

(No. Model.)

A. EPPLER, Jr.  
BOOT AND SHOE NAIL.

No. 334,361.

Patented Jan. 12, 1886.

Fig. 1.

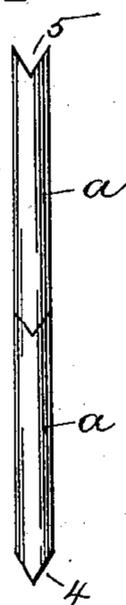


Fig. 2.

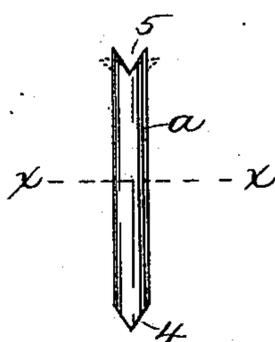
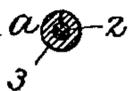


Fig. 3.



WITNESSES:

*A. L. White*  
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INVENTOR:

*A. Eppler Jr*  
*by night & Borne*  
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# UNITED STATES PATENT OFFICE.

ANDREW EPPLER, JR., OF BOSTON, MASSACHUSETTS.

## BOOT AND SHOE NAIL.

SPECIFICATION forming part of Letters Patent No. 334,361, dated January 12, 1886.

Application filed April 25, 1885. Serial No. 163,427. (No model.)

*To all whom it may concern:*

Be it known that I, ANDREW EPPLER, Jr., of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Boot and Shoe Nails, of which the following is a specification.

This invention relates to boot and shoe nails which are made by cutting a tubular blank into sections or headless nails, such nails being usually made and driven by an organized nailing-machine, which is provided with cutters for severing the wire into nail-lengths, and a driver for forcing the nails as fast as they are formed into the boot or shoe sole, and turning or clinching their points or inner ends against a metal horn or last within the boot or shoe. Heretofore, as far as I am aware, the outer ends of the nails of this class have been flat, and the driven nails have received no enlargements or heads at their outer ends by the action of the driver.

My invention consists in making the nails with notches or slots in their outer ends, and thus forming separable points, which are upset or turned outwardly by the driver, and when turned constitute enlargements or heads, which greatly increase the holding-power of the nails, as I will now proceed to describe.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents an enlarged side view showing two of my improved nails placed end to end. Fig. 2 represents an enlarged side view of one of the nails, showing in dotted lines the form of the outer end or head of the nail after it is driven. Fig. 3 represents a section on line  $x$ , Fig. 2.

The same letters of reference indicate the same parts in all the figures.

In carrying out my invention I cut from a tubular blank of indefinite length sections or nails  $a$ , by means of cutters which make a V-shaped cut, and thus at one operation and without waste of metal form the notch or re-entrant angle 5 in the outer end of the severed nail and the wedge shaped point 4 of the succeeding nail. I thus form the nails entirely without waste of metal, instead of cutting away parts of the material to form the points, as heretofore.

When the nail is being driven, the driver of the machine strikes the notched end of the

nail and upsets or separates the spurs which form the sides of the notch, as shown in dotted lines in Fig. 2, thus forming an enlargement or head of considerable size, and enabling the nail to hold the parts united by it more securely than nails heretofore formed and driven by the same machine.

This improvement is particularly applicable to nails made by inclosing a core of fibrous cord, 2, in a metallic tube or sheath, 3, as shown in Letters Patent granted to Cushman, No. 169,894, dated November 16, 1875, the tubular form of the metal part enabling it to turn or be upset freely, both at the notched head and at the wedge-shaped point, so that the angle of the cut made in forming said head and point is not necessarily made very acute, the comparatively-blunt point shown in the drawings being clinched or upset by the independent turning of the two metallic prongs at the opposite sides of the tube constituting the metallic portions of the point, said prongs being separated by the fibrous core, and each being to some extent independent of the other. A solid nail would require a sharper or more gradually-tapering point, which, if formed by the same cut that forms the notched head, would involve a notch of too great depth. I do not limit myself, however, to a nail formed with a fibrous core, as a tubular nail without the core may be made with a notched head, which may be the converse of the point of the next nail or not. Loose nails with the notched heads may be supplied to be driven by means independent of the machine that makes the nails.

I claim—

1. A boot and shoe nail made of tubular metal, provided with a V-shaped notch at its upper end and a V-shaped point at its lower end, substantially as described.

2. A boot and shoe nail made of tubular metal with a fibrous core, and having a V-shaped notch at its upper end and a V-shaped point at its lower end, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 22d day of April, 1885.

ANDREW EPPLER, JR.

Witnesses:

CHARLES D. WOOD,  
C. F. BROWN.