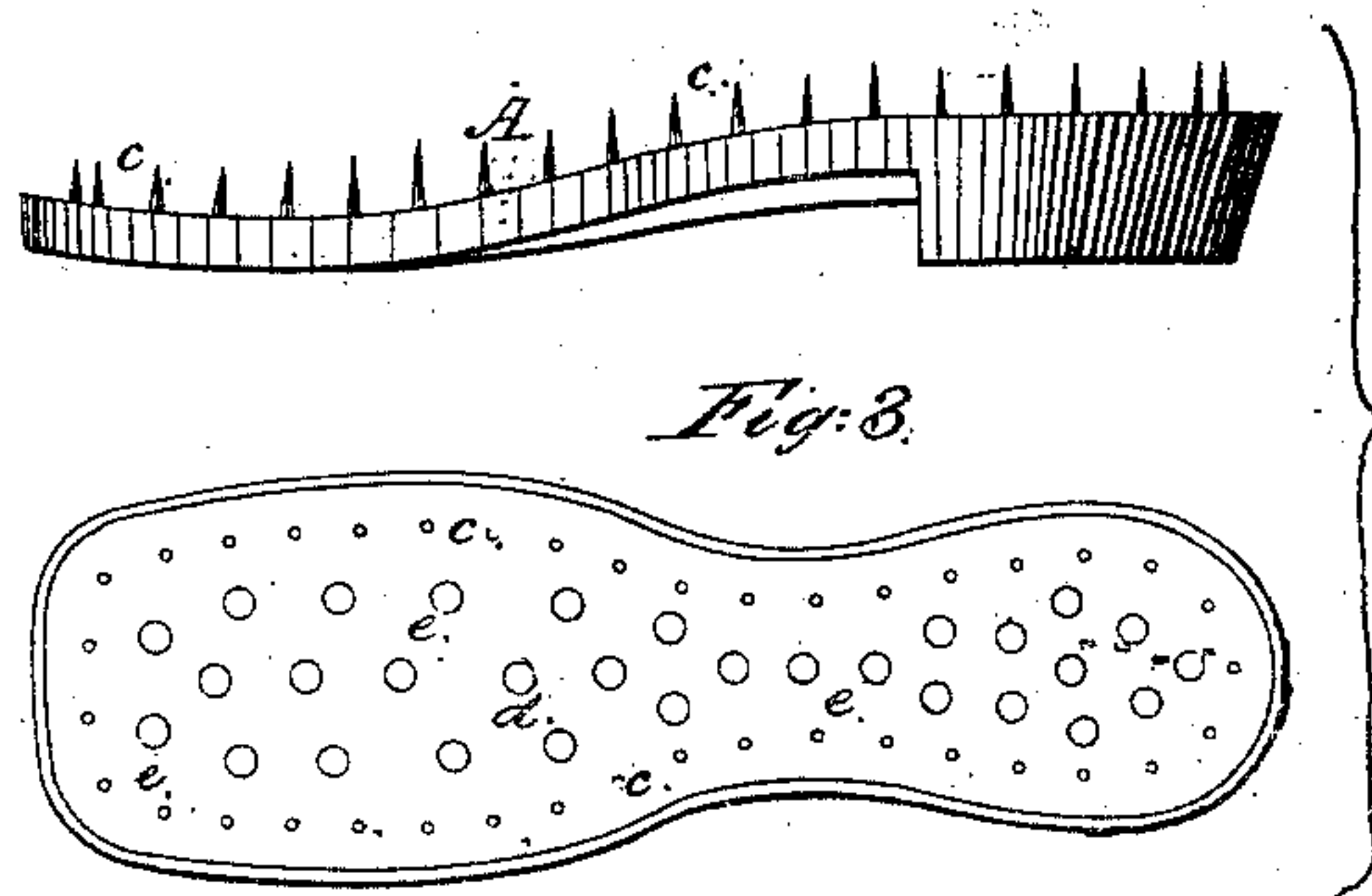
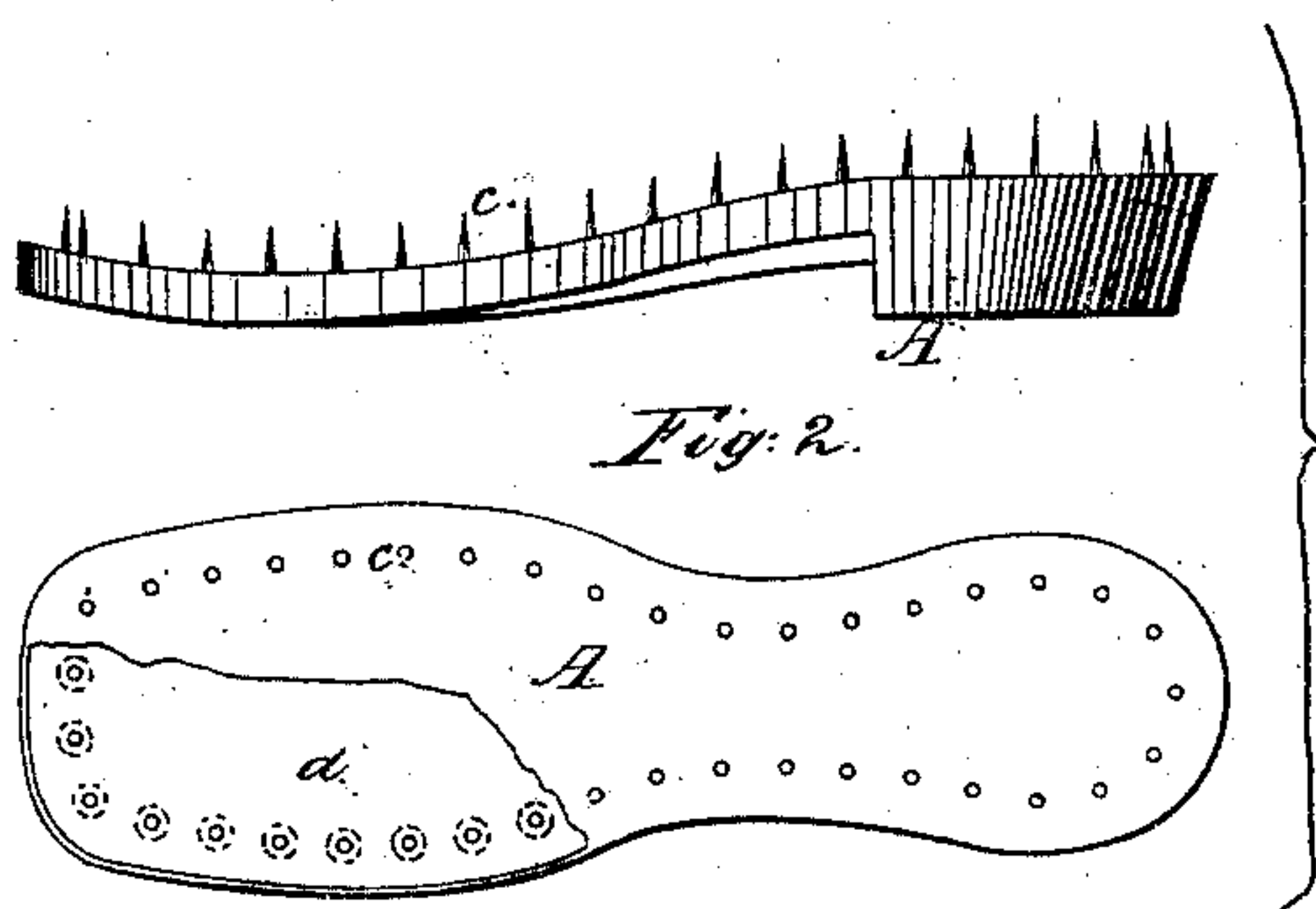
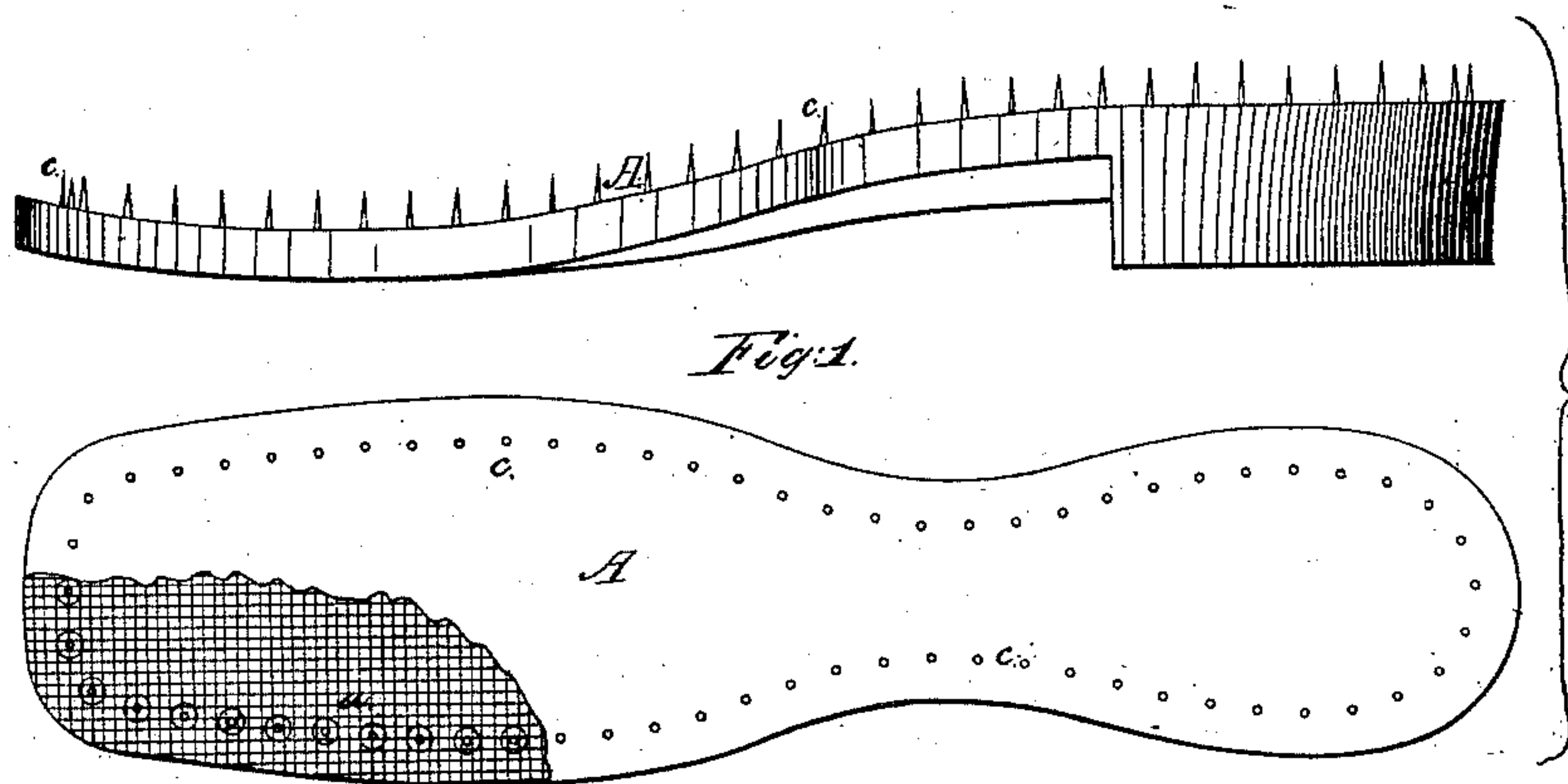


T. C. WEEKS.
INDIA RUBBER SOLE FOR BOOTS AND SHOES.

No. 38,615.

Patented May 19, 1863.



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UNITED STATES PATENT OFFICE.

THEODORE C. WEEKS, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN INDIA-RUBBER SOLES FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. 38,615, dated May 19, 1863.

To all whom it may concern:

Be it known that I, THEODORE C. WEEKS, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of India-Rubber Soles for Boots and Shoes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents an edge and top view of an india-rubber sole constructed after my general plan, a portion of the top plan being represented as broken away to show the interior of the sole. Figs. 2 and 3 represent modifications of the general plan of constructing or making the soles.

India rubber soles having tack heads embedded and vulcanized in them, and so that the points of the tacks shall project above the upper surface of the sole, for the purpose of uniting it to the boot or shoe, have been made; and in these soles a piece of canvas has been used to hold the tack-heads and prevent their being drawn out of the rubber. The use of canvass for the above purpose is not entirely satisfactory. It does not possess the requisite strength, particularly in heavy work, and is, besides, liable to injury from the constituents of the rubber.

My invention consists in using in the rubber sole, embedded and vulcanized therein, a metallic tack-head holder, which may be a strip of thin metal, a perforated thin metallic plate, or woven wire, through which the tacks pass, and which holds them firmly in the sole.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A mold of the proper shape and size having been previously prepared, rubber is placed in it of sufficient thickness, and upon this is placed the metal strip, plate, or woven wire, having the tacks passed through it or them up to their heads, the heads of the tacks be-

ing placed upon the rubber in the molds. The mold may now be filled with rubber, closed up, and the whole vulcanized, which completes the process.

In Fig. 1, A represents one of the soles, in which woven wire *a* is embedded and vulcanized to hold the heads of the tacks *c*. In Fig. 2 I have shown a metallic plate, *d*, for holding the tack heads; and in Fig. 3 I have shown a metallic plate, *d*, with holes *e* punched through it, so that the rubber above and below said plate may unite at several points, as it does in the use of the woven wire, and make a more substantial sole.

I prefer to make the tack-head holder of the size of the sole, as it adds to the stiffness of the rubber; but a strip margining the sole only may be used.

These soles thus made are intended to be driven onto the upper, which has been properly lasted on a metallic last, so that the tacks will clinch against the insole, and thus make a very firm union of sole and upper, as the heads of the tacks cannot be drawn through their metallic holder, and their points are clinched against the insole.

I have used the word "sole" simply, but as shown in the drawings the sole and heel are made in one piece. I however design to use this invention in the same way, whether the heel be a part of the sole or separate therefrom and portions of it made of other material than rubber.

Having thus fully described the nature and object of my invention, what I claim, in the manufacture of india-rubber soles for boots and shoes that have tacks embedded in them by which they are fastened to the upper, is—

Passing the tacks through a metallic tack-head holder, and vulcanizing the tack-holder and the tacks embedded in the rubber, with the points of the tacks protruding therefrom, substantially as described.

THEO. C. WEEKS.

Witnesses:

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