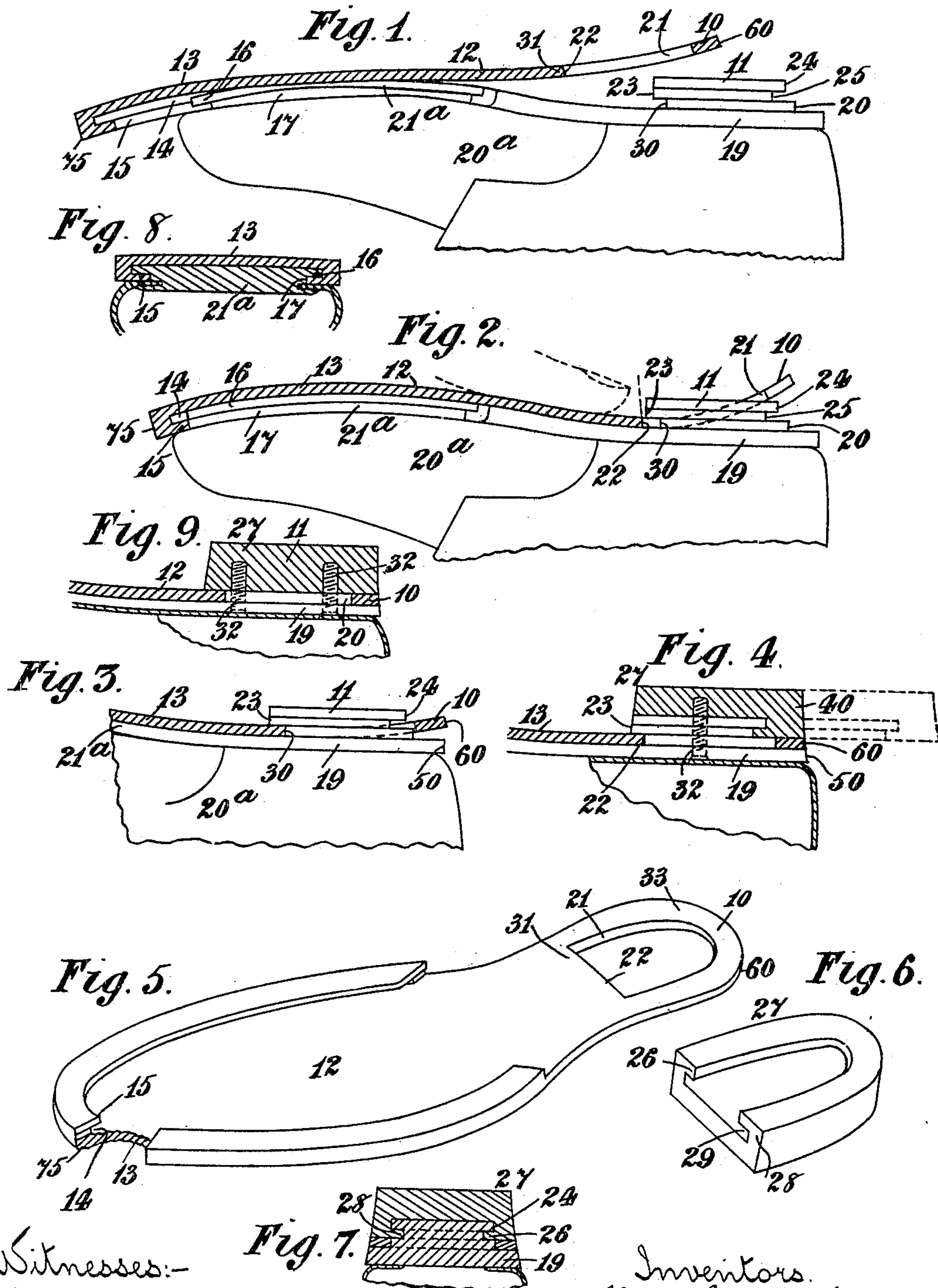


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A. & T. LEADBEATER.
SOLE FOR BOOTS OR SHOES.
APPLICATION FILED JULY 30, 1904.



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UNITED STATES PATENT OFFICE.

ALFRED LEADBEATER AND TOM LEADBEATER, OF LEEDS, ENGLAND,
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SOLE FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 788,160, dated April 25, 1905.

Application filed July 30, 1904. Serial No. 218,936.

To all whom it may concern:

Be it known that we, ALFRED LEADBEATER, residing at 3 Hesse Terrace, Brudenell Road, and TOM LEADBEATER, residing at Fairleigh, Shaftesbury avenue, Roundhay, Leeds, in the county of York, England, subjects of the King of Great Britain and Ireland, have invented certain new and useful Improvements in Soles for Boots or Shoes, of which the following is a specification.

This invention relates to improvements in removable soles for boots and shoes.

The object of the improvement is to provide a shoe having a removable sole.

A further object of the invention is to provide a removable sole in combination with a removable heel, the combination being such that the two removable parts coöperate in securing in position the removable portion of the sole.

In the drawings accompanying and forming a part of this specification, Figure 1 is a side view, partly in elevation and partly in section, of the lower portion of a shoe, illustrative of the present improvement and showing the removable sole in its position for assemblage with the shoe. Fig. 2 is a similar view, partly in elevation and partly in section, showing the removable sole brought almost to the position of complete assemblage, the back flap or loop 10 not having been completely passed over the heel-block, designated in a general way by 11. Fig. 3 shows a rear portion of a shoe, partly in elevation and partly in section, the part 10 of the removable sole being in its position at the rear of the heel-block 11, but not having been fully pressed upon its seat. Fig. 4 also shows the rear portion of a shoe, partly in elevation and partly in section, with the removable heel secured in place, in the present instance by a screw from the inside of the shoe, the dotted lines showing the removable heel portion in its disassembled position and from which position it is moved to the full-line position after the sole has been placed in its proper position. Fig. 5 is a perspective view of the removable sole, partly broken away, as viewed

from the upper or shoe-receiving side thereof. Fig. 6 is a similar view of the heel. Fig. 7 is a cross-section of the removable heel assembled with the heel-block. Fig. 8 is a cross-section of the removable sole assembled with the permanent sole; and Fig. 9 is a view similar to Fig. 4, drawn partly in elevation and partly in section, showing the sole-loop secured by a different form of heel.

One of the principal features of our present improvements consists in the combination, in a shoe having a permanent sole, herein described in a general way as the middle and permanent sole, of a removable and interchangeable outer sole adapted to be engaged and disengaged from the middle and permanent sole by an interlocking engagement therewith, said removable sole being provided with an opening adapted to receive the heel.

Another feature consists in forming the heel in two parts, one fixed and the other removable, so that the rearward portion of the removable sole will pass about the fixed part of the heel, the removable and interchangeable part of the heel when put in place operating as a locking member for holding the removable sole in place. The fixed part of the heel is hereinafter referred to as the "heel-block," while the removable portion is termed the "removable heel."

Referring to the accompanying drawings, which serve to illustrate the invention, and first to Figs. 1 to 8, inclusive, the shoe is designated in a general way by 20^a and has a middle and permanent sole 21^a, which in practice will probably be built up of a number of thicknesses of leather, which in some forms of shoe will embody what are technically referred to as the "middle" sole, or the middle sole might be made of one thickness of leather or other material, as the case might be. The outer sole (designated in a general way by 12) is adapted for removal from the shoe and is shown as comprising a tread or lift 13, having a rim 75, grooved, as at 14, and thereby making inturned flanges 15, adapted to slide under and interlock with flanges 16, formed by a groove 17 in the permanent sole, above re-

ferred to as the "middle" and "permanent" sole, whereby to secure the removable sole in position. The heel or rear portion of the sole is provided with a loop 10, adapted to pass
 5 over the heel-block 11. The portion of the middle and permanent sole upon which the heel-block of the shoe is fixed may be designated as 19, and the loop portion 10 will lie upon the same when in position and engage
 10 with the portion 20 of the heel-block. The face 21—that is, the wall of the recess of the removable sole—will engage the portion 20, and if the loop is made of substantially the same thickness as the portion 20 it will be
 15 flush with that portion.

Referring now to Fig. 9, the loop of the removable sole is secured in place by a removable heel, differing from the heels shown in the other views in that it is not applied by interlocking engagement, but is placed upon the
 20 heel-block 11 and the removable sole and secured in place by screws, as shown, or other suitable means.

A feature of our present invention relates
 25 to the interlocking of the removable sole with a fixed portion of the heel with relation to longitudinal movement and also of lateral movement in any direction of the rearward portion of the removable sole on the middle and per-
 30 manent sole with relation to the heel of the shoe, in connection with the interlocking of the transverse edge 22 of the removable sole under the projecting portion 23 of the fixed portion of the heel. For an illustration of
 35 this feature, which is deemed especially important in connection with the other features already mentioned, reference should be had to Figs. 1 to 8, inclusive, of the drawings. The heel-block is provided with an overhang-
 40 ing portion or flange 24, making a channel or groove 25, which will receive the flanges 26 of the removable heel, (designated in a general way by 27,) which heel will have a rim 28, undercut or channeled, as at 29, to receive
 45 the flange 24, the heel-block then having below such flange and above the portion 20 the channel or groove 25, corresponding in a general way to the groove 17 in the middle-sole portion. These grooves may be made in any de-
 50 sired manner, either by building up the leather in layers or by some other suitable formation, as the case may require. The sole may be assembled by pressing it into place and letting the flange 16 on the middle and permanent sole
 55 enter the channel 14 on the removable sole, the flange 15 on the removable sole entering the channel 17, formed in the front part of the middle and permanent sole, and the parts will be slipped together until the edge 22 of the
 60 removable sole enters the channel 30 upon the forward side of the heel-block under the flange or overhanging portion 23 of such heel-block, the face 21 of the loop 10 engaging the portion 20 of the heel-block, after which the heel may
 65 be slid in place, as indicated in Fig. 4, and

there held in place by some suitable means (here shown as a removable screw 32) which may be applied from the inside of the shoe. If applied from the inside of the shoe, the screw-head will not be subjected to the wear
 70 it would be if applied from the outside. Consequently the screw will last as long as the heel will last, and the screw-head will not only be thus protected from abrasion, but the slot therein will not be exposed to the accumula-
 75 tion of sand and gravel, as would be the case were it upon the tread of the heel.

The removable sole having been placed in position, as indicated in Fig. 1, it is then slid
 80 back onto the shoe into the position illustrated in side view in Fig. 2, at which time the rearward portion of said removable sole, which portion is made in the form of a loop for extending around the heel-block, is sprung down,
 85 so as to permit the rearward lip 31 of the removable sole to pass under the forward projecting end 23 of the heel-block, and thereby permit said removable sole to be slid entirely back to its working position. At this time
 90 the rearward part, as 33, of said sole-loop 10 is brought rearward of the rearward end of said heel-block, so that the sole may then be pressed downward into place, as indicated at Fig. 3. Next the removable heel is put in
 95 place at or about the position indicated by dotted line in Fig. 4 and is then slid forward, thereby interlocking with the heel-block and bearing against the loop end of the removable sole, thus completing the interlocking of these
 100 portions of the shoe, after which some suitable retaining device may be employed for holding the heel-plate or heel proper in place on the block. When the heel is in place on the heel-block, the removable sole occupies a
 105 position at its rearward end intermediate between the heel portion and the middle and permanent sole of the shoe. An incidental feature of this arrangement is that the outer edge or surface 40 of the heel portion of the
 110 removable heel, the rear edge 50 of the said middle and permanent sole, and the edge 60 of the removable sole have their edges flush—that is, smooth joints between them are formed—and they combine to form a complete
 115 heel.

Having thus described our invention, we claim—

1. The combination with a shoe and with a heel-block permanently connected thereto, of a sole normally constituted for disassemblage
 120 therefrom and to interlock at its forward portion with the shoe, said sole having an integral loop at its rear end which loop surrounds and is removably connected to the heel-block and serves to secure the sole upon the shoe.
 125

2. The combination with a shoe and with a heel-block permanently connected thereto, of a sole normally constituted for disassemblage
 130 therefrom and to interlock at its forward portion with the shoe, said sole having a loop at

its rear end extending backward of said heel-block and surrounding the same, and means comprising a removable heel to hold the loop in position.

5 3. The combination with a shoe having a permanent sole, of a heel-block carried by the shoe, a removable sole having a loop surrounding such heel-block; and a removable heel imposed upon said heel-block and loop.

10 4. The combination in a shoe, of a permanent sole having a block at its rearward portion, a removable sole having a loop surrounding such block, a heel imposed upon such loop and block, and means to secure the heel in position.

15 5. The combination in a shoe, of a sole, a block at the rearward portion thereof, a removable sole having means of attachment to the sole of the shoe and having a loop surrounding such block, and a removable heel imposed upon such block and loop and sole adjacent thereto, and means to secure the heel to the block.

20 6. The combination with a shoe having a sole provided at the forward portion with a channel at its sides and end, and provided with a heel-block, of a removable sole having flanges to take into said grooves and having a loop to rearwardly surround said heel-block, and a removable heel adapted for attachment to said heel-block and to lock said loop in position.

25 7. The combination with a shoe having a sole secured thereto such sole having a channel in its edge and such shoe also carrying a heel-block having a channel surrounding the same, a removable sole provided with a loop and having a flange or rim provided with a channel, the flange formed by such channel adapted for entry into the channel in the sole, and the flange formed by the channel in the permanent sole adapted for entrance into the channel in the removable sole, the said loop of the removable sole adapted to surround the heel-block, a removable heel provided with a rim having a channel leaving a flange adapted to enter the channel in the heel-block and hold the said loop from displacement.

30 8. The combination with a shoe having a heel-block having at its forward side a sole-receiving channel and having at its sides and back a heel-receiving channel upon a lower plane than said sole-receiving channel, a removable sole having interlocking engagement with the forward part of the shoe and having a loop to surround the heel-block and having a lip to enter the sole-receiving channel and

at such portion to be held from displacement by the ledge overhanging such channel, and a removable heel having a rim upon it, such rim having a channel, the channel adapted to receive the flange formed by the heel-receiving channel and the flange upon such rim formed by the channel thereon adapted to enter the heel-receiving channel in the heel-block, said removable heel adapted to hold the loop in place.

9. In a shoe, the combination with a body portion, of a permanent sole secured to said body portion, a heel-block secured upon said permanent sole near its rear end, a removable sole normally constituted for disassemblage interlocking at the forward part of the shoe and having a loop passing about said heel-block, the said removable sole overlying the said permanent sole and being flush therewith at the back and sides of the rear portion of said permanent sole and a heel normally constituted for disassemblage from and interlocking with said heel-block, and forming at its rear and sides flush joints with said removable sole.

10. The combination with a shoe having a middle sole provided with a groove at its forward part overhung by a flange and a heel-block having a groove overhung by a flange, of a removable sole having at its forward part a rim provided with a groove overhung by a flange, the flanges on the respective sole portions being adapted to interlock, said removable sole having a loop adapted to surround said block, such block being provided at its forward face with a channel or groove and a flange, the channel adapted to receive and the flange to overlie a portion of the removable sole; and a removable heel having a tread portion and a groove overhung by a flange adapted to mate with and interlock with similar portions upon said heel-block and to overlie the loop of the sole and lock the same in position, the outer edges of such heel, the removable sole and the middle sole to constitute when the parts are assembled the heel-surface of the shoe, and means to hold the removable heel in position.

Signed at Leeds, England, this 16th day of July, A. D. 1904, in the presence of two subscribing witnesses.

ALFRED LEADBEATER.
TOM LEADBEATER.

Witnesses:

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ANNIE PARK.