Dec. 6, 1932. A. F. BANCROFT 1,890,209

FOOTWEAR

Filed Feb. 11, 1931

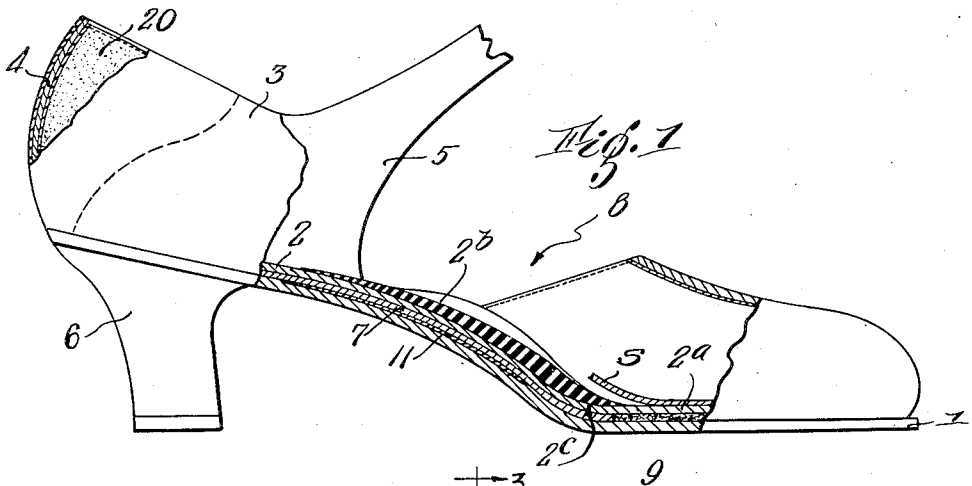


Fig. 1

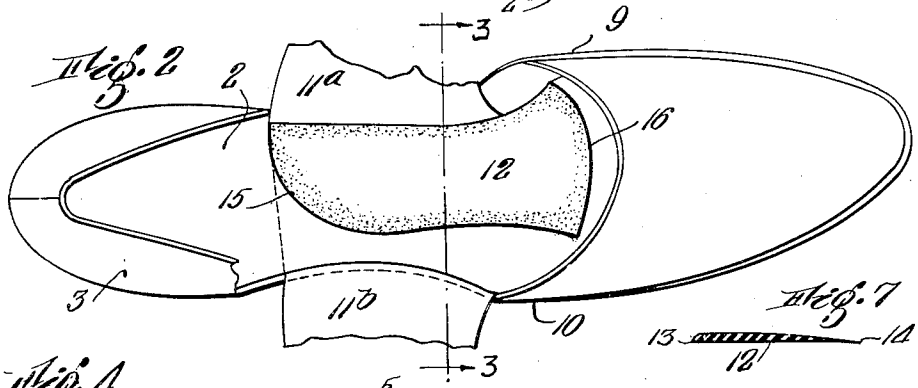


Fig. 2

Fig. 7

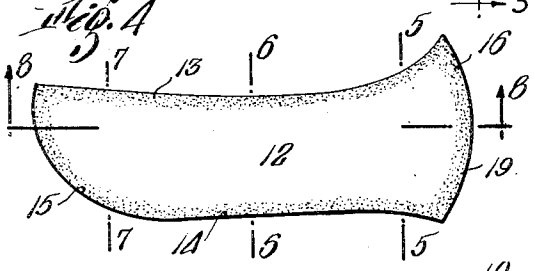


Fig. 4

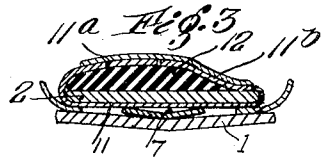


Fig. 3

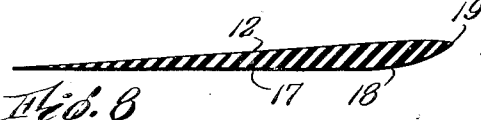


Fig. 8



Fig. 5



Fig. 6

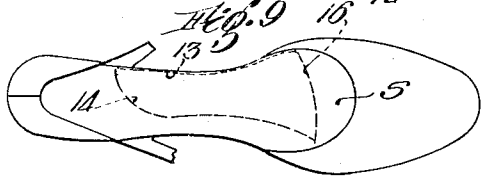


Fig. 9

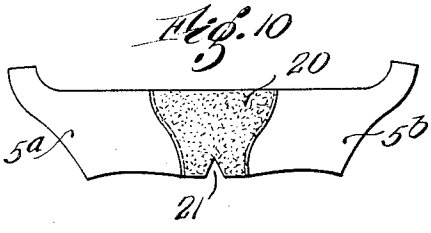


Fig. 10

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UNITED STATES PATENT OFFICE

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FOOTWEAR

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This invention pertains to footwear, and more particularly to improvements in certain of the foot-supporting and foot-engaging elements of a shoe, with the object of providing greater comfort and ease for the wearer. It is well recognized that the prevailing mode in shoes, particularly those for women's wear, demands that the shoe have an external shape and contour quite unlike that of the normal foot. This is particularly true of that portion of the shoe which is intended to support the foot, since the extremely high heels employed make it necessary that the rear and shank portions of the shoe bottom slope sharply downwardly and forwardly toward the forepart on which substantially the entire weight of the foot ordinarily rests. This sharp forward inclination of the shoe bottom tends to cause the foot to slide forward within the shoe, and consequently tends to make the shoe appear loose at its rear part, which is accompanied by a tendency of the shoe to slip up and down on the wearer's heel, thus giving the wearer the impression that the shoe is poorly fitted. This feeling is accentuated by the fact that, at the shank portion, the shoe as ordinarily constructed never properly fits the foot, since although the supporting surface of the foot itself at the shank is a very narrow line along the outer side only, the usual and practical mode of making shoes demands a substantial width of sole at the shank portion, and thus at the inner side of the shank, the upper is spaced from the foot and not only fails to provide the foot with any actual support at this point, but does not even give the wearer that sensation of snugness and comfort which comes from mere contact. In certain types of shoe the shank meets the forepart at a very sharp angle and along a very definite transverse line, and in other shoes the shank and forepart merge in a more or less gradual curve, but in neither form does the foot find any substantial support at this portion, and this is commonly believed to be the cause of certain foot troubles, particularly those pertaining to the transverse arch of the foot.

Furthermore, when in shoes of the above types the shank or waist portion of the upper is cut very low or is wholly lacking, the above difficulties in shoe construction become even more pronounced, and the provision of any of the remedies sometimes proposed for the above defects is substantially precluded due to the open and exposed character of the shank.

In accordance with the present invention, I provide a novel construction capable of application to shoes which have been completed or substantially completed and to shoes having open shanks as well as shoes of other types, and which provides the foot with a support along the inner portion of the shank, such support being of a soft cushion-like nature adapted to impart to the wearer that feeling of comfort arising from the sensation of snugness and perfection of fit; it furnishes a support for the foot, at that part where the shank of the shoe merges into the forepart, which in its more limited aspect is of particular utility in shoes wherein the shank and forepart are united in a smooth curve; it furnishes a shank cushioning element and means for securing such element in position, particularly adapted for use in shoes having low cut or open shanks, and it further contemplates the provision of very effective means of practical character for preventing slippage between the counter-portion of the shoe and the heel of the wearer; all of such desirable features being adapted for incorporation in a shoe of standard type and construction.

In the accompanying drawing, in which I have illustrated one desirable embodiment of the invention by way of example:

Fig. 1 is a side elevation, partly broken away and partly in longitudinal vertical section, illustrating a shoe of the open shank type embodying the present invention;

Fig. 2 is a plan view of the shoe of Fig. 1 showing the sock lining removed and the shank-cushion retaining elements folded back to expose the cushion;

Fig. 3 is a transverse section substantially on the line 3—3 of Fig. 2, the curvature of the upper surface of the sole being exaggerated by reason of the abnormal thickness of

several of the parts necessary for clearness in illustration;

Fig. 4 is a plan view of the shank cushion removed from the shoe and drawn to somewhat larger scale;

Figs. 5, 6, 7 and 8 are sections substantially on the lines 5—5, 6—6, 7—7 and 8—8 respectively of Fig. 4;

Fig. 9 is a plan view to small scale showing the completed shoe with the sock lining in place and indicating the shank cushion in dotted lines; and

Fig. 10 is an elevation to small scale of the rear portion of the shoe lining showing an inset anti-slip element embodied therein.

Referring to the drawing the numeral 1 designates the outer sole of the shoe and 2 the inner sole. The shoe also comprises the upper 3, embodying the counter 4 and the lining 5, and is provided with a heel 6 and the shank piece 7. The shoe shown is of the open shank type, that is to say at the shank portion the upper is entirely absent as shown at 8 in Fig. 1. A shoe for the right foot is illustrated,—the side 9 being hereinafter referred to as the inner side and the side 10 as the outer side. For the purpose of retaining the shank cushion device, hereinafter described, in proper position and for concealing its edges, I may provide a member 11 (Fig. 3) which may consist of thin leather or other suitable flexible sheet material which underlies the shank portion of the inner sole and which has projecting ends or flaps 11^a and 11^b respectively.

As shown in Fig. 1 the forepart 2^a of the inner sole 2 is substantially flat and horizontal, this part of the inner sole ordinarily bearing the greater portion of the wearer's weight. The shank portion 2^b of the inner sole is inclined with respect to the forepart 2^a, by reason of the high heel 6. As herein illustrated the inclined shank portion 2^b and the horizontal forepart 2^a of the inner sole are united by a smoothly curved surface 2^c, although in some shoes the line of union between these two parts is a well defined angle.

In accordance with the present invention I provide shank cushion means applicable to the shoe when the latter has been completed or substantially completed and which is here shown as consisting of a unitary member 12 (Fig. 4) of rubber, felt, or other suitable yielding or resilient material preshaped, preferably by molding, and which is adapted to lie along the inner edge portion of the shoe shank so as to afford a certain amount of support for the foot at this point, and at least to impress the wearer with the feeling that the shoe fits snugly at this part. As shown in Fig. 4, the cushioning member has substantially parallel and straight inner and outer edges 13 and 14 respectively throughout its main portion. The outer edge 14 preferably curves around at the rear as shown at 15 until it merges with the edge 13. At its forward end the cushioning device has the head portion 16, having forwardly divergent lateral edges, which is substantially wider than the shank portion so as to provide ample support for the arch of the foot, and this head portion is adapted to overlie the curved part 2^c of the inner sole. As clearly shown in Fig. 2, the main or elongate portion of the cushioning means is substantially less in width than the shank of the shoe, and by reference to Figs. 5, 6, 7 and 8, it will be noted that the margins of the cushioning device are tapered down to thin edges, the thickest portion of the cushioning device being close to its inner edge 13 where the greatest amount of support is required. The longitudinal or body portion of the cushioning means is preferably provided with a substantially flat under surface 17 adapted to lie in contact with the shank surface of the inner sole, but at its forward or head end the under surface is curved as shown at 18 to conform to the curved portion 2^c of the inner sole, and the head portion 16 tapers in thickness to the edge 19 so that the upper surface of the cushioning means may merge smoothly into the upper surface of the inner sole.

In placing this cushioning device in the completed shoe, and assuming that the retaining device 11 has been provided, the flaps 11^a and 11^b are first turned outwardly as shown in Fig. 2 and the cushioning means is then placed on the upper surface of the inner sole and adjusted until its inner edge 13 substantially coincides with the inner edge of the inner sole 2 or at least in such a position that when the sock lining S is placed in the shoe, the edge 13 of the cushioning will register with the inner edge of the sock lining (Fig. 9).

Before the sock lining is put in position, the flaps 11^a and 11^b, if such are used, are turned up and over the cushioning member 12 as shown in Fig. 13 and may be cemented in place or otherwise secured. If desired the cushioning member may be cemented to the inner sole, in which event the flaps 11^a and 11^b may or may not be secured in place, although such flaps when properly cemented will hold the cushioning means in position without assistance.

As shown in Fig. 4 the cushioning device is of the contour intended for use in a right shoe, but it is to be understood that cushioning devices of reverse contour will be provided for use in left shoes. To assist in positioning the cushioning means of the shoe, the inner sole may if desired be provided with notches or other marks to indicate where the forward or rear end or both of the cushioning device is to be placed and while it is contemplated that for best results the cushioning device should be placed in position by the shoe manufacturer before shipment of

the shoe, it is possible to ship the shoe with the flaps 11[a] and 11[b] loose so as to permit the retailer or the user to place the cushioning means at that part of the shoe where the greatest comfort is obtained, and then to secure it in place by cementing it or the flaps 11[a] and 11[b] in position. Obviously, the retaining device 11 may be dispensed with, particularly when the cushioning means is to be used in shoes of other types.

As already pointed out, this cushioning means is of especial value in the open shank type of shoe where the foot ordinarily finds no lateral support at the shank portion so that the wearer constantly has the feeling that the shoe is about to come off. In this type of shoe the extra support at the shank and the snugger, closer fit afforded by this cushioning means gives the wearer the feeling that the shoe fits snugly at the under portion of the instep arch at least, and thus gives greater satisfaction not only from the actual support afforded by the cushioning device, but also from the mental effect resulting from this snugger fit.

As the above type of shoe is particularly prone to slip at the heel, I prefer to provide, in addition to the cushioning means, an anti-slip element in the lining at the rear of the shoe. Referring to Fig. 10, the rear portions 5[a] and 5[b] of the lining are shown as separated and as having inserted between them the anti-slip member 20 preferably of some soft clinging material, such as suede leather, plush, or the like. This insert 20 is preferably secured by stitches or other appropriate fastening means at its lateral edges to the main members 5[a] and 5[b] of the lining and in order to secure the most efficient action, this anti-slip element is made of substantial width at its top, that is to say where its upper edge coincides with the upper edge of the shoe counter. In fact the width of this anti-slip element at this point is such that it extends around to the sides of the foot so as to hug the upper part of the heel very snugly, thus effectively preventing relative movement of the wearer's heel and the shoe. On the other hand in order to facilitate lasting and to prevent undue bulk of material of the insert, I taper this insert 20 downwardly preferably on smoothly curved marginal lines so that at its bottom, where its anti-slip action is of little consequence, it is quite narrow; further to facilitate lasting, I provide this member with a notch 21 extending upwardly from the outer edge. If desired the lateral margins of the member 20 or of the line members 5[a] and 5[b] or both may be skived to reduce the thickness of the joint.

A shoe having in combination the above described cushioning means together with the anti-slip element just referred to provides a maximum of comfort for the wearer since it provides a snug fit both at the shank and at the heel and avoids rocking or twisting of the shoe on the foot.

While the features above described are of particular value in an open shank shoe they are also effective in shoes of other types, and in its broader aspects the invention is not to be limited to the particular form of shoe in which it may be embodied. While the cushioning means is here shown as a single unitary element, which I believe to be the best construction from the practical standpoint, I contemplate that under some circumstances the elongate shank engaging part of this cushioning means may be separated from the head portion 16 and may if desired be of a different material from the latter. I further contemplate that various changes in size, relative shape and arrangement of parts, and in the materials employed may be made, all within the scope of the appended claims, without departing from the spirit of the invention, it being noted that the above described improvements do not require any unusual steps or processes in the making of the shoe itself, and are capable of embodiment in shoes of all standard commercial types.

I claim:

1. A shoe having a sole member comprising a shank and forepart portions, cushioning means overlying the inner edge of the shank portion and extending forwardly to the forepart portion, and a piece of flexible sheet material underlying the shank portion of the sole member and having opposite ends arranged to extend up over the edge of the shank portion of the sole member and to overlie the shank portion of the cushioning means.

2. A shoe having an insole whose forepart and shank portions are inclined relatively to each other, the shank and forepart being joined by a curved surface, a cushioning device disposed upon the upper surface of the insole, said cushioning device consisting of a unitary piece of soft resilient material comprising an elongate main portion having substantially straight and parallel inner and outer edges, the inner edge registering with the inner edge of the shank of the insole, said edges flaring in curved lines at the forward end of the device to define a relatively wide head portion adapted to underlie the metatarsal arch of the wearer's foot, the under surface of said head portion being convexly curved to correspond to the curvature of the aforesaid curved surface of the insole, the elongate main portion of the device being of less width than the shank of the insole and being of maximum thickness adjacent to the inner edge of the shoe shank and tapering in thickness toward its lateral edges, the head portion of the device being thicker than its rear end portion.

3. A cushioning device for use in a substantially completed shoe having an insole whose

forepart and shank portions are disposed at a distinct angle to one another and united by a curved surface, said cushioning device consisting of a unitary premolded piece of resilient material comprising an elongate main portion of a width less than that of the shank of the insole and having an inner edge shaped to register with the inner edge of the insole, said elongate part being thickest near its inner edge and tapering in thickness toward its lateral margins, said device also having a head or forward portion of a greater width than said elongate portion and adapted to underlie the metatarsal arch of the wearer's foot, the lateral edges of said head portion being curved and merging smoothly into the lateral edges of the elongate portion, the under surface of said head having a contour complemental to that curved surface of the insole which joins the forepart and shank of the latter.

4. A shoe of the open shank type having a sole member comprising a shank and a forepart, and cushioning means extending along the upper surface of the shank portion of the sole member at one side only of said shank portion, and a covering flap secured at one end beneath the sole member and extending upwardly over the edge of said sole member and over said cushioning means for concealing the latter, the other end of the flap being free of direct connection to the sole member or the upper of the shoe.

Signed by me at Boston, Massachusetts, this seventh day of February, 1931.

ALBERT F. BANCROFT.