

(No Model.)

I. R. SANFORD.

HEEL PROTECTOR.

No. 361,326.

Patented Apr. 19, 1887.

Fig.1.

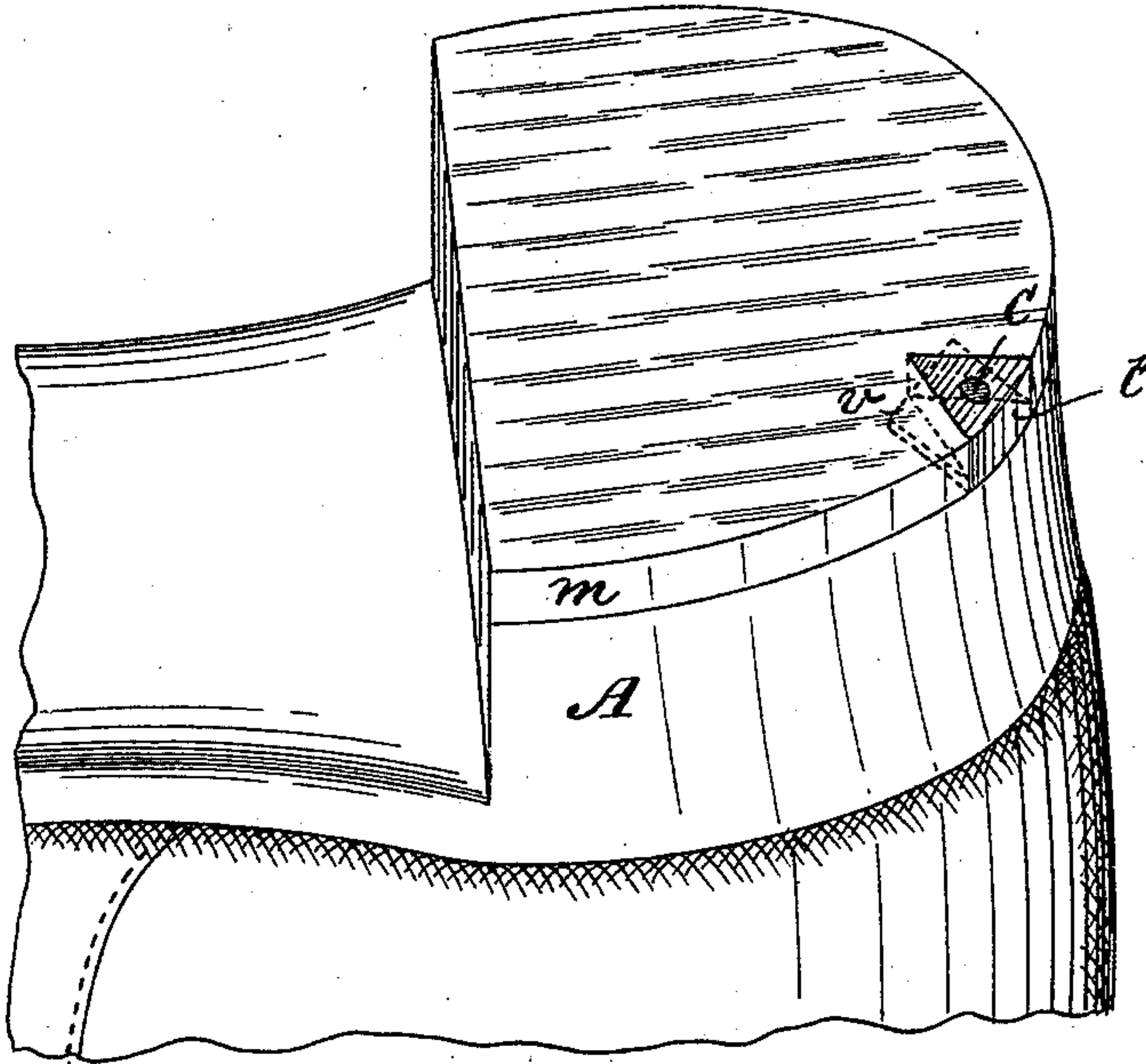
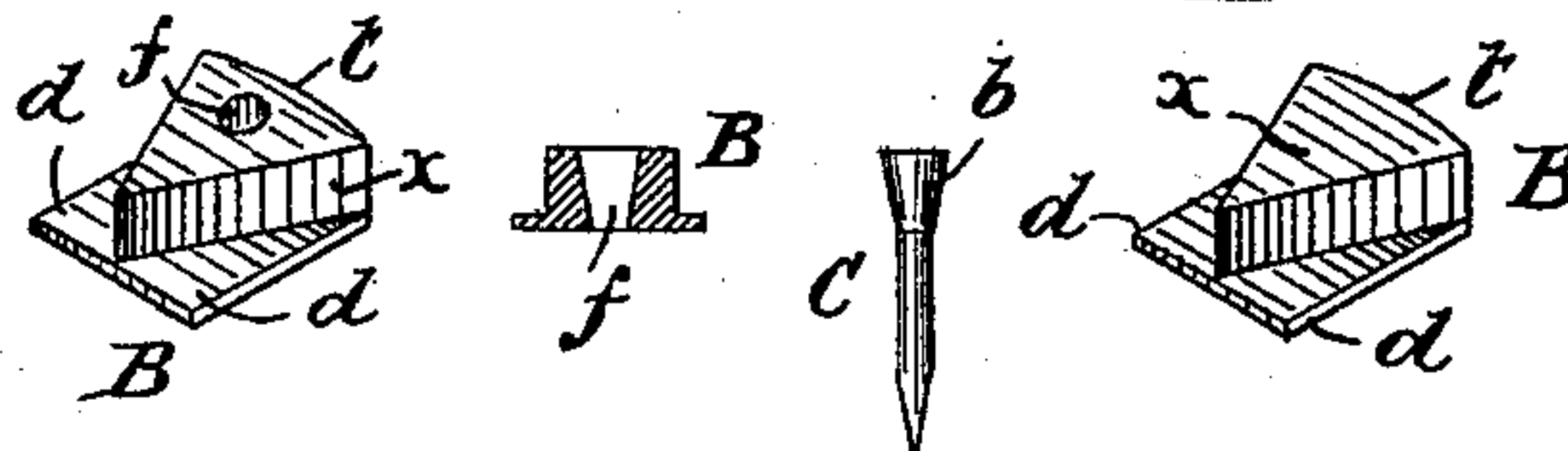


Fig.3. Fig.4. Fig.5. Fig.2.



Witnesses.

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# UNITED STATES PATENT OFFICE

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## HEEL-PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 361,326, dated April 19, 1887.

Application filed February 16, 1886. Serial No. 192,081. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC R. SANFORD, of Boston, in the county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Heel-Protectors, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an isometrical perspective view representing the heel of a boot or shoe provided with my improved protector; Fig. 2, a perspective view of the protector detached, and before the nail-hole is drilled; Fig. 3, a like view of the protector after the nail-hole is drilled; Fig. 4, a reduced vertical transverse section of the protector shown in Fig. 3, taken through the center of the nail-hole, and Fig. 5, a side elevation of the nail by which the protector is secured in the heel of the boot or shoe.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

My present invention is designed as an improvement on the heel-protector shown and described in Letters Patent of the United States, No. 318,035, granted to me May 19, 1885, for an improved heel-protector, its object being to provide a firmer bearing within the heel for the protector; and it consists in the novel construction and arrangement of parts, hereinafter more fully set forth and claimed, the object being to produce a more effective and desirable article of this special character than has heretofore been in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation:

In the drawings, A represents the heel of a boot or shoe, and B the protector.

The protector is preferably made of cast-iron, but may be constructed of steel, brass, or any other suitable material. Its body *x* is about one-half an inch in length, three-eighths of an inch in width at its widest or outer end,

and corresponds in thickness with the thickness of the top lift, *m*, of the heel A; but it may be made of any suitable size. In area its shape is preferably that of an equilateral triangle, its outer edge or end, *t*, being rounded or curved to correspond with the contour of the finished lift or heel. Projecting horizontally from the lower portion of the body *x*, at either side thereof, there is a thin flange, *d*, the shape of which is that of a right-angled triangle, widest at its inner end, as best seen in Figs. 2 and 3. A hole, *f*, is drilled vertically through the body *x* of the protector, said hole being countersunk, as shown in Fig. 4, its entire length, to receive the tapering head *b* of the nail C, the head of the nail exactly fitting the hole in the body when the nail is driven into position, as shown in Fig. 1.

To prepare the lift *m* for receiving the protector, a V-shaped notch, corresponding with the form of the body *x*, is cut by any suitable implement or tool in the edge of the lift, as shown in Fig. 1, and sockets *v* (represented by dotted lines in Fig. 1) formed on the under side of the lift to receive the flanges *d d*. These sockets may be made by indenting the inner side of the lift with a die, or by removing a piece at either side of the V-shaped notch formed to receive the body *x*, as preferred. After the lift has been applied to the heel and secured by nailing or pegging in the usual manner, the protector B is driven into the V-shaped notch cut in the lift to receive it, and the nail C driven through the hole *f* into the body of the heel, thereby securing the protector in position in a manner which will be readily obvious without a more explicit description.

In area the shape of the body of the protector shown in said Letters Patent is triangular, and said body is also provided with a flange on one side only, the nail-hole for the retaining-nail being in the flange instead of in the body; and hence it has been found that while said patented protector serves the purpose for which it was intended much better than many other protectors, it is sometimes liable to "cant" in its seat and work loose or get out of place in use. To overcome this difficulty or objection is one of the objects of my present invention, and to that end I con-



struct the body  $x$  of the protector V-shaped or approximately in the shape of an equilateral triangle in area, and provide it with a horizontally-projecting flange on each side and  
5 with a nail-hole extending vertically through its body, said hole being countersunk or tapered its entire length to receive a correspondingly-tapered nail-head.

I do not confine myself to the use of the  
10 above-described device solely in connection with leather heels, as it may be equally well applied to rubber heels, being molded or cast in when the rubber is plastic.

Having thus explained my invention, what  
15 I claim is—

A heel-protector consisting of a wedge-shaped body, rounded or curved at its larger end to correspond with the curvature of the heel, and provided with triangular horizontal flanges projecting from the straight edges on  
20 both sides and extending from the curved outer edge of the body to the pointed inner end thereof, and with a nail-hole extending vertically through the body, substantially as described.

ISAAC R. SANFORD.

Witnesses:

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L. J. WHITE.