

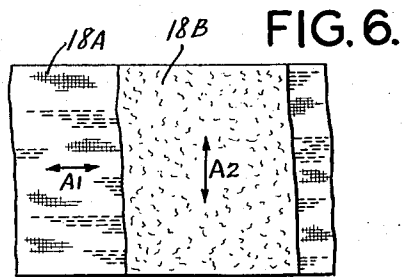
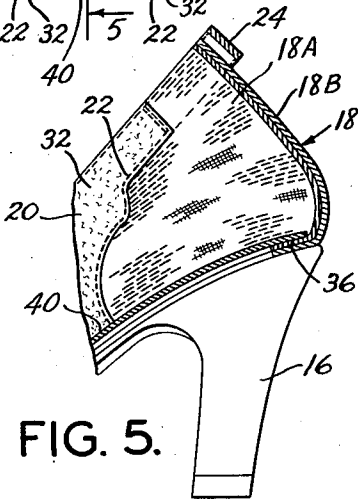
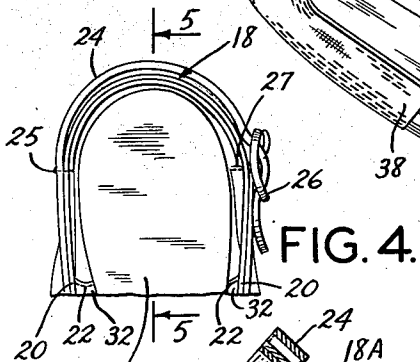
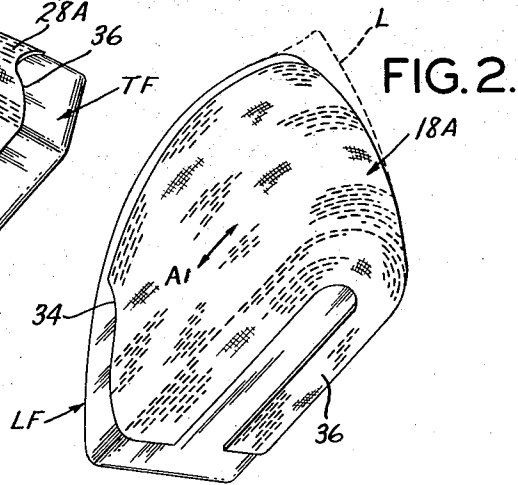
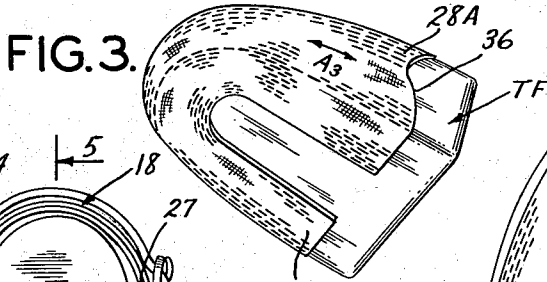
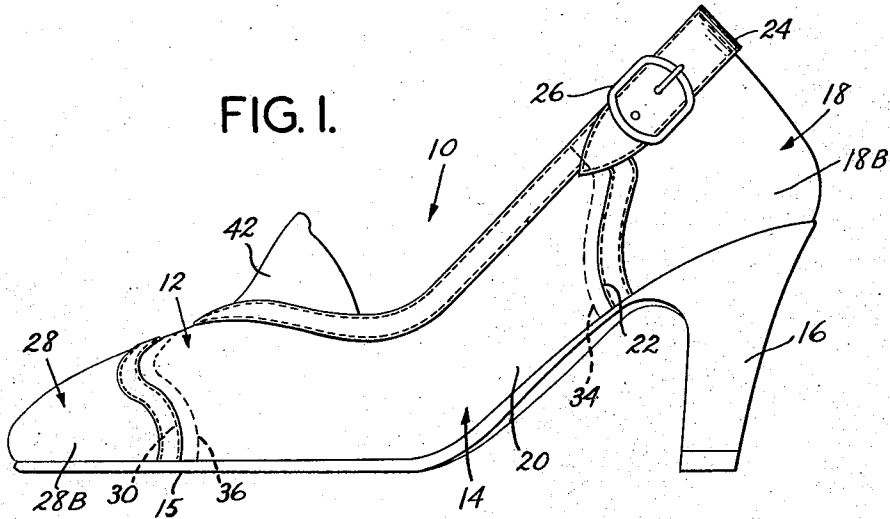
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A. PERUGIA

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SHOE WITH ELASTIC BACK AND ADDED FASTENING MEANS

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INVENTOR  
ANDRÉ PERUGIA  
BY *Edwin Serrano*  
*Harry Cole*  
ATTORNEYS

# UNITED STATES PATENT OFFICE

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## SHOE WITH ELASTIC BACK AND ADDED FASTENING MEANS

André Ferugia, Paris, France, assignor, by mesne assignments, to Anper, Inc., New York, N. Y., a corporation of New York

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2 Claims. (Cl. 36—51)

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My present invention relates to shoes and parts thereof.

One object of the invention is generally to provide a shoe of improved construction especially in respect to such important qualities as fit and comfort. More particularly, it is an object of this invention to provide a shoe in which the rear part of the quarter, in the heel region of the shoe upper, is of such character as to obviate the disadvantages and discomfort of the usual stiff counter, and to adapt and resiliently conform itself to the shape of the wearer's heel. Also in accordance with the present invention, in the preferred embodiment thereof, the toe portion of the upper is of such construction as to obviate the stiffness and discomfort of a shoe provided with the usual box-toe stiffener, and to be resiliently yieldable to the pressure of the wearer's toes.

In one of its aspects, the present invention may be considered as providing a shoe which can have a closed toe and/or closed back and yet retain the more desirable qualities of a shoe having an open toe and/or open back.

The invention will be fully understood from the following description considered in connection with the accompanying drawings which, however, are to be considered as illustrative of the invention but not in limitation thereof.

In the drawings:

Fig. 1 is a side view of a shoe embodying the invention;

Fig. 2 is a perspective view of a part of the shoe mounted on a form;

Fig. 3 is a perspective view of another part of the shoe mounted on a form;

Fig. 4 is a top plan view of the rear part of the shoe;

Fig. 5 is a sectional view on the line 5—5 of Fig. 4;

Fig. 6 is a fragmentary plan view of composite elastic material of which parts of the shoe may be made.

Referring now to the drawings in detail, the shoe 10, here shown as a low shoe which is illustrated as a shoe of the pump type but which can have an upper of any other type or style, has an upper including a vamp 12 and a quarter 14, an outsole 15, and a heel 16. Pursuant to the present invention, the quarter is devoid of the usual counter stiffener, at least in the heel region, and is provided with a back part 18 formed of elastic material. As here shown, part 18 extends vertically to the top edge of the shoe upper. More particularly, said part 18 is elastic in a direction

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extending longitudinally of the shoe and around the back of the wearer's heel, as indicated by the arrow A1 in Figs. 2 and 6, but need not be and preferably is not elastic in a vertical direction.

Part 18 is preferably made of or includes a layer of one-way stretch elastic fabric, for example, but without limitation, fabric commonly known as "lastex," and said layer is preferably woven to shape in order to simplify the shoe manufacturing operations. A pre-shaped elastic part 18A of this character is shown in Fig. 2. When leather or other covering material is not desired, said part 18A may be secured to the adjacent rear edges, respectively, of the side parts 20 of the quarter in any suitable way as by stitching 22. When leather or other suitable covering material is provided, the leather layer 18B is adhesively united in surface to surface relation with part 18A before stitching the composite part to side parts 20, rubber cement being used for this purpose and applied throughout the contiguous surfaces of the elastic part 18A and the leather layer 18B.

In the process of uniting leather layer 18B with elastic part or layer 18A, the latter is placed on a suitable form LF as indicated for example in Fig. 2. Said form is of such shape and size that part 18A fits thereon without being stretched. The leather covering layer 18B of suede or other suitable leather is stretched in a direction transversely to the direction of stretch of part 18A, i. e., in the direction of the double arrow A2 (Fig. 6) and while in taut condition the stretched leather layer 18B is conformed to part 18A and adhesively secured to the outer surface of said part on the form LF by rubber cement, as stated above. Elastic part 18A is shaped and dimensioned so that in its relaxed or untensioned condition it is somewhat smaller than the corresponding part of the last on which the shoe upper, provided with said part, is lasted in the usual shoe lasting operation, whereby part 18 of the finished shoe is placed under tension and resiliently engages the wearer's foot in the heel region when the shoe is on the wearer's foot. The rear of the last on which the shoe upper is lasted is indicated schematically in dotted lines at L in Fig. 2, to illustrate the smaller size of form LF in relation to said last. This condition obtains whether or not part 18 includes a covering layer of leather on elastic part 18A. It will be noted that the stretching of the leather layer 18B in the direction specified above enables the composite material, i. e., part 18A covered by layer 18B to stretch longitudinally of the shoe and around the

back thereof so to conform resiliently to the wearer's foot in the heel region thereof.

An adjustable strap 24, of non-stretchable material, and a companion buckle 26 are provided at the upper back of the quarter in order to hold the shoe on the wearer's foot. Strap 24 is attached to the rear upper portion 25 of the side part 20 at one side of the shoe and buckle 26 is attached to the rear upper portion 27 of the side part 20 at the other side of the shoe. It will be understood that any other suitable fastening means may be provided instead of the strap and buckle 24, 26.

In the preferred embodiment of the invention and especially when the shoe does not have an open toe, the toe portion of the vamp is devoid of the usual box toe stiffener and comprises an elastic part 28 formed of an elastic fabric with or without an outer covering layer of leather or other covering material. This elastic fabric part is also preferably woven to shape, in order to facilitate the shoe making operations and when the suede or other leather covering is desired it is applied to said elastic fabric part substantially in the same way as that described above with reference to parts 18A and 18B. It will be understood that part 28 is stretchable longitudinally of the shoe and is preferably made of one-way stretch lastex or other suitable elastic fabric. It is ordinarily desirable that toe part 28 be more easily stretchable than back part 18. Said toe part 28, as shown in Fig. 1, comprises an inner elastic layer or part 28A (Fig. 3) and a covering layer 28B of suede or other stretchable leather or material. Fig. 3 shows layer 28A mounted on a form TF on which part 28A fits without stretching. Arrow A3 indicates the direction of stretch of part 28A and also of the composite material when said part is provided with the covering layer 28B. Toe part 28 is attached to the forward edge portion of the vamp 12 by stitching 30.

In the illustrated form of the invention, the part of the vamp rearwardly of toe part 28 and the part of the quarter forwardly of part 18 is in one piece at each side of the shoe, but it will be understood that said vamp and quarter parts may be formed in separate pieces and stitched together or, depending on the style and type of shoe, said parts may be spaced from each other longitudinally of the shoe at each side of the shoe. As here shown, the vamp and quarter parts which extend between toe and back parts 28 and 18 have a lining 32, and the forward edge portions 34 and 36 of parts 18 and 28, respectively, are positioned between the outer and lining layers of said quarter and vamp parts, respectively. Parts 18A and 28A need not be provided with linings. It will be observed that part 18 has a lasting allowance 36 and that part 28 similarly has a lasting allowance 38. The innersole or sock lining for the shoe is indicated at 40 (Figs. 4 and 5).

It is preferred that the vamp and quarter be non-stretchable, except for back part 18 and toe part 28, although it is ordinarily desirable to provide a stretchable or yieldable marginal edge portion locally at the front edge 42 of the foot opening. It will be understood that it is within the scope of this invention to provide a shoe in which either the elastic back part 18 or the elastic toe part 28 may be present without the other, for example but without limitation, when the shoe has an open toe or open back, respectively.

Although the invention has been specifically described as applied to a lady's shoe, it will be understood that it may be applied as well to men's and children's shoes.

In making the shoe of the present invention, after the upper is formed it may be assembled with the other parts of the shoe in accordance with any of the known methods of making shoes, such as for example but without limitation, those usually referred to as McKay, turn, Goodyear welt, cement, slip lasted, etc., to the extent that any of said methods or modifications thereof may be applicable. Preferably, however, the shoe is made according to the cement process.

It will be understood that parts 18 and 28 may be made of any suitable elastic materials, other than those specifically mentioned and that it is within the scope of the invention to provide said parts in the desired shape otherwise than by weaving them in such shape. Also it will be understood that various changes in the details of construction and in the form of the shoe may be made without departing from the underlying idea or principles of the invention within the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. In a shoe, an upper the heel region of which is devoid of a counter stiffener, said upper having an inelastic quarter and an elastic part in said heel region, said elastic part conforming to the contour of the heel region of the foot and being dimensioned to resiliently engage the wearer's foot in the heel region when the shoe is worn, said elastic part extending vertically of the shoe from the heel to the edge of the foot opening and extending from the quarter at one side of the shoe around the back of the shoe to the quarter at the other side of the shoe, said elastic part being resiliently stretchable longitudinally of the shoe and laterally of the shoe at the back thereof, and releasable and adjustable fastening means carried by said upper in said heel region thereof and externally of said upper to fasten around the back of the shoe, said fastening means being constituted by a relatively narrow strap secured to said upper and extending around the shoe rearwardly therefrom, said strap when in adjusted position but with the shoe off the foot being spaced from the margin of said elastic part with the upper edge of the strap being substantially level with the upper edge of said elastic part and overlying said elastic part only at the margin of said elastic part.

2. In a shoe, an upper the heel region of which is devoid of a counter stiffener, said upper having an inelastic quarter and an elastic part in said heel region, said elastic part conforming to the contour of the heel region of the foot and being dimensioned to resiliently engage the wearer's foot in the heel region when the shoe is worn, said elastic part extending vertically of the shoe from the heel to the edge of the foot opening and extending from the quarter at one side of the shoe around the back of the shoe to the quarter at the other side of the shoe, said elastic part being resiliently stretchable longitudinally of the shoe and laterally of the shoe at the back thereof, and releasable and adjustable fastening means carried by said upper in said heel region thereof and externally of said upper to fasten around the back of the shoe, said fastening means being constituted by a relatively narrow strap secured to said upper substantially at the forward edges of said elastic part and extending around the shoe rearwardly therefrom, said strap when in adjusted position but with the shoe off the foot being spaced from the margin of said elastic part with the upper edge of the strap being substantially

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level with the upper edge of said elastic part and overlying said elastic part only at the margin of said elastic part.

ANDRÉ PERUGIA.

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