(No Model.)

J. E. KIMBALL.

SHOE NAIL.

No. 386,435. Patented July 17, 1888.

Fig:1.

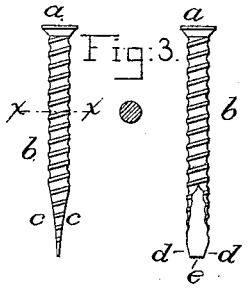


Fig:2.

Fig:3.

Fig:4.

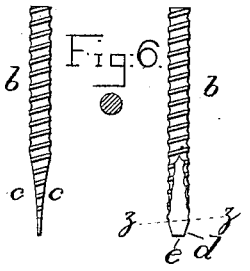


Fig:5.

Fig:6.

Fig:7.

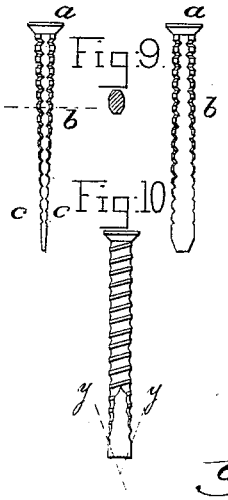
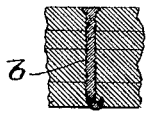


Fig:8.

Fig:9.

Fig:10.

Fig:11.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOSEPH E. KIMBALL, OF MILFORD, ASSIGNOR TO HENRY S. JENKINS, TRUSTEE, OF BOSTON, MASSACHUSETTS.

SHOE-NAIL.

SPECIFICATION forming part of Letters Patent No. 386,435, dated July 17, 1888.

Application filed April 3, 1885. Serial No. 161,140. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH E. KIMBALL, of Milford, county of Worcester, State of Massachusetts, have invented an Improvement in Sole-Fasteners, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve the construction of sole-fasteners whereby they may more easily enter the awl-holes and whereby the point will clinch more readily and uniformly than heretofore.

In accordance with my invention the sole-fastener, composed of metal and made with or without a head and preferably corrugated or roughened between its head and the end of its point, has two of its sides beveled to form the said point, the remaining sides of the nail being unacted upon, so that the width or diameter of the nail in one direction—that is, substantially at right angles to the beveled sides—is uniform throughout the length of the nail from its head to near the extreme end of the point, where the sides at right angles to the beveled sides are chamfered off, thus weakening the point of the nail at its extreme end only, to enable the extreme end of the said point to be more readily turned to clinch the stock in which it is driven without weakening the point proper or the body of the nail.

Figures 1 and 2 represent in elevation sole-fasteners embodying my invention, and Fig. 3 a section of Fig. 1 in the line *x x*. Figs. 4 and 5 represent similar views of a modification of my invention, and Fig. 6 a section of Fig. 4. Figs. 7 and 8 represent yet another modification, and Fig. 9 a section of Fig. 7. Fig. 10 shows a fastener with its point partially formed by beveling, and Fig. 11 shows one of my improved fasteners clinched into the stock.

My improved sole-fastener is made from a metal blank cut from wire, or from a plate, in any usual way, and such blank may be headed, as at *a*, Figs. 1, 7, 8; or the head may be omitted, as in Figs. 4 and 5.

The body of the fastener is shown as roughened or corrugated at *b*, preferably by subjecting the body to pressure, leaving elevations and depressions extending more or less about the said body.

The body of the fastener has two of its sides beveled or cut away, as at *c c*, Figs. 1 and 4, to form a broad chisel-point, as shown at Fig. 10, the two opposite sides substantially at right angles to the beveled sides *c* being unacted upon and remaining of substantially the same diameter as the body of the nail, whereby the point of the nail remains strong.

To enable the point of the nail to clinch without detracting from its strength, the sides opposite or at right angles to the bevel sides forming the point are chamfered off at the extreme end of the point in the dotted lines *y y*, Fig. 10, to leave chamfered portions or edges *d d*. (See Figs. 2 and 5.)

In boot and shoe work the smaller the diameter of the awl with relation to the diameter of the fastener the more firmly the fastener will hold in the stock, and hence it becomes a matter of great importance to use an awl as small as possible; and to enable me to use a small awl and yet enable the employment of a fastener of sufficient strength I have reduced the size of the extremity of the point of the fastener by chamfering off the sides of the point substantially at right angles to the beveled sides, as at *d d*. The extremity of the point marked in Figs. 2 and 5 is less than the diameter of the body of the fastener, and consequently I am enabled to employ an awl of smaller diameter than the body of the fastener, and one only just large enough to readily receive the extremity of the point.

A completed point shaped as shown in the drawings will follow the awl-hole through hard as well as soft stock, and will not cripple or bend until the point strikes the usual anvil or clinching-surface, and the point as it is being bent or clinched commences to bend close to the extremity *e*, and the material of the fastener gradually bends or turns from the said extremity *e* upward for a greater or less distance, according to the thickness of the stock. The clinching commences below the line *z z*, because the metal of the fastener below said line offers less resistance than above it.

In Figs. 1 to 6 the blank for each fastener is supposed to be made from wire; but in Figs.

7 to 9 the blank is supposed to be cut from sheet metal in usual manner.

My improved fastener makes a short clinch and turns back into the stock, substantially as in Fig. 11.

I claim—

A metallic sole-fastener having two of its sides beveled, as at *c c*, to form the point of the nail, and having its sides opposite or at right angles to the beveled sides of substantially the same diameter as the body of the fastener, and chamfered off at the extremity of the point, as at *d d*, to enable the point of the nail to clinch without weakening the same, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH E. KIMBALL.

Witnesses:

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