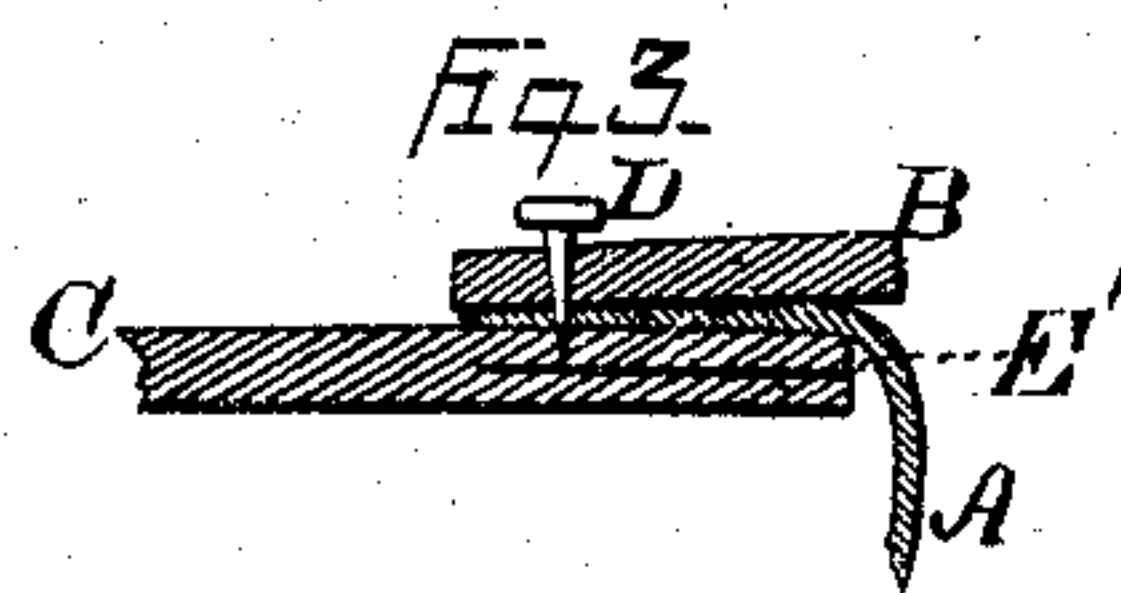
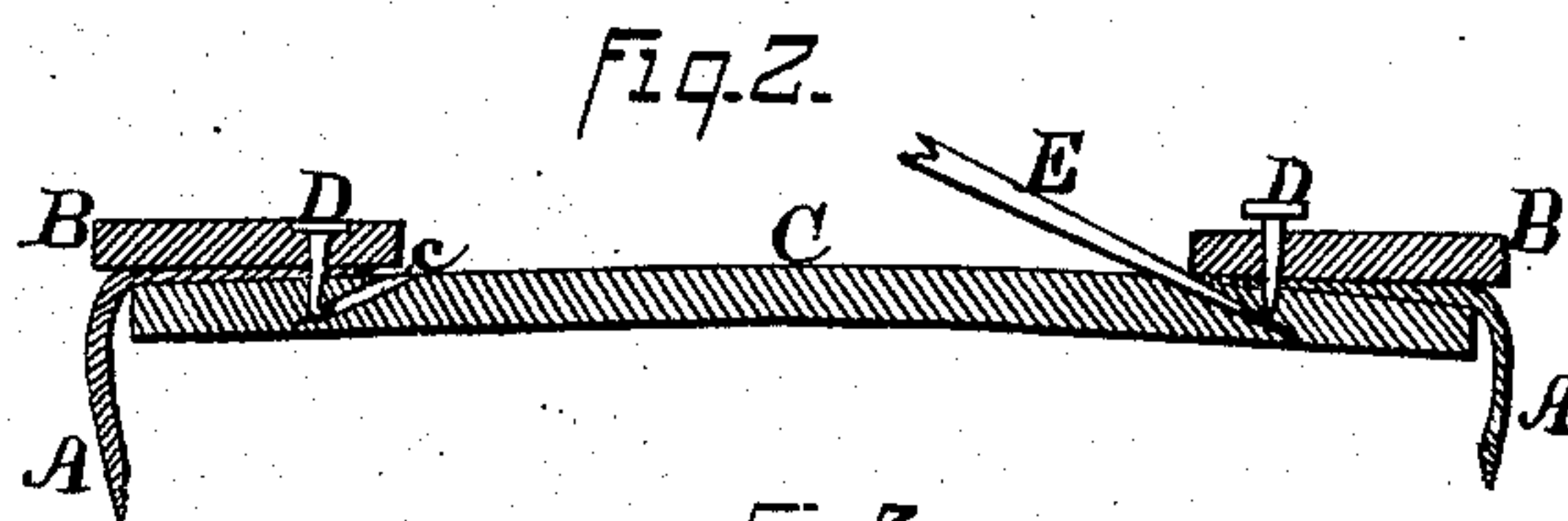
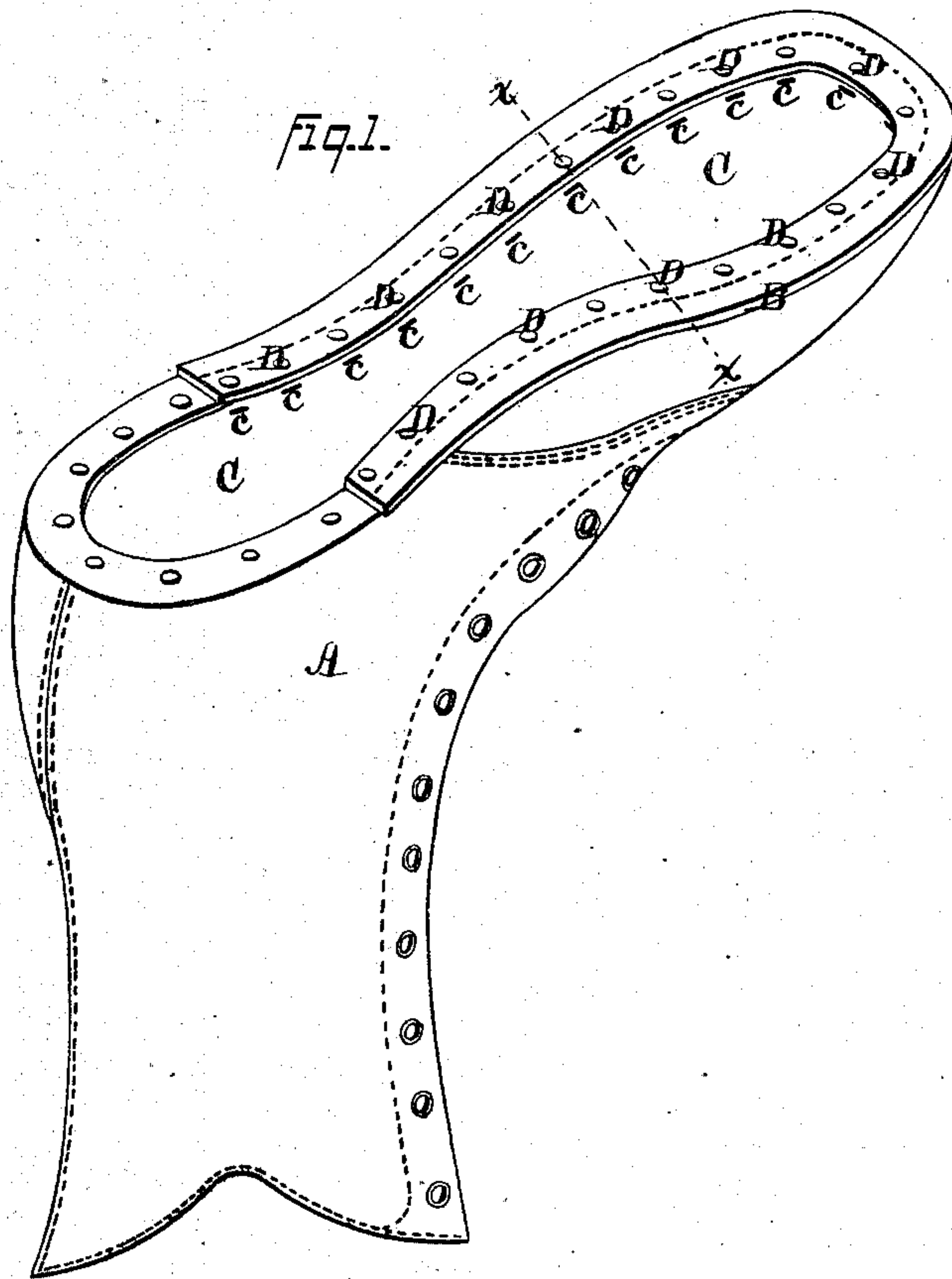


G. W. COPELAND.  
Lasting Boots and Shoes.

No. 158,682.

Patented Jan. 12, 1875.



WITNESSES=

Geo. B. Hutchinson  
John R. Young

INVENTOR.

Geo. W. Copeland, by  
Prindle and Co. his Attys



# UNITED STATES PATENT OFFICE.

GEORGE W. COPELAND, OF MALDEN, MASSACHUSETTS.

## IMPROVEMENT IN LASTING BOOTS AND SHOES.

Specification forming part of Letters Patent No. **158,682**, dated January 12, 1875; application filed January 6, 1875.

*To all whom it may concern:*

Be it known that I, GEORGE W. COPELAND, of Malden, in the county of Middlesex and in the State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Boots and Shoes; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 is a perspective view of the lower side of a shoe having its upper and insole connected together by my improved method. Fig. 2 is a cross-section of the same upon line *xx* of Fig. 1; and Fig. 2 is a like view of the same, showing a modification in the manner of introducing the clinching-anvil.

Letters of like name and kind refer to like parts in each of the figures.

In the manufacture of boots and shoes by machinery it has been customary to connect the inner sole to the welt or upper by means of metal tacks, which are driven inward through said parts, and have their inner ends clinched upon a metal last that is placed within the upper, and at its bottom bears upon the inner surface of said inner sole. This method has, however, been found to be objectionable, as the clinched ends of the tacks roughened the bearing-surface of the inner sole, and caused the same to hurt the feet of the wearer. To obviate this difficulty the ends of the tacks have been clinched within the body of the inner sole by forming a channel upon its upper side, opening said channel, and inserting within the same a metal plate suitable for use in turning the ends of said tacks; but the difficulty experienced in performing such operation and the material increase caused thereby in the cost of the finished article has prevented its use.

The design of my invention is to render practicable the securing together of the insole and welt, or insole and upper, of a boot or shoe by metal nails or tacks, without breakage of the inner surface of said insole, or in any manner detracting from its ease and comfort to the foot; to which end it consists, principally, as an improvement in the manufacture of boots and shoes, lasting-tacks passed through the welt or upper into the inner sole, and having

their ends clinched, within the body of said sole, in an incision formed from, and open at the lower side or edge of, the same, substantially as and for the purpose hereinafter specified. It consists, further, as a means for clinching lasting-tacks within the body of the inner sole, a combined cutting-tool and anvil inserted from the outer surface of said inner sole downward and outward beneath each tack before the same is driven, substantially as and for the purpose hereinafter shown. It consists, finally, in the method of securing together the welt or upper, or the welt and upper and inner sole, by tacks clinched within the body of said sole, upon a metal tool or anvil inserted from the outer surface of said sole, beneath each tack, before the same is driven, substantially as and for the purpose hereinafter set forth.

In the annexed drawing, A represents the upper, B the welt attached thereto, and C the inner sole, of a shoe of ordinary construction. The welt B is, preferably, stitched to or upon the lower edge of the upper A, and said welt is connected to or with the inner sole C by means of metal tacks D D, &c., which are driven through the former and into the latter. In order that the points of the tacks D and D may be clinched within the body of the inner sole a metal tool, E, having a cutting-point, forced downward and outward into said sole at a point in a line with each tack, as seen in Fig. 2, and the latter driven before the withdrawal of said tool, by which means the point of said tack is brought into contact with the upper side of said tool, and turned upward and clinched. The combined cutting-tool and anvil is then withdrawn and placed in position for receiving and turning the point of another tack.

If desired the incisions *c*, *c*, and *c* may be made horizontally within the edge of the sole C, and a small piece of metal, E', placed within each, and allowed to remain, when, as each tack is driven, said pieces operate as anvils, as in the former case, and turn the points of the tacks when driven; but as such operation embodies the same principle as that before described, it will be seen that it is only a modification of my invention.

By my method the parts are firmly connected together without weakening the inner sole, as would be the case if the latter were channeled

or scarfed for the reception of the anvil, the clinched tack ends are entirely within the body of said sole, and in no manner interfere with the smoothness of its inner surface, while the necessary manipulation is easy, and the cost of the same comparatively small.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. The improvement in the manufacture of boots and shoes, consisting in clinching the ends of the lasting-tacks within the body of the inner sole in an incision formed from, and open at the lower side or edge of, the same, substantially as and for the purpose specified.

2. As a means for puncturing the sole and clinching the lasting-tack within the body of

the sole, a combined cutter and anvil, operating substantially as and for the purpose shown.

3. The method of securing together the welt or upper, or the welt and upper and inner sole, by tacks clinched within the body of said sole upon a metal tool or anvil inserted from the outer surface of said sole beneath each tack before the same is driven, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of January, 1875.

GEO. W. COPELAND.

Witnesses:

GEO. S. PRINDLE,  
WILLIAM FITCH.