

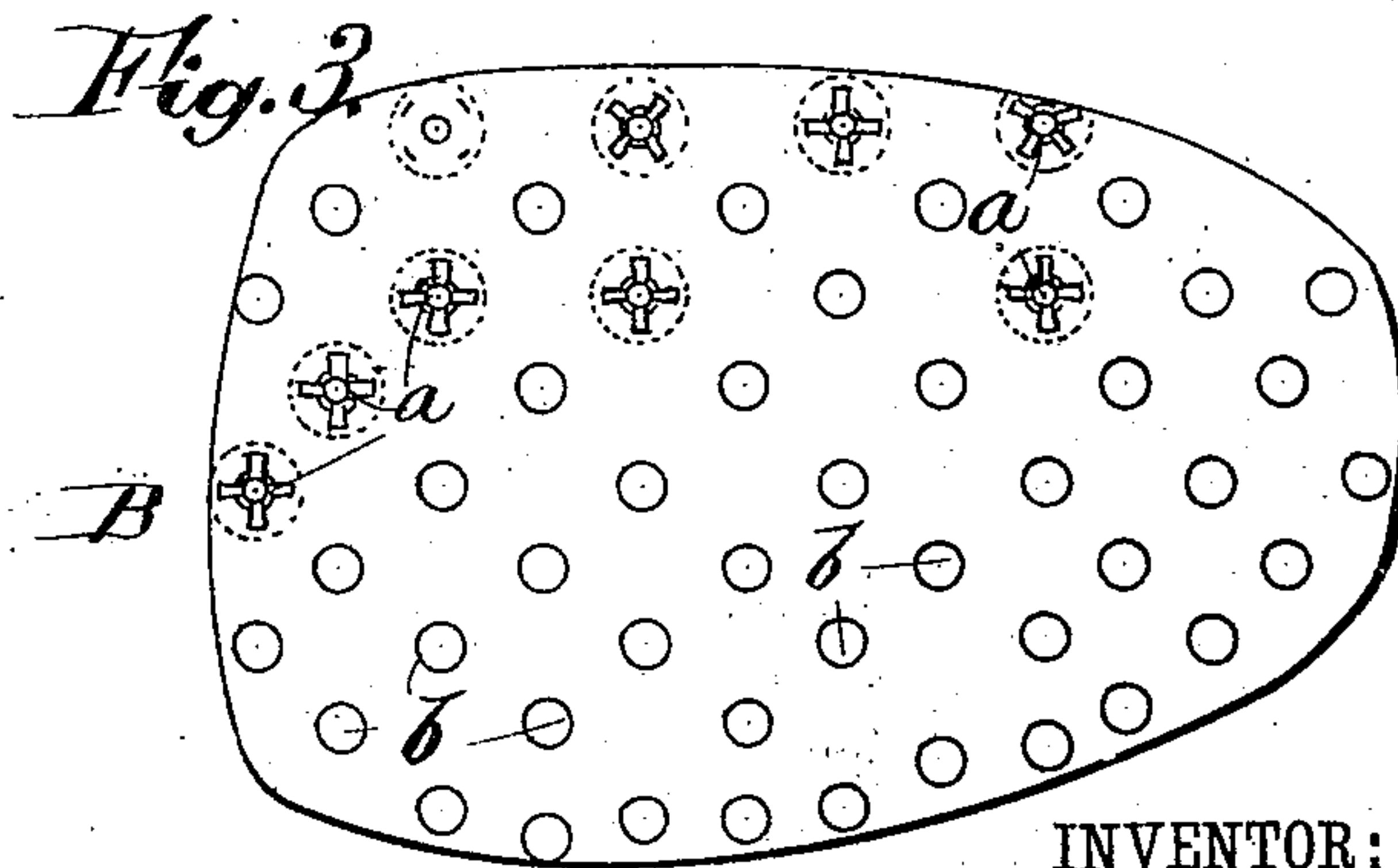
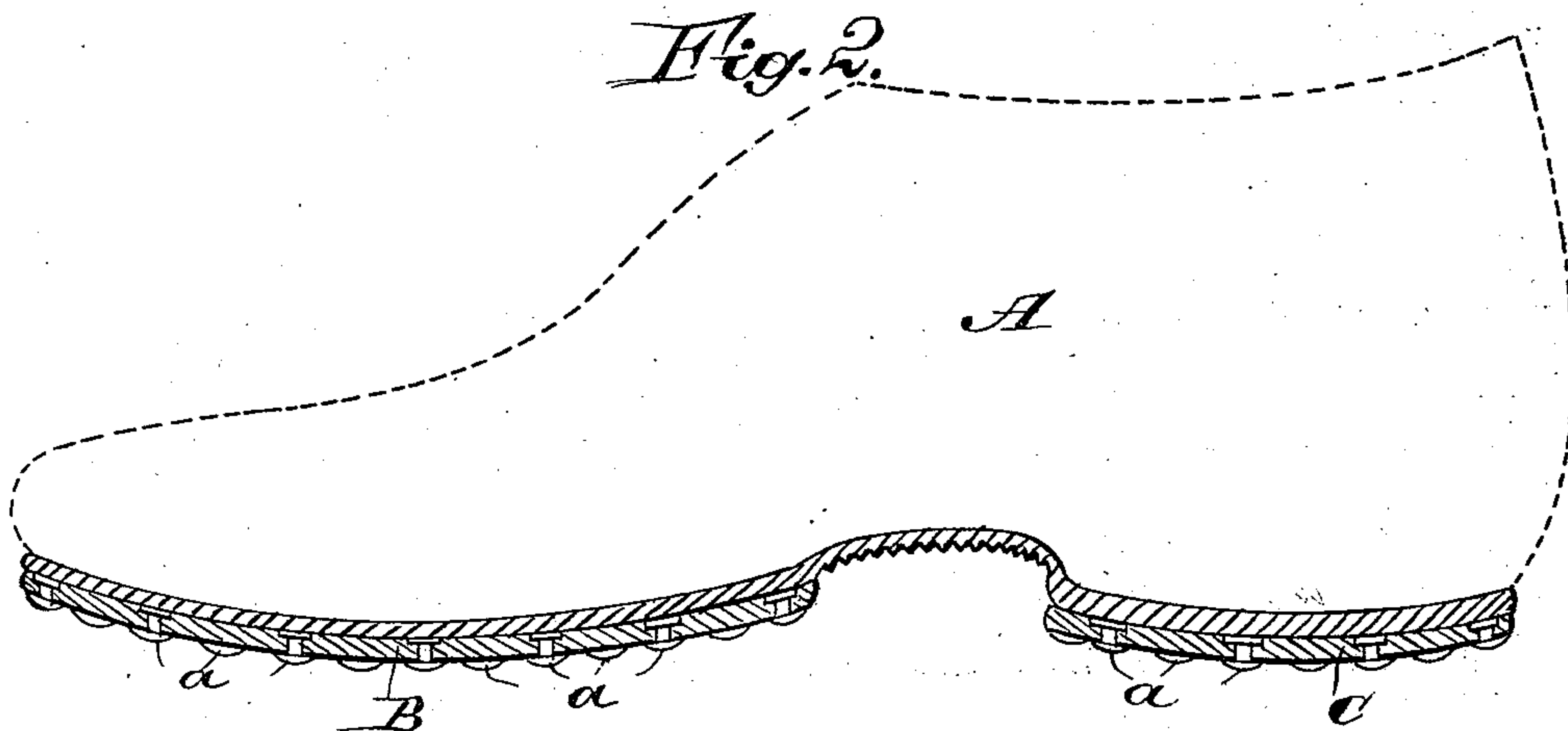
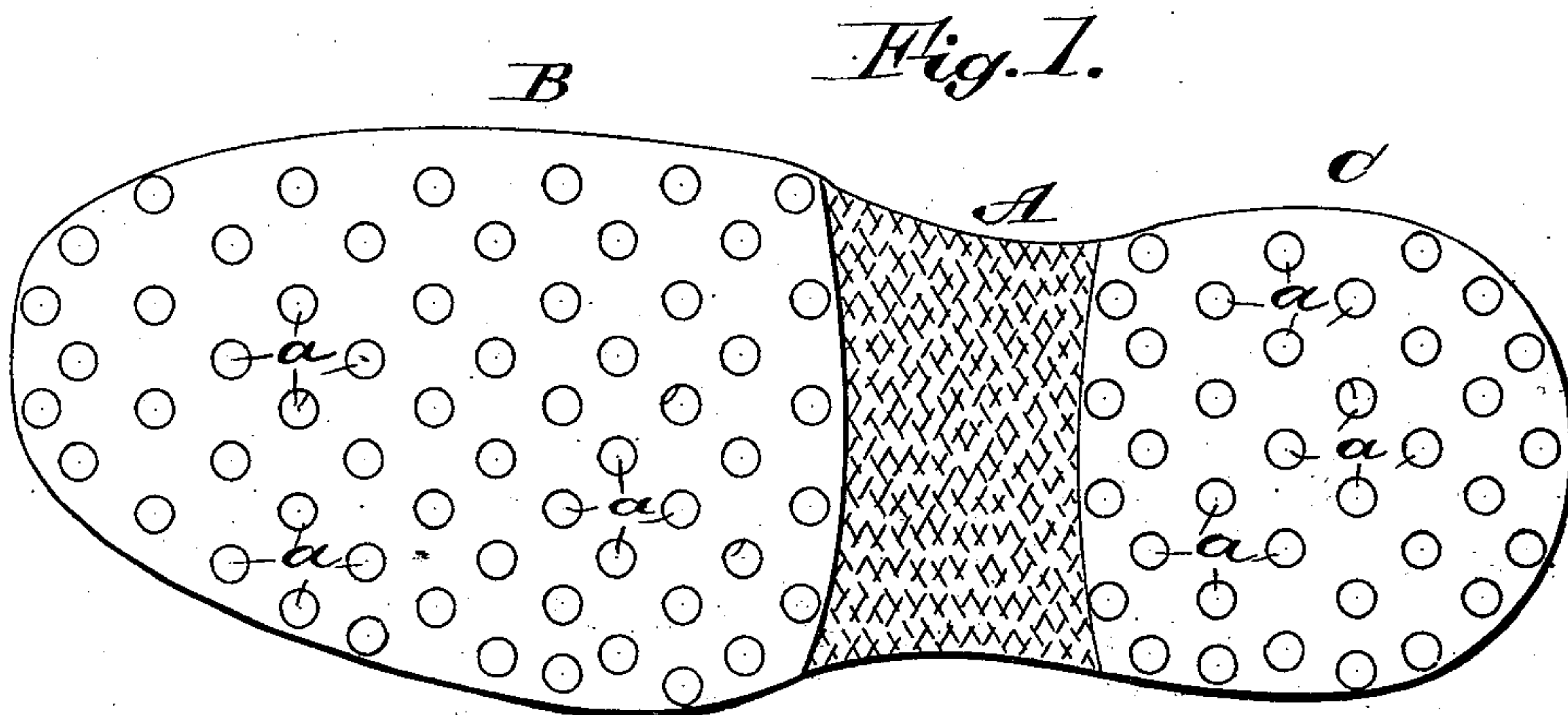
(No Model.)

F. EPHRAIM.

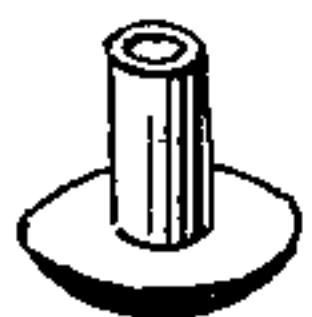
RUBBER SOLE AND HEEL FOR BOOTS OR SHOES.

No. 282,710.

Patented Aug. 7, 1883.



*Fig. 4.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

FERDINAND EPHRAIM, OF SAN FRANCISCO, CALIFORNIA.

## RUBBER SOLE AND HEEL FOR BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 282,710, dated August 7, 1883.

Application filed June 8, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, FERDINAND EPHRAIM, of San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Rubber Soles and Heels for Boots or Shoes, of which the following is a full, clear, and exact description.

The object of this invention is to devise a practical method of providing rubber soles and heels with metal wearing points or surfaces for increasing the durability of the soles and heels; and to this end my invention consists in the employment of headed eyelets or rivets that are passed through the outer sole and heel and riveted before being applied to the boot or shoe.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is an elevation of the bottom of a boot or shoe having my approved sole and heel applied thereto. Fig. 2 is a sectional elevation of the same. Fig. 3 is a plan view of the inner surface of the sole before being attached to the boot or shoe, some of the holes in the sole being left vacant, ready to receive the rivets; and Fig. 4 is a perspective view of the preferred form of rivet, nail, or eyelet.

A represents a rubber shoe made in the ordinary manner, and B C represent, respectively, my outer rubber sole and heel, secured to the ordinary sole and heel of the shoe by cement, or by other suitable means.

The sole and heel B C are provided with the metal rivets, nails, or eyelets *a a*. These are headed, and are riveted or bent down upon

the inner surface of the sole and heel, so as to cause the outer heads to grasp the material and close water-tight the passages or holes *b* in the rubber material, through which the rivets, nails, or eyelets pass.

The rivets, nails, or eyelets *a a* are by preference made tubular, as shown in Fig. 4, and they might be driven or forced through the material of the sole or heel and riveted or bent down; but I prefer to first punch the holes *b* in the material, as by this means all danger of cracking the material is prevented.

By using the headed rivets or nails and heading or riveting them upon the inner surface of the sole or heel the heads of the rivets, nails, or eyelets are caused to grasp the material around the holes through which they pass, and thus make the sole and heel water-tight; and this also obviates all danger of the rubber material cracking at the holes, which would render the sole or heel valueless.

After receiving the metal rivets, nails, or eyelets the sole B or heel C is to be cemented or otherwise secured to the original sole and heel of rubber or of leather boots and shoes, with the heads of the rivets or nails outward, as shown.

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

The combination, with the outer sole or heel of a rubber shoe, of the rivets *a*, headed on both sides, and having the head on the upper side let into the sole or heel and flush with said upper side, as shown and described.

FERDINAND EPHRAIM.

Witnesses:

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