W. H. BAYNARD.

SHOE AND SHANK PIECE THEREFOR.

APPLICATION FILED SEPT. 21, 1908.

922,379. Patented May 18, 1909.

Fig. 1.

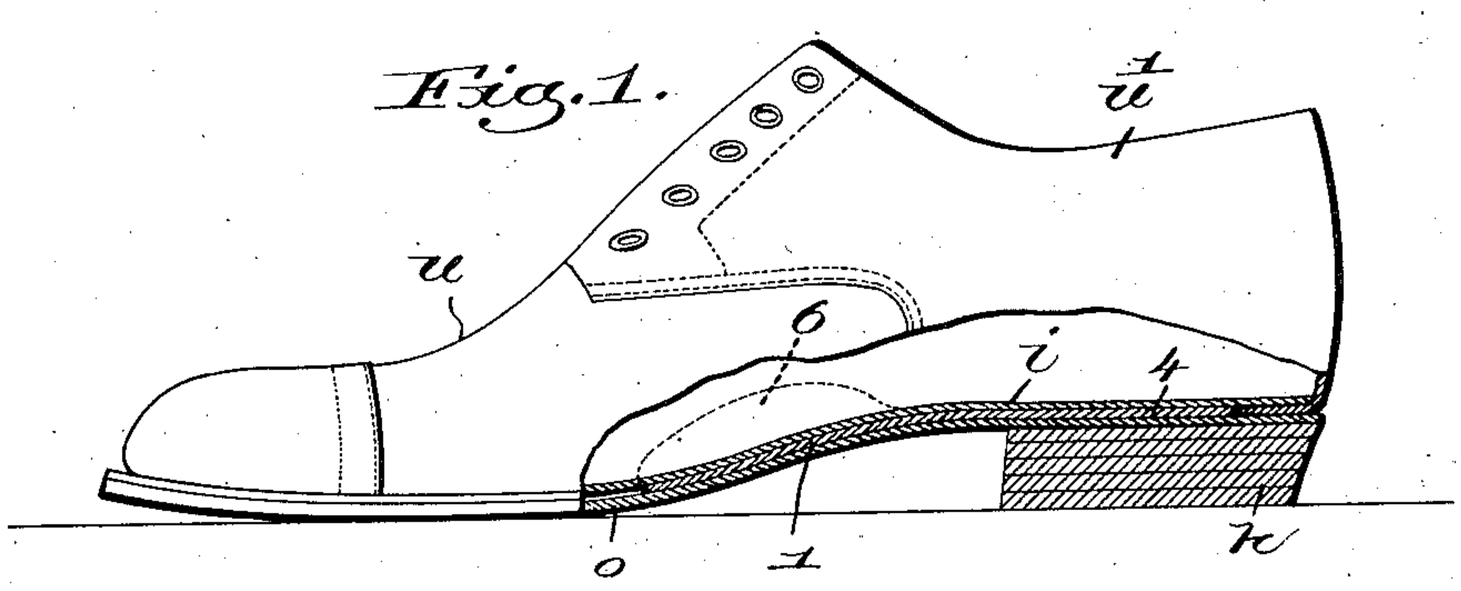


Fig. 2.

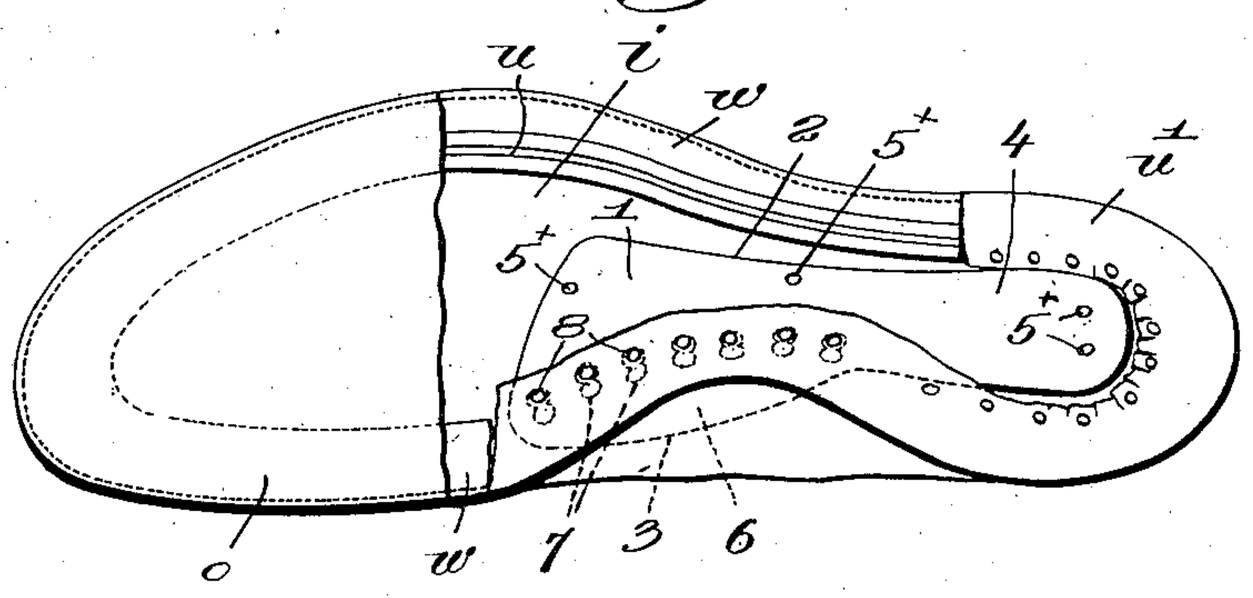


Fig. 3.

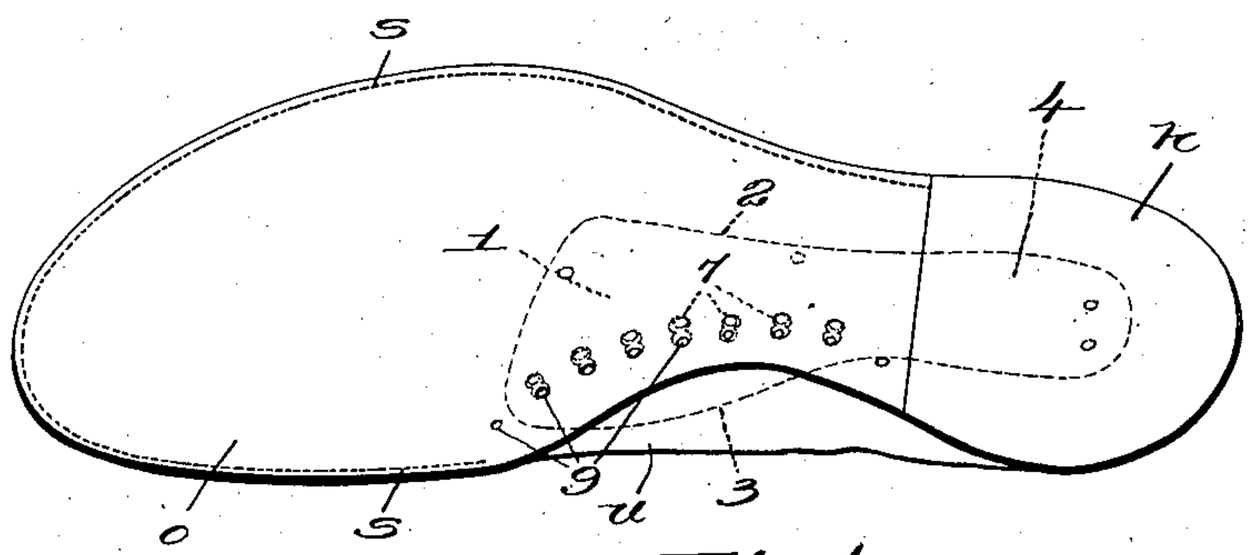


Fig. 4.

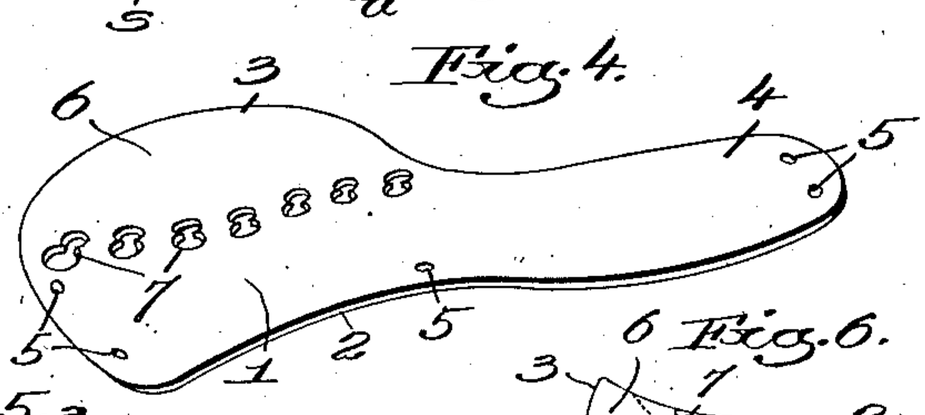


Fig. 5.

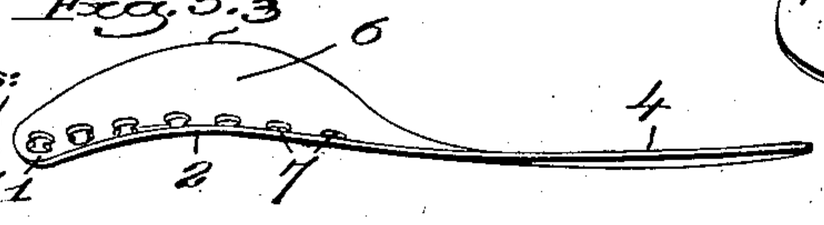
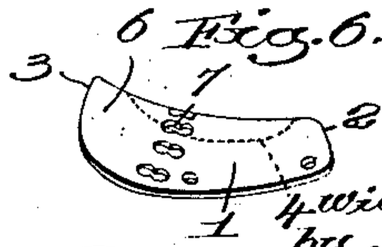


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM H. BAYNARD, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO A. E. LITTLE & COMPANY, OF LYNN, MASSACHUSETTS, A FIRM.

SHOE AND SHANK-PIECE THEREFOR.

No. 922,379. Specification of Letters Patent. Patented May 18, 1909.

Application filed September 21, 1908. Serial No. 454,056.

To all whom it may concern:

Be it known that I, WILLIAM H. BAYNARD, a citizen of the United States, and resident of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Shoes and Shank-Pieces therefor, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention has for its object the production of a novel shoe and shank-piece therefor, so constructed and arranged that the shank portion of the shoe is greatly increased in rigidity and strength without undue weight, and is prevented from sagging or giving way under pressure, particularly when it is necessary for the wearer of the shoe to use a support for the longitudinal arch of the foot.

The ordinary shank-pieces used in the construction of shoes are narrow, flat and relatively thin strips of metal inserted in the shank portion of the shoe, and offer comparatively little resistance to downward pressure, so that the shoe as commonly constructed always has a tendency, in greater or less degree, to break down at the shank. When the wearer of the shoe is obliged to use an arch supporter this breaking down tendency is aggravated, and in addition the lateral spread or flare of the arch supporter comes against the upper at the inner side of the shoe at the shank, stretching the upper and very soon throwing the shoe badly out of shape.

Obviously the ordinary narrow shank-piece can not assist the upper in resisting this strain, and it gives way under the downward pressure. By my present invention the shank-piece is so constructed that it is unyielding in all directions, and the body of the shank-piece at the inner side of the shoe is outwardly flared and upcurved to extend above the inner sole at the shank of the shoe, so that break-down under pressure can not take place and the lateral spread of an arch-supporter, if used, is sustained firmly and effectively. I have also provided for a solid and firm connection between the inner and outer soles and the shank-piece by means of metallic fastenings, along the inner side of the shoe shank between the ball and the heel-breast, the remainder of the outer sole being attached to the upper and insole by a sewed welt.

The various novel features of my invention will be fully described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a side elevation and partial section of a shoe embodying one form of my present invention, the upper at the outer side of the shoe being partly broken out; Fig. 2 is an underside view of the shoe with the heel omitted and only a portion of the outer sole being shown, to clearly illustrate the location and general arrangement of the shank-piece; Fig. 3 is an underside view of the completed shoe, showing the metallic fastenings for the outer sole at the inner side of the shank; Fig. 4 is a perspective view of the shank-piece, detached; Fig. 5 is a side elevation thereof; Fig. 6 is an end elevation of the shank-piece seen from its forward end.

In Fig. 1 I have shown my invention applied to a low-cut shoe and comprising the inner sole *i*, outer sole *o*, heel *h*, and upper consisting of the fore part *u* and counter *u'*, which are all substantially of well known construction except in such particulars as will be pointed out, and the outer sole is secured by a line of stitching *s* to a usual welt *w*, except that in my present invention the welt stops at the ball of the shoe, at the inner side thereof, as shown clearly in Fig. 2.

As will appear hereinafter the portion of the outer sole intermediate the heel and the ball of the shoe at the innerside thereof is secured in place by a different mode of fastening.

Instead of using the ordinary narrow, thin, flat and yielding shank-piece, which is usually laid between the inner and outer soles at the shank of the shoe I employ a novel shank-piece, rigid or unyielding in all directions, and of a peculiar shape and contour, as shown in Figs. 4, 5 and 6, and in position in the shoe Figs. 1, 2 and 3.

The shank-piece is made of thin but stiff metal, and comprises a body 1 having its outer edge 2 slightly concave and its inner edge 3 convex in the direction of the lengtli

of the body, which increases in width toward its forward end, its rear end having a narrow and substantially flat extension 4, the body and extension having holes 5 through which tacks or nails 5× are driven into the inner sole, Fig. 2, to retain the shank-piece in position during the construction of the shoe.

As shown in the drawing, Figs. 1 and 5, the body is arched longitudinally, leaving its lower side concave, and it is also curved transversely, the inner side of the body bounded by the edge 3 being upcurved and outwardly flared, as at 6, and increasing in depth from each end toward the middle, as best shown in Fig. 5. By such curvature and shape the body of the shank-piece is made to conform closely to the contour of the last at the arch thereof and at the inner side of the arch, while greatly increasing the stiffness and rigidity of the shank-piece.

The shank-piece is provided with a row of relatively large perforations 7 at the base of the flared side or portion 6 of the body, the row of perforations following closely the line of the inner sole from the ball to the heel-breast at the inner side of the shoe, as shown in Fig. 2, for a purpose to be described.

In a welted shoe, such as herein shown, after the upper has been lasted over the inner sole and tacked thereto, and the welt *w* applied, as in Fig. 2, my novel shank-piece is applied, as shown, its extension 4 being extended rearward above the heel, as shown, while its body 1 extends forward along the shank of the shoe to the ball thereof. The upcurved and flared portion 6 is upturned along the inner side of the shank portion of the shoe, within the upper, and the latter may be secured in place by lasting tacks 8, Fig. 2, driven through the upper and the perforations 7 into the inner sole. The outer sole *o* is now applied and secured in place, by a line of stitching *s* attaching it to the welt and extending from the outer edge of the heel forward around the fore part of the shoe and to the ball at the inner side of the shoe, Fig. 3, and then a series of metallic fasteners 9 is driven through the outer sole, upper and perforations 7 into the inner sole, solidly and securely fastening together the outer and inner soles, upper and shank-piece between the ball of the shoe and the heel-breast. The heel *h* is now applied and fastened in place in usual manner.

From the foregoing description and the drawings it will be seen that the shank-piece is fixedly held in place between the heel portion of the shoe and the heel by means of the elongated extension 4, while the body of the shank-piece is secured in place along the shank and by its shape and contour provides a firm and unyielding support for the arch of the shoe, and preventing the shank of the shoe from giving way under pressure.

The shape of the shoe is maintained, particularly at the shank and at the inner side of the arch, the part 6 of the shank-piece preventing stretching and distortion of the upper at the inner side of the shank.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A shoe comprising inner and outer soles, an upper, and a heel and having a rigid shank-piece interposed between the soles intermediate the ball of the shoe and the heel and having its rear end substantially flat and extended above the heel, the shank-piece being arched longitudinally and curved transversely to sustain the arch of the shoe, and upturned at the inner side of the shank portion of the shoe to conform to the contour of the last thereat and form an unyielding support, the arched portion of the shank-piece having a plurality of perforations following the line of the inner sole from the ball to the heel-breast, and a series of metallic fastenings passed through said perforations and firmly uniting the outer and inner soles and the shank-piece at the inner side of the shoe.

2. A shoe comprising inner and outer soles, an upper, and a heel, and having a rigid shank-piece interposed between the soles intermediate the ball of the shoe and the heel and having its rear end substantially flat and extended above the heel, the shank-piece being arched longitudinally and curved transversely to sustain the arch of the shoe and having at the inner side of the shank portion of the shoe an outwardly flared and upcurved portion conforming to the contour of the last and forming an unyielding support, the shank-piece having a plurality of perforations at the base of such upcurved portion, a series of metallic fastenings passed through such perforations and firmly uniting the outer and inner soles along the line of the latter from the ball to the heel-breast, and a sewed welt uniting the upper and the outer sole from the outer edge of the heel forward around the fore part of the shoe and thence along the ball to said metallic fastenings.

3. A shoe comprising inner and outer soles, an upper, and a heel, and having a rigid shank-piece interposed between the soles intermediate the ball of the shoe and the heel and extended rearwardly above the heel, said shank-piece having a series of perforations following the line of the inner sole from the ball to the heel-breast at the inner side of the shoe, a sewed welt uniting the upper and the outer sole from the outer edge of the heel forward around the fore part of the shoe and thence to and terminat-

ing at the ball at the inner side, and a series of metallic fasteners uniting the outer and inner soles and the shank-piece between the termination of the welt and the heel-breast, said fastenings passing through the perforations in the shank-piece.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

WILLIAM H. BAYNARD.

Witnesses:
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J. ALFRED BOWIE.