April 26, 1927. 1,626,071

P. BORDA

SHOE LAST

Filed Jan. 15, 1925

Fig. 1.

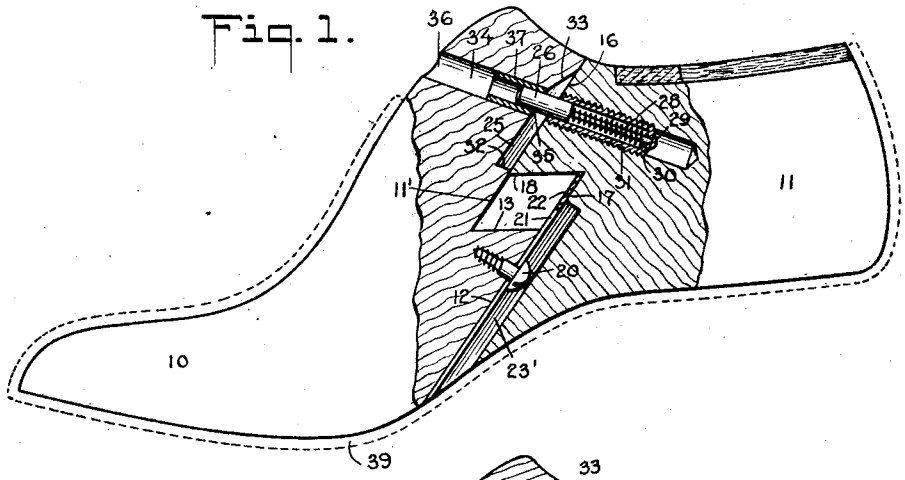


Fig. 2.

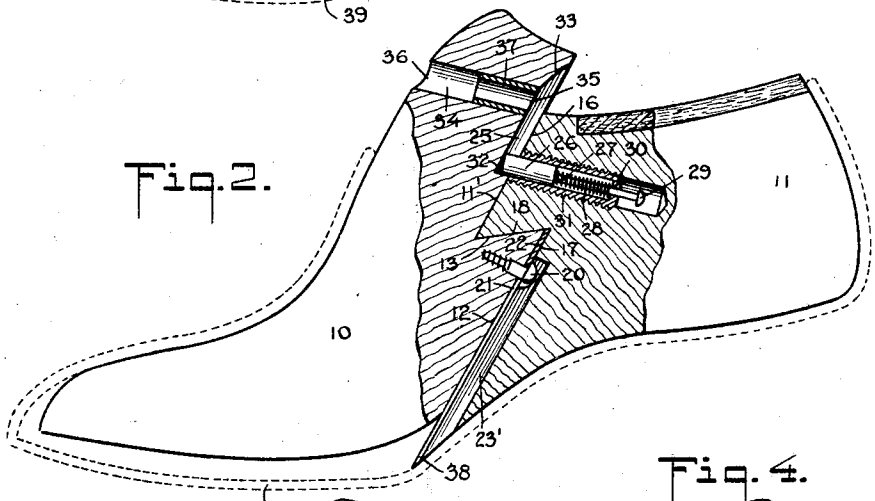


Fig. 3.

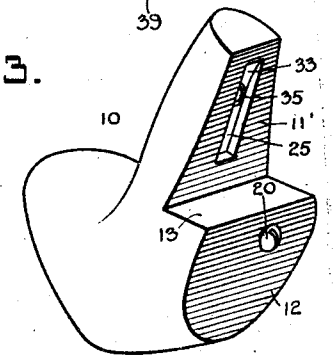
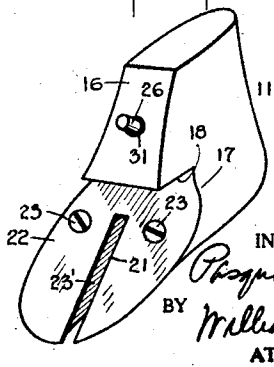


Fig. 4.



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UNITED STATES PATENT OFFICE.

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SHOE LAST.

Application filed January 15, 1925. Serial No. 2,677.

This invention relates generally to lasts made up of relatively movable sections and more particularly to a last in which sections comprise respectively, a fore part and a heel part.

Where I have attempted to employ lasts made of relatively movable sections, one of which is the fore part and the other, the heel part, in which the sections are so associated, that it is necessary to give one of the sections a movement relatively to the shoe, or shoe parts, in order to shorten the last, such movement of the section has a tendency to distort or otherwise adversely affect or disturb the normal condition of the shoe parts mounted thereon.

One of the objects of my invention therefore is the provision of a last of the character referred to in which, while one of the sections is given a movement relatively to the other, it, at the same time, is not given such a movement relative to the shoe parts, as has the undesirable features above referred to, but the relative movement of the parts is arrived at or is permitted by the flexibility of the shoe parts themselves.

Another object of my invention is an arrangement whereby the relative movement between the parts of the last for the purposes of shortening the same is given to the parts by a direct downward pressure upon one of the parts.

Where a last is employed made up of a heel section and a fore part and in which the shortening of the last permits of its ready removal from shoe parts mounted thereon by a movement of the heel part, there is a tendency for the fore part to adhere to the sole lining and to carry this with it as the fore part is removed.

Another object of my invention is the provision of an arrangement whereby the relative movement of the parts of the last for the purposes of shortening the last so as to permit of its removal from the shoe or shoe parts mounted thereon, will be such that it simultaneously, on the one hand, holds the lining in position and, on the other hand, lifts the last as a whole, from off such shoe bottom.

For the attainment of these objects and such other objects as may hereinafter appear or be pointed out, I have illustrated one embodiment of the invention in the drawings, wherein—

Fig. 1 is a side elevational view partly broken away showing the last sections in their relative position with the last fully extended and within a slipper;

Fig. 2 is a view similar to Fig. 1 showing the last with its sections so moved relatively to each other as to contract the last;

Figs. 3 and 4 are perspective views of the fore part and heel part respectively of my new last.

Upon viewing Fig. 1 of the drawing, it will be observed that I here show a last, which may be of the more or less conventional type, comprising at least a fore part 10 and a heel part 11, engaging with each other along a division line which is downwardly and forwardly disposed from the heel part last and connected to each other for operative engagement preferably by means which will be hereinafter described.

Preferably the fore part 10 has its rearmost portion delimited by the substantially parallel surfaces 11′ and 12. Each of these surfaces inclines downwardly and forwardly toward the toe portion and, as will be observed upon viewing the drawings, are spaced a substantial distance from each other and are connected by the surface 13. In other words, the fore part of the shoe has its rear end surface, what might be termed, zig-zagged or staggered, the purposes of which will shortly appear.

The heel portion 11 is provided on its front end with the flat surfaces 16 and 17 which are inclined correspondingly to the surfaces 11′ and 12, respectively, on the fore part 10. These surfaces 16 and 17 being connected by the surface 18 which corresponds with the surface 13 of the fore part.

It will be understood of course from this description that when the fore part is assembled on the rear part with the surface 16 in contact with the surface 11′, that the surface 17 will contact with and be adjacent to the surface 12, and that any relative movement between the two parts of the last will cause either a contraction or an expansion of the last.

The upward movement of the part 11 relative to the part 10 causes an expansion of the last and the reverse movement of this part relative to the part 10 causes a contraction of the last. For the purpose of holding these two parts against any other, except a rectilinear upward or downward movement between the two, I have provided between the parts engaging means which I will now

describe. Fixedly attached to one of the parts, preferably the toe part, is the headed member 20, illustrated in the drawings as a screw, the shank or neck of which is received in the slot 21 formed in the wear or anti-friction plate 22, attached to the surface 17 in any preferred or desired manner as by the screws 23.

The heel part 11 is cut away immediately beneath the slot 21 so as to provide clearance for the head 20 and thus permit of the sliding movement of the head in the groove 23'. One of the parts, preferably the toe portion, is further provided on the surface 11' with the guide groove 25 within which is received the head 26 of the latch or plunger 27, held spring pressed into the groove by the spring 28, and prevented from displacement outwardly by the portion 29, which is enlarged to prevent removal from the restricted aperture 30 of the sleeve 31, fixedly positioned within the heel portion by screw threading or otherwise.

The lower end of the groove 25 has an abrupt stop or shoulder 32 while the upper portion of the groove gradually and angularly inclines toward the face 11', as shown at 33, for purposes as will be hereinafter described. Near the uppermost portion of the groove, there is provided a key hole 34 opening into the groove 25 at 35 and preferably open at the front face at 36. To give sufficient wearing qualities, there is inserted within the groove 34 a wear sleeve as shown at 37, preferably made of metal.

As illustrated in Fig. 1, the shoe last is shown in the position for normal use. Engagement is had between the fore-portion and the heel portion at the contacting faces 11' and 16, 12 and 17 respectively, displacement of the separate parts being prevented by the engagement of the screw head 20 within the slot 21, while relative movement along the plane of the surfaces 11' and 12 is prevented by engagement by the plunger 26 within the opening 35 of the sleeve 37 within the key hole 34. To separate the toe portion of the last from the heel portion, a depth key is inserted within the key hole 34 to depress the plunger along the groove 33 to unlatch or disengage the parts. Similarly, to cause a shortening of the last, the plunger is similarly depressed by a depth key through the key hole 34 for a distance which will depress the head of the plunger 26 to the bottom of the groove 25 and then simultaneously the heel portion is moved downwardly relative to the toe portion. The last will reach its limited shortening when the plunger abuts the shoulder 32. In such position, the lowermost portion of the heel 17 extends beyond the sole portion, as indicated at 38. When a last has mounted thereon shoe parts in finished or unfinished condition, as indicated in dotted lines in Fig. 1 at 39, and it is desired to separate such last from the parts mounted thereon, an operation is resorted to similarly to that above described for shortening the last, the plunger 26 being depressed through the key hole 34 until it reaches the bottom of the groove, simultaneously pressure is applied along the longitudinal axis of the last at the heel and toe portions of the same, the separate members sliding downwardly and forwardly from the heel portion until the plunger 26 abuts the shoulder 32 or the face 13 engages the face 18 to give the shortened length. This same action may be described as moving the heel portion by pushing the heel portion in reference to the shoe parts.

It will thus be observed that in shortening the shoe last, to bring it to a position where it may be readily removed from the shoe parts mounted thereon, that at no state of the operation is the movement of the separate elements making up the shoe last such as to distend, displace, or in any other way disarrange by a distending or stretching operation, the shoe parts mounted thereon. This is accomplished by reason of the fact that the longest dimensions of the last move away from the shortest dimensions of the shoe parts.

It will also be observed, by the operation thus described, that this movement relieves from adhesion or engagement with the last the inner sole of the shoe which ordinarily is likely to stick to the sole portion of the last as a result of any excess material that is used as shoe fillers, adhesives, etc., in finishing the shoe parts that may be mounted thereon. The position that such shoe parts will take in reference to the last is shown in dotted line in Fig. 2 where it will be noted that the contour of the upper, or the lining or parts thereof, are not disturbed in any way, but that there is merely a flexing of the sole portion of the shoe or shoe parts.

It will thus be observed that I have provided a shoe last which fulfills all the rigid requirements necessary for an article of this kind in shoe construction, at the same time, providing an article which lends itself readily to rapid and efficient operation for the purposes for which it is designed.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is—

1. A last divided along substantially a downward and forward interrupted diagonal line near the arch, into a fore portion and a heel portion, the interruptions forming abutments which limit the contracting movement of said portions.

2. A last divided near the arch into a fore portion and a heel portion by an interrupted diagonal line of division, slidable means between the portions to contract and expand the last without separation of the

parts thereof, the interruptions being so constructed that they are spaced apart in the expanded position of the last and abut to limit the contracted position of the last.

3. A last divided along substantially a downward and forward diagonal line into a fore portion and a heel portion, slidable engaging means between said fore portion and heel portion and means to limit the slidable movement therebetween, said latter means including a spring pressed plunger and interrupted formation of said diagonal line, the fore portion having a key hole for depressing the plunger in the heel portion and arranged to prevent accidental displacement of the plunger, and guide means including a stop at one end for limiting the slidable movement, said guide means including at its other end a groove for depressing the plunger.

In testimony whereof, I have hereunto signed my name this 3 day of January, 1925.

PASQUALE BORDA.