

No. 779,683.

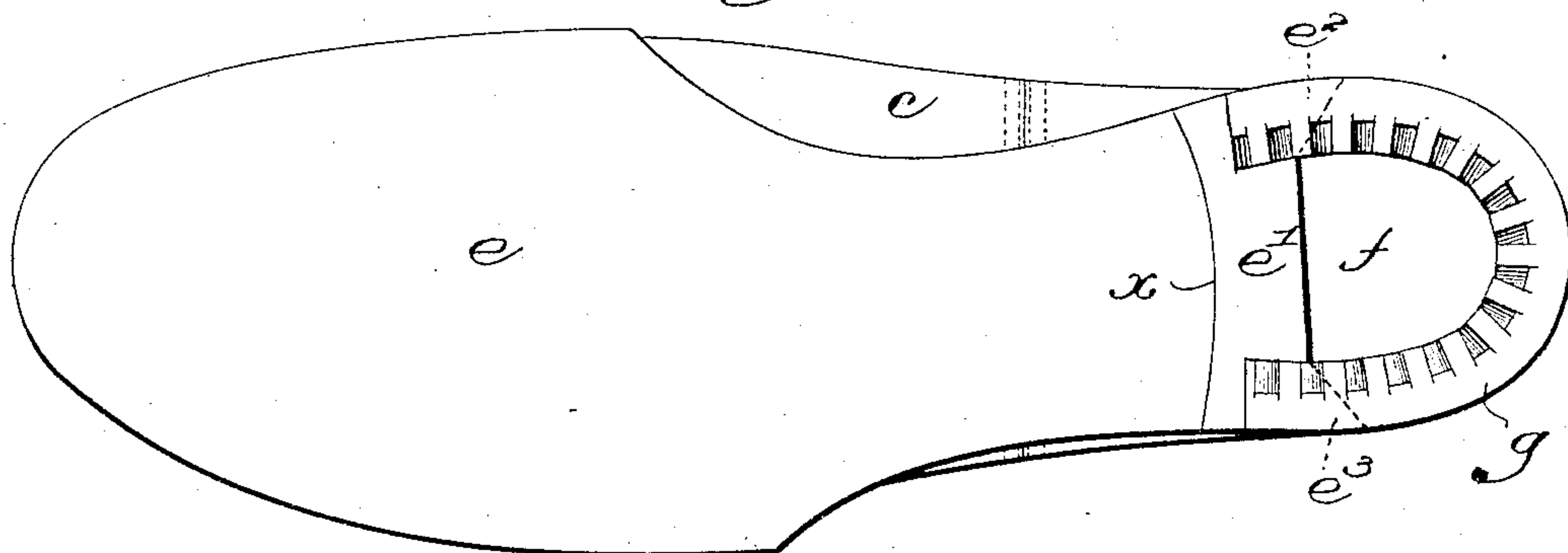
PATENTED JAN. 10, 1905.

W. B. ARNOLD.

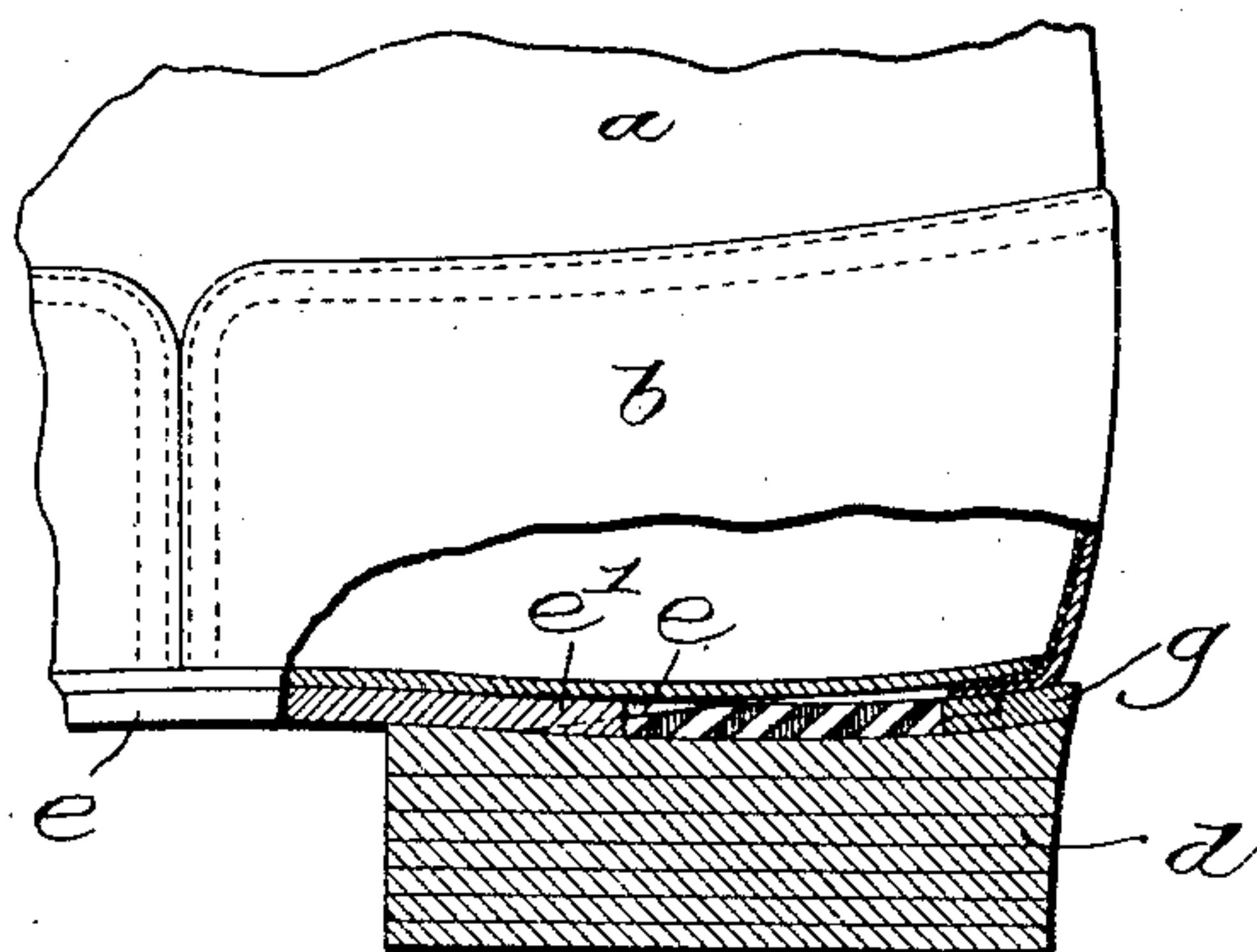
SHOE SOLE.

APPLICATION FILED APR. 11, 1902.

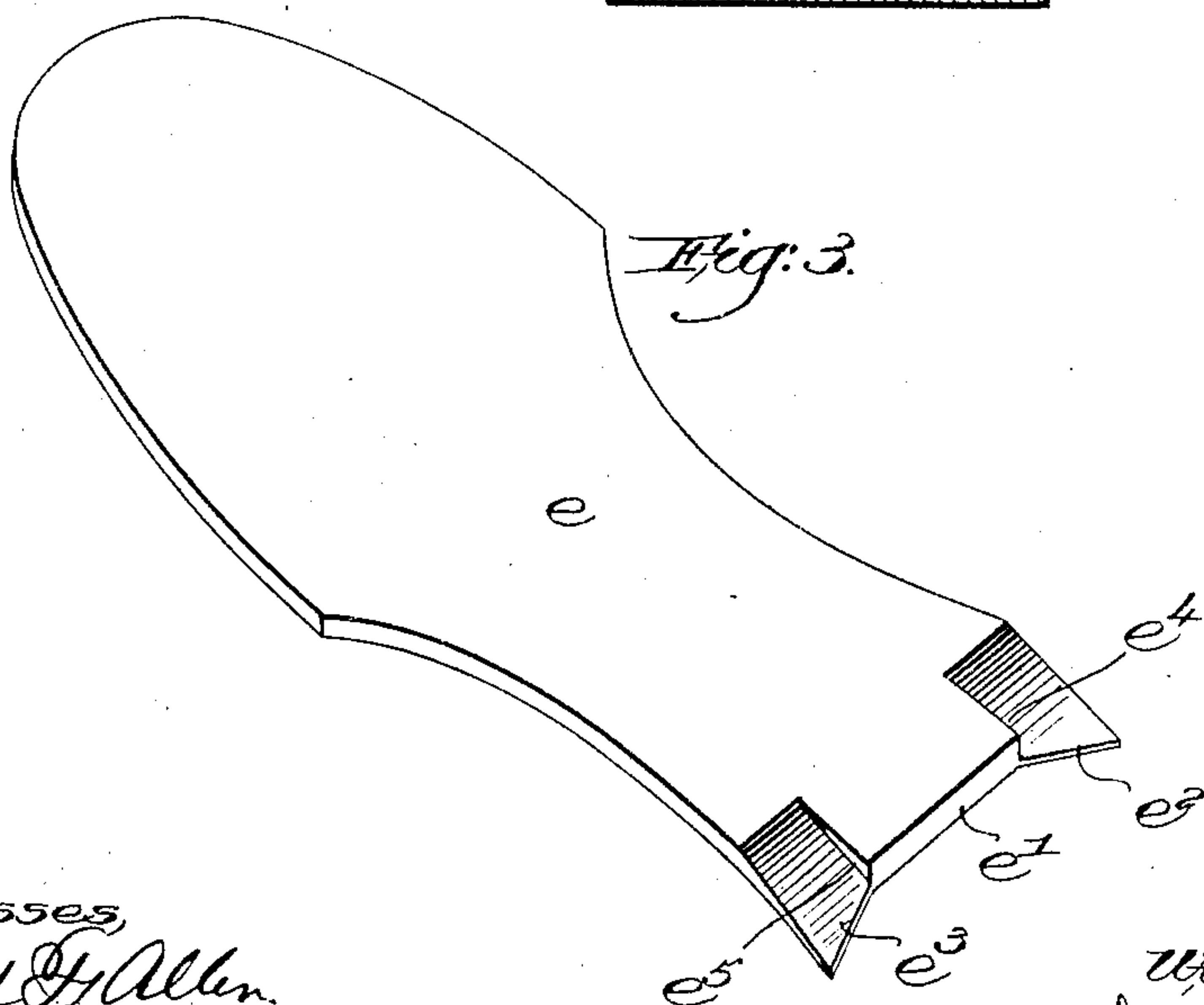
*Fig. 1*



*Fig. 2*



*Fig. 3*



Witnesses,  
Edward H. Allen.  
Herman J. Sartoris

Inventor,  
William B. Arnold,  
by Crosby Gregory,  
attys.

# UNITED STATES PATENT OFFICE.

WILLIAM B. ARNOLD, OF NORTH ABINGTON, MASSACHUSETTS.

## SHOE-SOLE.

SPECIFICATION forming part of Letters Patent No. 779,683, dated January 10, 1905.

Application filed April 11, 1902. Serial No. 102,387.

*To all whom it may concern:*

Be it known that I, WILLIAM B. ARNOLD, a citizen of the United States, residing at North Abington, county of Plymouth, State of Massachusetts, have invented an Improvement in Shoe-Soles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention is a shoe-sole or combination sole, and in some of the features thereof it is an improvement on the construction shown in my Patent No. 635,118, of October 17, 1899.

The present shoe-sole comprises a heel end and a "half-sole," the latter being of peculiar formation at its rear end.

One object of this invention is to increase the resiliency or flexibility of the sole, and therefore promote the comfort of the wearer, and accordingly I have provided the rear end of the half-sole with a central block or lip for giving stability and support to the heel, said lip being flanked by projecting or extended retaining-wings, preferably scarfed and combined, preferably, with a resilient heel end, and the heel proper is secured in usual manner to the two parts mentioned, as clearly shown in the accompanying drawings.

In the accompanying drawings, in which I have illustrated one embodiment of my invention, Figure 1 is a bottom plan view of a shoe having the heel removed, so as to disclose the construction of my improved shoe-sole. Fig. 2 is a side elevation of a portion of the heel part of a shoe, showing the heel and adjacent construction in central longitudinal section; and Fig. 3 is a perspective view of the forward portion or half-sole.

To make my invention more completely shown and understood, I have illustrated it in connection with a usual shoe having an upper *a*, counter *b*, shank *c*, and heel *d*, although it will be understood that these various parts may be changed indefinitely and are herein shown merely for fullness of illustration.

Referring to the sole proper, it will be seen to include a forward portion or half-sole *e*, which, in general, is made to conform to the current shape and style desired. This half-sole has a special rear construction, being pro-

vided with a straight middle part *e'*, cut in a straight line at right angles to the lengthwise direction of the sole and laterally extending or projecting wings *e<sup>2</sup> e<sup>3</sup>*, divergent therefrom at the opposite sides, as clearly shown in Figs. 1 and 3. The provision of these wings enables me to get a strong grip and support for and between the heel *d* and the superposed part of the shoe, these wings extending, as is clearly shown in Figs. 1 and 2, back at each side to a considerable extent over the heel, and yet permitting the central portion *f* of the heel or heel-support to be hollow for cushioning purposes. As herein shown also, the central part *e'* is block-like in shape, or, in other words, stands up solidly flat against the top or adjacent face of the heel *d*, as clearly shown in Fig. 2, while the wings *e<sup>2</sup> e<sup>3</sup>* are cut away, as shown in Fig. 3, to receive the rand piece or heel end *g*, whose ends are brought around against the shoulders *e<sup>4</sup> e<sup>5</sup>* with the outer edge of the part *g* coinciding with the outer edges of the wings *e<sup>2</sup> e<sup>3</sup>*, as shown in Fig. 1. The block-like lip or solid support *e'* extends back over the heel a considerable distance, as shown in Fig. 2.

I have found that in order to get the best wear and service out of shoes which are extremely flexible and cushion-like in their construction, (as is the purpose of my present invention,) it is necessary to afford a solid and substantial joint or connecting-piece between the heel end and the outer sole, and this is secured by extending the latter as above explained.

When bending and yielding are required, my construction permits it to take place uniformly throughout the sole and also insures that no possible strains and bending will disconnect the half-sole from the heel end and heel.

The rearward tongue or block-like part *e'* is rigidly secured to the heel proper, extends over the same to such an extent that it cannot pull away, is narrow, so as not to interfere with flexibility, and yet is solid, so as to prevent breaking or disrupting, and gives a firm rigid support to the front edge or breast of the heel, (which extends, approximately, to the point indicated by the line *x*,) thereby



preventing the heel from shifting in position, caving in, or distorting, and the wing-like extensions at the opposite sides thereof permit a close and tenacious, as well as neat joint or union between the heel end and the half-sole or outer sole.

The heel-end construction is shown as made of heavy welt or rand stock, cut as shown in my Patent No. 674,831, and is so laid as to leave a hollow or unfilled space *f* over the center of the heel, this cooperating with the cut-away teeth of the heel end *g* in giving extreme resiliency or cushioning effect to the heel. While this latter feature makes the construction desirable as a substitute for the somewhat expensive rubber heels now popular, the construction is also sufficiently solid and firm to permit it to be used with said rubber heels.

As already stated in the fore part of this specification, my invention in its broader aspects is already disclosed and covered in my first-mentioned patent, and accordingly I do not intend herein to claim more than certain constructional details relating to the particular cut and arrangement of the parts described, as will more definitely appear in the appended claims; and yet, as intimated, I do not intend to limit myself in every respect to the details shown, as in certain of the claims some of these details are omitted, as they may also be in the construction, while others of the claims are more specific.

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

1. A sole for boots and shoes, composed of a front part terminating at its rear end in a central, block-like part, adapted to extend back over the base of the heel, an obliquely-projecting wing at each side of said central part, said wings being thinner than said cen-

tral part and extending rearwardly of the latter, and a heel end overlapping said projecting wings and abutting against said central block-like part.

2. A sole for boots and shoes, composed of a front part terminating at its rear end in a central, block-like part, adapted to extend back over the base of the heel, and an obliquely-projecting wing at each side of said central part, and a heel end overlapping said projecting wings and abutting against said central block-like part, said heel end having a large opening or cavity extending from said block-like central part back adjacent to the rear edge of the heel.

3. A sole for boots and shoes, having its rear end at the center thereof cut in a straight line substantially at right angles to the length of the sole, and an obliquely-shaped wing projecting at each side of said central portion, rearwardly thereof and a heel end extending from said rear end of said sole to the end of the heel, combined with a heel having its breast or front edge overlapping said central part and a heel end matching or fitting said two wings of the rear end of said sole.

4. In a sole for boots and shoes, a forward sole portion adapted to extend rearwardly over the base of the heel, the said rear end thereof being provided with a central block-like part and with a horizontally cut-away or thin portion at each side of said block-like part, and a rearward heel-end portion matching or fitting said thin portions.

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

WILLIAM B. ARNOLD.

Witnesses:

GEO. H. MAXWELL,  
HERMAN J. SARTORIS.