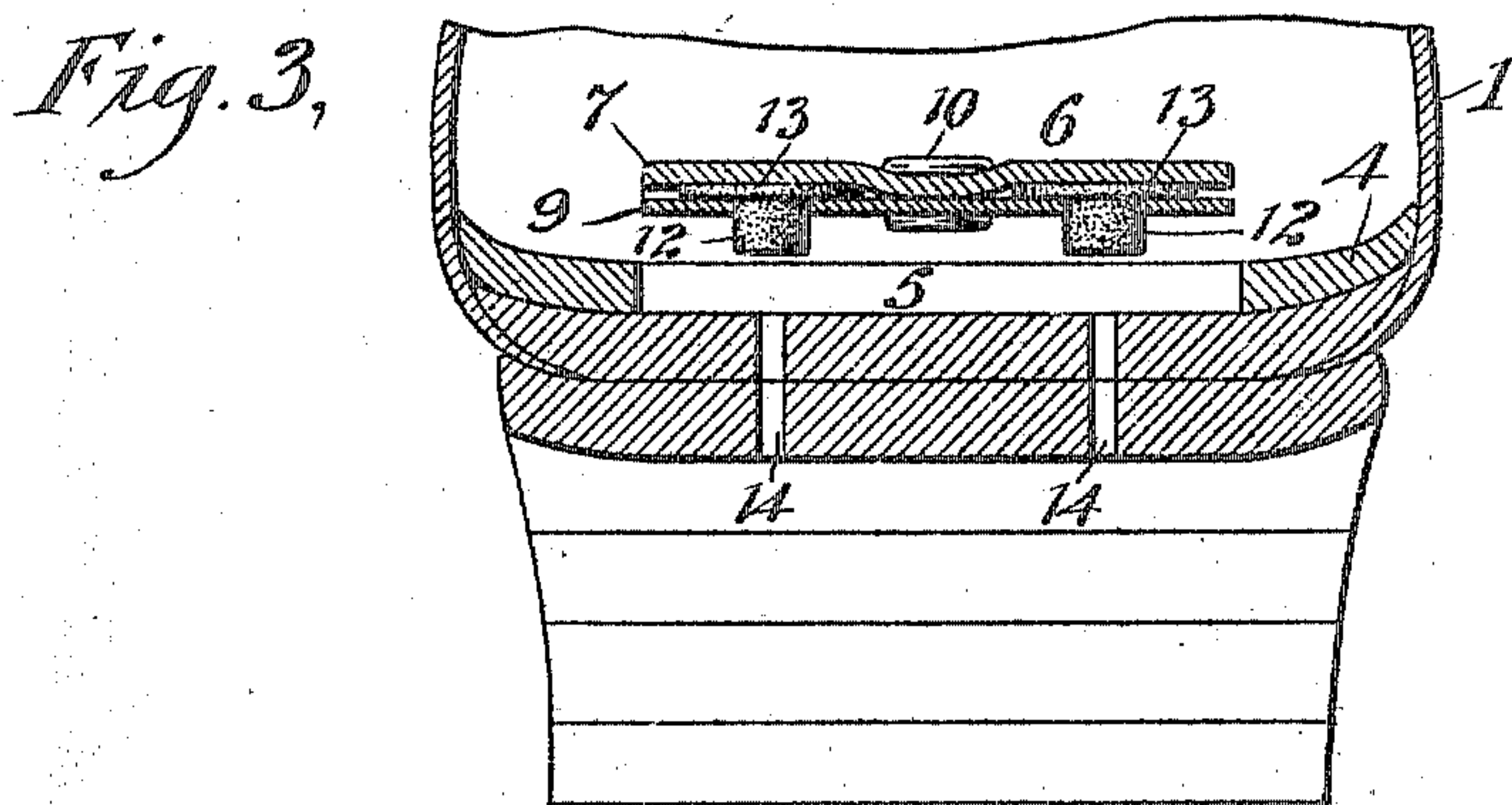
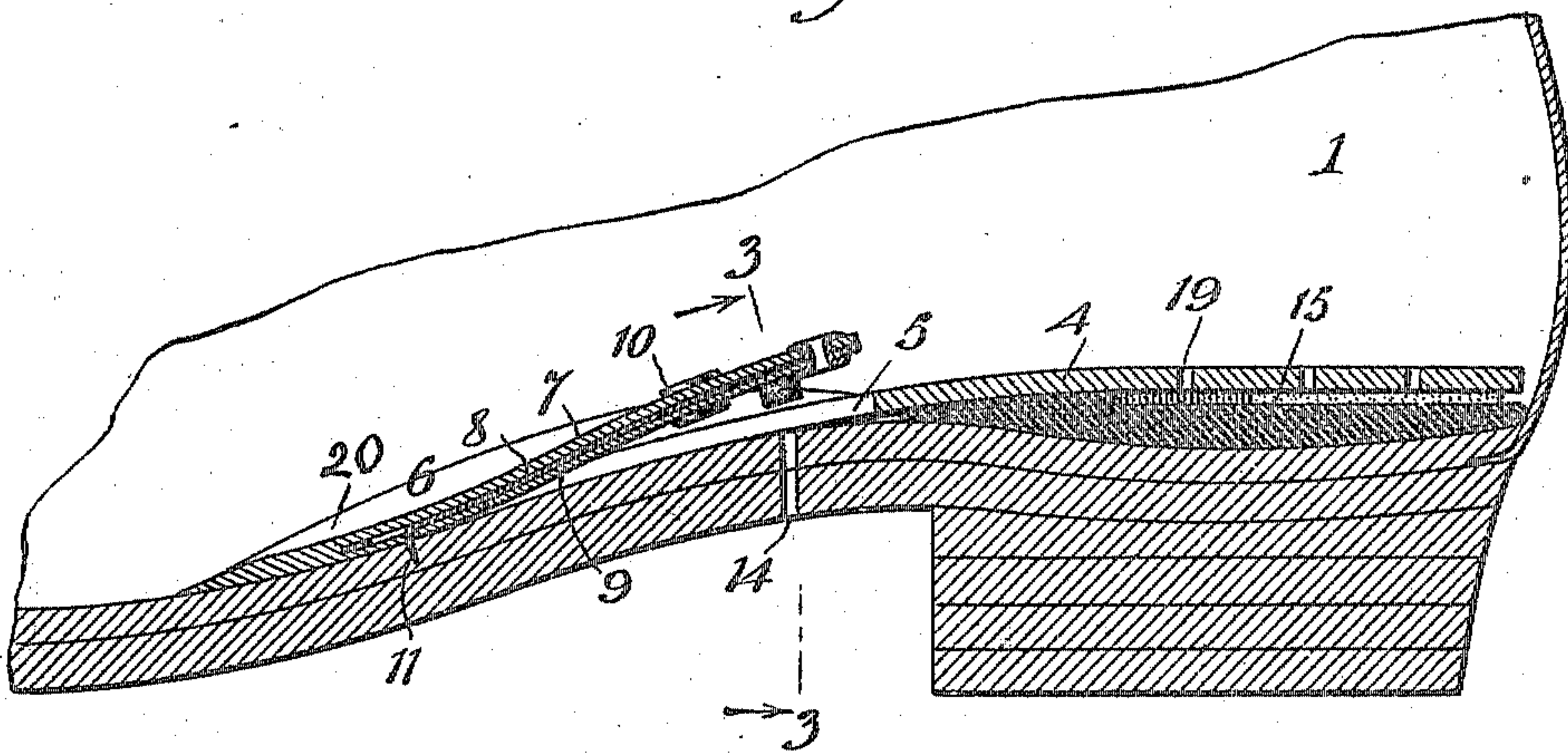
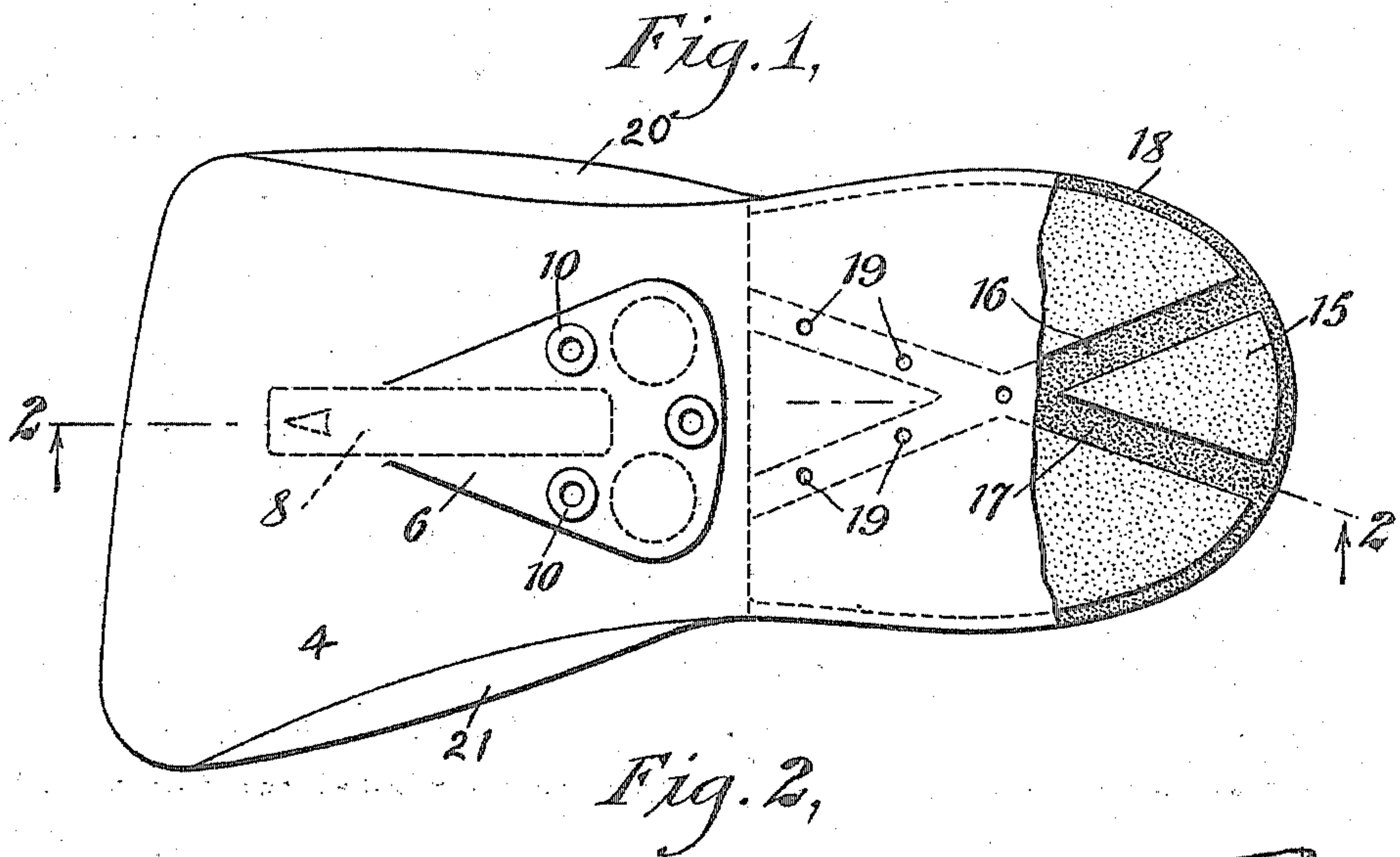


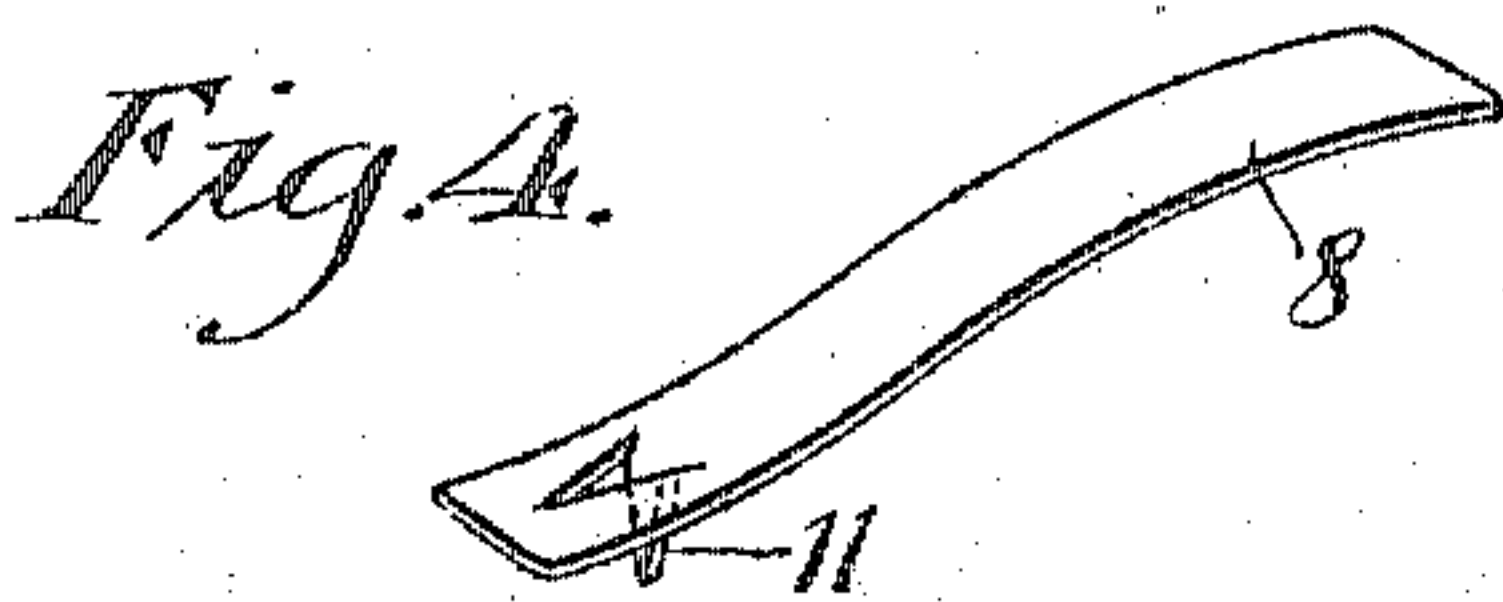
P. HAMMER.
ARCH SUPPORT, SHOE CUSHION, AND VENTILATOR.
APPLICATION FILED APR. 14, 1909.

951,605.

Patented Mar. 8, 1910.



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UNITED STATES PATENT OFFICE.

PETER HAMMER, OF MARLBORO, NEW YORK.

ARCH-SUPPORT, SHOE CUSHION, AND VENTILATOR.

951,605.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed April 14, 1909. Serial No. 489,833.

To all whom it may concern:

Be it known that I, PETER HAMMER, a citizen of the United States, and a resident of Marlboro, in the county of Ulster and State of New York, have invented a new and Improved Arch-Support, Shoe Cushion, and Ventilator, of which the following is a full, clear, and exact description.

This invention relates to an attachment to be placed within a shoe, near the heel thereof, and is adapted to form a resilient cushion for the foot and at the same time provide means for ventilating the shoe and for supporting the arch of the foot.

An object of this invention is to provide an attachment for the shoe which will comfortably support the arch or instep at all points, and will at the same time provide adequate ventilation for the interior of the shoe without admitting water from the streets in which the shoe might happen to be placed.

This and further objects, together with the construction and combination of parts, will be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a plan view of my device, partly in section to show the air channels; Fig. 2 is a vertical longitudinal section on the line 2—2 in Fig. 1; Fig. 3 is a vertical transverse section on the line 3—3 in Fig. 2; and Fig. 4 is a perspective view, showing the spring used to operate the valve.

Referring more particularly to the separate parts of the device, 1 indicates a shoe to which my device is attached.

The combined cushion and ventilator has a supporting member or insole 4 of any suitable material, preferably leather, which is adapted to fit over the arch of the instep of the shoe and extend into the heel cavity thereof. There is provided an opening 5 in the supporting member 4, which is located approximately over the center of the arch of the instep. In order to close the opening 5 in the supporting member 4, there is provided a valve 6, which consists of an upper member 7 formed of an upper layer of the supporting member, an intermediate spring 8, and a lower reinforcing plate 9, the whole being joined and secured together by

any suitable fastening device, such as eye-lets 10, which in this case also form ventilating apertures. The spring member 8 is curved in such a manner as to normally hold the valve 6 in its upper position (shown in Fig. 2), and has a downwardly-projecting point 11 struck out of its surface, which is adapted to pierce the sole of the shoe and prevent the whole device from shifting from its normal position.

The reinforcing member 9 may be made of any suitable material, such as copper plate, and is adapted to clamp between its upper surface and the lower surface of the upper part 7, on each side of the spring 8, a plurality of buttons 12, which are of any suitable material, preferably rubber, and have flanges 13, which are adapted to hold them to the valve 6 and permit the downwardly-extending portion of the buttons to project through openings in the reinforcing plate 9. Directly under the buttons 12, there are provided in the arch of the instep of the shoe a plurality of openings 14, which are adapted to be intermittently closed and opened by the buttons 12, and provide ducts for the purpose of admitting air to the interior of the shoe.

The portion of the supporting member 4 which projects over the cavity of the heel of the shoe is provided on its under surface with a cushion 15, which is of any suitable resilient material, preferably rubber, and has channels 16, 17 and 18 in its upper surface, the first two crossing each other at about the middle of the heel, and the last extending around the circumference of the heel.

There are provided in the supporting member 4 suitable perforations 19, which permit access to the channels 16, 17 and 18, and allow the air to go up into the interior of the shoe. The member 4 extends upwardly from the side at 20 and 21 to form an arch support.

The whole device is so constructed that it can be readily inserted in a shoe and also removed when it is desired to repair the shoe, so that it will not become jammed or battered out of shape during the operation of fixing new layers to the heel of the shoe. The point 11 grips into the sole of the shoe and prevents the device from shifting back and forth.

The device operates in such a manner that when the person lifts his foot, the valve 6

is raised by means of the spring 8 and permits air to come up through the openings 14 into the interior of the shoe. When, however, he steps down, the valve 6 is forced
 5 downwardly, forcing the air beneath it into the interior of the shoe, and at the same time causing the buttons 12 to close the openings 14, and thus preventing any water in which
 10 he might happen to step, from entering into the interior of the shoe. The cushion 15 breaks the force of the jar in walking, and at the same time, by means of its channels 16, 17 and 18, aids in distributing the air drawn in through the openings 14.

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

1. In a device of the class described, the combination with a shoe, having an opening
 20 in the sole thereof, of an in-sole for said shoe having an opening therein, a valve for said opening, said valve comprising an upper and a lower member, a button adapted to pierce said lower member and adapted to
 25 co-act with the opening in said shoe to close the same, and a flange on said button adapted to be secured between the upper and the lower members of said valve.

2. In a device of the class described, the
 30 combination with a shoe having an opening in the sole thereof, of an in-sole for said shoe having an opening therein, a valve for said last-mentioned opening, said valve comprising an upper member, a lower member,
 35 a spring secured between said upper and lower members, a button adapted to pierce said lower member, a flange on said button adapted to be secured between said upper and lower members, and an eyelet for se-
 40 curing said upper and lower members together.

3. In a device of the class described, the combination with a shoe having an opening therein, of an insole for said shoe having a large opening and a plurality of small open-
 45 ings, a valve for said large opening, a button on said valve adapted to co-act with the opening in the shoe, and a yielding channeled cushion for said in-sole, one or more of the channels in said cushion correspond-
 50 ing to the small openings in said in-sole.

4. In a device of the class described, the combination with a shoe having a plurality of openings therein, of an in-sole for said
 shoe having an opening therein, a valve for
 55 said opening in said in-sole, buttons on said valve adapted to close the openings in said shoe, and a yielding channeled cushion for said in-sole.

5. In a device of the class described, the
 60 combination with a shoe having an opening in the instep thereof, of an insole removably secured to said shoe, having an opening therein overlying the opening in said shoe, a flap-valve secured to said insole, adapted
 65 to close the opening therein, a button on said valve, adapted to close the opening in said shoe, and an arch-supporting portion on said insole.

6. In a device of the class described, the
 70 combination with a shoe, having an opening in the sole thereof, of a separate insole, having an opening therein, and a valve on said insole adapted to simultaneously close both
 75 of said openings.

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

PETER HAMMER.

Witnesses:

JOSEPH GREAVES,
 JOHN J. HILL.