(No Model.)

F. F. RAYMOND, 2d.

SHOE NAIL.

No. 344,136. Patented June 22, 1886.

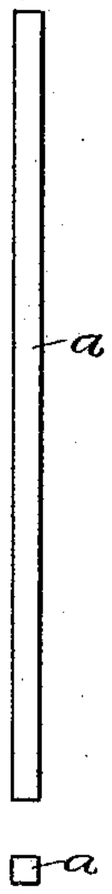


Fig. 1.

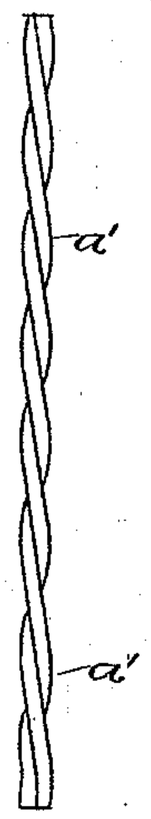


Fig. 2.

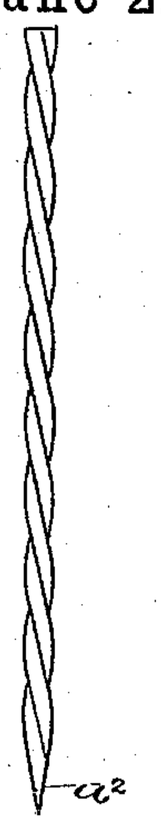


Fig. 3.

Fig. 4.

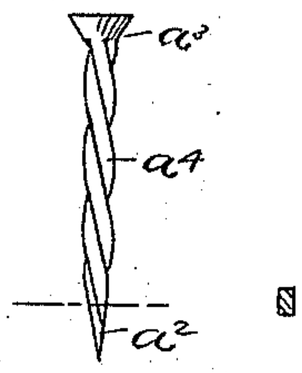


Fig. 5.

Fig 6.

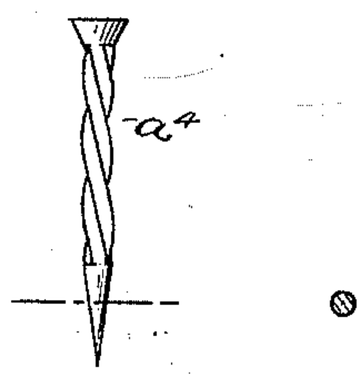
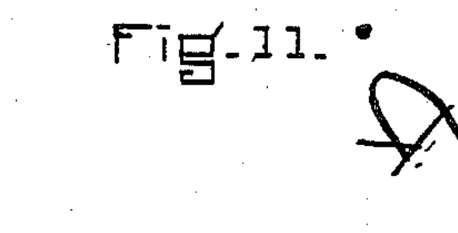


Fig. 7.

Fig. 8.

Fig. 9.



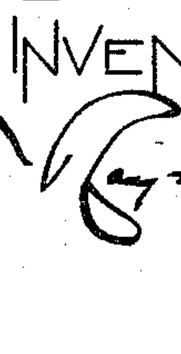


Fig. 10.

Fig. 11.

WITNESSES.

Fred. B. Dolan.

J. No. Dolan

INVENTOR.

F. F. Raymond 2d

UNITED STATES PATENT OFFICE.

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

SHOE-NAIL.

SPECIFICATION forming part of Letters Patent No. 344,136, dated June 22, 1886.

Application filed December 23, 1885. Serial No. 186,513. (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 Shoe-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.

The object of the invention is to provide a fastening having a screw-threaded shank-section, a head formed by upsetting the end of the screw-threaded shank, and a point formed by removing sections thereof to form a V-shaped end, or by swaging or by turning to form a conical point, as described in my application for Letters Patent of the United States, filed February 6, 1886, Serial No. 190,967.

I use, in making the nail, wire, or wire rod, which, preferably, is square in cross-section. This wire or wire rod is twisted to form threads of a quick pitch, and it is then submitted to the action of forming machinery, whereby the point is formed by removing sections from the end of the wire or nail-blank cut from the wire, or by swaging or turning its end to form a conical point. The screw-threaded pointed blank is then submitted to a heading operation, whereby the head is formed by upsetting in suitable dies the end of the blank.

Referring to the drawings, Figure 1 is a view showing in elevation and section the form of wire I prefer to use. Fig. 2 represents the wire after it has been twisted to form threads of quick or comparatively quick pitch. Fig. 3 shows the wire after it has been provided with the V-shaped point. Fig. 4 is a view in elevation of a nail-blank cut from the wire. Fig. 5 is a view in elevation showing the complete nail. Fig. 6 is a section upon the dotted line of Fig. 5. Fig. 7 is an elevation of a nail with a conical point. Fig. 8 is a section on the dotted line of Fig. 7. Fig. 9 is a plan view of the head of the nail. Fig. 10 is a perspective of the nail, and Fig. 11 shows its application as a sole-fastening.

a represents in elevation and section a form of wire used in the manufacture of my improved fastening. It is first twisted to form threads *a'* thereon, as represented in Fig. 2. It is then fed to suitable shaping mechanism, which forms the V-shaped point a^2 by removing sections of the end of the wire; or the end is swaged in suitable swaging devices, or it is turned to produce a conical point by mechanism, substantially as described in my application for Letters Patent filed February 6, 1886, Serial No. 190,967.

The pointing operation may take place before or after the blank is severed from the wire, or before or after it is headed. The head a^3 is formed upon the nail-blank by upsetting the end in suitable dies. The fastening thus obtained has a clinchable point, screw-threaded shank a^4 of rapid pitch, and a head, and furnishes a very desirable fastening, especially for the purpose of fastening outsoles of boots and shoes to the insoles or heels.

The nail is especially adapted for use as a sole-fastening, because while it is driven into the sole its quick-thread allows the fastening to turn as it is driven, while its point comes in contact with the metal surface of the last and is upset, and its head comes to rest upon the surface of the sole, so that the stock is held by the screw-thread, and also between the shoulders formed by the head and upset point.

I am aware that nails have been made having shanks provided with screw-threads of various shapes; but I am not aware that heretofore a nail has been made from previously-twisted wire or wire rod by cutting pointed blanks therefrom having a shank of the same diameter throughout from the point to the head-forming end, and having screw-threads arranged thereon from the point to the head-forming end, which end is subsequently shaped by upsetting to provide a head and to remove the threads therefrom.

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

A shoe-nail made from twisted square or substantially square rod or wire, provided with an upset head and with threads of a comparatively rapid pitch and of a uniform diameter or size extending from its head to its point, substantially as described.

FREEBORN F. RAYMOND, 2D.

Witnesses:
J. M. DOLAN,
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