Feb. 13, 1934. H. D. REED ET AL 1,946,986

VENTILATED SHOE

Filed July 19, 1930

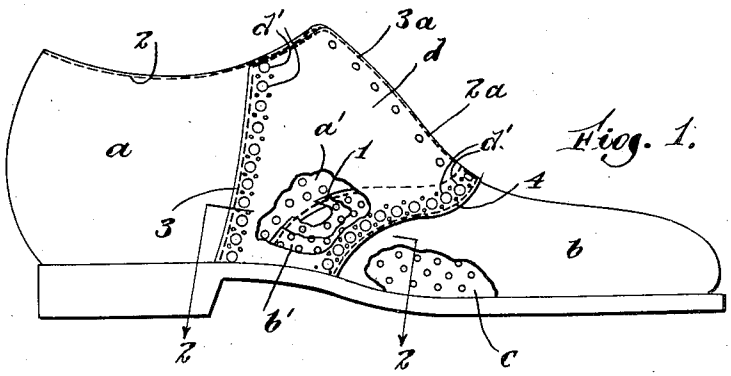


Fig. 1.

Fig. 2.

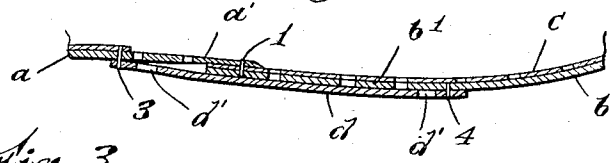


Fig. 3.

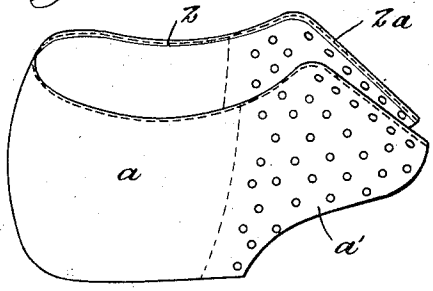
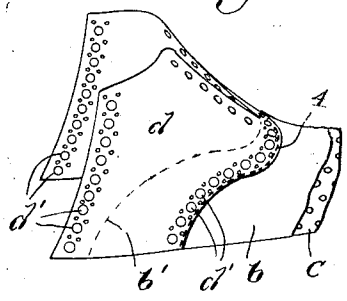


Fig. 6.



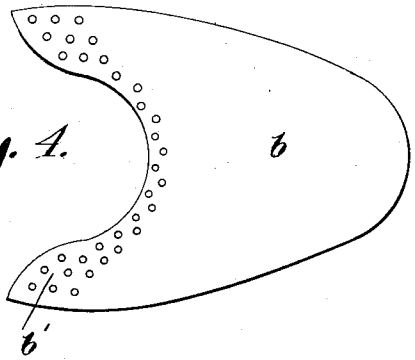


Fig. 4.

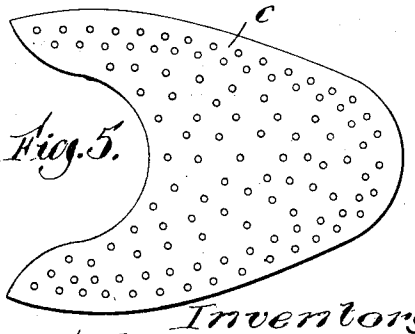


Fig. 5.

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UNITED STATES PATENT OFFICE

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VENTILATED SHOE

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Application July 19, 1930. Serial No. 469,145

5 Claims. (Cl. 36—3)

This invention relates to the ventilation of shoes and is intended to provide a construction that will afford ventilation to the ball and waist portions of the foot, where it is most needed for comfort, without impairing the appearance of the finished shoe, while at the same time providing a construction that does not afford ready penetration of dust and dirt to the interior of the shoe.

The improvement, generally speaking, comprises a construction of shoe upper in which the quarter and the vamp pieces are stitched together with their adjacent edges overlapped, the outer or overlapping piece being provided with a series of ventilating perforations along the line of the seam which are in communication with a series of adjacent, but offset, perforations in the underneath piece or member which are concealed from view, such inner perforations extending also to the lining piece where a lining, as is usually the case, is employed.

This and other features of the invention will be described in the following specification and will be defined in the claims annexed.

In the accompanying drawing, I have illustrated one of the constructions embodying the principles of this invention, in which

Fig. 1 is a side elevation of a finished shoe with parts of the upper broken away to show the interior construction.

Fig. 2 is a transverse, longitudinal section through one side of the upper on the section line 2—2 of Fig. 1.

Fig. 3 is a perspective view of the piece or member which embraces the heel and the instep or waist portion of the foot commonly known as the quarter.

Fig. 4 is a plan view of the vamp which covers the forepart of the foot and is stitched at its rear edge to the quarter.

Fig. 5 is a plan view of the vamp-lining or so-called toe-lining which underlies the vamp.

Fig. 6 shows in perspective the apron or patch employed in this particular form of the invention to cover over the inner ventilating perforations of the vamp and forward extensions of the quarter.

In the practice of the invention according to the form illustrated in the drawing, the upper is made up of a forward portion comprising the vamp and rearward portions comprising the quarters, both of which are provided with extensions occupying or extending into the middle portion of each side of the shoe. Frequently the forward edge portions of the quarters and the rearward edge portions of the vamp are stitched together in overlapped relations, being thus united on opposite sides of the shoe to the rear of the ball. In the present instance this improvement is shown applied to a well known type of shoe in which a third piece forming an intermediate saddle or apron covers the rear portion of the vamp and the forward portion of the quarters and, in such a type of shoe as herein illustrated interior perforations may be formed in both the forward portions of the quarters and the rearward portions of the vamp that are covered by such apron piece, the apron being considered as forming a forward extension of the quarters and also a rearward extension of the vamp.

The use of such an apron, which is very commonly present in a shoe of the sport type, permits the very considerable area at the waist and arch portion of the shoe upper to be quite extensively perforated, while rows of perforations along the front and rear edges of the apron arranged in offset relation to the interior perforations afford a better opportunity for ventilation than in the type of shoe where the apron is omitted.

Following the usual practice, the quarters *a* have their forward portions *a'* extending forwardly to opposite sides of the vent and have their edges infolded and stitched at 2*a* on either side of the vent, as well as along the top edge 2 of the shoe upper. The forward edge portions of the quarters overlap the rearwardly extending edge portions of the vamp and are stitched together along the line 1—1. The vamp *b* in this case is provided with a lining and both have rearwardly extending portions *b'* which contain a series of perforations.

In order to avoid the entrance of dust and dirt, which would occur if straight line perforations extending from the outside to the interior of the shoe upper were used, two overlapping portions of the shoe upper are provided with relatively offset perforations in communication with each other so as to permit the air to be expelled from the shoe by the action of the foot in walking and the simultaneous flexing of the overlapped parts of the upper.

Occupying opposite sides of the middle portion of the upper are two exterior patches or apron pieces *d* united at their rear edges by stitching 3 to the adjacent quarter and at their forward edges by stitches 4 to the adjacent vamp. Adjacent to each of these lines of stitching, and included between them, are series of perforations *d'* which by the flexing of the upper are placed

in communication with the offset perforations contained in the underneath portions of the upper.

It will therefore be seen that the only visible ventilating perforations are along the line of the overlapped, seamed portions, thus reproducing an ornamental effect much used and much desired in shoe making, while the interior perforations, affording communication with the interior of the shoe, are offset with relation to the external holes so that dust or dirt is prevented from passing to the interior of the shoe. The constant flexing of the leather, when walking, acts somewhat on the principle of a bellows to expel air through the offset ventilating perforations or apertures so that the ball and waist portions of the foot, where excessive perspiration occurs, are kept well ventilated.

It will be understood that this principle of construction can be modified in detail without departing from the underlying feature, which consists essentially in an external overlap adjacent to the waist and ball portions of the foot that has ornamental perforations along the line of the seam that can communicate with concealed, and relatively offset, perforations formed in the underneath parts of the upper.

The apron or saddle piece *d* may be in a sense regarded as a forward extension of the quarter, while the underneath portion of the quarter serves as an interior perforated lining. This forward extension of the quarter, made as a separate piece stitched outside the quarter, is preferred for sport shoes and the like, because it makes possible a larger perforated area around the waist and ball portions of the shoe upper than would be possible where the forward extensions of the quarter and the vamp are overlapped and the underneath perforations confined to the overlapped area.

What we claim is:

1. A shoe upper comprising in its construction a vamp member for the forepart, a quarter member for the rear part, said members being united to each other by lines of stitches, one member being provided with extensions on opposite sides of the shoe projecting beyond said stitches and united at their farther edges to the other member by additional lines of stitches, the lapped area of one member being provided with ventilating perforations in communication with relatively offset perforations in said extensions.

2. An upper for a ventilated shoe comprising separate members forming forward and rear portions of the upper having respectively rearward and forward extensions which are stitched together at opposite sides of the upper in overlapping relation, each of said overlapping portions being provided with a series of ventilating perforations in communication with each other but in laterally offset relationship.

3. A shoe upper embracing in its construction, vamp and quarter members having their adjacent edge portions overlapped and stitched together, both members being provided with a series of spaced perforations in the portions adjacent to said stitching, an outer apron member stitched to each member down the forward and rear edges thereof and extending beyond the perforated area of each and forming a forward extension of the quarter member to cover the perforated areas of both vamp and quarter members, said apron being provided with outlet perforations between its attaching stitching and in communication with the perforated areas of the underneath members.

4. A ventilated shoe upper embracing vamp and quarter members having their edge portions overlapped and stitched together, either of said members being provided with ventilated perforations adjacent to its stitched edge, and an apron member stitched at its rear edge to the quarter member and its forward edge to the vamp member and dimensioned to cover the perforated area of the underneath member, said apron being provided with outlet perforations that are offset in relation to the underneath perforations.

5. A shoe upper comprising in its construction members occupying, respectively, the forepart and the middle portion of the shoe secured together by stitching and having mutually overlapping relation at the middle portion of the shoe, each member being provided with ventilating perforations in its lapped area that are offset with relation to perforations in the other member to afford devious ventilating passages through the offset portions and the space between the lapped areas of the two members.

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