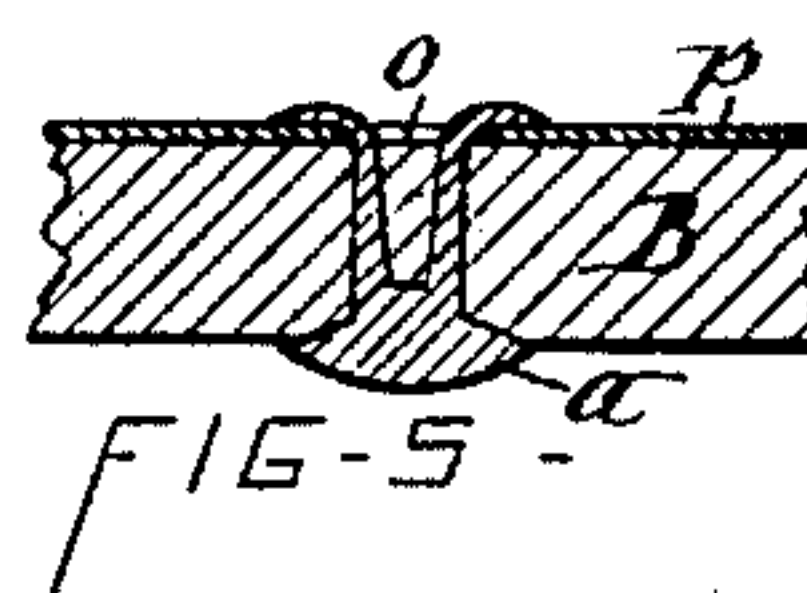
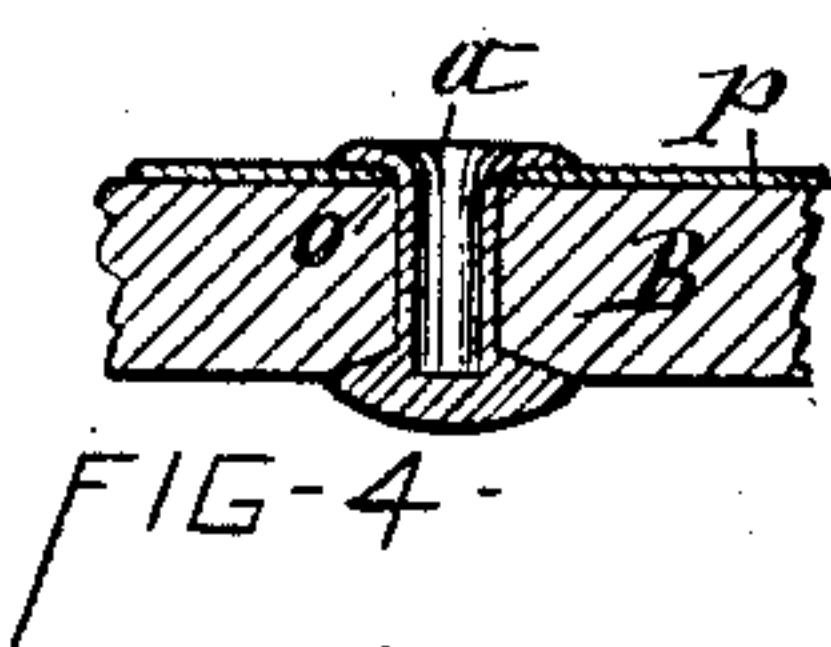
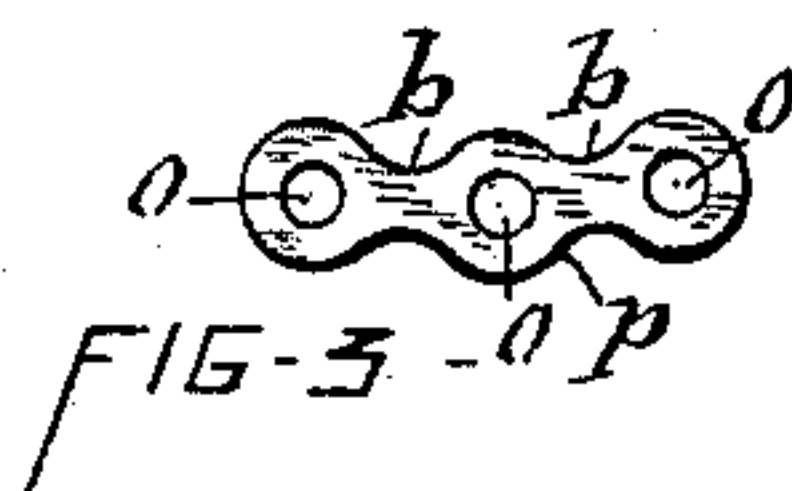
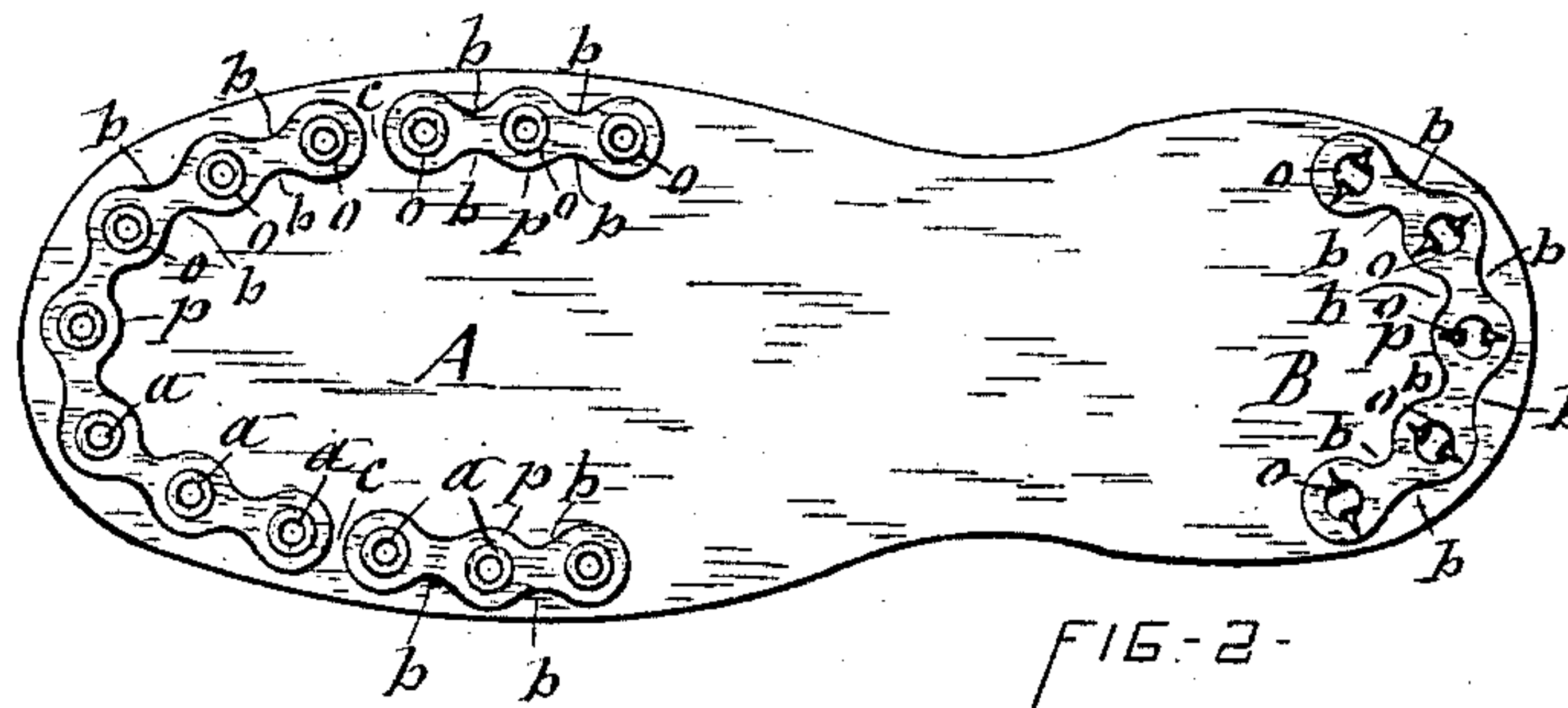
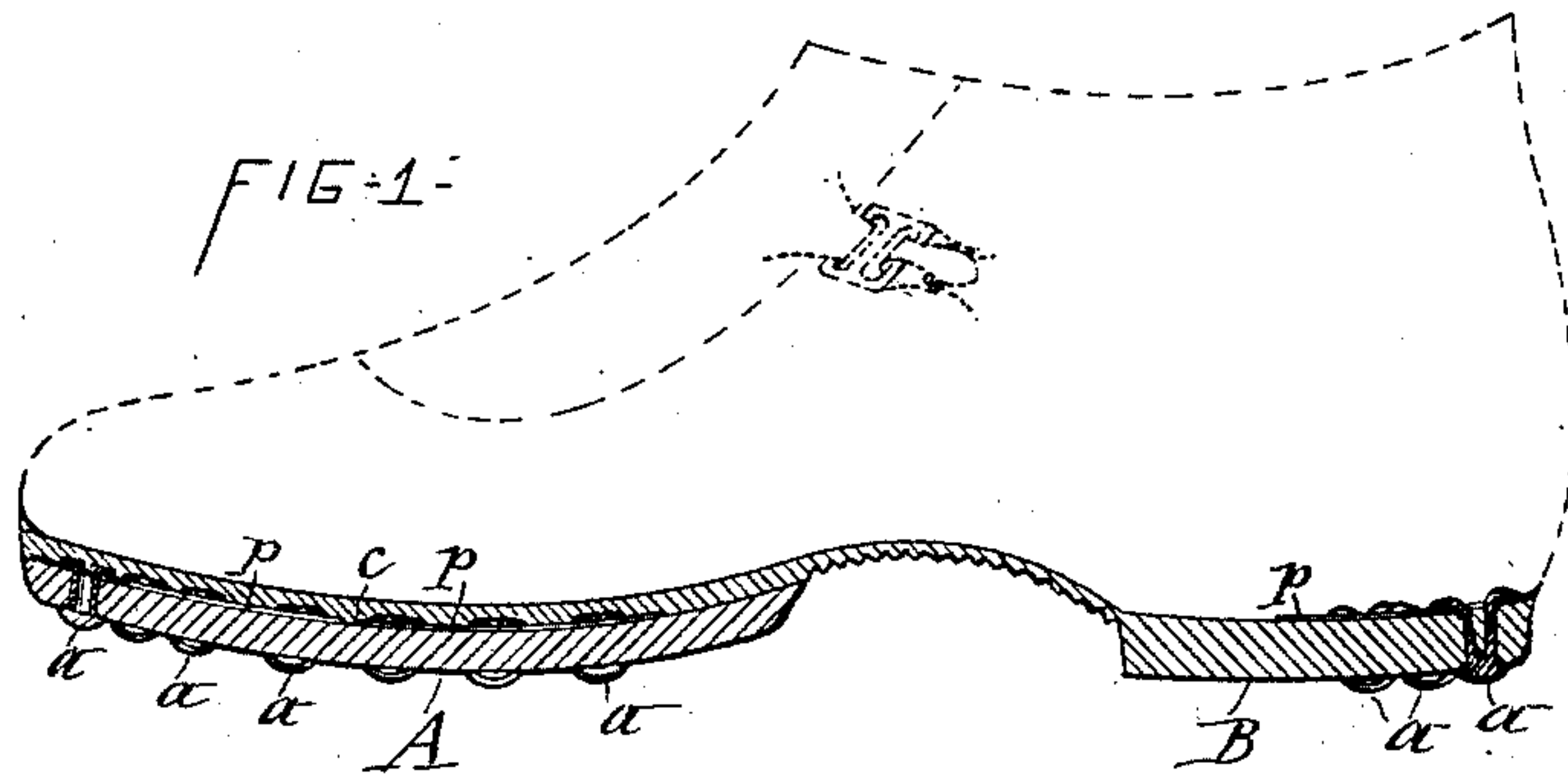


(No Model.)

J. L. THOMSON.
RUBBER BOOT OR SHOE.

No. 354,496.

Patented Dec. 14, 1886.



WITNESSES:

C. Bendixen
A. F. Halz

INVENTOR:

Judson L. Thomson
BY Wm. L. Lacey & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

JUDSON L. THOMSON, OF SYRACUSE, NEW YORK, ASSIGNOR TO JUDSON
L. THOMSON & CO., OF SAME PLACE.

RUBBER BOOT OR SHOE.

SPECIFICATION forming part of Letters Patent No. 354,496, dated December 14, 1886.

Application filed August 12, 1886. Serial No. 210,665. (No model.)

To all whom it may concern:

Be it known that I, JUDSON L. THOMSON, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Rubber Boots or Shoes, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention consists in improved means for securing to the soles and heels of rubber boots or shoes metallic rivets, presenting wearing-points on said soles and heels, and thus rendering the same more durable.

In the annexed drawings, Figure 1 is a longitudinal section of an arctic overshoe provided with my improved rivet attachment. Fig. 2 is a top view of the sole and heel with the rivet attachment. Fig. 3 is a detached plan view of one of the re-enforcing-plates by which the rivets are tied together and held in the sole and heel of the boot or shoe, and Figs. 4 and 5 are enlarged sectional views of the rivet attachment.

Similar letters of reference indicate corresponding parts.

A and B represent, respectively, the sole and heel of a rubber overshoe, and *a a* denote the rivets applied thereto for presenting metallic wear-points on the bottom thereof. Such rivets have been applied to the sole and heel in various ways; but it has been found exceedingly difficult to properly secure them thereto, so as to prevent their withdrawal and also their lateral movement, which latter enlarges the rivet-holes in the sole or heel, so as to allow the water to enter through said holes to the interior of the boot or shoe. To obviate these defects I employ metallic plates *p p*, each of which is provided with two or more perforations or rivet-holes, *o o*. These plates I place upon the inner sides of the sole and heel in proper positions to receive through their perforations the inner ends of the rivets *a a*, which are inserted into the sole and heel from the under side thereof, so as to present their heads thereat to serve as wearing-points. The inner ends of said rivets pass through the perforations of the plates *p p*, and are clinched upon the inner sides thereof, as shown.

On the sole A, I distribute the plates *p p* so as to bring the joints between the adjacent ends

thereof at such points where the sole is subjected to the greatest deflections by the bend of the foot of the wearer of the boot or shoe when walking, such joints being indicated by the reference-letters *c c* in Fig. 2 of the drawings.

The described rivet attachment may be applied to the sole and heel either before or after they are vulcanized; but owing to the difficulty of obtaining access to the interior of the boot or shoe for clinching the rivets on the sole fastened to said boot or shoe, I prefer to apply the rivets, with their re-enforcing plates *p p*, to the unvulcanized tap before cementing the same onto the boot or shoe. In order to impart elasticity to the metallic plates *p p*, and also to expose more surface of the rubber sole or tap for cementing the same onto the boot or shoe, I form the said plates with side excisions, *b b*, between the perforations *o o*.

It will be observed that by means of the metallic plates *p p* the rivets are tied together at their inner ends, so as to cause them to sustain each other and effectually prevent their withdrawal from the sole and heel, and also prevent the lateral movement of the inner ends of the rivets, and thus guard against the enlargement of the rivet-holes in the rubber and the resultant leakage of the same.

The rivets may be either bifurcated to form clinching-prongs thereon, as shown in Fig. 5 of the drawings, or they may be of tubular form, as shown in Fig. 4 of the drawings. I prefer the latter form, because by using the said tubular rivets I flare the open ends thereof and clinch the same outward uniformly around the perforations of the plates *p*, as illustrated in the sole in Fig. 2 of the drawings, thus obtaining a better hold of the metallic plates.

I do not claim a duplex or multiplex washer formed of a continuous piece of wire bent into two or more loops, constituting eyes for the reception of the clinching ends of the rivets, as I am aware that such construction is not new, neither does it accomplish the object of my present invention, in that the wire is incapable of effectually bracing the ends of the rivets one against the other.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a rubber boot or shoe, the combina-

tion, with the rubber sole or heel, of a metallic re-enforcing plate provided with two or more perforations and placed upon the upper sides of said sole or heel, and rivets passing through 5 the sole or heel from the under side thereof, and through the perforations of the metallic plate, and clinched upon the said plate, substantially as set forth and shown.

2. In a rubber boot or shoe, the combination, with the rubber sole, of metallic plates 10 distributed over different parts of the upper side of said sole and each provided with two or more perforations, and rivets passing through said sole, and through the perforations of the 15 metallic plates, and clinched upon said plates, substantially as set forth.

3. In combination with a rubber sole or heel, and rivets passing through the same, a re-en-

forcing plate applied to the upper side of said sole or heel, and provided with perforations 20 for the reception of the clinching ends of the rivets, and formed with side excisions between the perforations for the purpose of imparting elasticity to the plate, and also for exposing 25 more surface of the sole or heel for cementing the same onto the boot or shoe, substantially as set forth.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Syracuse, in the 30 county of Onondaga, in the State of New York, this 7th day of August, 1886.

JUDSON L. THOMSON. [L. S.]

Witnesses:

FREDERICK H. GIBBS,
E. C. CANNON.