Sept. 27, 1932. C. H. BROWN ET AL 1,879,729

SHOE

Filed Jan. 23, 1930

Fig. 1.

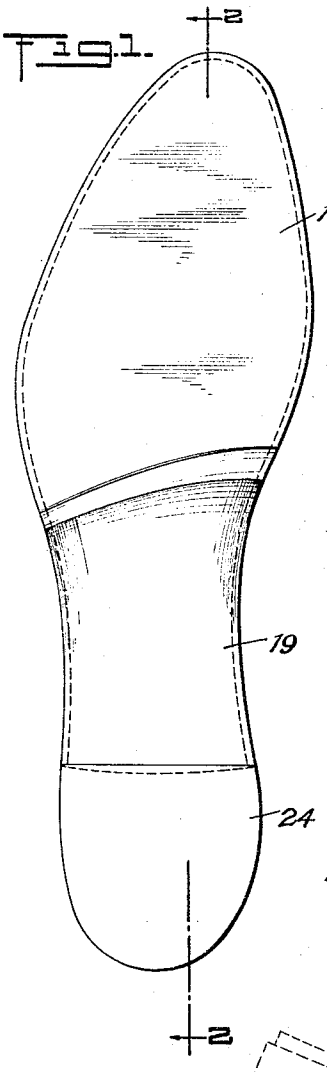


Fig. 2.

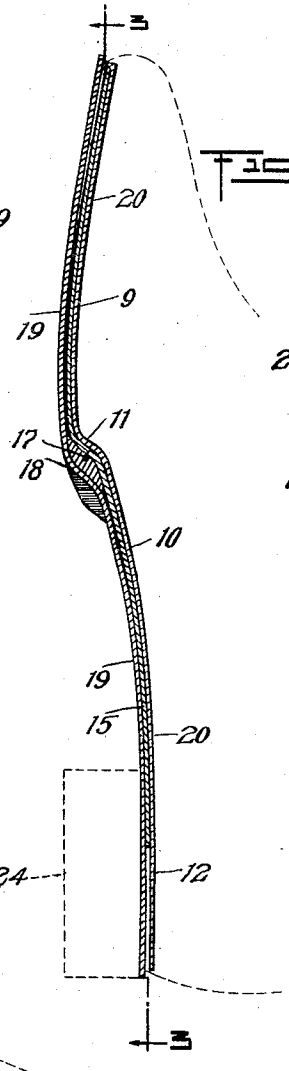


Fig. 3.

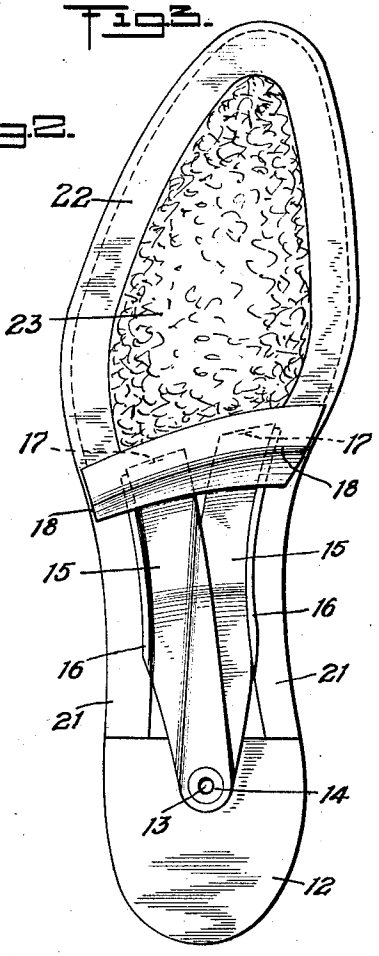
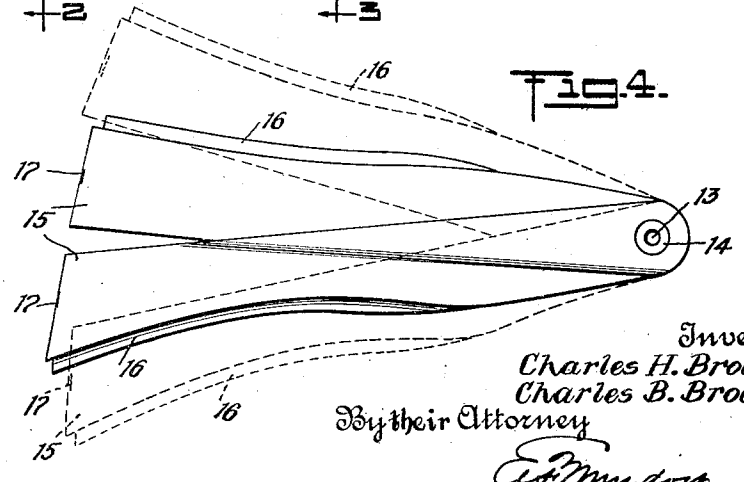


Fig. 4.



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Patented Sept. 27, 1932 1,879,729

UNITED STATES PATENT OFFICE

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SHOE

Application filed January 23, 1930. Serial No. 422,795.

Among the principal objects which the present invention has in view are: To provide a shank portion in a shoe elevated at the forward end thereof adjacent the ball portion of the shoe; to provide means for distributing the weight of the person over the entire sole of the foot; and to elongate the wearing sole of the shoe.

Drawing:

Figure 1 is a bottom view of a shoe and the sole of a shoe constructed and arranged in accordance with the present invention;

Figure 2 is a longitudinal view thereof, the view being taken on line 2—2 of Figure 1.

Figure 3 is a bottom view of a shoe sole structure, the wearing sole having been removed exposing the cork filler and the shaping fillet and shank iron being disclosed.

Figure 4 is a detailed view of the shank iron employed in the present invention—the dotted lines in said figure indicating the expanded condition of the shank iron.

In the drawing, and particularly in Figure 2 thereof, an insole 9 is molded to provide a raised shank portion 10 and a connecting or elevating portion 11. The insole forms also the heel plate 12 to which the shank iron employed in the present invention is secured. To this end, the shank iron has a perforation 13. The perforation 13 is intended for the reception of a nail or screw, as the case may be, when driven into the standing heel of a shoe. In its preferred form, the perforation is formed in the center of an eyelet 14. The eyelet 14 forms a relatively secure, but nevertheless movable joint for the shank supports 15 which are mounted scissors-like and provided at their outer edges with a flange 16. The shank supports 15 are provided at their forward ends with spurs 17 which, in service, are pressed into the hard leather fillet 18. The fillet 18 is shaped in cross section substantially as shown in Figure 2 of the drawing—the forward and rear edges being skived to fit snugly between the wearing sole 19 and the innersole 20. The depth of the fillet 18 is thickened in accordance with the design or purpose of the shoe maker or builder and is shaped to conform to the designed contour of the wearing sole 19. The fillet serves a further purpose, to wit: To hold the forward ends of the shank irons apart.

In service, the flanges 16 overlap the inseams 21, thereby imparting added rigidity to the shoe structure at the outer edges of the shank portion.

After the insole 20 carrying the welt 22 and the filler 23 has been secured on the shoe last, and the shank irons 15 have been placed and spread, the fillet 18 is cemented in position and is forced down until the spurs 17 enter the fillet 18 as shown and described above.

If required, cork filler is now spread over the shank irons 15 and the wearing sole 19 is adjusted and secured to the welt 22 and inseam 21 in the usual manner.

A somewhat similar construction is disclosed in a copending application for patent bearing Ser. No. 508,906, filed under date of January 15, 1931, for improvement in shoe construction.

The present invention relates more particularly to the shoe structure and to the relation of the shank portion thereof to the ball portion thereof.

As shown best in Figure 2 of the drawing, the shank portion 10 is elevated at the forward end thereof to rest upon the fillet 18 which at this point connects the wear-sole 19 and the insole 9. The fillet 18 forms a sharp incline, or drop, from the surface of the shank portion 10 to the surface of the innersole at the forward or ball portion of the shoe. The drop referred to forms a ridge over which extend the heads of the metatarsal bones of the foot when in the shoe.

It will be noted that the inclined portion is curved to conform to the metatarsal arch of the foot, and that the elevation (as indicated by curved lines in Figure 1 of the drawing) is less at the outer side of the shoe—which corresponds to the "left" of said Figure 1—than at the inner side of the shoe, thus providing for the accommodation of the varying sizes of the heads of the metatarsals.

When the heel 24 is put in position, it will be found that the shoe when completed has a substantially raised shank portion terminat-

ing in a ridge-like connecting section formed by the fillet 18 and the elevating portion 11 as seen best in Figure 2 of the drawing.

When thus constructed, it will be found that when the foot is placed in the shoe, the metatarsal joints overhang the said ridge-like portion allowing the so-called ball of the foot to drop to a slightly lower level than the shank portion of the foot, with the result that a certain proportion of the weight of the person wearing such shoe is carried on the shank portion of the foot and the shoe, thereby distributing the weight and avoiding the cramping of the foot incident to bending the foot with the entire weight on the metatarsal structure.

We claim:

A shoe as characterized comprising a heel, a ball section and a shank section intermediate said heel and ball section, said ball section and shank section being disposed on the foot-contacting side of different levels to form on the insole of the shoe a relatively sharply defined ridge intermediate said sections on a line substantially transverse the longitudinal axis of said shoe, said shank section being inclined at the inner side of said shoe, and said ridge being heightened vertically at the inner side of the shoe in correspondence with the elevation of the shank portion at that side.

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