

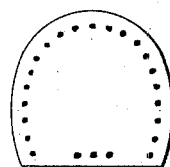
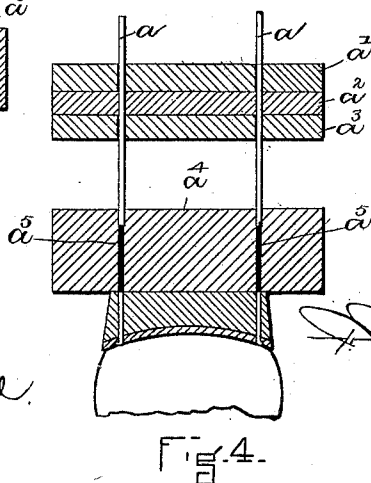
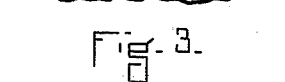
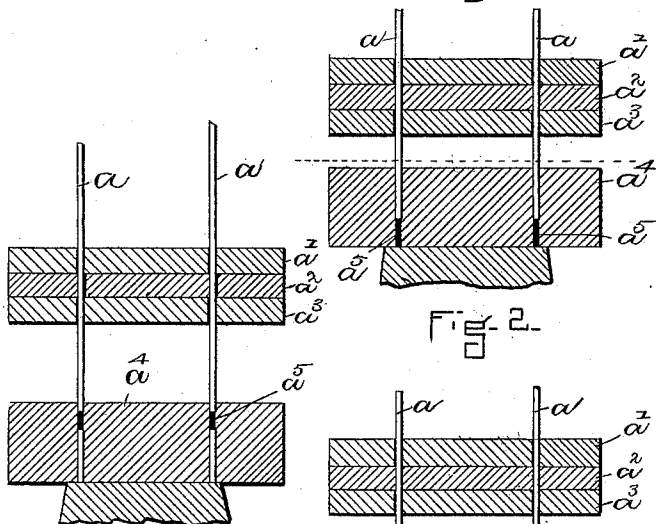
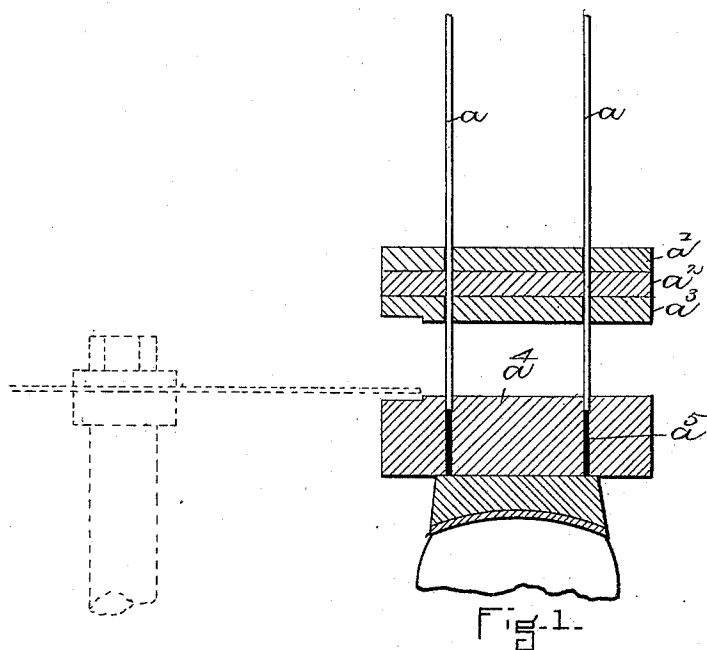
(No Model.)

F. F. RAYMOND, 2d.

METHOD OF ATTACHING HEELS TO THE SOLES OF BOOTS OR SHOES.

No. 474,146.

Patented May 3, 1892.



WITNESSES.

J. H. Dolan
James T. Ball

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UNITED STATES PATENT OFFICE,

FREEBORN F. RAYMOND, 2D, OF NEWTON, MASSACHUSETTS.

METHOD OF ATTACHING HEELS TO THE SOLES OF BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 474,146, dated May 3, 1892.

Application filed July 13, 1889. Serial No. 317,479. (No model.)

To all whom it may concern:

Be it known that I, FREEBORN F. RAYMOND, 2d, a citizen of the United States, residing at Newton, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in the Method of Attaching Heels to the Soles of Boots or Shoes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention has for its object the within-described method of driving nails into heel-blanks either for the purpose of attachment or for ornamental purposes or for wear.

The invention comprises, first, the formation by pointing and severing or by severing upon the ends of a gang or group of wires a number of nails of the required length and form; second, in suitably supporting these nails in proper order for driving into the heel-blank, and, third, in driving these nails by the wires from which they have been cut or severed, each gang or group of fastenings or nails thus driven being previously cut or formed from the ends of the wires used in driving.

Referring to the drawings, Figure 1 is a view representing the relation which the wires bear to the clamp, holder, and heel at the beginning of the operation, together with a cutter in dotted lines shown to one side of the other devices. Fig. 2 represents the second step in the process, or the position which the wire-holders, nail-support, and wire occupy in relation to each other at the time the ends of the wires are severed. Fig. 3 represents the relation which the parts bear to each other immediately before the driving of the severed ends of the wire. Fig. 4 represents the severed ends of the wire as driven. Fig. 5 is a plan of the nailed heel-blank.

In practicing the process the wires *a* are arranged in the order in which it is desired that the nails be driven, and they are held in such position in any suitable way, preferably by the clamp-plates *a'* *a''* *a'''*. Beneath the wires I arrange a plate *a⁴*, having holes *a⁵* of the same arrangement as the wires. The heel-

blank into which the nails are to be driven is held against the under surface of the plate *a⁴* by any suitable means, and the wires are arranged to project from the under surface of the clamp *a³*, as represented in Fig. 1, and their ends are located in the holes *a⁵* of the plate *a⁴*. The ends of the wires are then severed, and the line of the cut may be anywhere between their ends and the under surface of the clamp-plate, and the severed ends are dropped into the holes *a⁵*. This severing may be done by a saw moved horizontally across the group of wires or in any other desired way. The wires are then released by the clamp and moved in the clamping mechanism or device a distance equal to the length of the severed ends, and the wires are then reclamped and are moved as a gang or group into the holes *a⁵*, driving the previously-severed sections thereof through said holes into the heel-blank. They are then lifted somewhat and their ends again severed, and the position of the clamp in relation to the ends varied to produce driving ends, and the process continues upon a new or next heel in order, as before.

The invention provides a very simple and efficient means of forming nails or fastenings from the instruments or wires used in driving them.

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

1. The improvement in the method of forming and driving nails into heel-blanks, consisting in severing the ends of any desired length from a gang or group of wires, holding the said ends in a suitable holding device, and then driving said severed ends from said holding device into the heel-blank by the wire lengths or main sections of the wire from which the ends forming the nails or wires have been cut, substantially as described.

2. The method of forming and driving nails into the heel-blanks, which consists, first, in arranging the ends of a gang or group of wires in the order in which the fastenings are to be driven; second, in clamping the wires any desired distance above their ends; third, in sev-

ering the ends of the clamped wires to any desired extent or length from said ends; fourth, in placing said severed ends in a suitable holding device; fifth, in changing the location of the
5 clamp upon the assembled wires, and, sixth, in driving the severed ends from said templet or nail-holder into the heel-blank by the wire

lengths or main sections of the wire from which the ends forming the nails or wires have been cut, substantially as specified.

FREEBORN F. RAYMOND, 2D.

Witnesses:

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