Nov. 18, 1930. S. R. BLAKELY 1,781,715

INSOLE AND METHOD OF MAKING SAME

Filed Feb. 14, 1929

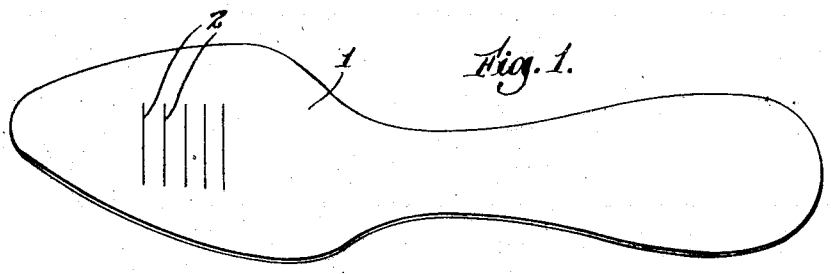


Fig. 1.

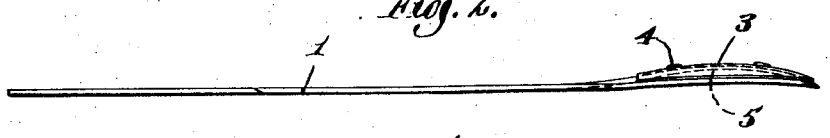


Fig. 2.

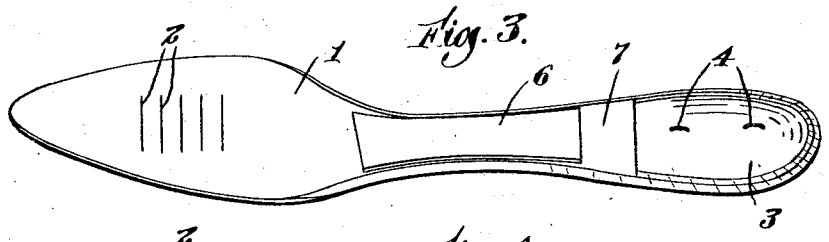


Fig. 3.

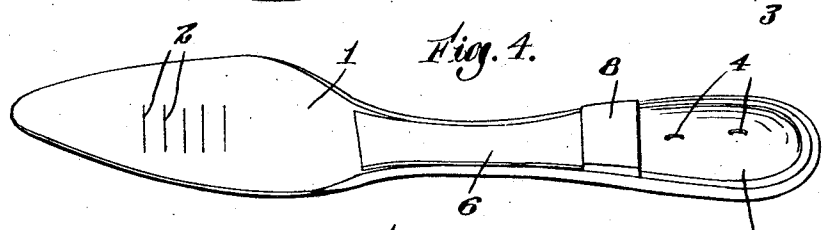


Fig. 4.

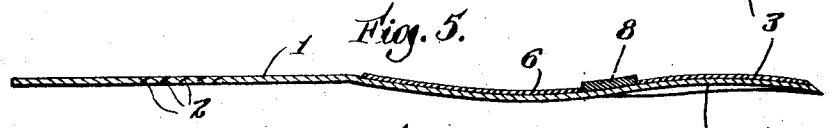


Fig. 5.

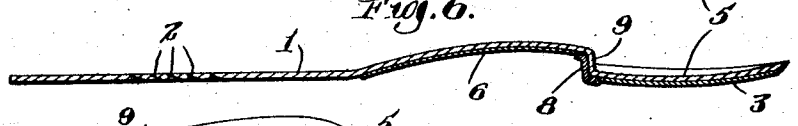


Fig. 6.

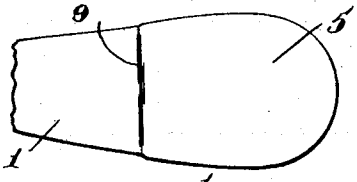


Fig. 7.

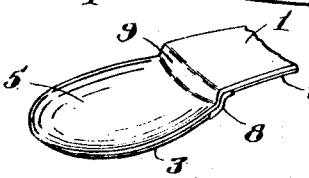


Fig. 8.

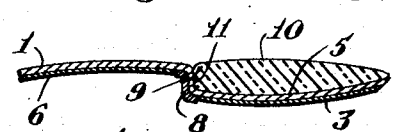


Fig. 9.

Inventor
Sidney R. Blakely
by James R. Hodin
Attorney

Patented Nov. 18, 1930 1,781,715

# UNITED STATES PATENT OFFICE

SIDNEY R. BLAKELY, OF JAMAICA PLAIN, MASSACHUSETTS

## INSOLE AND METHOD OF MAKING SAME

Application filed February 14, 1929. Serial No. 339,811.

The present invention relates to insoles.

The insole of the present application, also, is adapted and intended to be used in conjunction with the novel last of my copending application Ser. No. 339,812, filed Feb. 14, 1929.

Insoles embodying my present invention are equally applicable for use in turn, welt, McKay, or cemented shoes, the drawing of the present application illustrating an insole primarily adapted for use in McKay shoes, but it will be understood that this is for illustrative purposes only and that I am not limited thereto.

An important object of the present invention is the provision of an insole which will have an abrupt break therein at the rear of the shank portion thereof, this break being defined by a substantially vertical wall against which the foot of the wearer will bear.

Another object of the present invention resides in providing, in said insole, and before assembly in a shoe, a rounded heel seat which, combined with the aforesaid substantially vertical wall, will form a deep pocket, in which, in the completed shoe, is adapted to be fitted a heel pad of considerable depth and of sufficient cushioning capacity so that the heel of the wearer will compress said pad to a sufficient extent to allow the forward part of the heel of the wearer to bear against the edge of said wall.

Another object of the invention resides in affixing, to the heel portion of said insole, and before the molding operation to round the same, a reinforcing layer or plate, preferably of non-metallic material, of sufficient body and stiffness to retain the rounded contour once the same has been molded in said heel portion.

Another object of the invention resides in the fact that I utilize a blank of greater length than the length of the completed insole.

A still further object of the invention resides in applying, to the shank portion of said insole, and spaced from said reinforcing layer on the heel portion, a second stiffening member, adapted for a shank stiffening element.

Another feature of the invention resides in positioning, in the space between said two reinforcing layers, a strip of material, such as leather, extending transversely of the insole, of sufficient flexibility to permit the bending thereof with the insole to form the vertical wall above mentioned, and of sufficient stiffness to retain said wall.

I believe that an insole manufactured as above, is novel, and I have therefore claimed the same broadly in the present application.

I also believe that the method of manufacturing said insole, above briefly described, is novel, and said process is therefore also claimed in the present application.

The above and other objects of the invention, features, details and advantages, will be hereinafter more fully pointed out, described and claimed.

Referring to the drawings, illustrating a preferred embodiment of the present invention,

Fig. 1 is a bottom plan view of an insole blank;

Fig. 2 is a side elevation of said blank after application of the reinforcing heel layer and rounding thereof;

Fig. 3 is a bottom plan view after application of the shank stiffening element;

Fig. 4 is a bottom plan view after application of the strip between said shank stiffening element and said heel layer;

Fig. 5 is a longitudinal sectional view of the insole as illustrated in Fig. 4;

Fig. 6 is a longitudinal sectional view after "breaking" of the insole to form the vertical wall and pocket therein;

Fig. 7 is a top plan view of the heel portion of the insole as illustrated in Fig. 6;

Fig. 8 is a perspective view of the heel portion of the insole as illustrated in Figs. 6 and 7; and

Fig. 9 is a fragmentary longitudinal sectional view of the heel portion of said insole illustrating the positioning therein of a heel pad or cushion.

Referring now to the drawings, for a particular description of the invention, 1 designates a blank, preferably of leather, formed to the shape of an insole, but of slightly

greater length than the length of the completed insole.

This blank may be provided, on its bottom surface, with a series of transverse slits or gashes 2, for flexibility, as is usual. Onto the heel portion of this blank I then apply a layer 3 of non-metallic material, preferably fibrous material, such as fibreboard or leatherboard, of greater stiffness and body than the material of the blank 1. This layer 3 may be secured to the heel portion of the blank by adhesive, or by staples 4, or both, and this heel portion, including the layer 3, is then subjected to a molding operation which will give a rounded inner cup, as illustrated at 5, this cup or concavity being rounded to predetermined contour.

I then apply, over the shank portion of the blank 1, a strip or layer 6, preferably of the same material as the layer 3, this strip being secured to the said blank by any suitable adhesive. The strip 6 and layer 3 are separated, as clearly illustrated in Fig. 3, leaving a space 7 therebetween. The insole, thus far assembled, is subjected to a molding operation at the shank portion to produce the arched effect illustrated in Figs. 5 and 6. If desired, the molding operations above described may be performed simultaneously, or separately.

I then apply, to that portion of the insole between the strip 6 and layer 3, in the space designated as 7, a transverse strip 8, preferably of a material less rigid or stiff than either the strip 6 or layer 3. This strip 8 is also secured to the blank by means of any suitable cement or adhesive. I then subject the insole, as thus far prepared, to a "breaking" operation, in a suitable machine or device, as a result of which the heel portion is lowered from the remainder of the insole, by an abrupt break, defined by the substantially vertical wall 9, said wall preferably extending squarely across the forward portion of the heel, as illustrated in Fig. 7.

The nature of the material of the strip 8 is such that it will bend to the shape illustrated in Figs. 6 and 8, but is of sufficient stiffness or rigidity, combined with the blank 1, to retain itself in the shape to which it is molded or "broken".

When formed as illustrated in Fig. 6, the insole is ready for application to the last of my said copending application, although it will be appreciated by those skilled in the art that the shaping of the insole with the vertical wall 9 may be performed after being applied to the last, by beating or pressing, but I preferably perform this step before application to the last, to avoid any injury to the insole through hammering or beating.

The edges of the heel layer 3 are preferably skived or beveled, as are also the front and rear edges of the strip 6, and the edges of the strip 8 adjacent to the side of the shank, to effect a better fitting of the insole within the completed shoe.

The pocket thus formed in the insole is then capable of receiving a relatively deep heel pad or cushion 10, having a straight front wall 11 adapted to abut against the vertical wall 9. Thus, in the completed shoe, when the weight of the wearer is put in the shoe, the heel pad 10 will compress sufficiently to allow the forward part of the heel of the wearer to bear or abut against the wall 9, thus affording a firm grip for the heel of the wearer in the heel part of the shoe, and preventing the throwing of the weight of the wearer entirely on the ball and toes of the foot, as is done in existing types of high heel shoes.

In my copending application Ser. No. 343,405, filed Feb. 28, 1929, I have illustrated an optional method of forming the break in the insole, together with another type of shank piece, and a modified form of heel piece.

The utility, efficiency and advantages of my novel insole will be apparent to those skilled in the art, and when incorporated in the shoe of my said copending application, will result in great comfort and ease to the wearer thereof, eliminating many foot and orthopedic troubles occasioned by present shoes of the high heel type.

While I have necessarily described my present invention somewhat in detail, it will be appreciated that I may vary the size, shape and arrangement of parts within reasonably wide limits without departing from the spirit of the invention.

The invention is further described and defined in the form of claims as follows:

1. In an insole for use in the manufacture of boots and shoes, a layer of reinforcing material fixed on the heel portion thereof, said heel portion and said reinforcing layer having a cup formed therein before application to a last, and a separate layer of reinforcing material fixed thereto along the shank portion thereof, said shank portion and said reinforcing layer having an arch formed therein before application to a last.

2. An insole for use in the manufacture of boots and shoes, having an abrupt break therein at the rear of the shank portion thereof, said break being defined by a substantially vertical wall, and a layer of reinforcing material on the heel portion thereof, said heel portion and said reinforcing layer having a cup formed therein.

3. An insole for use in the manufacture of boots and shoes, having an abrupt break therein at the rear of the shank portion thereof, said break being defined by a substantially vertical wall, a layer of reinforcing material on the heel portion thereof, said heel portion and said reinforcing layer having a cup formed therein, a layer of reinforc-

ing material along the shank portion thereof, said shank portion and said reinforcing layer having an arch formed therein.

4. In an insole for use in the manufacture of boots and shoes, a layer of reinforcing material on the heel portion thereof, a layer of reinforcing material on the shank portion thereof, said layers being separated one from the other, and a layer of reinforcing material extending transversely of the shank at the rear thereof between said first two layers, said insole having an abrupt break therein reinforced by said last mentioned layer at the rear of said shank portion, said break being defined by a substantially vertical wall.

5. That improvement in the art of manufacturing insoles, which comprises applying a layer of reinforcing material to the heel portion of a blank of greater length than the completed insole, concaving said heel portion and said reinforcing layer, applying a layer of reinforcing material to the shank portion of said blank, and then arching said shank portion and said reinforcing layer.

6. That improvement in the art of manufacturing insoles, which comprises applying a layer of reinforcing material to the heel portion of a blank of greater length than the completed insole, concaving said heel portion and said reinforcing layer, applying a layer of reinforcing material to the shank portion of said blank, arching said shank portion and said reinforcing layer, and then subjecting said blank to a breaking operation, whereby a substantially vertical wall will be produced at the rear of the shank portion of sufficient height to reduce said insole to desired length.

7. That improvement in the art of manufacturing insoles, which comprises applying a layer of reinforcing material to the heel portion of a blank of greater length than the completed insole, concaving said heel portion and said reinforcing layer, applying a layer of reinforcing material to the shank portion of said blank, arching said shank portion and said reinforcing layer, said layers being separated one from the other, applying a strip of material to the blank to fill the space between said layers, and then subjecting said blank to a breaking operation, whereby a substantially vertical wall will be produced at the rear of the shank portion of sufficient height to reduce said insole to desired length.

In testimony whereof, I have signed my name to this specification.

SIDNEY R. BLAKELY.