

A. M. LEIGHTON.
RUBBER HEEL.
APPLICATION FILED MAY 1, 1907.

906,807.

Patented Dec. 15, 1908.

Fig. 1.

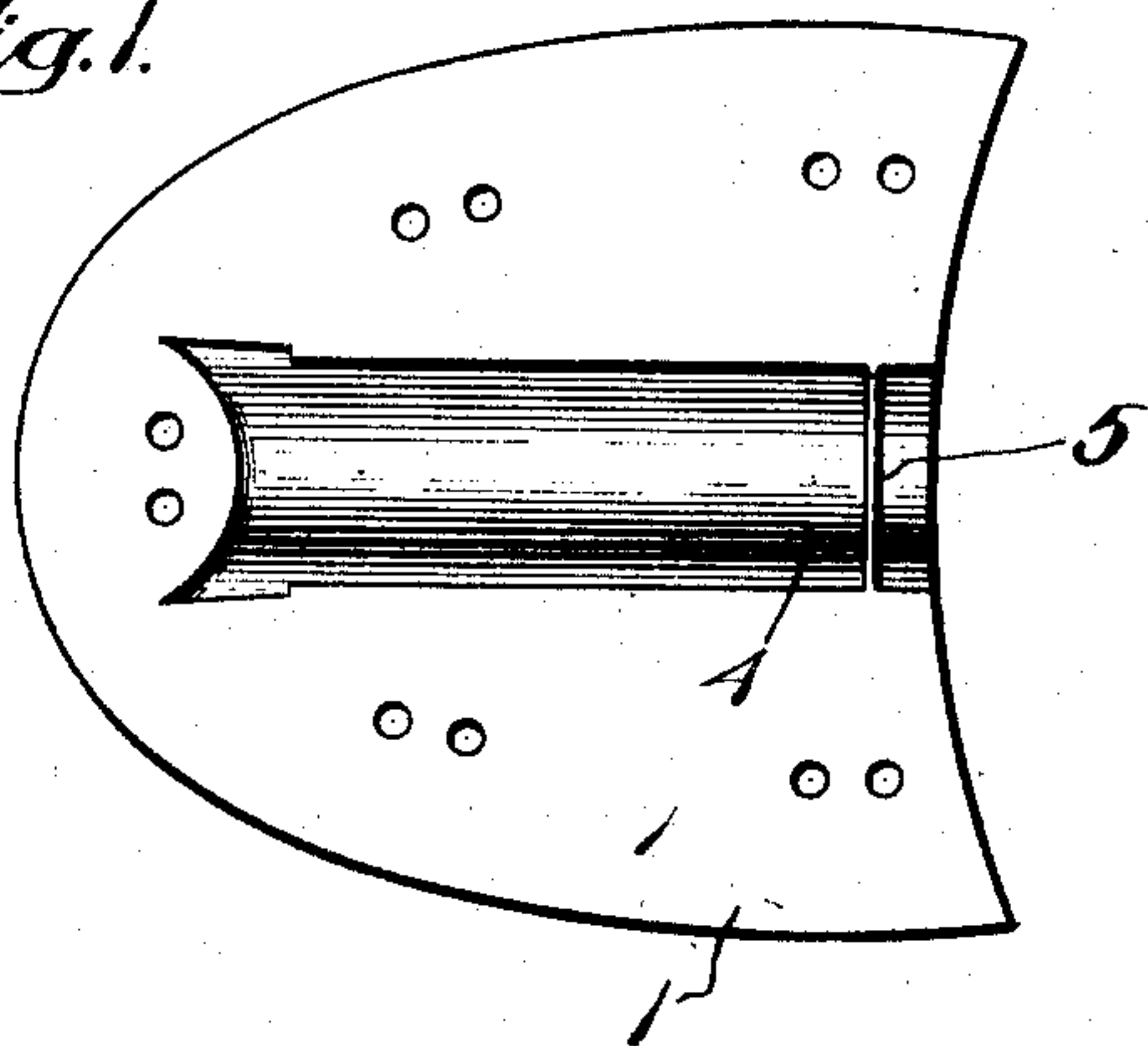


Fig. 2.

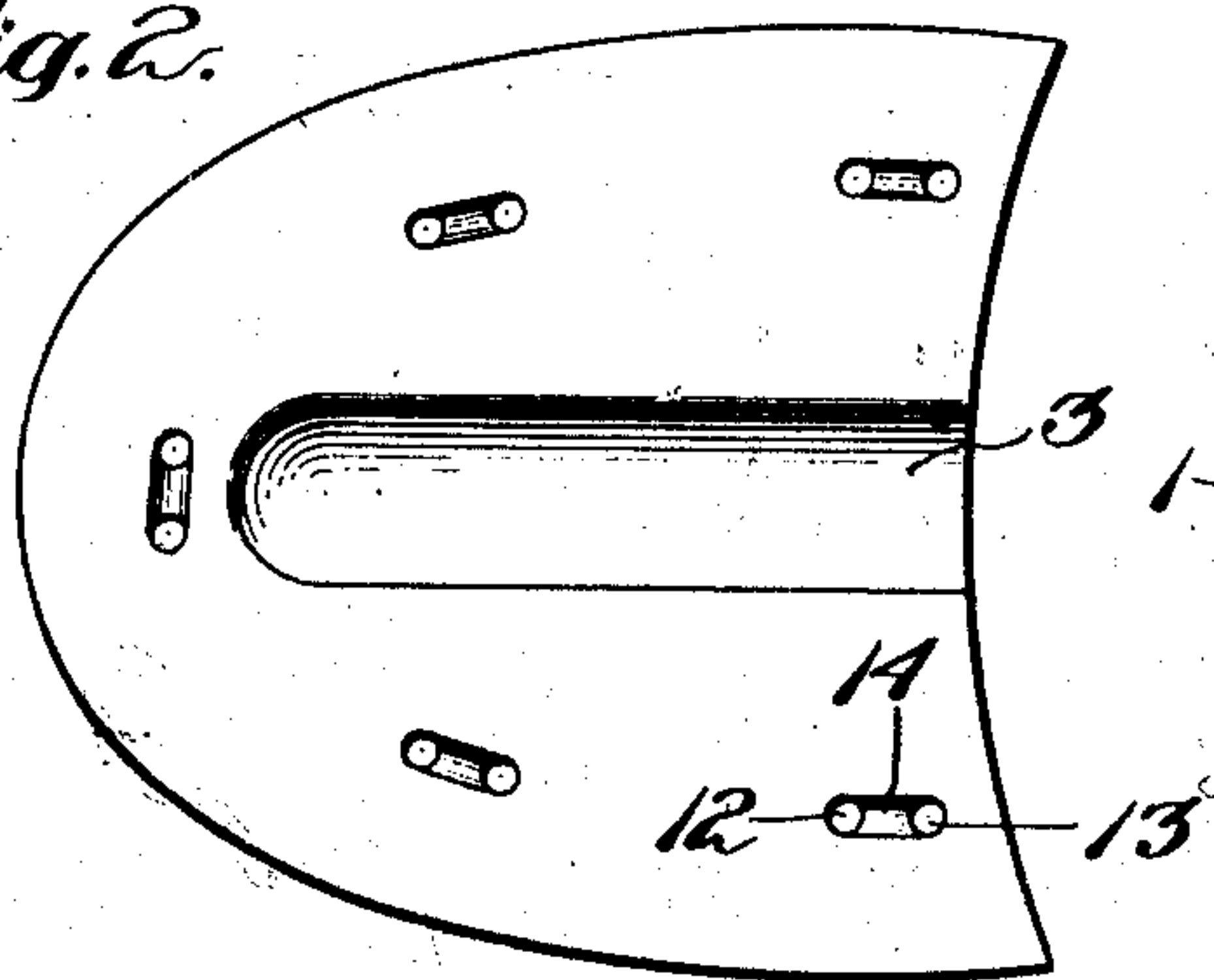


Fig. 4.

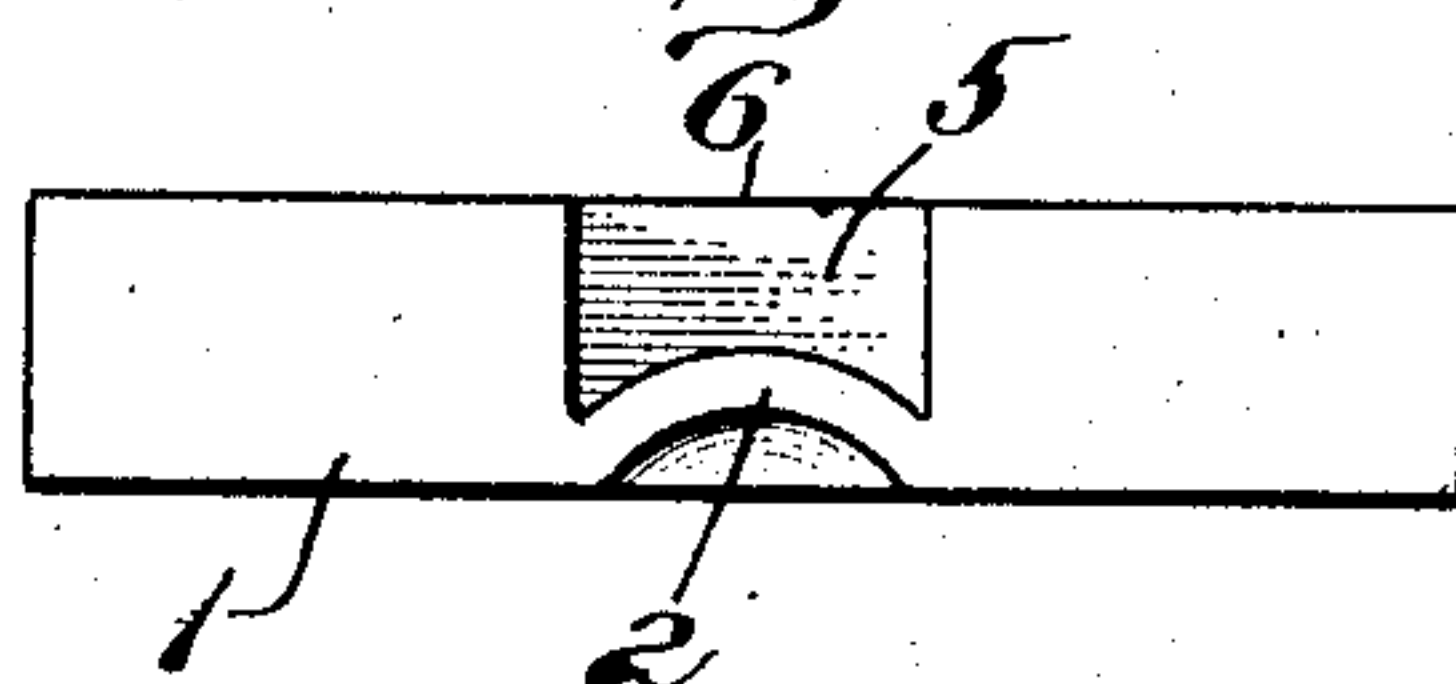


Fig. 5.

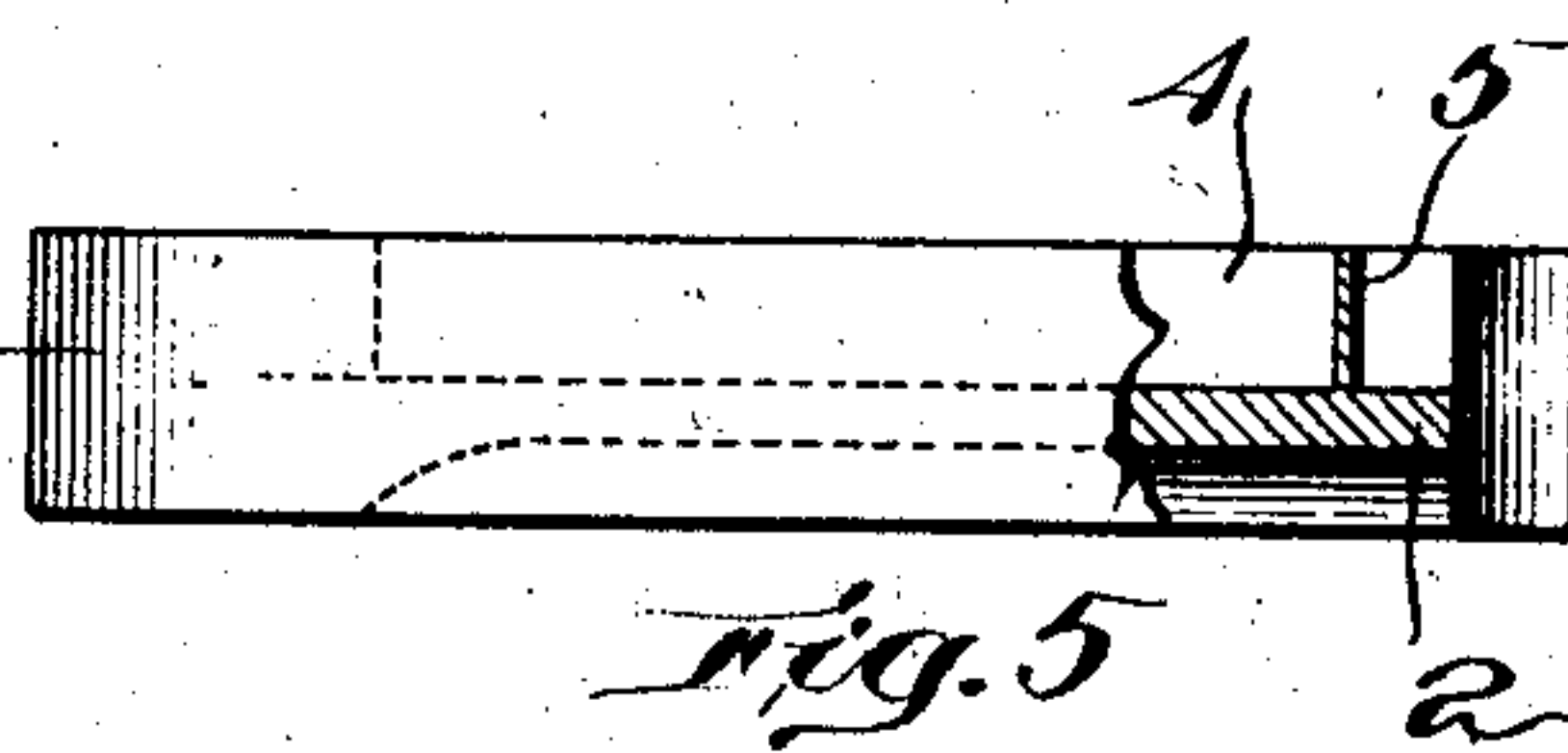


Fig. 6.

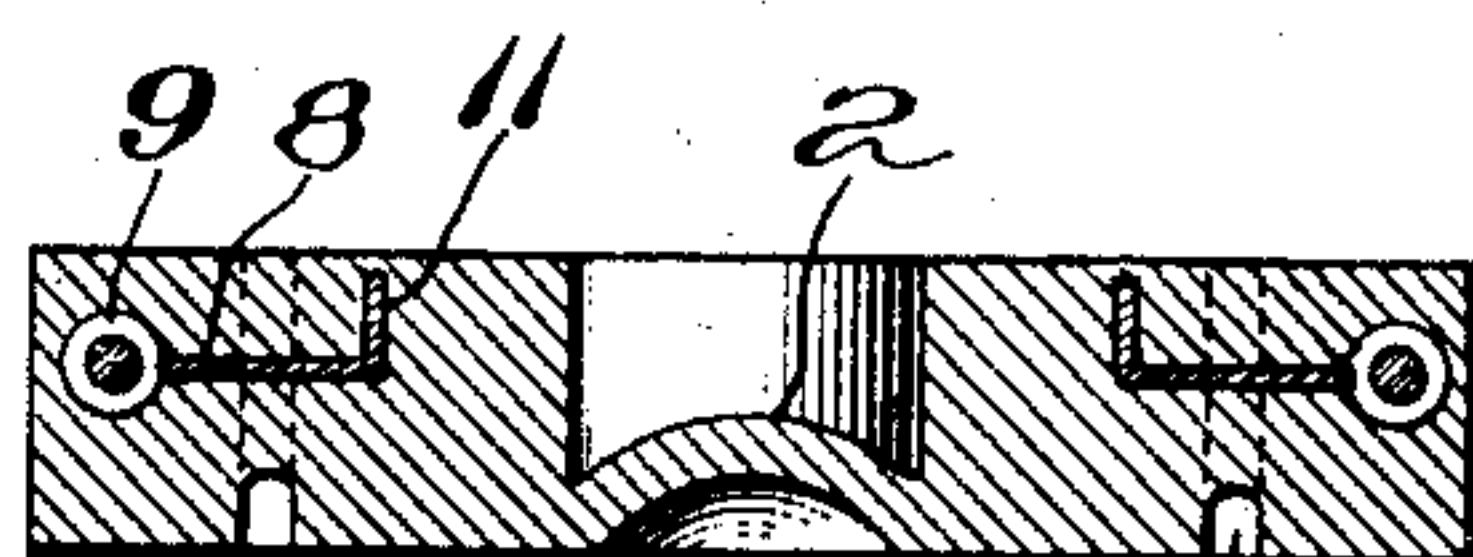
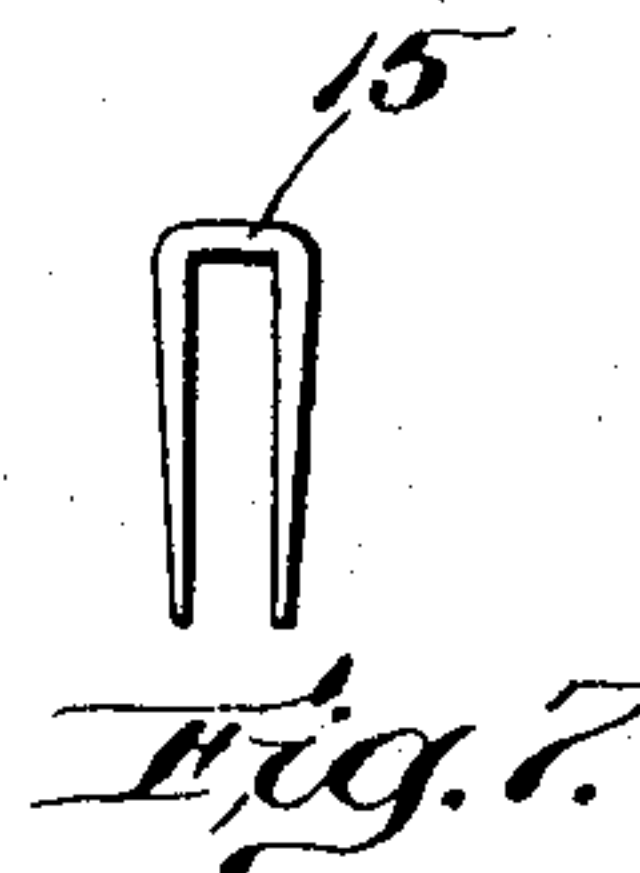
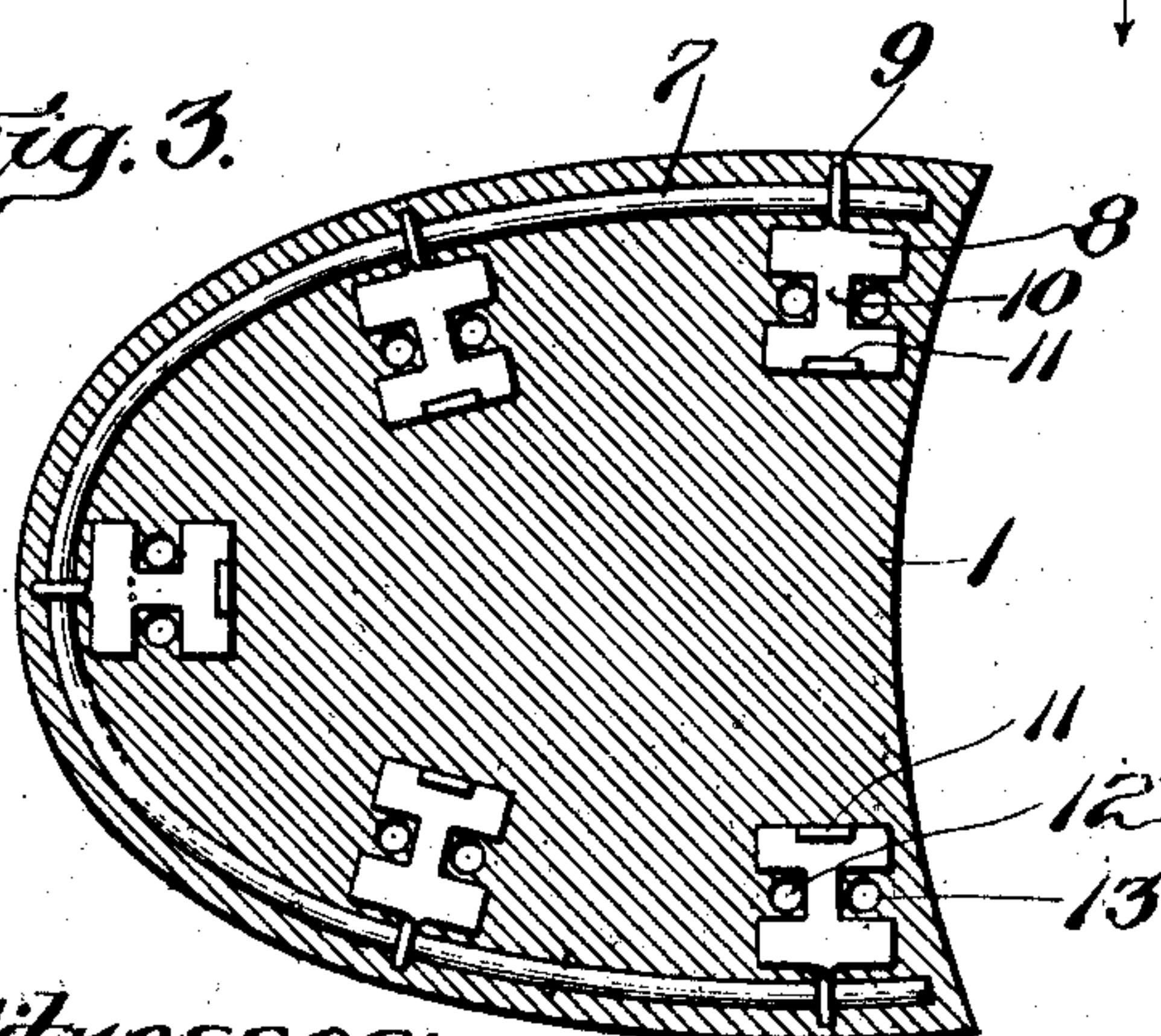


Fig. 3.



Witnesses:

Arthur J. Raudall,
Wm. J. Pike.

Inventor:
Arthur M. Leighton,
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UNITED STATES PATENT OFFICE.

ARTHUR M. LEIGHTON, OF AVON, MASSACHUSETTS, ASSIGNOR TO WILLIAM B. ARNOLD, OF NORTH ABINGTON, MASSACHUSETTS.

RUBBER HEEL.

No. 906,807.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed May 1, 1907. Serial No. 371,249.

To all whom it may concern:

Be it known that I, ARTHUR M. LEIGHTON, a citizen of the United States, residing at Avon, in the county of Norfolk and State of Massachusetts, have invented an Improvement in Rubber Heels, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

One of the difficulties experienced with the usual rubber heel is that it is apt not to be the identical shape and size of the heel of the shoe receiving it; and on account of the extreme difficulty of paring down soft rubber the heels are usually left with a slight disjointed appearance, projecting slightly beyond the rand or adjacent portion of the heel part of the shoe. Accordingly, I aim to obviate this difficulty by providing a heel construction which can be varied in shape and size to fit slightly varying heels; and to this end I provide such a structure as to permit the heel to be contracted or expanded peripherally at its sides prior to its being secured in place.

I prefer to provide for the expansion or contraction by forming a highly yielding central longitudinal portion, preferably arched, so that it is not required to stretch in order to permit the change desired. As this construction necessitates more or less of a hole or cavity on the inside of the heel, I provide a thin wall or barrier for damming or closing this cavity to prevent the entrance of water and mud.

In the drawings, in which I have shown one embodiment of my invention, Figure 1 is a top plan view of the heel ready to be applied; Fig. 2 is a bottom plan view thereof; Fig. 3 is a transverse horizontal section taken on the dotted line, Fig. 6; Fig. 4 is a front end elevation; Fig. 5 is a side elevation, partly broken away; Fig. 6 is a transverse sectional view; and Fig. 7 is a detail showing one of the fasteners used with the heel.

Extending longitudinally of the heel proper, 1 is a concavo convex diaphragm 2 forming a concave external pocket 3, which is not objectionable, as it is self-clearing of mud, etc. which may enter momentarily, and forming an internal pocket or cavity 4, which may be of any convenient shape, as the shape thereof is not essential, all that is essential being to have the cavity so that the

diaphragm may enter the same when the heel is contracted. At the front end of this cavity 4 I provide a thin dam or wall 5 capable of stretching slightly if the heel is to be expanded, and capable of buckling or bending slightly if the heel is to be contracted, while serving at all times to close the cavity against the entrance of mud and water, inasmuch as the top edge 6 of said wall or dam is flush with the top surface of the heel and hence fits tightly against the adjacent leather of the shoe.

To hold the heel unyieldingly in its desired contracted or expanded position, I provide, in connection with the fastening means, a heavy wire or other normally stiff shape-retainer 7 embedded in the solid rubber of the heel, preferably adjacent the periphery thereof, as is clearly shown in Figs. 3 and 6. When the wire is simply heavy annealed wire it helps to hold the heel in desired contracted position. The shoemaker simply presses the heel firmly edgewise until the wire is bent and thereby caused to retain the rubber for the time being in the desired contracted position until the fastenings can be passed through the heel to retain it permanently in said position on the shoe. Secured at intervals to this shape-retainer 7 are anchor pieces, herein shown as metal plates 8 having perforated ears 9 engaging the wire and cut away at their opposite sides to form a narrow neck portion 10, these H-shaped anchor plates also preferably having upwardly projecting legs or tangs 11 for still further holding into the rubber and aiding in the process of molding the heel. On each side of the neck 10 of these H-shaped plates perforations 12, 13 are provided, preferably connected at the bottom of the heel as indicated at 14 to receive a staple fastener 15, see Fig. 7. It will be understood, however, that nails may be used in the usual manner if preferred, and also that I am not limited to the plates 10, as any other means of aiding the nails in holding the heel under tension may be provided. It will be understood that the desirability of some such special anchoring means for the nails is due in part to the fact that the contraction or pressing toward each other of the sides of the heel causes the rubber to produce a constant expanding tendency or tension in the heel, so that if no special anchoring means were provided, this tendency would in time cause the nails to cut into the rubber, thereby enlarg-

ing the holes so that the heel might come loose. The anchoring means which I have provided serve to distribute the holding strain over substantially the entire heel instead of bringing all the strain on that portion of the rubber which is in direct touch with the fastening nail or staple. I have found, moreover, that a staple is far preferable to a nail, as it binds a considerable portion of the rubber in compressed relation to the heel part of the shoe. It will also be understood that the number of fasteners may be less or greater than is shown, and that I am not limited in fact to any precise details as shown, as my invention in its broader aspects is applicable to any of the usual kinds of rubber heels.

In use, the shoemaker first fastens one side of the heel to the shoe, being careful to lay the adjacent edge of the heel in absolutely exact alinement with the adjacent edge of the shoe-heel or heel part. Having thus fastened immovably one side of the rubber heel, he then springs the opposite side of the rubber heel into absolutely exact alinement with the remaining portion of the shoe heel or heel part, and immediately drives the staples or other fasteners through the rubber heel into the shoe at that side and about the remaining unfastened portion of the rubber heel, the result being that the heel is at once and quickly brought into absolutely true smooth alinement and finish with the rest of the shoe heel or heel part.

My invention not only saves all trimming of heels and enables the shoemaker to turn out a neat finished rubber-heeled shoe, but on account of it there is no need of keeping so many sizes on hand. This is of great practical importance to the small cobbler or country shoemaker, as he can use the same heel for a number of different sizes simply by pressing the sides of the heel toward each other or springing them apart according to the requirements of any given case.

Having described my invention, what I

claim as new and desire to secure by Letters Patent, is:

1. A boot heel of resilient material, having a medial highly contractible and expansible region extending to the breast of the heel, and anchoring means extending along the sides of the heel, capable of bending freely at the back of the heel to permit the sides of the heel to be brought readily toward each other or separated as desired, adapted to cooperate with fastenings to hold the sides of the heel in distorted position when desired.

2. A boot heel, having a stiff shape retainer embedded therein adjacent its periphery, said shape retainer being capable of being permanently changed in shape in one and the same original plane only, without vertical distortion, by the edgewise compression of the heel.

3. A boot heel composed of resilient material, a peripheral wire embedded therein adjacent and along the outside edges of the heel, and fastener receiving anchors connected to said wire.

4. A boot heel, having along its longitudinal middle a thin yielding integral diaphragm located in an intermediate plane between the top and bottom of the heel for permitting the heel to be contracted edgewise.

5. A boot heel, having along its longitudinal middle a thin yielding diaphragm upwardly arched in cross section for permitting the heel to be contracted edgewise.

6. A boot heel, having along its longitudinal middle a thin yielding diaphragm for permitting the heel to be contracted edgewise, and a thin flexible dam at and above the front end of said diaphragm for preventing the entrance of moisture and mud.

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

ARTHUR M. LEIGHTON.

Witnesses:

GEO. H. MAXWELL,

WM. J. PIKE.