April 23, 1929. W. A. OWEN 1,710,378

COMPOSITE HEEL

Filed July 26, 1928

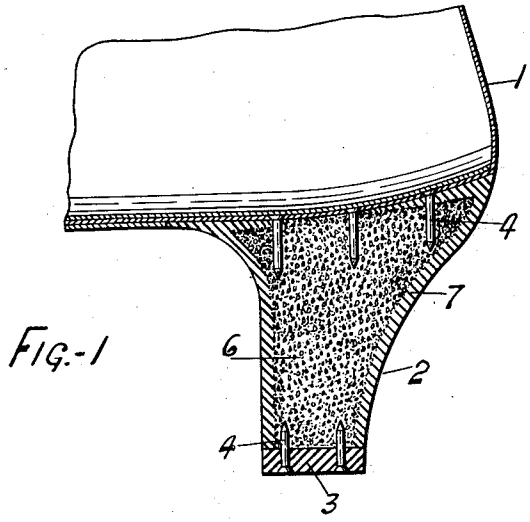


FIG.-1

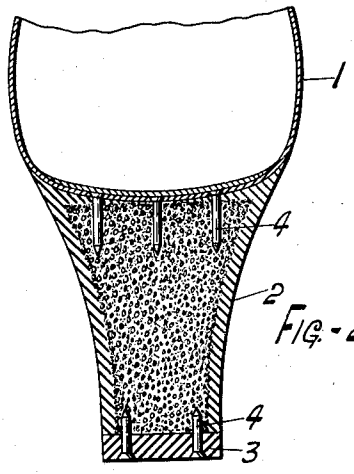


FIG.-2

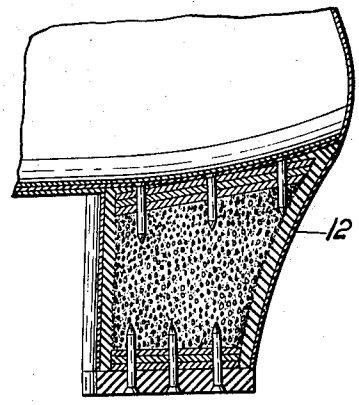


FIG.-3.

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COMPOSITE HEEL.

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The present invention relates to the manufacture of heels, and particularly and especially to heels for women's shoes, the objects of the invention being to improve upon the construction of such heels for making the heel better and more economically than heels at present in use.

The customary form of high heels for women's shoes are made of a solid block of wood which is usually provided with a leather or cloth cover. The wooden heels will easily split or crack and the cover will come off easily, exposing the wooden heel beneath. There are numerous other disadvantages, such as heaviness, absorption of moisture, etc., which it is the object of the present invention to overcome. The manufacture of the type of heel shown here is also more economical than the wooden type of heel, and has other advantages apparent to those skilled in this art.

In the drawings, two forms of the invention are shown:—

Figure 1 is a section longitudinally through the heel portion of a woman's shoe showing the internal construction and the manner of fastening the heel upon the shoe;

Figure 2 is a transverse section through the same; and

Figure 3 is a section of a modified form of the invention.

In Figures 1 and 2, the rear portion of the shoe is shown at 1 and the heel at 2 and a rubber lift at 3. The nails for securing the heel upon the shoe and the lift upon the heel are shown at 4, it being observed that the nails are driven directly into the heel which is of such a nature that the nails will hold as readily as in a wooden heel.

The heel is composed of an integral piece of vulcanized hard rubber so as to be absolutely waterproof, but which, however, is so constructed and designed that it is light in weight and will receive and hold the securing nails without cracking and as firmly as the usual wooden heel. In addition, the outer surfaces of the heel is of such a character that it will take a high polish so that it may be used without any covering, if desired. As an alternative, it may be made with a rough finish to which the usual covering materials may be applied and to which they will adhere more securely than to the wooden heel.

The heel of Figures 1 and 2 comprises a center or core of cellular hard rubber 6. This is composed of a body of rubber of a composition which will be quite rigid when cured, but which is cellular or honeycombed so that it is light and porous. This is made by incorporating in the hard rubber composition, a substance which will volatilize, gasify or vaporize under the heat of vulcanization and create the numerous small pockets or air cells which are illustrated in the drawing. It has been discovered that this cellular hard rubber will receive a nail driven into it and will hold securely so that the heel may be nailed upon the shoe and the lift nailed upon the heel in the usual manner as applied to the wooden heel.

The center or core of the heel is surrounded with a layer or film of solid hard rubber 7 which is cured with the body or core of the heel and becomes an integral part thereof, the skin or layer of solid hard rubber extending about the upper edges of the heel, if desired, so that the heel will fit against the shoe as shown. This outer hard rubber layer will receive and retain a very high polish so that the heel, as shown, can be used to replace the usual patent leather covered wooden heel.

In Figure 3 is illustrated a different form of heel and in this view there are shown inlays above and below the heel of laminated wood, which are vulcanized in place and which may be used if desired to receive the securing nails, although the presence of the inlays is not essential. In this form of heel is also shown the leather or cloth cover 12 which may be employed, the outer surface of the layer 7 about the heel not being polished in this embodiment of the invention, but being left in such condition that the covering will adhere to the heel.

It is obvious that exact conformity with the details which have been shown and described is not essential, but these details may be varied within the scope of the invention.

What is claimed is:—

1. A heel for the uses and purposes set forth, comprising a central body portion of

hard rubber provided with a multiplicity of small air cells embedded therein, said body portion being capable of receiving and holding securing nails driven therein.

2. A heel for the uses and purposes set forth, comprising a central body portion of hard rubber provided with a multiplicity of small air cells embedded therein, said body portion being capable of receiving and holding securing nails driven therein, and an integral layer of solid hard rubber surrounding the body portion and forming an outer impervious cover therefor.

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