said seat for the reception of securing means for connecting the shoe body to the heel, and the said closure and insert being formed of material corresponding to the material of the shell or other suitable penetrable material and formed with apertures when necessary to provide for the expansion thereof when the said securing means are extended therein.

The invention further aims in the production of a shoe heel including a molded hollow shell having integral with its inner face at the outer end thereof a closure therefor formed with openings, an insert supported in and anchored to the body of said shell at the upper end thereof, and means extending through said closure and engaging in said insert for coupling the latter to the closure.

The invention further aims in the production of a hollow, molded composition heel for shoes which is simple in its construction, strong, durable, compact, light in weight, pleasing, distinctive and attractive in appearance, readily assembled, expeditiously installed with respect to the body portion of the shoe, and comparatively inexpensive to manufacture.

Embodying the aims aforesaid and others which may hereinafter appear, the invention resides in the production of a hollow molded composition shoe heel consisting of the novel construction, combination and arrangement of parts as will be more specifically referred to and illustrated in the accompanying drawing, wherein are shown embodiments of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawing:

Figure 1 is a vertical longitudinal sectional view of a hollow molded composition shoe heel in accordance with this invention and illustrating in dotted lines a leather shoe lift arranged at the lower end of the heel,

Figure 2 is an inverted plan of the shoe with the leather lift not shown,

Figure 3 is a top plan view of the heel, and

Figure 4 is a view similar to Figure 1 of a modified form of shoe heel in accordance with this invention.

The heel, in accordance with this invention is for use in connection with women's shoes and it preferably will be of the form or type as what is termed a Cuban heel, but it is to be understood that the heel may be of any form or type as desired and used in any connection for which it may be found applicable.

With reference to Figures 1, 2 and 3 the heel, generally indicated at **5** includes a hollow shell **6** which is molded from a plastic material preferably an acetate extrusion compound. The outer peripheral contour of shell **6** may be as desired. The shell **6**, as shown gradually increases in

dimensions from its lower end 7 to its upper end 8, whereby the latter will be of materially greater dimension than its lower end 7. The upper end 8 of shell 6, as shown slopes downwardly from its rear to its front. Formed integral with the lower terminal portion of the inner face 9 and flush with the lower end edge 10 of the shell 6 is a closure 11 for the latter. The closure 11 is of the desired thickness and it is formed of material corresponding to the material employed for the shell 6. The closure 11 is provided throughout with spaced openings 12 extending from its outer to its inner surface for reducing the weight thereof. The closure 11 constitutes an abutment against the outer surface of which the leather lift 13 is to be secured by spaced holdfast means not shown. The said devices are to extend through the lift 13 and engage in the closure 11. The openings in the latter provide for the expansion of the closure when the said holdfast devices are engaged therein whereby said devices will not break or split the closure. The upper terminal portion of the inner face 9 of the shell 6 is cutout to provide a rabbet 14 forming an endless flared wall 15 and an endless seat 16 at the lower end of the wall 15. The seat 16 inclines downwardly from the back to the front of shell 6.

The heel 5 includes an insert 17 formed of the material corresponding to that of the shell 6 and closure 11. The insert 17 is mounted at its bottom surface on the seat 16. The edge 18 of insert 17 corresponds in contour to that of wall 15. The insert 17 has its upper surface flush with the upper edge 10a of shell 6, and it is formed throughout with upstanding spaced pockets or recesses 19 opening at the upper surface of said insert and reducing the weight of the latter. The insert 17 at its edge and lower surface is secured by suitable cementitious material, as indicated at 20 to the wall 15 and seat 16 whereby such insert is substantially integral with the shell 6. The insert 17 is to be secured to the body of the shoe by holdfast devices which engage in the insert and the latter is made expansive by the pockets 19 when such holdfast devices are secured therein resulting in the nonbreaking or splitting of the insert. The cementitious material 20 will be such as to set up the heel 5 as an integral body. The like material from which the shell, closure and insert are constructed is impervious but will permit of the aforesaid holdfast devices penetrating therein.

The modified form of heel 21 shown by Figure 4 will be substantially the same as the heel 5 illustrated by Figures 1, 2 and 3, with the exception that the insert 22 of the heel 21 will be constructed from a piece of plywood or other penetrable material shaped to size by a die cutting process and that the insert 22 will be coupled with the closure 23 by a headed tie member 24 extending through a countersunk opening 25 formed in the insert 22 and threadedly engaging in the closure 23, as at 26. The head 27 of the member 24 is countersunk in the upper surface of the insert 23. The shell 28 of the heel 21 will be of the same material and form as the shell 6 of the heel 5 and with the closure 23 integral with the inner face thereof. The closure 23 of the heel 21 will be of the same form, material and arrangement as the closure 11 of the heel 5. The insert 22 will be secured to the rabbet 29 of the shell 28 by suitable cementitious material 30 which provides the heel 21 in the form of a substantially integral body, or tightly engaged by member 24.

The shell and closure are molded together at one operation. The insert 17 is molded independently of the shell and closure. The insert 22 is shaped to size by a die cutting process or molding independently of the molding of the carrier and shell. After the shell and closure have been molded in the form of an integral body, the rabbet, that is to say the wall and seat provided by the rabbet are coated with cementitious material and the insert is then positioned in the shell and pressure applied thereto to make it adhere to the said material whereby a substantially integral body is set up. As to the modified form shown by Figure 4 after the substantially integral body has been formed, the member 24 is extended through the insert 25 and threadedly engaged in the closure 23 whereby the latter and the insert 22 are coupled together.

What I claim is:

1. A method of constructing a hollow composition shoe heel which includes forming a shell of composition material having the upper end of its inner face formed with a rabbet and the lower end of its inner face integral with a closure having spaced openings, forming an insert of composition material provided with recesses opening at its upper surface and corresponding in contour to the contour of the rabbet, and then bonding the insert to the surfaces of the rabbet.

2. A method of constructing a hollow composition shoe heel which includes forming a shell of acetate extrusion material having the upper end of its inner face formed with an endless rabbet and the lower end of its inner face integral with a closure having spaced openings, forming an insert of acetate extrusion material having spaced recesses opening at its upper surface and corresponding in contour to the contour of the rabbet, and then bonding the insert to the surfaces of the rabbet.

3. A method of constructing a hollow composition shoe heel which includes forming a shell of molding material having the upper end of its inner face formed with an endless rabbet and the lower end of its inner face integral with a closure having spaced openings, forming an insert corresponding in contour to the contour of the rabbet, bonding the insert to the surfaces of the rabbet, and then coupling the closure to the insert.

4. A method of constructing a hollow composition shoe heel which includes forming a shell of a molding compound having the upper end of its inner face formed with an endless rabbet and the lower end of its inner face integral with a closure having spaced openings, forming an insert corresponding in contour to the contour of the rabbet and then bonding the insert to the surfaces of the rabbet.

5. In a hollow composition shoe heel, a composition shell, a composition closure integral with the lower end terminal portion of and flush with the lower end of the heel, said closure being formed with spaced openings, said shell having the upper portion of its inner face in the form of an endless rabbet, a composition insert mounted on and corresponding in contour to the contour of the rabbet, said insert being formed with spaced recesses opening at its upper surface, and means for bonding the insert to the surfaces of the rabbet.

6. In a hollow shoe heel, a shell having the upper portion of its inner face in the form of an endless rabbet, a closure within and integral

with the lower end terminal portion of the inner face of the shell, an insert mounted on and corresponding in contour to the contour of the rabbet, means integral between the insert and rabbet for bonding the insert to the surfaces of the rabbet, said shell and closure being formed of composition material, and said closure being flush with the lower end of the shell and formed with spaced openings extending from the outer to the inner surfaces thereof.

7. In a hollow shoe heel, a shell having the upper portion of its inner face in the form of an endless rabbet, a closure within and integral with the lower end terminal portion of the inner face of the shell, an insert mounted on and corresponding in contour to the contour of the rabbet, means integral between the insert and rabbet for bonding the insert to the surfaces of the rabbet, said shell, closure and insert being formed of like composition material, said closure being flush with the lower end of the shell and formed with spaced openings extending from the outer to the inner surfaces thereof, and said insert being flush with the upper end of the shell and being formed with recesses opening at the upper surface thereof.

8. In a hollow shoe heel, a shell having the upper portion of its inner face in the form of an endless rabbet, a closure within and integral with the lower end terminal portion of the inner face of the shell, said closure being formed with spaced openings, an insert mounted on and corresponding in contour to the contour of the rabbet, means integral between the insert and rabbet for bonding the insert to the surfaces of the rabbet, and means engaging the closure and insert for coupling them together.

9. In a hollow shoe heel, a shell having the upper portion of its inner face in the form of an endless rabbet, a closure within and integral with the lower end terminal portion of the inner face of the shell, an insert mounted on and corresponding in contour to the contour of the rabbet, means integral between the insert and rabbet for bonding the insert to the surfaces of the rabbet, said shell and closure being formed of composition material, said closure being flush with the lower end of the shell and formed with spaced openings extending from the outer to the inner surfaces thereof, and means engaging the closure and insert for coupling them together.

CY ISIDORE SIMON.