D. K. CROSS.

SHOE-TIP.

No. 184,063. Patented Nov. 7, 1876.

Fig. 1.

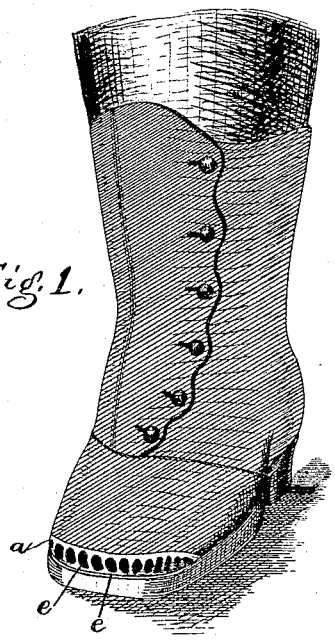


Fig. 6.

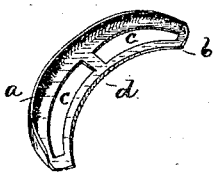


Fig. 3.

Fig. 4

Fig. 5.

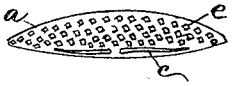
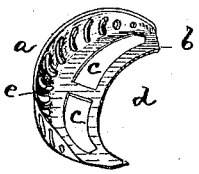


Fig. 2.



Witnesses.

L. H. Latimer.

W. J. Pratt.

Inventor.

Daniel K. Cross

per Crosby & Gregory, Attys.

UNITED STATES PATENT OFFICE.

DANIEL K. CROSS, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SHOE-TIPS.

Specification forming part of Letters Patent No. **184,063**, dated November 7, 1876; application filed October 16, 1876.

To all whom it may concern:

Be it known that I, DANIEL K. CROSS, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Metal Shoe-Tip, of which the following is a specification:

This invention relates to metal shoe-tips for use on the toes of boots and shoes.

Metal shoe-tips as now commonly made have a protecting-rim to fit the curve of the toe, and a horizontal flange to extend between the upper and outsole. These flanges are each provided with two small perforations for the reception of lasting-tacks. When a sewed boot or shoe is made on a McKay machine this metal flange is penetrated by the needle, and the thread to form the stitch is drawn through the flange. In this operation needles are frequently broken, and the thread is often cut by the metal, which is a serious objection. The holes punched in the metal by the awl or needle are left with a burr and rough, and, when boots and shoes so made are worn, repeated blows on the tip cause it to cut the threads extending through it, thereby loosening the sole from the upper, destroying the integrity of the shoe, and making it of less value than a shoe without a tip.

One part of this invention consists in removing a portion of the metal of the flange in the line where the stitches usually pass through the flange, to permit the passage of the awl and needle.

The usual metal tip presents a bright metallic band about the toe, which attracts much attention, and is considered so objectionable on that account that many persons will not use such a tip.

Another part of this invention consists in removing as much of the substance of the protecting-flange as possible consistent with retaining it of the proper degree of strength, and the black shoe showing through these numerous openings makes the tip less conspicuous, and the openings tend to make the tip ornamental.

Figure 1 represents a shoe provided with my improved tip; Fig. 2, a tip like that shown in Fig. 1, but detached from the shoe; Figs. 3, 4, and 5, modified forms of openings; and Fig. 6 an ordinary tip provided with but one feature of my invention.

The tip *a*, composed of a protecting-rim and a flange, *b*, is formed of metal struck up in a suitable die. The flange is cut away, as at *c c*, leaving a narrow crescent plate, *d*, connected with the main portion of the tip at its ends and at or near its center. The stitches are formed in and the needle passes through these curved openings *c c*, prepared for their reception. The crescent-shaped portion *d* prevents the tip from being drawn out of the shoe. With such a tip, blows upon the tip will not cause it to cut the thread forming the stitches. The portion *d* is connected with the other portion of the lip by (as herein shown) three narrow arms, over which the thread of the stitch will pass. This construction of the flange leaves a full back edge, *d*, to prevent forward motion of the tip, and it also affords a portion to receive the heads of the lasting-tacks, and it lessens the breakage of awls, needles, and thread.

The protecting-edge is provided with a series of openings, *e*, of any desired form, permitting the upper to show through such openings. These openings make the tip ornamental, and they permit the water which gets between the tip and upper to pass outward, or away from the foot, instead of compelling it to follow the flange backward into the shoe, as now common. The usual metal tip cannot be fitted so close to the upper as to exclude the passage of water without cutting the upper. These openings *e* may be of any desired form, according to the fancy of the manufacturer.

If desired, these metal tips may be japanned or made black in any way usual to make metal black; or they may be made to conform in color with the color of the upper to show through the openings.

This improved tip may be applied to any kind or size of shoe. The thread, passing through the openings *e*, draws the upper surface of the inner sole and the leather of the upper firmly together within the space *c*, which makes a tight seam, across which water will not flow, as in the use of a metal tip with a broad flat flange.

I am aware that it is not new to provide the protecting-edge with a long horizontal slot to permit the passage of water from behind the tip. In such a tip the horizontal narrow strip of metal above the slot is easily bent back out of shape, and cuts the upper.

I claim—

1. A metal tip provided with the space *c*, cut through the usual flange, and with the back edge *d* for the passage of the needle and thread, and to operate to hold the tip in place, substantially as herein described.

2. In a metal tip, a protecting-edge provided with a series of small openings, *e*, all constructed to operate substantially as and for the purpose described.

3. A shoe-tip having a protecting-edge, provided with a series of small openings, *e*, and with openings *c* in the flange, to extend between the upper and sole, substantially as shown and described.

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

DANIEL K. CROSS.

Witnesses:

G. W. GREGORY,

S. B. KIDDER.