G. W. COPELAND, E. WOODWARD, & M. BROCK.

Process of Lasting the Uppers of Boots and Shoes.

No. 224,516. Patented Feb. 17, 1880.

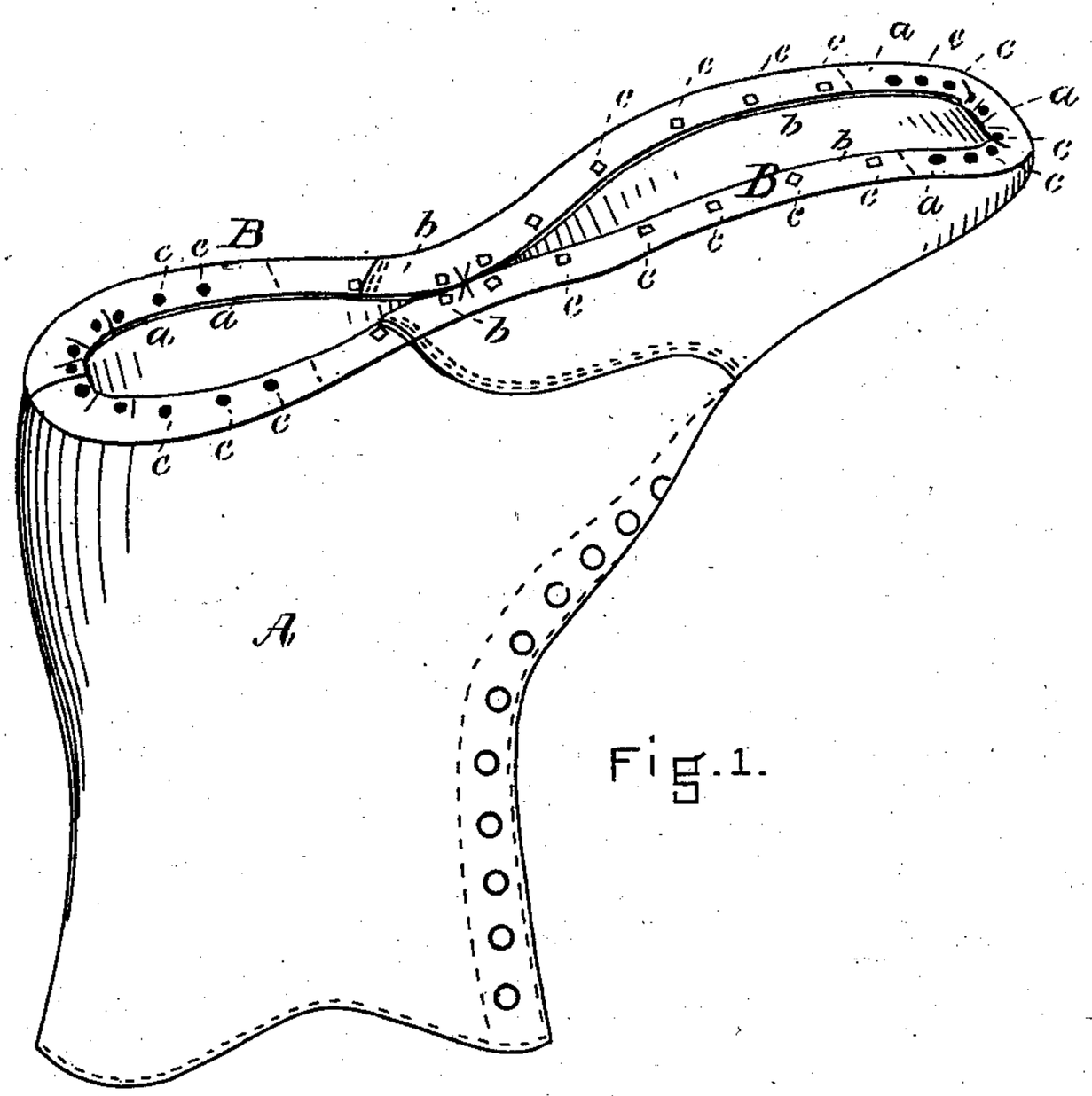

Fig. 1.

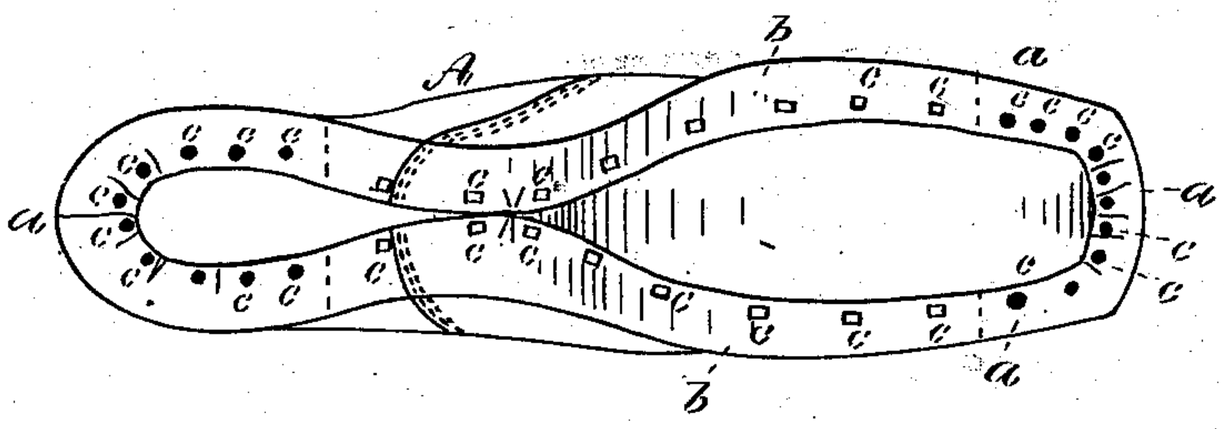

Fig. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE W. COPELAND, OF MALDEN, AND ERASTUS WOODWARD AND MATTHIAS BROCK, OF BOSTON, MASS., ASSIGNORS TO THE COPELAND LASTING MACHINE COMPANY, OF HARTFORD, CONN.

PROCESS OF LASTING THE UPPERS OF BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 224,516, dated February 17, 1880.

Application filed December 20, 1879.

To all whom it may concern:

Be it known that we, GEO. W. COPELAND, of Malden, in the county of Middlesex and Commonwealth of Massachusetts, and ERASTUS WOODWARD and MATTHIAS BROCK, both of Boston, in the county of Suffolk, in said Commonwealth, have invented an Improvement in the Process of Lasting the Uppers of Boots and Shoes, of which the following is a specification.

This invention relates to a process of lasting the uppers of boots and shoes, consisting in a series of manipulations comprising the adjusting of the upper to the side of the last, the folding of its margin upon the insole in sections, and the fastening of each section, or either of them, to the insole by a gang or group of disconnected fastenings driven simultaneously from a gang or group of nozzles stationary during the driving operation.

In the process of lasting the uppers of boots and shoes as heretofore practiced it has been customary to unite the upper edge to the insole by tacks or pegs driven separately, without much regard to system, either by hand or from a hand pegging or tacking machine, which is moved, placed, and operated for each peg or tack driven; or the fastenings have been driven in succession upon a line parallel with the edge of the insole by the movement of the lasting-machine to a stationary tacking-machine; but in this last-named case it is necessary to move the lasting-machine and start and stop the driving mechanism for each tack driven.

While these methods of fastening may answer moderately well, yet there is the advantage in fastening the upper in large sections, as herein described, of economy in time, as it is manifest that the fastenings can be driven much more quickly and systematically in groups or gangs than singly.

In the drawings, Figure 1 is a perspective of a lasted shoe, in which the divisions between the toe and heel and side sections are indicated by dotted lines, and Fig. 2 is a plan thereof.

The upper A is adjusted upon the surface of the last by any suitable automatic lasting appliance, and reference is made to our various patents on this subject, and also those granted Glidden, Wheeler and Trask, and Ballou. The margin B of the upper should be automatically folded upon the surface of the insole in sections comprising the portions *a* at the toe and heel and the portions *b* on either side, and attention is directed to our patents, wherein devices are described and shown for automatically folding the edge of the upper upon the insole in these sections. The sections *a* and *b*, or one or more of them, as the case may be, are then fastened to the insole by a group or gang, *c*, of disconnected fastenings driven simultaneously from a group or gang of throats or nozzles, which are arranged preferably in a line parallel, or substantially parallel, to the edge of that part of the insole to which the section to be fastened is united, and which, when placed over or upon said section, are stationary during the driving operation. Machines for thus driving tacks and pegs are shown and described in Letters Patent No. 214,754, granted April 29, 1879, and No. 216,924, granted June 24, 1879.

The advantages of this process are too obvious to need further comment.

We are aware that patents granted describe and show various means by which an outsole is united to the insole by fastenings previously inserted to project from the under surface along the entire edge, in which case all the fastenings are driven simultaneously upon the application of pressure to the sole, and also by fastenings which may be driven at once from a perforated plate placed upon the outsole, in which case the fastenings are placed in the perforations by hand; but as it is necessary to fasten the edge of the upper to the insole before the outsole is applied, and as it would be impossible to stud the edge of the upper with fastenings in a practical manner before the lasting process, as the McKay outsole is prepared, and as it would be equally impossible to apply a perforated plate for holding fastenings upon the edge of the upper which is being held down by the lasting appliances, our invention embraces, as a distinctive feature, the preparation of the upper

preceding the fastening, whereby the edge of the upper is folded upon the surface of the insole in sections, and is held thereon during the driving of the fastenings, and, as the fastenings are driven in separate groups or gangs for each section, we consider that said patents do not embrace the spirit of our invention.

Of course, in practicing our process it is not necessary that all the fastenings employed in uniting the upper to the insole be driven in groups, as we may prefer to fasten only the toe and heel sections in this manner, or the sides alone, or the sides with either the toe or heel.

Having thus fully described our invention, we claim and desire to secure by Letters Patent of the United States—

An improvement in the art of lasting boots and shoes, consisting in adjusting the upper to the last and insole, folding its edge over upon the surface of the insole in toe and heel and side sections, and then uniting one or more of said sections to the insole by a group or gang of disconnected fastenings driven simultaneously, all substantially as set forth.

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Witnesses:
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