

July 21, 1931.

H. SCHNEIDER

1,815,164

FOOTWEAR

Filed May 15, 1930

Fig. 1

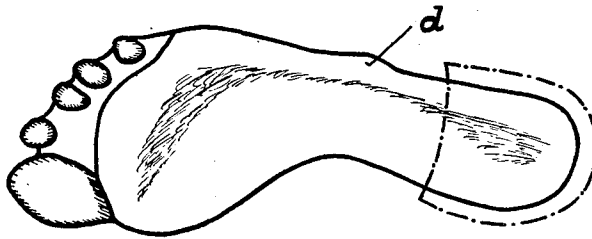


Fig. 2

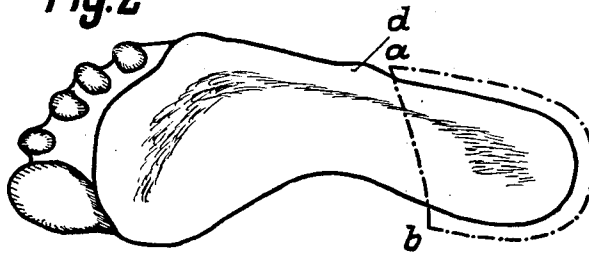
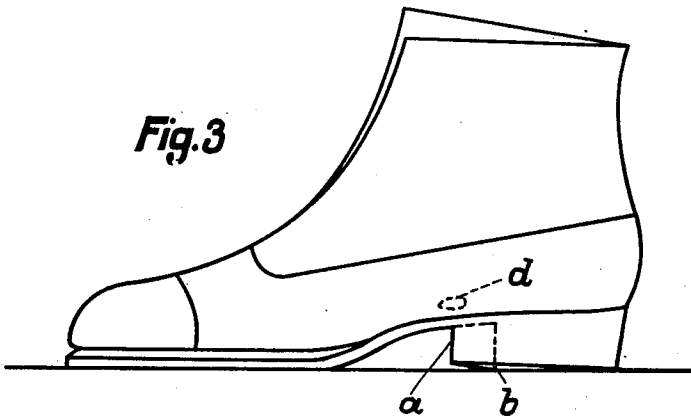


Fig. 3



Inventor:
Heinrich Schneider
By *W.T. Buffington*
Att'y.

UNITED STATES PATENT OFFICE

HEINRICH SCHNEIDER, OF ERFURT, GERMANY

FOOTWEAR

Application filed May 15, 1930, Serial No. 452,619, and in Germany September 4, 1929.

The present invention relates to a boot or shoe having an improved heel and aims at providing a thereby improved shoe for normal feet, by which it becomes more possible to render the shoe-joint more pliant and also to make the entire shoe more easy to manufacture.

According to the invention, the heel is so prolonged towards the sole as to extend on the external edge of the foot about as far as the protuberance of the fifth metatarsal bone. By providing direct support as far as the protuberance of the fifth metatarsal bone, the bone system or skeleton obtains a support exactly where the instep is least curved and therefore loses its tendency to bend between the ball and heel, the foot, in consequence, being far less liable to fatigue. By the additional support provided where the plantar arch curvature is least, it becomes possible to manufacture a lighter and more supple form of shoe-joint so that the shoe can adapt itself better than hitherto to the natural bending movements of the instep. Proposals have already been made to provide an extra support on the outer side of the foot, by, for instance, widening the sole or by inserting a connecting piece between sole and heel. The former proposal relates to an orthopaedic shoe and is therefore inapplicable to a foot of normal shape, while the second precludes all possibility of a more supple construction of shoe-joint. Neither of these two proposals involves any recognition of the fact underlying the present invention, that is, the advantage of the extra support given to the protuberance of the fifth metatarsal bone by means of a heel extending forward on the outer edge of the foot, towards the plantar arch as far as to the protuberance of the fifth metatarsal bone. With a view to rendering the support thus given to the protuberance of the fifth metatarsal bone more flexible, and thereby preventing any premature fatigue the heel is kept a little lower at this position.

The invention is illustrated in the accompanying drawings.

Fig. 1 shows a foot sole as seen from below with impressions of the bearing surfaces

and with the usual position of the boot or shoe heel indicated.

Fig. 2 resembles Fig. 1 except that the heel shown illustrates the form according to this invention.

Fig. 3 reproduces in side view a left boot having the heel shaped and disposed according to the invention.

Fig. 1 shows the sole of the foot with traces of the tread imprinted and serves to illustrate that the bearing places of the foot extend appreciably only between ball and heel and that between these two positions the foot takes only a slight support. This drawback is to no great extent alleviated by the boot form so far in vogue, as the boot relieves the foot of its weight only at the two positions where the bearing surface is widened as may be readily recognized from a heel of the form and position hitherto usual, indicated by the dot and dash lines in Fig. 1. The protuberance, marked *d*, of the fifth metatarsal bone forms the outside point of support of the skeleton arch which enlarges towards the inner side of the foot. This protuberance has hitherto been neglected in so far as support from the boot is concerned, but this is remedied when the heel has the form according to this invention and shown in Fig. 2. The heel is prolonged along the outer side of the foot, approximately as far as to the protuberance *d* of the fifth metatarsal bone. The bounding wall *a*, *b*, of the heel facing the ball of the foot, no longer extends symmetrically across the ball surface but crosses it obliquely. In order to render this direct support for the protuberance *d* of the fifth metatarsal bone sufficiently pliable, the heel, at the position *a*, is shaped a little lower than at *b*. In Fig. 3, is shown a side view of a boot for the left foot. The position of the protuberance *d* of the fifth metatarsal bone is indicated by dotted outlines. The bone in question is immediately supported by the edge *a* of the heel which is at this position lower.

What I claim as my invention and desire to secure by Letters Patent of the United States, is:—

The combination with a shoe having a heel

and sole, said heel being prolonged towards the sole to extend on the external edge of the foot substantially as far as the protuberance of the fifth metatarsal bone of the foot, said structure being gradually decreased in thickness below said protuberance to provide a resilient support therefor.

In witness whereof I affix my signature.

HEINRICH SCHNEIDER.

10

15

20

25

30

35

40

45

50

55

60

65