Oct. 31, 1939. E. RICHTER 2,178,025

COMPOSITE SHOE

Filed Feb. 8, 1939

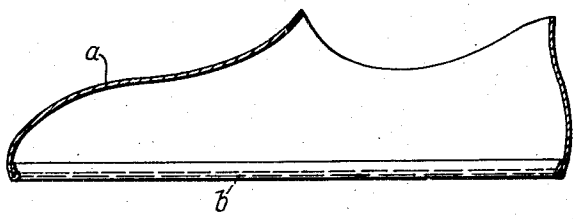


Fig.1

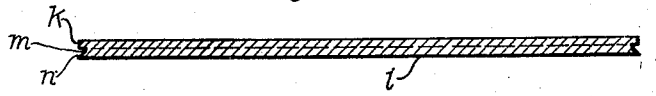


Fig.2

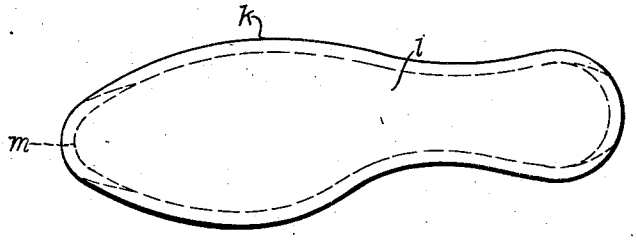


Fig.3

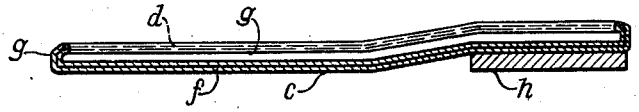


Fig.4

Fig.5

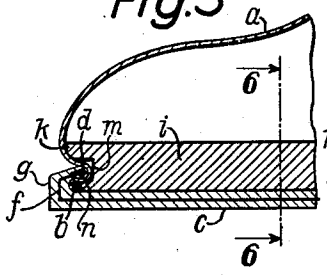


Fig. 6

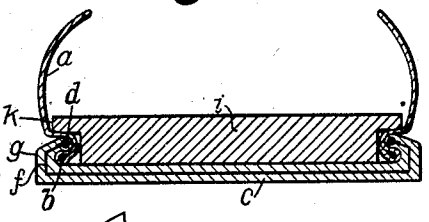


Fig.7

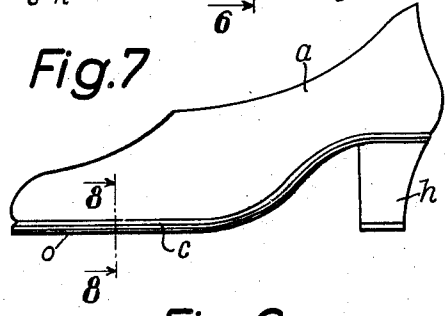


Fig.8

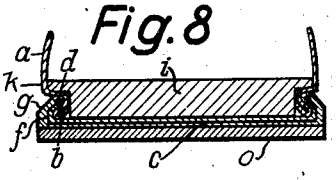
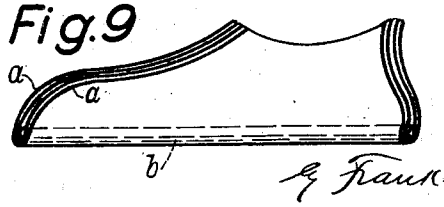


Fig.9



Inventor,
Eduard Richter,
by Frank A. Ackerman
attorney.

Patented Oct. 31, 1939 2,178,025

UNITED STATES PATENT OFFICE

2,178,025

COMPOSITE SHOE

Eduard Richter, Sagan, Germany

Application February 8, 1939, Serial No. 255,340
In Germany February 25, 1938

2 Claims. (Cl. 36—2.5)

This invention relates to a composite shoe, particularly a slipper, whose upper is detachably inserted with its lower edge in an inner groove of the upright edge of the outsole and held therein by means of a sock or insole.

The invention eliminates the defects of the known composite shoes by providing a novel connection between the upper and the outsole, which consists in fitting the inwardly projecting edge of the outsole and the lower edge of the upper with wire rings of approximately equal size, the wire ring of the upper being inserted in a groove below the wire ring of the outsole and held by an insole possessing wedge-shaped grooves at the front and rear round portions of its lateral face for receiving both rings in superposed fashion and holding the other sections of the rings through the medium of its side edges. A composite shoe assembled in this manner comprises only three parts which can be readily put together or disassembled by anyone. The fastening means are simple and do not create an unsightly effect when the shoe is assembled. The use of flexible wires as fastening members is not open to the objection of interfering with the elasticity of the shoe and rendering it uncomfortable when worn.

As the shoe can be easily disassembled, the parts thereof can be more thoroughly cleaned. Furthermore, smaller repairs can be made at home, and if the upper is worn out, the other parts may be united with a new upper of fabric which can also be made at home without much trouble.

Owing to the novel manner of fastening, the upper may be turned and worn on the other side as for instance in case of gloves. The upper may further comprise several different layers of material held together only at the lower edge by the joint wire ring, which may be turned at will to bring one or the other layer to the outside. Such a shoe can be turned not only twice but several times and thus enables women for instance to wear shoes to match with their dresses without having to buy a new pair of shoes for each dress. By producing the uppers at home personal taste can be satisfied to any extent. In an upper comprising two or more layers the heel and toe may, moreover, be readily stiffened by placing suitable insertions between two layers, which will not be visible from the outside.

The invention is illustrated by way of example in the accompanying drawing, in which

Figures 1 to 4 show a slipper separated into its component parts, Figs. 1 and 2 being longitudinal sections of the upper and insole, respectively; Fig. 3, a top view of the insole; and Fig. 4, a longitudinal section of the outsole;

Fig. 5 is a longitudinal section on an enlarged scale of the front part of a composite slipper;

Fig. 6 is a partial section on the line 6—6, of Fig. 5;

Figs. 7 and 8 are, respectively, a side view and an enlarged partial section on the line 8—8, of Fig. 7, of a woman's shoe; and

Fig. 9 is a central longitudinal section of an upper comprising a plurality of layers.

The upper *a* made from soft leather, textile fabric or similar flexible material is adapted to the form of the foot and closed at the sides but open on top and below and has a stiffened yet still flexible lower edge which in the construction shown forms a sort of hem provided with a ring *b* of steel wire, etc. The outsole *c* has an upright and inwardly bent edge *g*, also stiffened by an inserted wire ring *d* having the same length as the wire *b* of the upper. The ring *d* is secured to the extreme edge of a fabric layer *f* worked in between two layers *c, c* of leather, rubber, etc., which form the outsole, the layer *f* being for instance pasted together with the two layers *c, c*. Below the wire insertion *d* the inside of the edge *g* has a groove for receiving the stiffened lower edge of the upper *a*. The upright edge of the outer layer *c* is bevelled upwardly, and the visible edge of the outsole *c* has therefore a shape similar to that of an ordinary shoe. A heel *h* which may be flat or high as required is firmly united with the outsole *c*.

The third part of the composite shoe is an insole *i* made of leather, rubber, etc., and shown in Figs. 2 and 3. This insole is so cut that after insertion of the upper *a* it completely fills the inner space of the outsole *c* limited by the upright edge and is so thick that when inserted in the outsole *c* its surface will be on a slightly higher level than the upright edge *g* of the outsole *c*. The portion of the insole *i* lying above the edge *g* is extended to form a flange *k* which all around overlaps the edge *g* of the outsole *c* so that, as shown in Fig. 6, the two side surfaces of the insole *i* are stepped. At the front and rear round portions of the insole *i*, however, inwardly tapering grooves *m* are formed, and the portions of the insole *i* positioned above the grooves *m* form again flanges *k* which overlap the sections of the upright edge *g* at the toe and rear round portion. The pointed lower edges *n* below the grooves *m* are so dimensioned and formed that they will engage the inner groove

of the edge *g* if the insole *i* is properly inserted in the outsole *c*.

The three parts *a*, *c*, *i* described are assembled as follows:

First the stiffened lower edge *b* of the upper *a* is inserted in the groove of the edge *g* of the outsole *c*. This can be done without any difficulty and special tools, since the inserted wire *b* at the lower edge and the upper *a* are both flexible and during the assembly of the parts *a*, *c* can be compressed as required. Then the insole *i* is introduced through the top opening of the upper *a* and pushed up to the front round portion of the shoe. During this step the two superposed wires *b*, d at the edges of the upper *a* and outsole *c* engage the wedge-shaped groove *m* of the insole *i* in the manner shown in Fig. 5. The insole *i* is then slightly pushed up to facilitate the reception of the rear section of the two wires *b*, *d* by the rear groove *m*. When the insole *i* is thereupon pressed down to be in complete contact with the outsole *c*, the two wedge-shaped grooves *m*, *m* fix the inserted upper *a* to the outsole *c* while simultaneously the straight side faces of the sole positioned below the flanges *k* overlapping the two inserted wires *b*, *d* secure the lateral sections of the wires *b*, *d* in assembled position, as the side faces of the insole *i* are so close to the wires that the lower wire *b* of the upper *a* cannot pass any more the superposed wire *d* of the edge *g* of the outsole *c*. The shoe can be disassembled again only after removal of the insole *i*, which can be readily effected by pulling up the central section of this sole.

The women's shoe shown in Figs. 7 and 8 differs from the shoe shown in Figs. 1 to 6 in that the outsole *c* comprises three layers of leather or rubber instead of two. The lowermost layer *o* is thicker than the other two layers and forms a strong and highly resistant tread so that the shoe can be used also for rough wear as a street shoe, etc. The heel *h* is suitably secured to the layer *o*. The shoe is composed of three detachably connectible parts, viz., the upper *a*, the outsole *c* and the insole *i* which holds the other two parts together.

As the upper *a* consists of flexible material, it can be easily turned to bring its inside to the outside. The possibility of using both sides of the upper will be appreciated not only when one side is soiled and cannot be cleaned at once, as frequently happens in case of fabric-shoes, but insures also longer life of the shoe which is usually discarded when the upper becomes unsightly and damaged. If shoes are not symmetrical, the upper associated prior to turning with the outsole of the left shoe must after turning be united with the outsole of the right shoe, and vice versa. In case of symmetrical shoes, such as slippers, each upper, regardless of the side thereof that is to be worn on the outside, fits the outsole of either the right or left shoe.

Fig. 9 indicates that an upper may be composed of a plurality of differently colored or patterned layers *a* of fabric or leather or of mixed fabric and leather. In the example shown four different layers are provided. By making both sides of each layer different eight differently looking shoes can be produced while using one and the same upper *a*, outsole *c* and insole *i* so that women may have a shoe to match for each dress. The various layers are firmly united at the lower edge supporting the wire insertion *b*, for instance by sewing, but are loosely superposed at the upper edge and over the entire middle surface. Correspondingly, if two or three layers are used, uppers in four or six colors can be produced.

The invention is not restricted to the embodiments shown and described but may be varied in several ways without departing from its fundamental idea.

I claim:

1. A composite shoe, comprising an upper having a stiffened yet flexible hem-like lower edge, a wire ring provided in the lower edge of the upper, an outsole having an upright inwardly bent and internally grooved edge detachably receiving the wire ring of the upper, a wire ring having approximately the same size as said first ring for stiffening the edge of the outsole and being disposed above the groove, a heel firmly united with the outsole and a detachable insole having a flange overlapping the edge of the outsole and tapering grooves at its front and rear round portions, in which said two rings are partly held in superposed order, the remaining sections of the rings being held by the side edges of the insole.

2. A composite shoe according to claim 1, in which the upper comprises a plurality of different layers of material jointly held together at the lower edge and capable of being selectively turned to bring one or the other side of each of said layers to the outside.

EDUARD RICHTER.