

(No Model.)

T. W. MABEE.
SHOE PROTECTOR.

No. 536,812.

Patented Apr. 2, 1895.

Fig. 1.

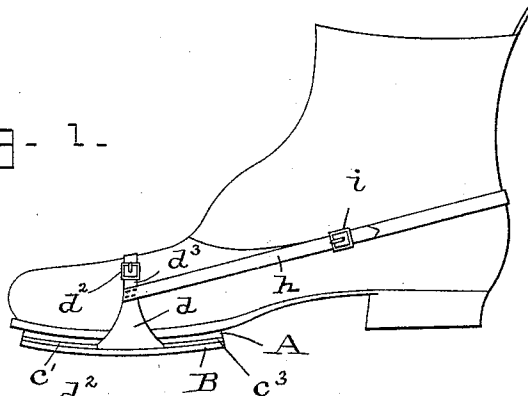


Fig. 2.

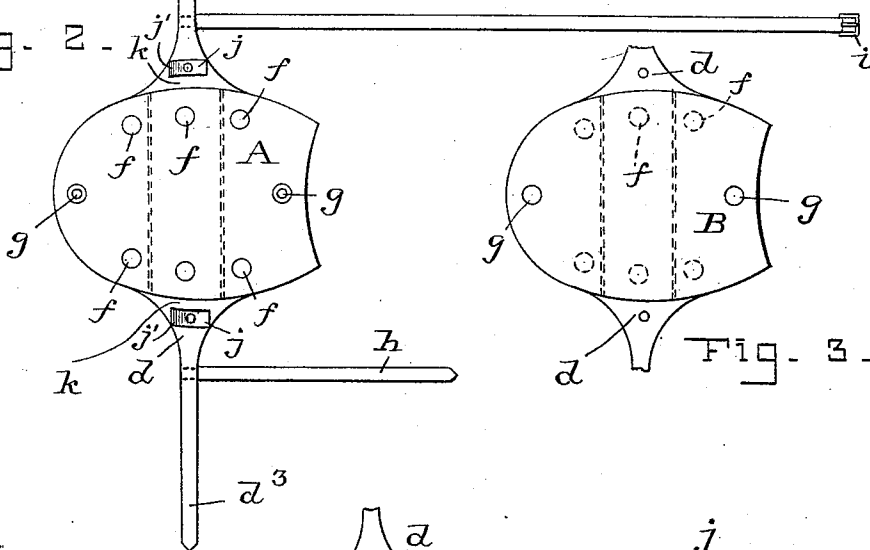


Fig. 3.

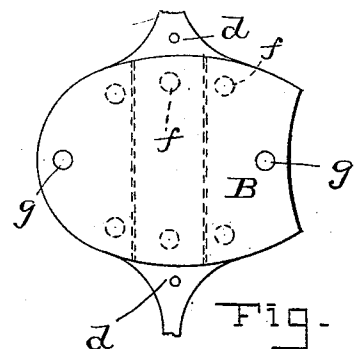
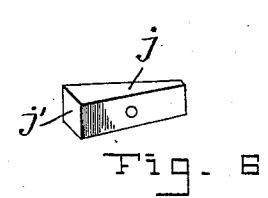
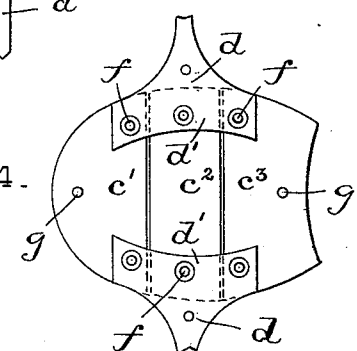


Fig. 4.



WITNESSES:—

Lee Van Horn.

Charles B. Mann, Jr.

INVENTOR:

T. W. Mabee

By
Charles B. Mann

ATTORNEY.

UNITED STATES PATENT OFFICE.

THADDEUS W. MABEE, OF BALTIMORE, MARYLAND.

SHOE-PROTECTOR.

SPECIFICATION forming part of Letters Patent No. 536,812, dated April 2, 1895.

Application filed September 5, 1894. Serial No. 522,167. (No model.)

To all whom it may concern:

Be it known that I, THADDEUS W. MABEE, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Shoe-Protectors, of which the following is a specification.

The object of this invention is to provide a sole-protector for shoes of improved construction.

The device is designed to supply a want felt by motor-men of electric cars. One of the duties these men have to perform is to sound a gong or bell as a notice or danger-signal. This is done by the motorman depressing a foot-piece. The frequency of this action, it is found, produces calloused and sore spots on the bottom of the feet. The desideratum, therefore, is an attachment for the shoe which can be readily secured to or removed from the shoe, and consists of a reinforce for the shoe-sole that possesses a certain degree of flexibility in the longitudinal direction, so as to accommodate the bend of the foot made in the act of taking a step, and which also possesses stiffness in the cross direction in order to prevent the knob, or head, of the foot-piece, which sounds the gong, from exerting a pressure on a small or contracted portion only of the sole of the man's foot,—this stiffness causing the pressure to extend over a large area of the sole of the foot, and thereby preventing the formation of a calloused spot. At the same time this device protects the shoe-sole from wear.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 shows a side view of a shoe to which my improved sole protector is attached. Fig. 2 is a top plan view of the shoe-protector. Fig. 3 is a bottom plan view of same. Fig. 4 is a bottom plan view as seen when the leather sole has been removed. Fig. 5 is a longitudinal section of the reinforce, on a larger scale. Fig. 6 is a view of one of the wedge bars.

The letter, A, designates the top sole or layer of leather; B, the bottom sole or layer, and c' , c^2 , c^3 , the metal plates between these two layers.

The construction is as follows: Three metal plates, c' , c^2 , c^3 , are parallel and extend cross-wise of the top sole, A,—i. e., below the top

sole,—and two ear pieces, d , are secured to the metal plates; each ear piece has a broad end, d' , which rests against the plates, and three rivets, f , are passed through the ear piece, the metal plates, and the top sole, A. Thus one rivet passes through each piece of metal plate and thereby the three pieces of plate are held. It will be seen that six rivets, f , are thus employed in securing the two ear pieces, d , the three separate pieces of metal plate, c' , c^2 , c^3 , and the top sole together. This construction provides for the desired flexibility in the longitudinal direction.

In order to provide a cushion or pad for the metal plates on their lower side, I cover them on the bottom with a sole of leather, B, and secure it temporarily by means of two rivets and metal washers, g ,—one at each end. These two removable rivets, g , are located one at each end of the pad, B, and the latter is unattached at its center. The rivets pass entirely through the bottom pad or sole, B, the two end plates, c' , c^3 , and the top sole, A. It will be seen that the bottom pad, B, covers not only the three pieces of metal plate, but also covers the broad ends, d' , of the two ears.

Each ear piece, d , narrows from the broad end to a width suitable for a strap. A buckle, d^2 , is attached to one, and the strap, d^3 , of the other is adapted to be made fast to said buckle. These straps and buckle pass around the ball or front part of the shoe and hold the reinforce, A, B, up against the shoe sole. Another strap, h , is attached to one of the ears, d , and a buckle, i , to the other ear, and this strap passes around the heel or quarter of the shoe and keeps the reinforce from sliding forward toward the toe of the shoe. Each ear, d , has a wedge bar, j , on its inner face to bear or press against the edge of the shoe-sole when the device is secured on the foot. The thick end, j' , of the wedge is toward the toe. A space, k , on the ear intervenes between the wedge bar, j , and the point where the ear emerges from the reinforce. This space, k , on the ear makes a flexible hinge-joint for the ear and is of sufficient length, when the ear is bent upward, to bring the wedge bar, j , against the sole of the shoe. Thus when the strap, d^3 , and buckle, d^2 , are secured together around the shoe the two wedge bars, j , serve to clamp opposite edges of the shoe sole and keep the

reinforce from lateral movement, and as the thick end of each wedge bar is toward the toe of the shoe—where the shoe-sole is narrower—these wedge bars keep the reinforce from sliding to the rear of the foot, and secure it fast from being pulled back toward the heel by the strap, *h*.

When the reinforce is on the foot of the motorman it allows the desired flexibility in the act of taking a step, and it is yet stiff so as to form a broad unyielding tread for the foot when the motorman desires to depress the knob of the foot-piece of the gong. With this devicesores on the bottom of the feet are not likely to be produced by frequently depressing the gong foot-piece.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

20 1. A reinforce for shoe-soles having in combination, a flexible top sole, A; a plural number of metal plates, *c'*, *c*², *c*³, parallel and extending crosswise; two ear pieces each secured by rivets, *f*,—one rivet passing through each metal plate, the top sole and the ear piece; and straps connected with the ear pieces to secure the device to the shoe.

2. A reinforce for shoe-soles having, in combination, a flexible top-sole, A; a plural number of metal plates, *c'*, *c*², *c*³, parallel and extending crosswise of and each riveted to the said top sole; a bottom pad or cushion, B, covering said metal plates, and secured at each end by a rivet which passes entirely through the end plate and top sole, leaving the center of the said bottom pad unconfined and free to accommodate itself to the movements of the foot; and straps to secure the reinforce to the shoe.

3. A reinforce for shoe soles having, in combination, a flexible top sole, A; a metal plate extending crosswise of said top sole; two ear pieces each secured by rivets; a wedge-bar, *j*, on the inner face of each ear piece with the thick end of the wedge toward the toe of the device; and straps connected with the ear pieces to secure the device to the shoe.

In testimony whereof I affix my signature in the presence of two witnesses.

THADDEUS W. MABEE.

Witnesses:

CHARLES B. MANN, Jr.,
C. CALVERT HILL.