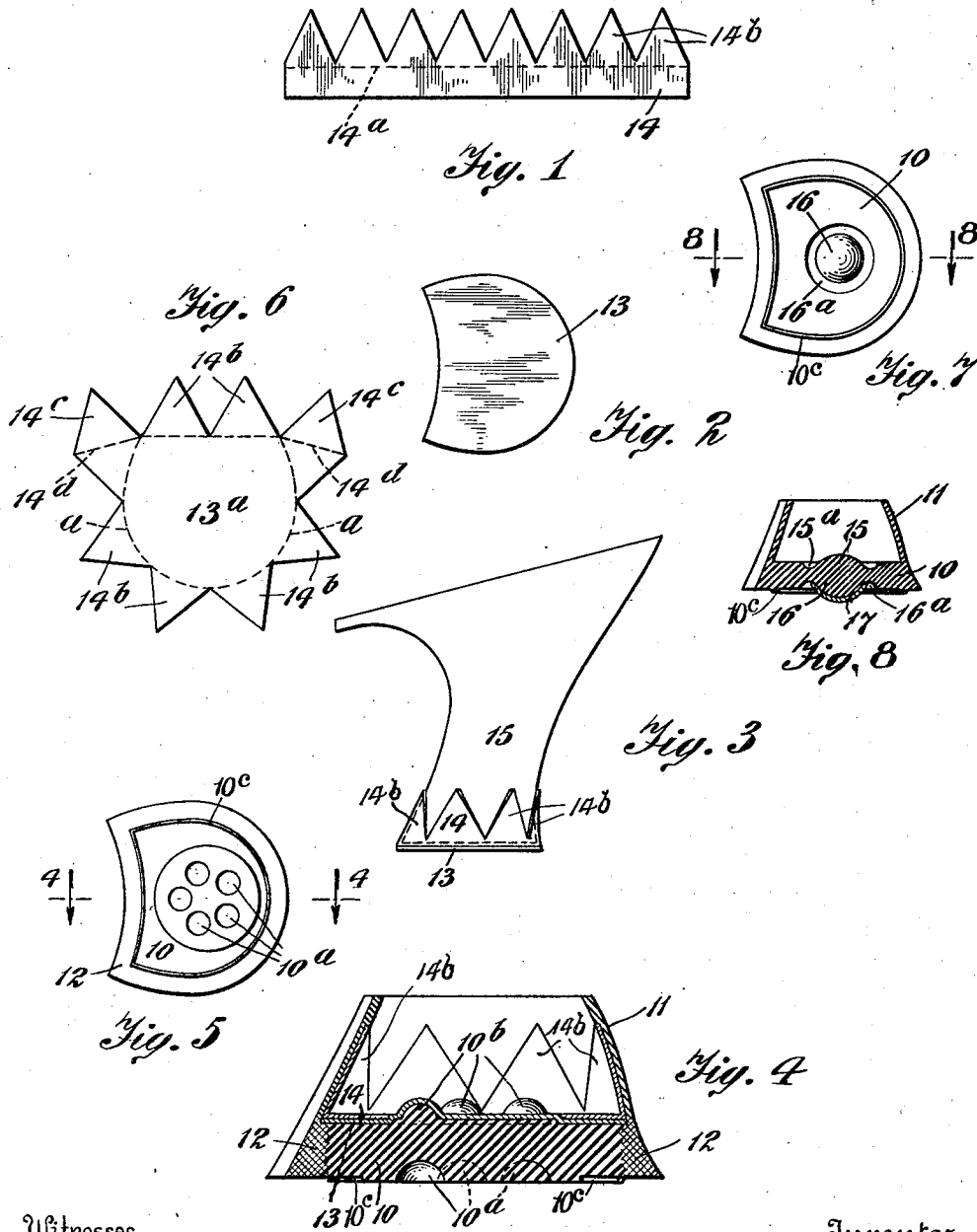


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SHOE HEEL.

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## SHOE-HEEL.

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*To all whom it may concern:*

Be it known that I, ELLIS S. HELWITZ, a subject of the King of Great Britain, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Shoe-Heel, of which the following is a full, clear, and exact description.

My invention relates to an elastic pad for shoe heels especially adapted to what are known as "French" heels though many of its features are suitable to heels of various other patterns.

The object of the invention is to construct the pad in very durable and economical form and to make it attachable to the leather heel without the use of screws, tacks or other devices driven into the heel so that the pad may be removed or attached readily with respect to different shoes and will not become a necessarily inseparable part of the shoe.

To this end the invention involves various features of importance all of which will be fully set forth hereinafter and particularly pointed out in the claims.

Reference is now had to the accompanying drawings which illustrate as an example, the preferred forms of my invention.

In these drawings—

Figure 1 is a developed view of the fabric girth which is used in the construction of the heel pad.

Fig. 2 is a plan view of the bottom binder sheet which is combined with the girth.

Fig. 3 is a view showing a mold part corresponding to the form of a "French" heel with the girth and binder sheet in the position which they assume before the operation of vulcanizing the rubber compound on the mold part.

Fig. 4 is an enlarged view showing the complete heel in section.

Fig. 5 is a bottom plan view of the same.

Fig. 6 shows a manner of combining in one part the girth and binder sheet of Figs. 1 and 2 in a single piece of material.

Fig. 7 is a bottom plan view of a modified form of the invention; and

Fig. 8 is a vertical longitudinal section on the line 8—8 of Fig. 7.

Referring first to Fig. 4, it shows an enlarged section of the finished product. 10 is the pad proper which is formed of a rubber compound, elastic of course, but pref-

erably made as tough and wear resisting as possible. 11 indicates thin elastic uprising walls also of rubber compound designed to embrace the sides of the heel and hold the pad in place by contracting against it. These uprising walls 11 are preferably made of a more elastic compound than that of the bottom 10 so that the pad will be more securely held in place though this is not essential. The cross hatch portions 12 are intended to illustrate the union between the different compounds 10 and 11 if such compounds are employed though it should be distinctly understood that my invention is not limited to this diversity of compounds and the parts 10 and 11 may, if desired, be made of the same composition of rubber or other equivalent material.

The bottom of the pad 10 is formed with a number of cavities 10<sup>a</sup> which I term suction cups, these being open to the pavement or surface on which the wearer walks with the pad and directly opposite these cavities 10<sup>a</sup>, on the upper side of the pad 10, corresponding projections 10<sup>b</sup> are formed so that when the pressure of the leather or wooden heel of the shoe is exerted on the projections 10<sup>b</sup> the pad 10 is flexed, the cavities 10<sup>a</sup> are opened and thereby exert a suction on the pavement which will make the wearer of the heel pad sure-footed and prevent slipping.

Now for the purpose of firmly uniting all of the parts of the elastic heel pad especially preventing the walls 11 from being torn away from the pad proper 10, I employ the binder sheet 13 and the girth 14 of Figs. 1 and 2. These are preferably made of rubberized elastic cloth. The binder sheet 13 is laid on top of the pad 10 while the girth 14 is folded approximately along the dotted line 14<sup>a</sup> of Fig. 1, so that part of it lies on top of the pad 10 and the serrated or notched upper edge part lies inward around the elastic walls 11. Fig. 3 illustrates these parts 13 and 14 in position on the mold section 15 which corresponds exactly to the shape of the well-known "French" heel. This is the position which the parts 13 and 14 take immediately prior to the vulcanizing of the rubber parts. The rubber parts are then vulcanized over the parts 13 and 14 by any usual or well-known process and the vulcanizing molds are furnished with a formation which will produce the cavities 10<sup>a</sup> and corresponding projections 10<sup>b</sup> in 110

the pad 10 all of which has been before described.

The finished article therefore provides a heel pad which may be slipped on and off of the heels by the wearer of the shoes and applied to one shoe or another as occasion demands and in which the tough wear-resisting bottom 10 is provided and the elastic side walls 11 which insure holding the pad in place. The cavities 10<sup>a</sup> operating as suction cups prevent slipping as described and the girth 14 and binder sheet 13 being vulcanized in and becoming a permanent part of the pad structure greatly increase its strength and durability and prevent tearing of the rubber. In this connection it should be noted that the serrated or notched upper edge of the girth 14 adapts itself to the inwardly curving and tapering form of the walls 11 and while furnishing all of the reinforce that is necessary does not seriously detract from elasticity of these walls which is necessary to the realization of their intended function.

Fig. 6 shows a slightly different and indeed preferable manner of forming the rubberized elastic cloth reinforce, according to which the parts shown in Figs. 1 and 2 are made in one integral section and some saving of material and labor thereby attained. 13<sup>a</sup> indicates the base part or binder sheet and 14<sup>b</sup> indicates the equivalent of the girth which are simply tapered projections from the edges of the sheet 13<sup>a</sup> but formed integrally therewith and adapted to be folded up into a vertical or inclined position approximately along the dotted or broken line *a* indicated in Fig. 6. The projections 14<sup>b</sup> are triangular in form but there are two other projections 14<sup>c</sup> which are double triangles or diamond shaped and are adapted to be folded on the broken lines 14<sup>d</sup> so that they will wrap around the front corners of the heel and conform to the shape thereof and overlap the next adjacent projections 14<sup>b</sup> all of which is provided to allow a perfect fit of the pad to the heel and to prevent a clumsy and insecure construction.

From what has been said it will be appreciated that these rubber heels or heel cushions are manufactured in different sizes to correspond with different sizes or types of shoe heels, having reference particularly, however, to what is known as the "French" heel. From Figs. 4 and 8 it will be appreciated that the bottom surface of the heel attachment is materially broader or carries more flare than the bottom surface of the shoe heel without the attachment, hence in order to facilitate the fitting of my attachments to any size of heel it is important that the bottom of the space within the wall 11 shall be as nearly as possible the counterpart of the bottom of the heel without the attachment. In view of the considerable depth or

flare at the bottom of the attachment or part 10 it is not always expedient for an ordinary individual to select a pair of attachment pads that are suitable for any particular pair of shoes and in this connection it must be borne in mind it is calculated that these heel pads are being put upon the market where the general public have access to them for personal or private attachment to their own shoes, therefore, it follows that it is desirable that means be employed for the easy comparison of sizes of the attachments and the heels. To this end I provide, as shown at 10<sup>c</sup> an indicator mark or bead formed directly upon the bottom surface of the base part 10 and directly beneath the boundary of the clear space within the attachment at the line of union between the wall 11 and the base. In other words the bead 10<sup>c</sup> is intended to be an exact representation of the area and shape of the bottom surface of the heel for which any particular pad is adapted to fit. The customer thereby by placing the bottom surface of a pad directly to the bottom of her heel can see immediately whether it is the right size or not. While I believe it is new, as well as of great practical merit for the bottom of the herein described shoe heel or heel tip as an article of manufacture to be provided on its bottom surface with a mark indicating the area and form of the heel for which the tip is intended, I wish to call especial attention to the fact that said mark in the form of a bead is preferably located on the bottom of the tip directly below the periphery of the heel or as a downward projection of the boundary line between the heel and the elastic wall for the following reason: It is obvious that the indicator feature when made in the form of a bead as illustrated may be of any desired thickness or cross sectional area and hence unless it is located directly beneath the periphery of the heel as can best be appreciated from Fig. 4, there would be a want of stability to the wearer's ankle if the bead were located anywhere except at the place indicated.

In Figs. 7 and 8 I show a modification in which a single projection is formed in the center of the upper part of the base at 15 and the same is surrounded by a groove 15<sup>a</sup>. On the bottom of the base is formed a projection 16 surrounded by a groove 16<sup>a</sup>, the projections 15 and 16 being one above the other. The projection 16 may be faced, if desired, with any suitable wear resisting element 17 to increase the durability of the pad especially with respect to the rotation of the foot around the center of the heel as a pivot.

I claim:

1. A rubber heel pad with a bottom portion and upstanding elastic walls for the purpose specified, and a fabric inset in said

parts to increase the strength thereof, the fabric extending up with the elastic walls, and such upwardly extending part of the fabric being slitted to prevent interference with the elasticity of the walls.

2. A rubber heel pad with a bottom portion and upstanding walls for the purpose specified and a fabric reinforce comprising a binder sheet to lie over the top of the bottom portion of the pad and serrated upstanding projections at the edges of the binder sheet united with the said elastic walls to strengthen the same without interfering with their elasticity.

3. As an article of manufacture, an elastic tip for a French heel, said tip comprising a resilient base and contractible means pro-

jecting upwardly therefrom to embrace the heel to hold the tip thereon, the bottom of the base bearing an indicator to show the precise area and form of the bottom surface of the heel for which the tip is adapted.

4. The herein described resilient pad for shoe heels, the same comprising a resilient base adapted to be applied directly against and conform in size to the bottom surface of the shoe heel, means to secure the pad to the heel, and a bead formed on the bottom surface of the pad in position to lie exactly below the periphery of the heel to which the pad is attached in practice, the base of the pad being extended laterally of said bead and the heel.

ELLIS S. HELWITZ.