June 30, 1942. P. MARIANI 2,288,475

SHOE HEEL

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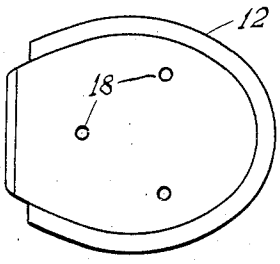


Fig. 2

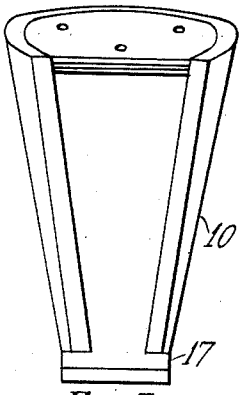


Fig. 3

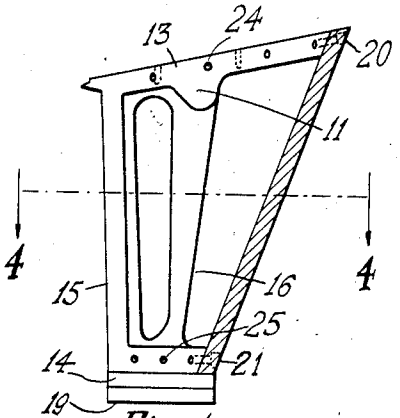


Fig. 1

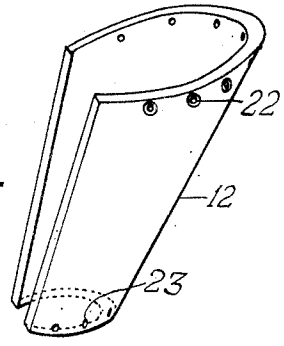


Fig. 5

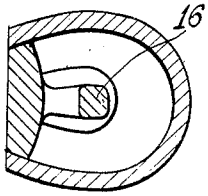


Fig. 4

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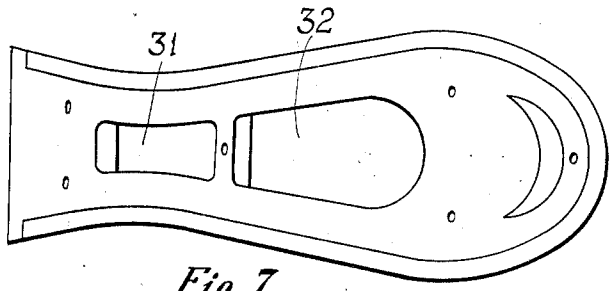


Fig. 7

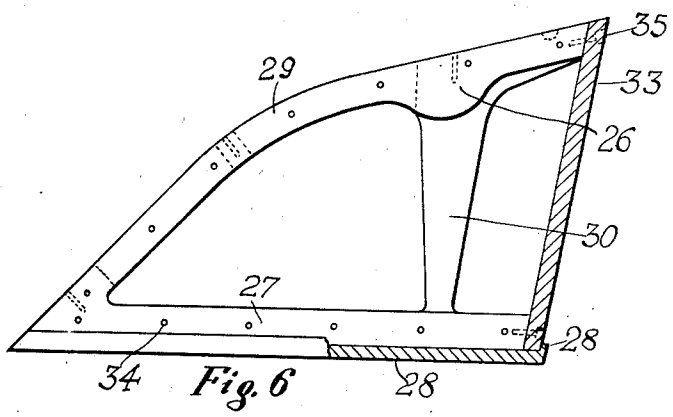


Fig. 6

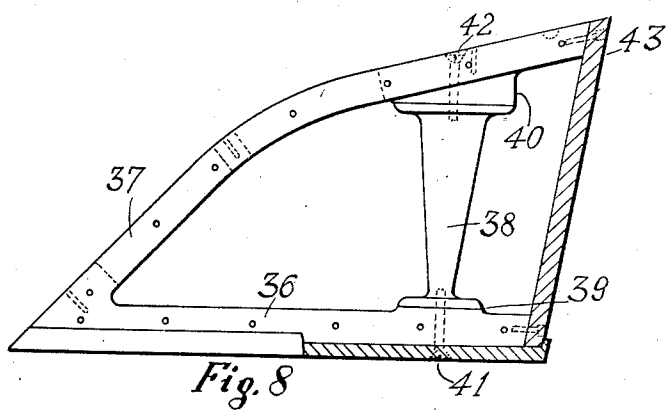


Fig. 8

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UNITED STATES PATENT OFFICE

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SHOE HEEL

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Application July 1, 1940, Serial No. 343,462

14 Claims. (Cl. 36—34)

This invention relates, broadly, to the manufacture of shoes, and more particularly refers to improvements in the construction of heels especially adapted for use on ladies' shoes.

Heels for ladies' shoes have heretofore been made of wood, suitably polished or covered with leather or fabric. Heels have also been made of various compositions, such as phenolic condensation products and others, going under the general classification of plastics.

However, insofar as I know, no real innovation has been made in the general appearance and design of heels, outside of making them in different colors, a possibility for which plastic compounds are particularly adapted.

The primary object of this invention is to provide a heel of a novel and attractive appearance, comprising, among other features, a transparent shell forming an enclosure through the wall of which the decorative portions of the heel may be seen.

Another object is to provide a heel of a novel and improved construction, comprising an ornamental frame and a transparent enclosure therefor.

A further object is to provide a heel in which an attractive appearance is combined with both lightness and strength.

A still further object is to provide a novel construction of heel comprising an ornamental frame, in which said frame is composed of a body portion lending itself to standardized design, and an additional portion attached thereto, said additional portion being adapted to be made in different forms and outlines, in order to produce a variety of frame designs, without having to make too heavy an investment in production tools and equipment.

Other objects and advantages of the present invention will more fully appear as the description proceeds, and will be set forth and claimed in the appended claims.

My invention is illustrated by way of example in the accompanying drawings, in which:

Fig. 1 is a side view in elevation, partly sectioned, of a heel embodying my invention;

Fig. 2 is a plan view thereof;

Fig. 3 is a front view in elevation of the same;

Fig. 4 is a cross sectional view of the same through line 4—4 of Fig. 1;

Fig. 5 is a view in perspective of a shell forming part of the heel shown in Figs. 1 to 4;

Fig. 6 is a side view in elevation, partly sectioned, of another type of heel embodying my invention;

Fig. 7 is a plan view thereof; and

Fig. 8 is a view similar to Fig. 6, illustrating an alternative construction of the same type of heel.

Referring to Figs. 1 to 5, 10 designates a heel comprising a frame 11, and an outer shell 12 encircling the sides and rear end of said frame.

The frame, which may be made of light metal alloy or any other suitable material, comprises a sole plate 13, a base plate 14, and front wall 15, forming with the sole plate and base plate a C-structure with an upwardly inclined upper leg, and an upright 16 extending between said sole and base plate, serving as a reinforcing member for the resulting open structure.

Both the sole plate and the base plate have the usual outline in an oval shape with the inner end cut off, the base plate being, of course, smaller than the sole plate. The base plate is preferably peripherally rabbeted to form a flange 17, extending around the sides and rear of said plate.

The heel is completed by mounting on said frame the shell 12, made of transparent material such as, for instance, material going under the trade name of Lucite.

As Fig. 5 clearly shows, said shell is in the form of a channeled piece decreasing in section from top to bottom, its upper edge portion registering with the outline of the sole plate and its lower edge portion registering with the outline of the sole plate and being adapted to rest upon the flange 17 of said sole plate.

Due to its curved channeled shape the shell is somewhat resilient so that it will fit snugly upon the frame but will yield with a spring-like action when it is mounted in place or removed therefrom.

The sole plate may be provided with threaded openings, such as shown at 18, adapted to receive screws for attachment to the bottom of the shoe. The base plate may be provided, as usual, with a lift 19 which may be secured in position by cement or in any other convenient manner.

The shell is preferably fastened in position by means of screws 20, 21, which may be inserted through the holes 22, 23 provided along the upper and lower edge of said shell and through the corresponding threaded holes 24, 25, provided along the periphery of the sole plate and base plate, respectively.

I prefer to use screws for fastening the shell to the frame so the shell may be easily removed from the frame, if desired.

As the drawings clearly show, the resulting

structure is in the form of ornamental open work surrounded by a transparent enclosure. The empty spaces within the enclosure offer possibility for further decoration in the form of ribbons, flowers, or small ornaments, which can be applied by the user by removing the shell and then replacing it. The result is a pleasing combination of materials and design offering a unique and attractive appearance, enhancing the general appearance of the shoe to which the heel is applied; furthermore, as stated, if the shell is made removable the heel offers possibilities for further ornamentation of striking character, which may be changed at will to harmonize with such costume as may be worn at the time.

My invention is also applicable in connection with heels of the type extending at the front to fill the space underneath the arch of the foot.

Such a construction is shown in Figs. 6 and 7, in which the frame 26 comprises a base plate 27, also in this case preferably formed with a flange 28 outwardly extending along the sides and rear of said base plate and a sole plate shaped so as to fit the underside of the rear part of the shoe.

The flange 28 is, in this case, shown in its preferred form, that is, provided with a peripheral upwardly extending ridge 28', forming with the body of the sole plate a groove adapted to receive and retain the lower edge of the shell, as Fig. 6 clearly shows.

The frame furthermore comprises an upright 30 extending between the two plates in proximity of the rear end of the frame.

The sole plate is preferably formed with openings, such as 31, 32, in order to lighten the structure without affecting its strength.

In this case also the frame is encircled along its sides and rear by a shell 33, made of transparent material, the lower edge of said shell resting upon flange 28 and its upper edge following the outline of the sole 29.

Both the base plate and the sole plate are provided with peripheral threaded openings, such as 34, adapted to receive screws 35 for fastening the shell to the frame.

It is obvious that a frame, such as described, may be made in a great variety of pleasing designs and colors. In order to limit the necessary expenditure for models and equipment, in practice I prefer to standardize the portion of the frame including the sole plate and base plate and to vary the decoration or design by separately producing that portion which intervenes between the plates.

For instance, in Fig. 8 I illustrate a heel in which the base plate 36 is made integral with the sole plate 37. The portion of the frame intervening between said two plates, however, is made as a separate piece and is mounted in position by means of screws or in any other convenient manner. In the drawings, such portion is represented by the upright 38, the top and botom surfaces of which rest against the abutment 39, 40 formed in the base plate and sole plate, respectively, and is connected to said plates by means of screws 41, 42, shown in dotted lines. The transparent shell 43 is mounted in position in the manner previously described.

It is obvious that part 38 can be made in a great variety of designs so that the heel itself will present a different appearance in each case.

Due to its construction, the heel is both light and strong and at the same time forms a very graceful adjunct to the shoe.

Although, as stated, I prefer to make the shell of transparent material, the general construction of heel described is also applicable in connection with shells made of non-transparent materials, the result still offering possibilities for the use of plastics and other attractive materials and offering the advantage over an ordinary heel of the possibility of replacing a soiled or otherwise damaged shell with a new one, restoring the distinguished appearance of the shoe at very low cost, or of replacing a shell of one color with a shell of a different color.

The constructional details of my invention may vary from those shown without departing from the inventive idea. The drawings should, therefore, be understood as being intended for illustrative purposes only and not in a limiting sense.

I, accordingly, reserve the right to carry my invention into practice in all those ways and manners which may enter, fairly, into the scope of the appended claims.

I claim:

1. A heel of the character described, comprising a C-shaped inner frame having a front wall and a sole plate and base plate rearwardly extending therefrom, and a shell having a substantially U-shaped section, encircling the sides and rear of said frame.

2. A heel of the character described, comprising a C-shaped inner frame and a shell having a substantially U-shaped section, encircling the sides and rear of said frame, the base of said frame having an outwardly extending flange adapted to form a rest for the lower edge of said shell.

3. A heel of the character described, comprising an inner frame and a shell having a substantially U-shaped section, encircling the sides and rear of said frame, the base of said frame having an outwardly extending flange having a groove adapted to form a rest for the lower edge of said shell.

4. A heel of the character described, comprising a C-shaped inner frame and a shell having a substantially U-shaped section, encircling the sides and rear of said frame, said shell hugging said frame and having a certain degree of resiliency permitting its easy removal and replacement.

5. A heel of the character described, comprising a C-shaped inner frame having a front wall and a sole plate and base plate rearwardly extending therefrom, and a shell having a substantially U-shaped section, fastened to and encircling the sides and rear of said frame.

6. A heel of the character described, comprising a C-shaped inner frame having a front wall and a sole plate and base plate rearwardly extending therefrom, and a transparent shell having a substantially U-shaped section, encircling the sides and rear of said frame, said shell hugging said frame and having a certain degree of resiliency permitting its easy removal and replacement.

7. In a heel of the character described, a frame having a base portion, a sole portion connected to the inner end thereof so as to form a C-shaped structure therewith, and a reinforcing compression member extending between said base portion and sole portion, to complete an open work frame therewith.

8. A heel of the character described, comprising a frame having a base portion, a sole portion connected to the inner end thereof so as to

leave an open space therebetween, and a reinforcing compression member extending between said base portion and sole portion, to complete an open work frame therewith, and a transparent shell having a substantially U-shaped section, encircling the sides and rear of said frame.

9. A heel of the character described, comprising a frame having a base portion, a sole portion connected to the inner end thereof so as to leave an open space therebetween, and a reinforcing compression member extending between said base portion and sole portion, to complete an open work frame therewith, and a transparent shell having a substantially U-shaped section, encircling the sides and rear of said frame, said base portion having an outwardly extending flange adapted to form a rest for the lower edge of said shell.

10. In a heel of the character described, a frame having a base portion, a sole portion connected to the inner end thereof so as to form a C-shaped structure therewith, and a member fastened to and extending between said base portion and sole portion, to complete an open work frame therewith.

11. In a heel of the character described, a frame having a base portion, a sole portion connected to the inner end thereof so as to leave an open space therebetween, and a member fastened to and extending between said base portion and sole portion, to complete an open work frame therewith, and a transparent shell having a substantially U-shaped section, encircling the sides and rear of said frame.

12. A heel of the character described, comprising a frame having a base portion, a sole portion connected to the inner end thereof so as to leave an open space therebetween, and a reinforcing compression member extending between said base portion and sole portion, to complete an open work frame therewith, and a transparent shell having a substantially U-shaped section, encircling the sides and rear of said frame, said shell being detachably fastened to said frame.

13. In a heel of the character described, a frame having a base portion, a sole portion connected to the inner end thereof so as to leave an open space therebetween, and a member fastened to and extending between said base portion and sole portion, to complete an open work frame therewith, and a transparent shell having a substantially U-shaped section, encircling the sides and rear of said frame, said shell being detachably fastened to said frame.

14. A heel of the character described, comprising a frame having a base portion, a sole portion connected to the inner end thereof so as to leave an open space therebetween, and a reinforcing compression member extending between said base portion and sole portion, to complete an open work frame therewith, and a transparent shell having a substantially U-shaped section, encircling the sides and rear of said frame, said shell being detachably fastened to said frame, said base portion having an outwardly extending flange formed with a groove, adapted to form a rest for the lower edge of said shell.

PAUL MARIANI.