Dec. 12, 1939. B. T. HEWSON 2,183,218

DETACHABLE HEEL

Filed June 3, 1938 2 Sheets-Sheet 1

Fig. 1.

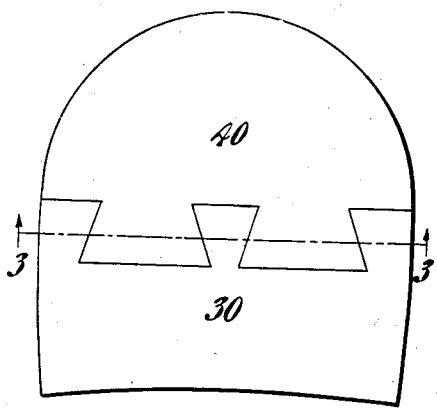


Fig. 2.

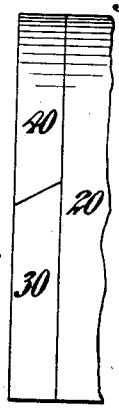


Fig. 3.

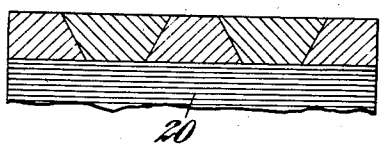


Fig. 7.

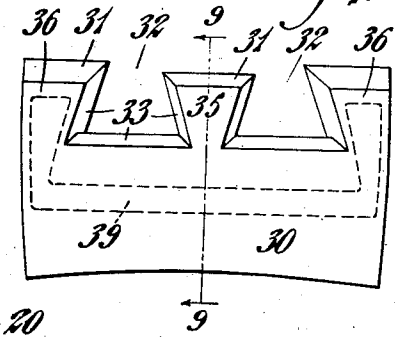


Fig. 4.

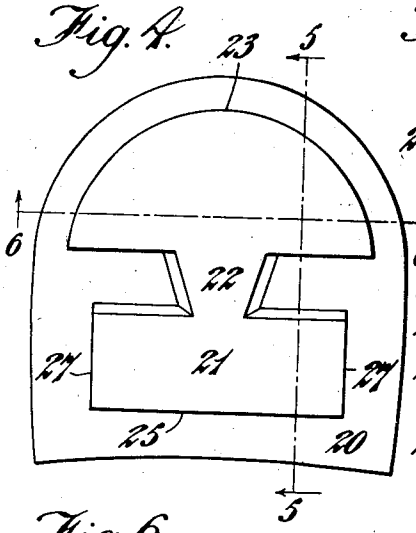


Fig. 5.

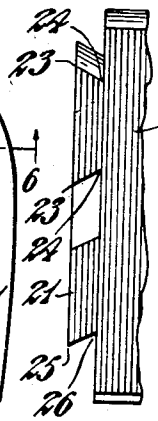


Fig. 8.

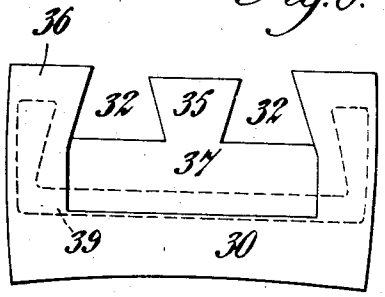
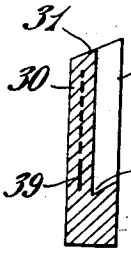


Fig. 6.



Fig. 9.



Bertram Tom Hewson
INVENTOR
By Otis Munk
his ATT'Y.

Dec. 12, 1939. B. T. HEWSON 2,183,218

DETACHABLE HEEL

Filed June 3, 1938 2 Sheets-Sheet 2

Fig. 10.

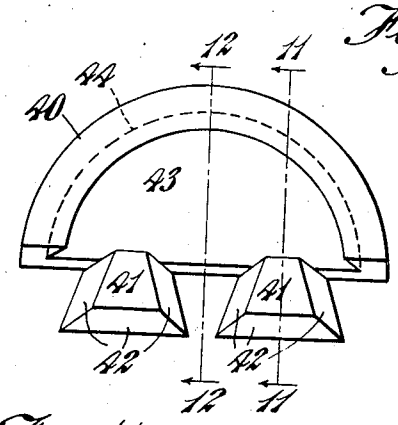


Fig. 14.

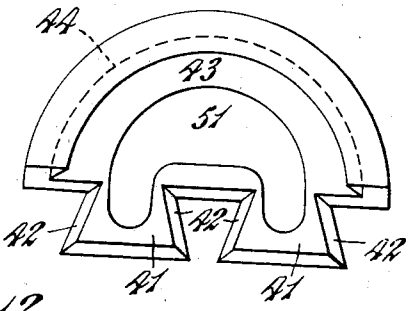


Fig. 11.

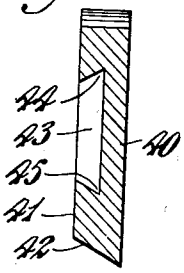


Fig. 12.

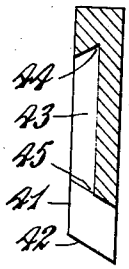


Fig. 15.

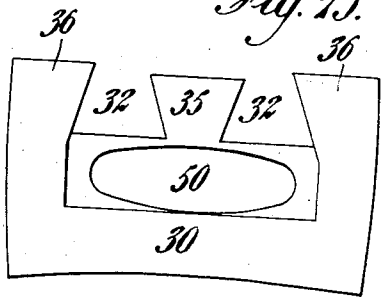
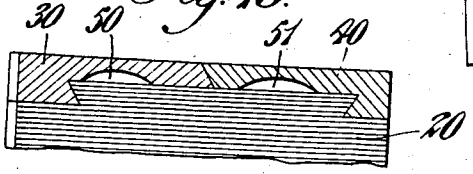


Fig. 13.



Bertram Tom Hewson
INVENTOR
By
his ATTY.

Patented Dec. 12, 1939 2,183,218

UNITED STATES PATENT OFFICE

2,183,218

DETACHABLE HEEL

Bertram Tom Hewson, North Kensington, London, England

Application June 3, 1938, Serial No. 211,525
In Great Britain January 23, 1936

5 Claims. (Cl. 36—36)

This invention relates to detachable soles or heels for footwear of the type comprising a plurality of pads together adapted to cover the heel or sole and having interlocking projections on the abutting edges thereof to prevent longitudinal separation of the pads when in position, means being provided for securing each of said pads to the sole or heel and for preventing vertical movement of the same thereon. The chief objects of the present invention are, firstly, to provide an improved detachable sole or heel of this type which may be easily fitted by an unskilled person without the aid of nails or screws or tools of any kind and, secondly, to provide a generally improved construction of such soles and heels.

The detachable heel or sole according to the present invention is of the type above specified and is characterised in that the means for securing the pads to the footwear comprise a recess on the underside of each of the pads, said recesses having undercut edges to engage with a plate of less size than the surface to be covered, said plate being provided with undercut edges cooperating with the undercut recesses in the pads.

In the accompanying drawings, which illustrate, by way of example and not of limitation two convenient embodiments of this invention:

Figure 1 is an underplan of a detachable heel for footwear according to the present invention, and

Figure 2 is a side elevation showing the same in position.

Figure 3 is a section on line 3—3 of Figure 1.

Figure 4 is an underplan of the heel structure, the detachable heel according to the present invention being removed.

Figure 5 is a section on line 5—5 of Figure 4, and

Figure 6 is a section on line 6—6 of Figure 4.

Figure 7 is an underplan view of one of the sectional pads according to the present invention.

Figure 8 is a plan view of this sectional pad, and

Figure 9 is a section on line 9—9 of Figure 7.

Figure 10 is a plan view of the other sectional pad of the detachable heel according to the present invention.

Figure 11 is a section on line 11—11 of Figure 10, and

Figure 12 is a section on line 12—12 of Figure 10.

Figure 13 is a sectional view from front to back showing an alternative method of holding the sectional pads on the heel structure, and

Figures 14 and 15 are plan views of the two modified sectional pads used in the construction shown in Figure 13.

Referring now more particularly to Figures 1 to 12 of the accompanying drawings, 20 is the heel structure which may be made of any suitable material, the under surface of which is provided with a projection 21 of the shape shown clearly in Figure 4. It is to be understood that the heel structure 20 and the projection 21 may be formed integrally with one another (for example of a Bakelite moulding), or the projection 21 may be in the form of a plate screwed or otherwise fixed to the under surface of the heel structure 20. The projection 21 is waisted as at 22, this waist dividing the projection into a rear part and a forward part. The whole of the edge 23 of the rear part is heavily undercut as at 24 (see Figures 5 and 6) whilst the forward edge 25 of the forward part is also heavily undercut as at 26. The side edges 27 of the forward part are vertical, or substantially vertical, and the rear edge of the forward part and also the side edges of the waist part slope outward slightly.

The detachable heel fitting in this form comprises a forward part 30 and a rear part 40 which fit together in a manner hereinafter described and together result in a wearing surface of the desired shape (see Figure 1). The construction of the forward part is shown in Figures 7 to 9 of the drawings. It comprises a pad 30 of hard vulcanised rubber or any other suitable material of the shape substantially of the forward half of the heel. The rear edge of this forward part is bevelled upwardly and outwardly as at 31 (Figures 7 and 9) and is also provided with a pair of spaced dovetail-shaped recesses 32, the sides of which are also bevelled upwardly as at 33 (Figure 7), thus leaving a centre projection 35 and two side tabs 36. On its upper surface this pad 30 is provided with a recess 37 of a shape to fit about the forward part of the projection 21 and the forward edge of this recess is heavily undercut as at 38 so as to engage with the undercutting 26 of the edge 25. A flat metal reinforcing plate 39 is moulded in the pad 30 during manufacture, this plate being somewhat of U-shape (see Figure 7) and the limbs thereof extending up into the side tabs 36.

In use the forward pad 30 is placed over the forward part of the projection almost in position, is pressed down against the heel structure 20 and is then just slidden home to engage the undercuts 26 and 38. The pad 30 is held against

lateral drawing off by the fact that the rear part of the projection 21 is less width than the forward part (the reinforcing strip 39 preventing separation of the tabs) and is held against vertical movement by the undercuts 38, 26 and also by the interlocking of the rear pad with the recesses 32, as hereinafter described.

Referring now to the rear pad, this pad 40 is of a shape as, in conjunction with the pad 30, completely to cover the heel structure (see Figure 1) and is provided with two or more spaced projections such as 41 to take into and interlock with the recesses 32. The edges of these projections are undercut as at 42 so that they form what I prefer to call pyramidical wedges. On its upper surface, i. e., the surface which abuts against the heel structure, the pad 40 is provided with a recess 43 suitably shaped to receive the rear part of the projection 21, the edges of this recess being undercut as at 44 to engage with the undercutting 24. The projections or pyramidical wedges 41 extend the full thickness of the pad (see Figures 11 and 12) and the rear edges of these projections are also undercut as at 45.

To fix the detachable heel the forward part is placed in position, as above described, and the rear pad 40 with the projections 41 raised by the fingers is slidden into position from the rear, the undercuttings 44 and 24 engaging with one another. When the pad 40 is home the projections 41 are pressed down into the recesses 32 and the heel is complete.

The rear pad 40 is held against vertical movement on the heel structure by the undercuttings 44 and 24 and is held against lateral movement by interlocking of the projections 41 with the recesses 32, this interlocking also serving to hold the forward part against lateral movement. Thus a complete heel covering is provided and during use the pyramidical wedges 41 will be firmly pressed into the recesses 32 and so all chance of the pads falling off is avoided.

In the modified construction shown in Figures 13 to 15, the projection 21 is not waisted and the pyramidical wedges do not extend the full depth of the pad 40. The faces of the recesses 37 and 43 (and also the pyramidical wedges 41) are hollowed out as at 50 and 51 respectively whereby the action of walking creates a vacuum in these spaces which effectively holds the pads in position. Apart from this modification, the construction of the parts is the same and like references have been used to indicate like parts.

In all cases the pads may be easily removed or torn off when worn and new pads substituted without the use of nails, screws or tools of any description to form a new heel.

The present invention is also applicable to detachable soles for footwear.

I claim:

1. A detachable heel for articles of footwear, comprising a pair of vulcanized rubber pads together adapted to cover the heel, each of said pads being provided on its inner side with a recess leaving an undercut rim for holding the pad in position and having at its edge adjoining the edge of the other pad a plurality of dovetailed projections adapted to interlock with the projections of the other pad, said projections being provided with mutually bevelled surfaces.

2. A detachable heel for articles of footwear, comprising a pair of vulcanized rubber pads together adapted to cover the heel, each of said pads being provided on its inner side with a recess leaving an undercut rim for holding the pad in position and having at its edge adjoining the edge of the other pad a plurality of dovetailed projections adapted to interlock with the projections of the other pad, said projections being provided with mutually bevelled surfaces, and a U-shaped metal reinforcement embedded in one of said pads.

3. A detachable heel for articles of footwear, comprising a pair of vulcanized rubber pads together adapted to cover the heel, each of said pads being provided on its inner side with a recess leaving an undercut rim for holding the pad in position and having at its edge adjoining the edge of the other pad a plurality of dovetailed projections adapted to interlock with the projections of the other pad, said projections being provided with mutually bevelled surfaces, the inner surface of at least one of said recesses being provided with a cavity adapted to serve as a suction cup.

4. In an article of footwear, the combination with a fixed heel structure of a mounting plate smaller than the heel surface and rigidly connected with said heel structure to project downwardly therefrom, said mounting plate having undercut front and rear edges and a waisted midportion, and a pair of vulcanized rubber pads together covering the heel, each of said pads being provided on its side facing said heel structure with a recess accommodating part of said mounting plate and leaving an undercut rim engaging one of said undercut edges of the latter, and each pad having at its edge adjoining the edge of the other pad a plurality of dovetailed projections interlocking with the projections of the other pad, said projections being provided with mutually bevelled juxtaposed surfaces and at least some of them having a thickness equal to the full thickness of the pads and engaging into the lateral recesses in said mounting plate left on either side of said waisted midportion.

5. In an article of footwear, the combination with a fixed heel structure, of a mounting plate smaller than the heel surface and rigidly connected with said heel structure to project downwardly therefrom, said mounting plate having undercut front and rear edges and a waisted midportion, and a pair of vulcanized rubber pads together covering the heel, each of said pads being provided on its side facing said heel structure with a recess accommodating part of said mounting plate and leaving an undercut rim engaging one of the undercut edges of the latter, one of said pads having at its edge adjoining the edge of the other pad two outer dovetailed projections of a thickness equal to the total thickness of the pad and a central dovetailed projection of a thickness equal to that of the recessed pad portion, said central projection being disposed on said waisted midportion of said mounting plate, the other pad having at the corresponding edge two dovetailed projections interlocking with the three projections on the first pad, said two projections having a thickness equal to the total thickness of said pad and engaging into the lateral recesses in said mounting plate left on either side of said waisted midportion, all said projections and said waisted midportion being provided with mutually bevelled juxtaposed surfaces.

BERTRAM TOM HEWSON.