C. T. GRILLEY.

Shoe-Tips or Protectors.

No. 166.361. Patented Aug. 3, 1875.

Fig. 2.

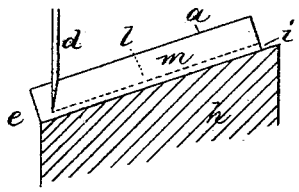


Fig. 3.

Fig. 1.

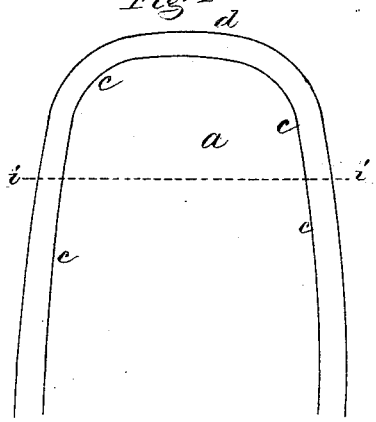


Fig. 4

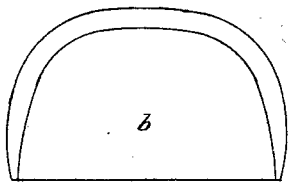
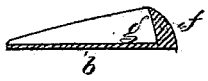


Fig. 5.



Witnesses.

L. H. Latimer.

W. J. Pratt.

Inventor.

Charles T. Grilley

per Crosby & Gregory attys.

UNITED STATES PATENT OFFICE.

CHARLES T. GRILLEY, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SHOE TIPS OR PROTECTORS.

Specification forming part of Letters Patent No. **166,361**, dated August 3, 1875; application filed June 24, 1875.

CASE B.

To all whom it may concern:

Be it known that I, CHARLES T. GRILLEY, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Shoe Tip or Protector, of which the following is a specification:

This invention relates to improvements in formed shoe tips or protectors for uppers of boots and shoes; and consists in a protector made from a single piece of leather, cut into the desired form, as hereinafter described, and compressed and adapted to present the edge of the leather outward.

Figure 1 represents a top view of a piece of leather to form a tip, showing the cut made into the face of the leather, and extending about the piece just back from its edge. Fig. 2 represents the piece of leather placed as it is preferred, to support it when the cut is being made into its face. Fig. 3 represents the back edge of the tip after the interior portion of the leather has been removed. Fig. 4 represents a top view of a completed tip or protector, and Fig. 5 a section thereof.

In the manufacture of this improved one-piece tip, I take a leather blank, *a*, of a thickness sufficient to produce, when finished, a tip with an abrading-edge of the height required, and of a size sufficient to present a surface, *b*, through which pegs, nails, screws, or stitches may be made when confining the tip in position on the shoe or boot, so as to protect the upper. This blank of leather is then cut from its face into and nearly through the leather, stopping at a distance from the face of the leather, opposite that which the knife entered, equal to the thickness it is desired to give that portion, *b*, of the tip which is to extend under the upper, and the line of this cut, as represented at *c*, Fig. 1, is made to conform substantially to the shape of the toe of the last on which the shoe to receive the protector is made or lasted. This cut is preferably made to incline from the face of the blank (see Fig. 2, where *d* represents a knife) toward the edge *e* of the blank, which is to form the outer edge or abrading-surface *f* of the protector, (see Fig. 5,) so as to afford a backwardly-projecting portion, as represented at *g*, to fit closely up over and about the toe of the upper. To cut the blank so as to form this backwardly-projecting part, it is placed on a support or bed, *h*, the face of which is placed at an acute angle to the plane in which the knife *d* moves. This blank so cut is then subjected to the action of another cutter, which enters at the back edge of the tip, (see dotted line *i i*, Fig. 1, and *i*, Fig. 2,) at a distance above the lower side of the blank about equal to the thickness of that portion of the blank left uncut when the cutter *d* ceased to operate, and then this second cutter is caused to cut through the blank (see dotted line *l*, Fig. 2) until it meets the cut made from the face of and into the blank by cutter *d*, and then the piece of leather represented by *m*, Fig. 2, is removed, leaving a tip or protector (see Figs. 3, 4, and 5) with an elevated edge, *f*, and a surface, *b*, the edge of the leather or the grain being outermost to form the wearing-surface. Then the outer edge of the protector or the rim *f*, formed as above described, is made to partially assume, by cutting, the shape that this rim is to have when finished. The rim is not, however, reduced to its minimum size by cutting, but is left larger than the finished size of the rim, so as to be subsequently compressed and hardened by the action of dies of the shape which it is desired to give the tip. The tip, placed in the female die, is pressed by a follower or male die into the female die with sufficient force to give the tip its desired form, and to condense and harden the leather, so that it will wear for a much longer time than the best qualities of the uppers of boots and shoes. It is evident that this protecting edge may extend about the toe of the upper and back to the shank, or so far as may be desired.

This tip is superior to the usual metal tip for the following reasons, viz: In applying the metal tip to a shoe, if the tip is not of the shape of the last on which the shoe is made, the upper edge of the tip presses against the upper, and often cuts through the same, rendering the shoe entirely unsalable, and with metal tips secured in place by stitches or pegs, it happens that repeated blows on the tips cause them to cut the stitches or pegs, and

the metal tips then become loose, fail to retain their position in the shoe, and destroy the fastenings which serve to hold the upper and sole together.

In that class of leather tips in which the protecting edge is formed by turning over a portion of the leather, it will be seen that the leather is held in an unnatural position, and, as it is not compressed and hardened, the tendency of the leather is to assume its natural position, and, in following this tendency, especially when wet, fails to keep up its intimate contact with the toe of the upper, and such tips are therefore objectionable.

The mechanism described for making this tip will form the subject-matter of another application.

I claim—

The process of forming leather tips or protectors for uppers, consisting in cutting out the inner portion of the blank, as described, and then pressing and hardening the tip so shaped in dies, substantially as described.

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

CHARLES T. GRILLEY.

Witnesses:

G. W. GREGORY,

S. B. KIDDER.