(No Model.)

F. F. RAYMOND, 2d.

HEEL NAIL.

No. 356,549. Patented Jan. 25, 1887.

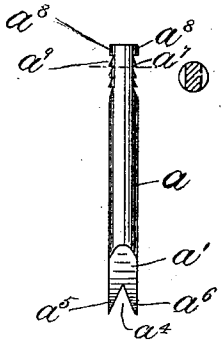


Fig. 1.

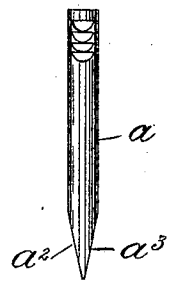


Fig. 2.

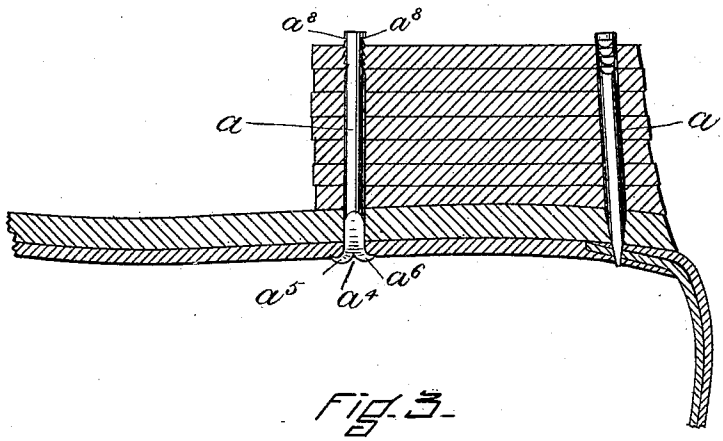


Fig. 3.

WITNESSES
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UNITED STATES PATENT OFFICE.

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

HEEL-NAIL.

SPECIFICATION forming part of Letters Patent No. 356,549, dated January 25, 1887.

Application filed November 1, 1886. Serial No. 217,662. (No model.)

To all whom it may concern:

Be it known that I, FREEBORN F. RAYMOND, 2d, of Newton, in the county of Middlesex and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Heel-Nails, 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, in which—

Figure 1 is a view in elevation and in section upon the dotted line. Fig. 2 is a view in elevation of the nail turned one-quarter. Fig. 3 represents a heel-blank as attached with said nails to the soles of a boot or shoe.

The object of the invention is to provide a heel-nail having a cylindrical shank with a clinching-point, and with teeth at or near its upper end to prevent it from being moved upward in the heel as it is used or worn.

The nail, preferably, is made of wire, has the plain cylindrical section a, the wide point a', formed by the two bevels a^2 a^3, (see Fig. 2,) and the cross notch or groove a^4, formed across the end of the point to separate or divide it into the sections a^5 a^6, (see Fig. 1;) and there is formed near the upper end of the nail the cross-serrations a^7. These serrations preferably inclined surfaces a^9, so that they form sharp have the sharp corners a^8 and the downward-edges opposed to the inward movement of the nail into the heel. For this reason they are placed near the upper end of the shank of the nail, so that the nail is very nearly driven home before they enter the heel, and they are driven therein a distance sufficient only to cause them to engage the stock, whereby they afterward serve to prevent the nail from working upward as the heel is worn. The serrations preferably extend sufficiently near the upper end of the nail to leave exposed one or more of them after the heel-blank has been attached and the nails driven, and they then serve as barbs for engaging the top lift after it has been spanked onto the heel-blank.

Upon the contact of the point of the nail with an iron last or work-support the sections a^5 a^6 are caused to be turned outward and away from each other, as represented in Fig. 3, and form a very effective and desirable clinch.

Of course the same nail can be used for attaching soles and for other purposes without departing from the spirit of the invention.

While I have mentioned the shank a as cylindrical, I would not be understood as limiting the invention to nails having a round shank, as the features of the invention are equally applicable to nails having any form of shank which is substantially of the same size throughout.

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

1. The nail having the shank a, the point a', formed by the bevel a^2 a^3, and the cross notch or recess a^4, substantially as described.

2. A pointed nail of uniform size from the point to the head end, and having serrations or cross-recesses a^7 near the head end e only to form the sharp edges or sections a^8, substantially as described.

3. The headless nail having the plain shank a, the cross-notches near the head thereof, and the point a', formed by the bevel a^2 a^3, and cross recess or notch a^4, substantially as described.

4. A nail having the body a, and a wide and tapered point having a deep cross-notch, a^4, to form the sidewise-clinchable sections a^5 a^6, substantially as described.

FREEBORN F. RAYMOND, 2D.

Witnesses:
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