

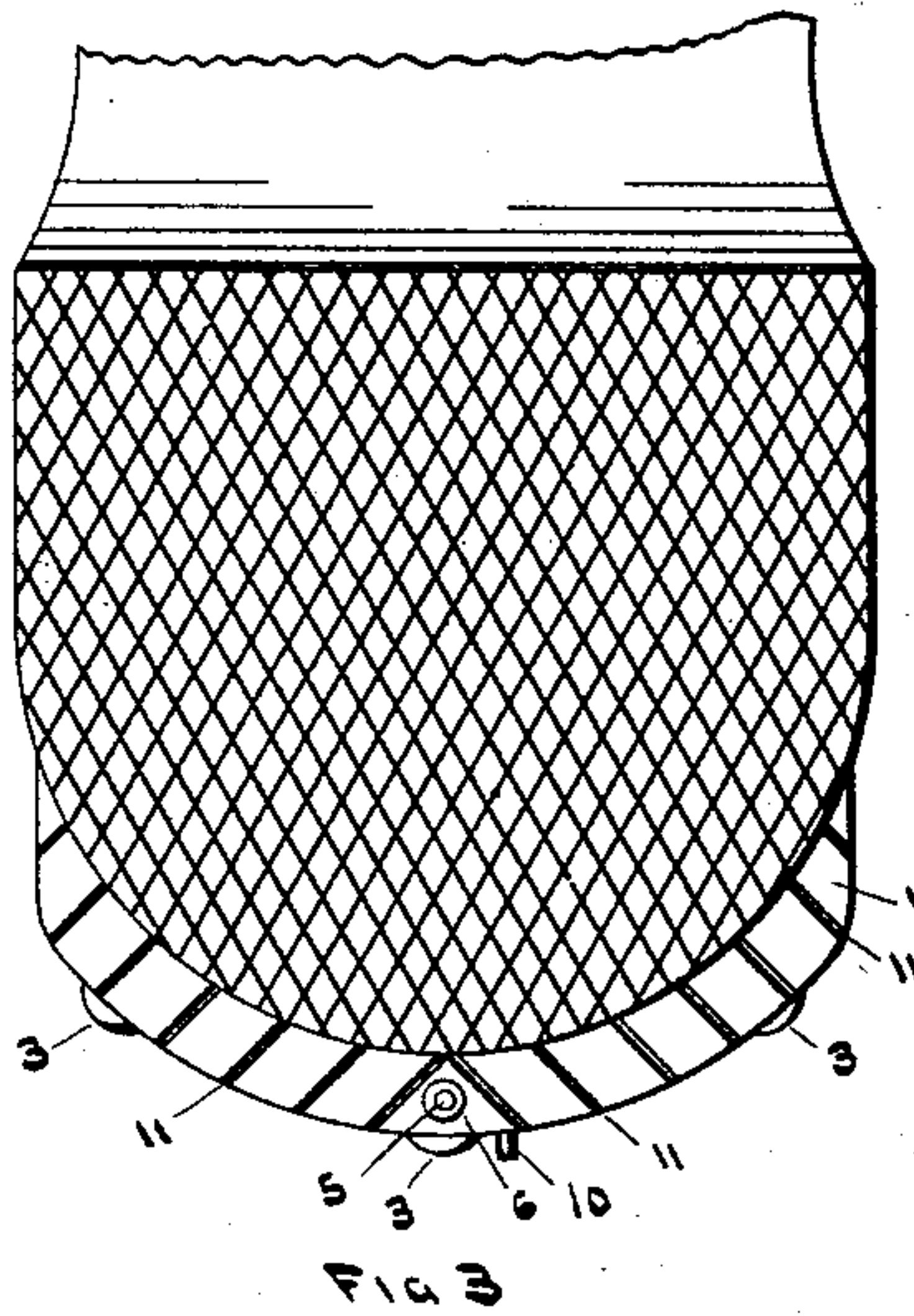
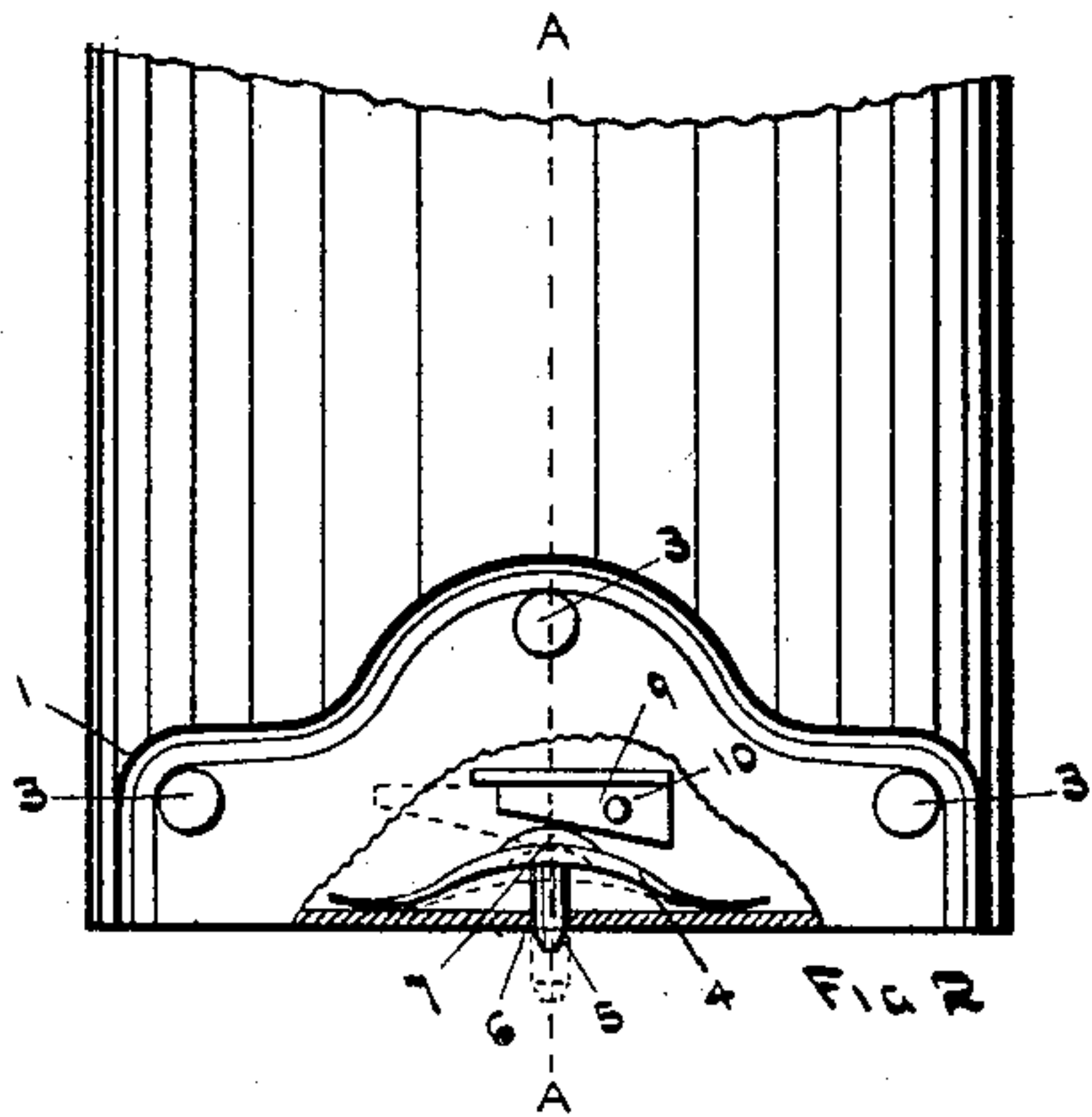
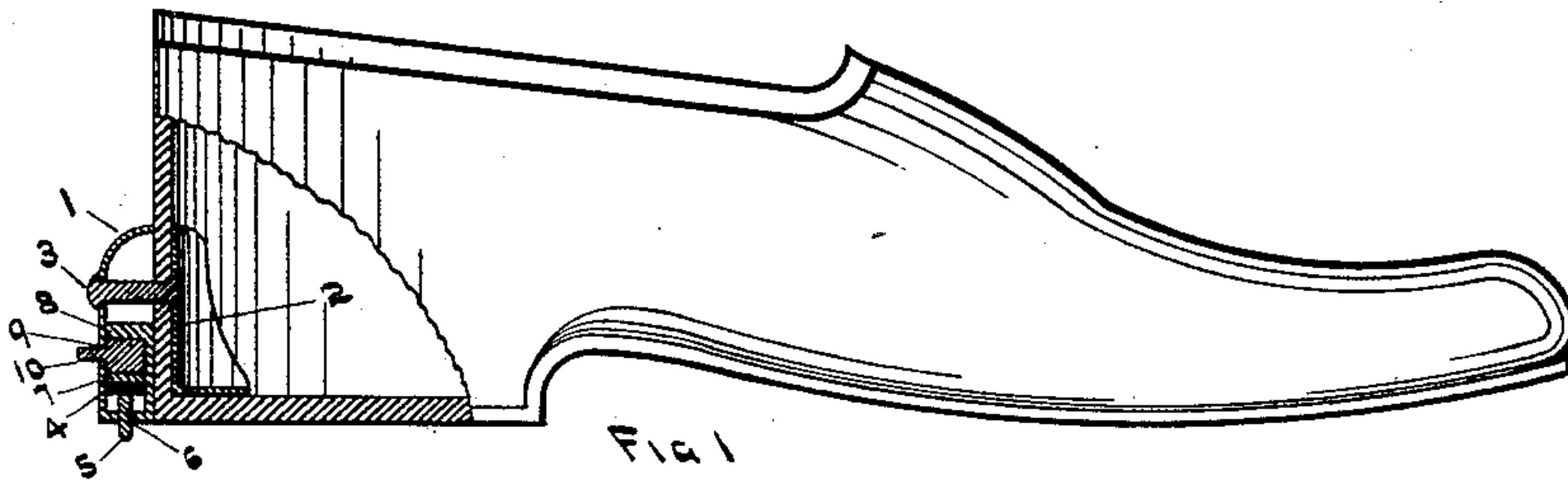
(No Model.)

W. E. FRANK & P. REIDEL.

HEEL PLATE FOR RUBBERS.

No. 366,391.

Patented July 12, 1887.



WITNESSES
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UNITED STATES PATENT OFFICE.

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HEEL-PLATE FOR RUBBERS.

SPECIFICATION forming part of Letters Patent No. 366,391, dated July 12, 1887.

Application filed April 2, 1887. Serial No. 233,366. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM E. FRANK and PETER REIDEL, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Heel-Plates for Rubbers; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

Our invention relates to an improvement in rubber heel-plates; and it consists of the mechanism and construction hereinafter described.

It is a well-known fact that rubbers usually first wear out on the rear of the heel, and our device is intended to obviate this tendency to excessive wear, and thus increase the durability of the rubber. It is also a well-known fact that as soon as the corrugations upon the bottom of a rubber become worn smooth they become very slippery and unsafe to wear upon icy walks or streets. Our invention aims to furnish a substitute for these corrugations, with the advantage that the means employed are such that they can be concealed or shielded within the body of our invention when not required, thus offering no obstruction to pedestrianism, and obviating damage to floors or carpets, in contradistinction to the action of the usual heel-plate or "creepers."

In the accompanying drawings, Figure 1 represents a side elevation of our improved rubber with part of the heel broken away to show the interior mechanism of our device. Fig. 2 represents a portion of an end elevation of the rear or heel of the rubber with our improved device attached. Fig. 3 represents a plan view of a portion of a heel and bottom of a rubber with our improved device attached. The broken lines in Fig. 1 also represent a section on line A A of Fig. 2.

Like figures refer to like parts in the several figures.

Our device consists, essentially, of a case or shell, 1, Figs. 1, 2, and 3, constructed of any suitable material, and so formed as to conform to the contour of the outside of the rubber heel. On the inside of the heel of the rubber,

and conforming to the general contour thereof, we provide a plate of metal or other suitable material, as shown in section 2, Fig. 1. This plate conforms in general superficial outline to that of the outer case of shell 1. The outer case or shell, 1, and inner plate, 2, are placed, respectively, on the outside and inside of the heel of the rubber, and riveted or screwed together, as shown at 3, Figs. 1, 2, and 3, inclosing or clamping the material of the rubber between them, as shown at 3, Fig. 1. Plate 2, Fig. 1, in addition to its function as part of the means employed in holding the outer shell, 1, in place, also acts as a protection against wear to the interior of the rubber heel from the heel of the boot or shoe. In the interior of the case or shell 1, and resting at its ends upon the interior surface of the bottom thereof, we provide elliptic spring 4, Figs. 1 and 2. Pivoted or otherwise suitably attached to spring 4 we provide pin 5, Figs. 1, 2, and 3. A suitable aperture is provided in the bottom of the case or shell for introduction of pin 5, as shown at 6, Figs. 1, 2, and 3. In the construction shown we perforate spring 4 for the introduction of pin 5, which we provide with a shoe or curved-shaped head, as shown at 7, Figs. 1 and 2. We also provide a projecting ledge or lug of metal or other suitable material, as shown at 8, Figs. 1 and 2. Between ledge or lug 8 and shoe-shaped head 7 we introduce a wedge, as shown at 9, Figs. 1 and 2. Projecting from the side of wedge 9, and extending outwardly through a suitable slot provided in the case or shell 1, we provide a pin, 10, Figs. 1, 2, and 3, or its equivalent, the purpose of which is to move wedge 9 back and forth between ledge 8 and shoe-shaped head 7. When wedge 9 is in its retracted position, the pin 5 is drawn up into the body or case or shell 1, so that its point does not project outwardly therefrom. When wedge 9 is pushed forward into the position shown in dotted lines in Fig. 2, its action upon spring 4 compresses it and causes pin 5 to protrude from the case or shell and act substantially as a spur or creeper.

It is evident that more than one pin or spur can be embodied in the construction of our device; hence we do not limit ourselves to the use of one pin. We also preferably corrugate

or roughen the bottom of case or shell 1, as shown at 11 11 11, Fig. 3. Slight changes in the construction of our device could evidently be made without departure from the spirit of our invention. Consequently we do not limit ourselves to the precise structural details herein described.

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

1c 1. A rubber boot or shoe, in combination with an outer case or shell encircling the rear lower portion of the heel and conforming to its contour, its lower portion being on substantially the same plane with the bottom of the heel, the bottom portion having a corrugated surface, the interior plate conforming substantially to the interior of the heel, and means for holding the outer case or shell and the interior plate in fixed relation to the heel of the boot or shoe, substantially as set forth.

25 2. A rubber boot or shoe, in combination with an encircling case or shell fitting the contour of the rear outside portion of the heel, the lower portion of the case or shell being on substantially the same horizontal plane with the bottom of the heel, the inner plate, and means for holding the outershell and the inner plate in contact with the rubber, substantially as set forth.

30 3. A rubber boot or shoe, in combination with an encircling case or shell fitting the contour of the rear portion of the heel, the inner contour of the case or shell being provided with a recess, the movable pin operated by

movable wedge and spring, substantially as set forth, whereby the pin is extended or withdrawn from the lower surface of the case or shell, and means for holding said case or shell to the heel of the rubber, substantially as set forth.

40 4. A rubber boot or shoe, in combination with an interior and an exterior encircling case or shell fitting substantially the contour of the rear portion of the heel, the interior of the outer case or shell being provided with a recess, the movable pin operated by the movable wedge over the pin for projecting the pin below the lower surface of the outer case, a spring for engaging and moving the pin upward, and means for rigidly holding the two cases in contact with the rear of the rubber, substantially as set forth.

55 5. In a heel-plate for a rubber boot or shoe, the combination of an encircling case conforming to the contour of the rear of the heel, having a recess in the inner surface of the case, one or more movable pins projecting below the surface of the heel, and means for moving said pins and holding them in their extended position, substantially as set forth.

60 In witness whereof we have affixed our signatures in presence of two witnesses.

WM. E. FRANK.
PETER REIDEL.

Witnesses:

EDWIN H. RISLEY,
D. MCGUCKEN.