F. W. BOXER.

METAL HEEL PROTECTOR FOR RUBBER SHOES AND THE LIKE.

APPLICATION FILED APR. 22, 1908.

931,261.

Patented Aug. 17, 1909.

Fig. 1.

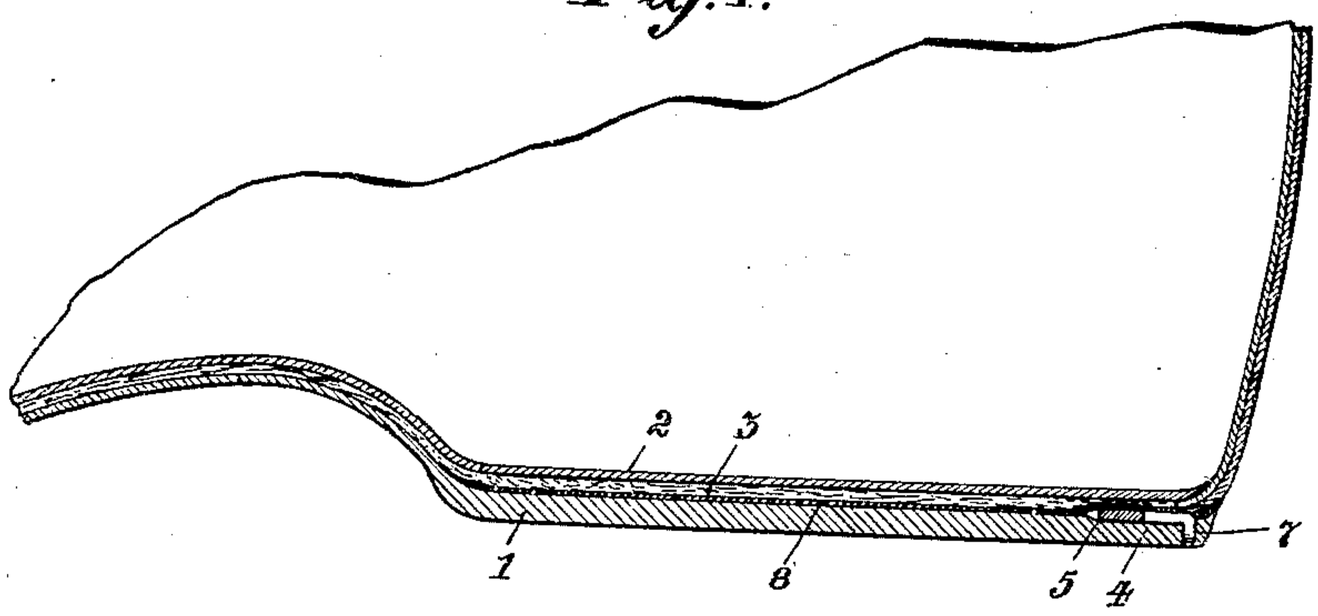


Fig. 2.

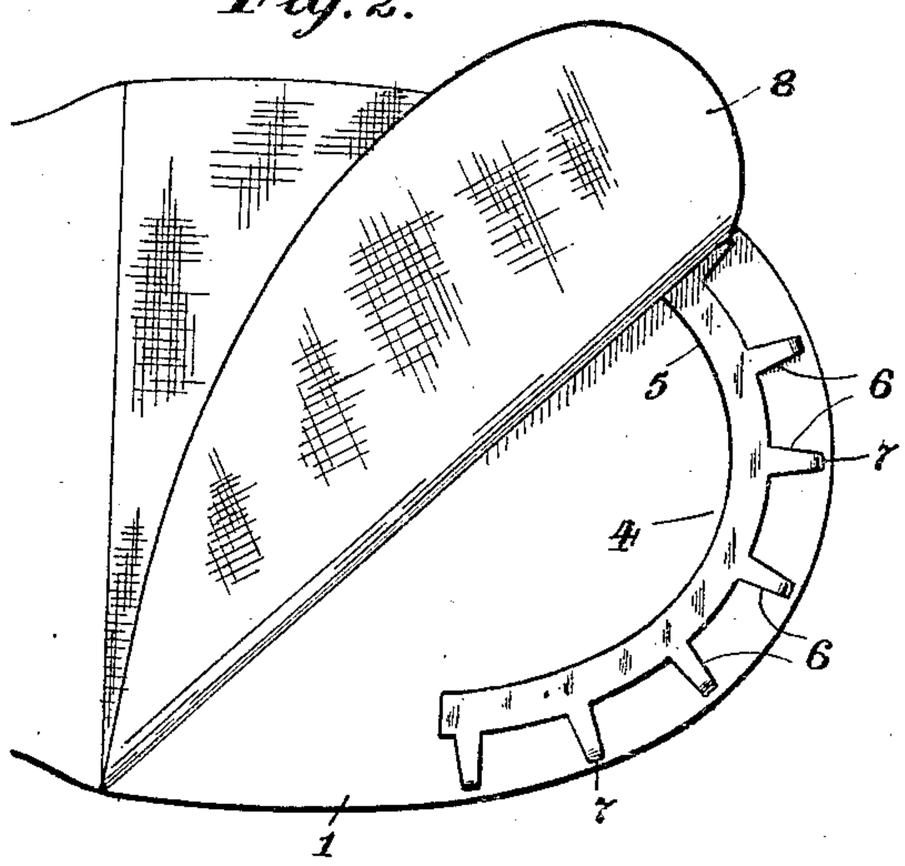
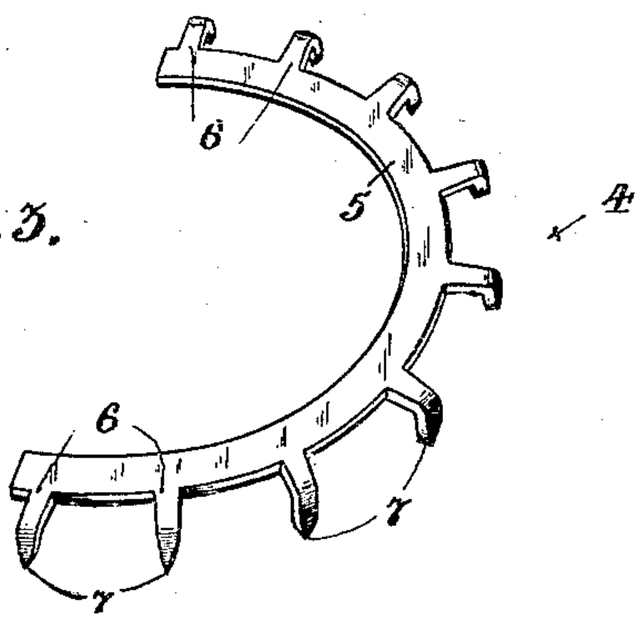


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

FREDERICK WILLIAM BOXER, OF MONTREAL, QUEBEC, CANADA, ASSIGNOR OF ONE-FOURTH TO JAMES ROBINSON, OF MONTREAL, CANADA.

METAL HEEL-PROTECTOR FOR RUBBER SHOES AND THE LIKE.

No. 931,261. Specification of Letters Patent. Patented Aug. 17, 1909.

Application filed April 22, 1908. Serial No. 428,563.

To all whom it may concern:

Be it known that I, FREDERICK WILLIAM BOXER, a subject of the King of Great Britain, residing at 10 St. Luke street, in the city and district of Montreal, in the Province of Quebec, in the Dominion of Canada, have invented certain new and useful Improvements in Metal Heel-Protectors for Rubber Shoes and the Like, of which the following is a specification.

The invention relates to improvements in metal heel protectors for rubber shoes and the like, as described in the present specification and illustrated in the accompanying drawings that form part of the same.

The invention consists essentially in embedding into the rubber heel, by simple hand pressure, a plurality of metal points, forming part with and extending rearwardly from a plate conforming to the shape of the heel.

The objects of the invention are to devise a means of protecting the heel of the rubber at that particular point where the heel in walking first comes in contact with the ground, to provide a cheap and simple protector, to facilitate the introduction of the said protector into the shoe, and in the manufacture thereof generally to improve and make more durable the rubber shoe at only a fractional extra cost.

In the drawings, Figure 1 is a longitudinal portion of a rubber shoe showing the heel thereof in section with the protector embedded therein. Fig. 2 is a plan view showing the protector embedded in the heel and the covering therefor folded back to disclose a portion of said protector. Fig. 3 is a perspective detail of the protector apart from the heel.

Like numerals of reference indicate corresponding parts in each figure.

Referring to the drawings, 1 is the heel of the shoe formed of a piece of rubber sole stock.

2 is the insole and 3 the filling, the said parts being arranged as customary in the making of rubber shoes.

4 is the metal protector formed of the curved plate 5 and the rearward radial extension 6 terminating in the downwardly projecting wedge-shaped points 7, the curve of said plate 5 conforming to the curve of the heel of the rubber shoe, and said wedge-shaped points or spikes being arranged in the form of claws projecting from, and preferably forming part with said plate. The plate is preferably a crescent-shaped or curved flat strip of metal, though it must be understood that it may be made in any suitable shape so long as the points to be embedded in the rubber extend in a rearward and downward direction therefrom, and into immediate proximity with the rear edge of the heel.

8 is a sheet of rubber or rubber filled material conforming to the shape of the heel and covering in the protector 4, subsequent to the embedding of the wedge-shaped points 7 in the rubber heel and immediately adjacent to the rear edge thereof, before the vulcanization of said rubber shoe.

This form of metal heel protector for rubber shoes, has many advantages in comparison with any known forms, particularly it may be said the great reduction of material and consequently of the weight and cost. Further it offers no difficulty whatsoever in including its introduction in the manufacture of the shoe, neither does it make a serious puncture, as the peculiar wedge-shaped points easily sink into the rubber, only the extreme sharp point being exposed after the rubber has been worn for a time and this gradually broadens with wear. The protector in the first place does not go clear through the heel and it is not until the corrugations are worn off in the wear of the rubber heel that the metal points are exposed.

One of the chief objections to metal protectors of known forms is the hole they make in the rubber, this hole being of such a nature that the inclination is for it to spread and grow larger around the metal pin, thus forming a passage for water to leak into the interior of the rubber, while in the present invention, the wedge-shaped point is particularly fitted to prevent the spreading of the hole, and the covering in of the plate after being embedded in the rubber heel, previous to vulcanization, insures an absolute guarantee against any possibility of water entering through the punctures, the whole in process of vulcanization becoming one solid mass.

In this heel protector by its peculiar construction the spikes may be placed at the extreme rear edge of the heel where the wear first begins, also the said protector may

be inserted in the heel by simple hand pressure thereby saving extra labor, it being easily placed in the said heel in a few seconds by each shoe-maker when making the shoe.

What I claim as my invention is:

1. In a metal heel protector for rubber heels and the like, a thin flat arc-shaped strip of metal and a plurality of wedge shaped spikes projecting outwardly from said strip and integral therewith and bent over intermediately of their length and adapted to be embedded in the rubber of the heel and to extend toward and near the wearing surface adjacent to the rear edge of said heel and arranged in an arc-shaped row said strip formation insuring a clear wide space for the vulcanization of the heel pieces within said arc.

2. In a device of the class described, in combination, a rubber heel, a substantially semi-circular thin flat strip of metal and a plurality of claw-shaped spikes projecting from said strip outwardly and downwardly into the rubber of the heel, adjacent to the rear edge thereof toward and near the wearing surface, and a rubber sheet covering in said claws and strips and securely vulcanized within the arc of said strip to the other shoe pieces.

Signed at the city of Montreal, in the district of Montreal, in the Province of Quebec, in the Dominion of Canada, this sixteenth day of April 1908.

FREDERICK WILLIAM BOXER.

Witnesses:
G. H. TRESIDDER,
P. SHEE.