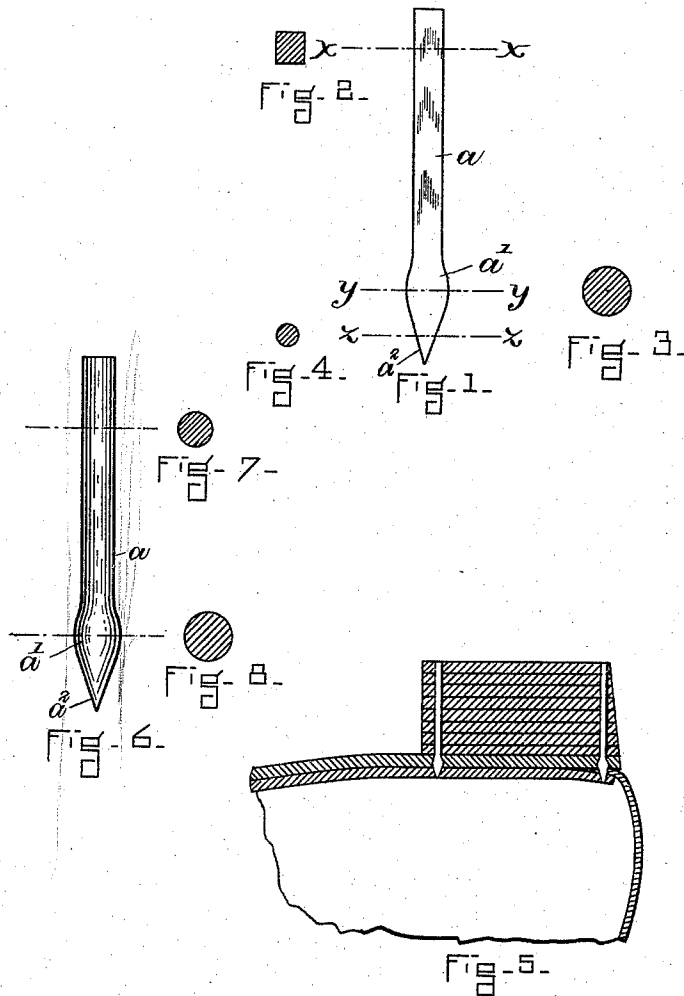


(No Model.)

F. F. RAYMOND, 2d.
SHOE NAIL.

No. 476,307.

Patented June 7, 1892.



WITNESSES.

J. M. Dolan
A. P. Porter

INVENTOR.

F. F. Raymond

UNITED STATES PATENT OFFICE.

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

SHOE-NAIL.

SPECIFICATION forming part of Letters Patent No. 476,307, dated June 7, 1892.

Application filed July 27, 1889. Serial No. 318,947. (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 Heel-Fastenings, 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 relates to a heel-fastening having a long shank and a point enlarged at its juncture with the shank to a greater diameter than the shank and then drawn in or tapered to a conical point, as will be hereinafter specifically set forth.

Referring to the drawings, Figure 1 is a view in elevation of the nail; Fig. 2, a section upon the dotted line xx of Fig. 1; Fig. 3, a section upon the dotted line yy of Fig. 1; Fig. 4, a section upon the dotted line zz of Fig. 1; Fig. 5, a detail view, in section, of a heel-blank secured to the soles of a boot or shoe by said fastening. Figs. 6 to 8 illustrate slightly-modified forms of the fastening, to which reference is hereinafter made.

I prefer in making the nail to use wire which is rectangular or square in cross-section, although I would here remark that it is not necessary that the wire should be square, as round wire may be used, and also that it is not necessary that the nail-stock should be of wire; but the shank a of the nail is of the same size throughout to its lower end a' , and its lower end a' is enlarged to a diameter or size slightly greater than that of the shank, and from this enlarged section extends the point a'' , which is a conical point. The said enlarged portion of the nail is of equal cross-sectional diameter in all directions, and the conical point tapers from said enlarged portion to the center.

To use these fastenings, I prefer to form awl-holes in the heel-blank of the desired size

without materially compressing the heel-blank before they are formed—that is, during the attachment of the heel-blank to the soles of the boot or shoe—and to insert the fastenings in said holes and to drive them into the soles of the boot or shoe without materially compressing the heel-blank, and to then, after the fastenings have been driven, apply heavy pressure, or pressure sufficiently heavy to cause the leather or substance of the heel-blank to be firmly set against the fastenings. This will bring the enlargement at the points of the fastenings in the soles of the boot or shoe, will close the leather or stock of the heel-blank above the soles tightly about the shanks, and provides a very strong and efficient fastening, one that prevents the working of the fastening either up into the foot or outward, and also does away with the necessity of clinching the points upon the inner surface of the insole.

To make the fastening, I prefer to use wire, and I prefer to form the point by means of swaging-dies, and by so forming the point I am enabled to use swaging-dies, as I dispose of the surplus metal used in making the point in forming the enlargement.

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

As an improved article of manufacture, the heel-fastening herein described, having a smooth shank of uniform size and diameter and an enlarged pointed end of a rounded or bulbous form and of equal cross-sectional diameter in all directions at its thickest portion, and having an entrance part tapering equally from said enlarged portion to its free end or point proper, as set forth.

FREEBORN F. RAYMOND, 2d.

In presence of—
J. M. DOLAN,
A. P. PORTER.