

J. BALL.
 COMBINED SHOE SHANK AND VENTILATOR.
 APPLICATION FILED NOV. 16, 1906.

935,883.

Patented Oct. 5, 1909.

Fig. 1.

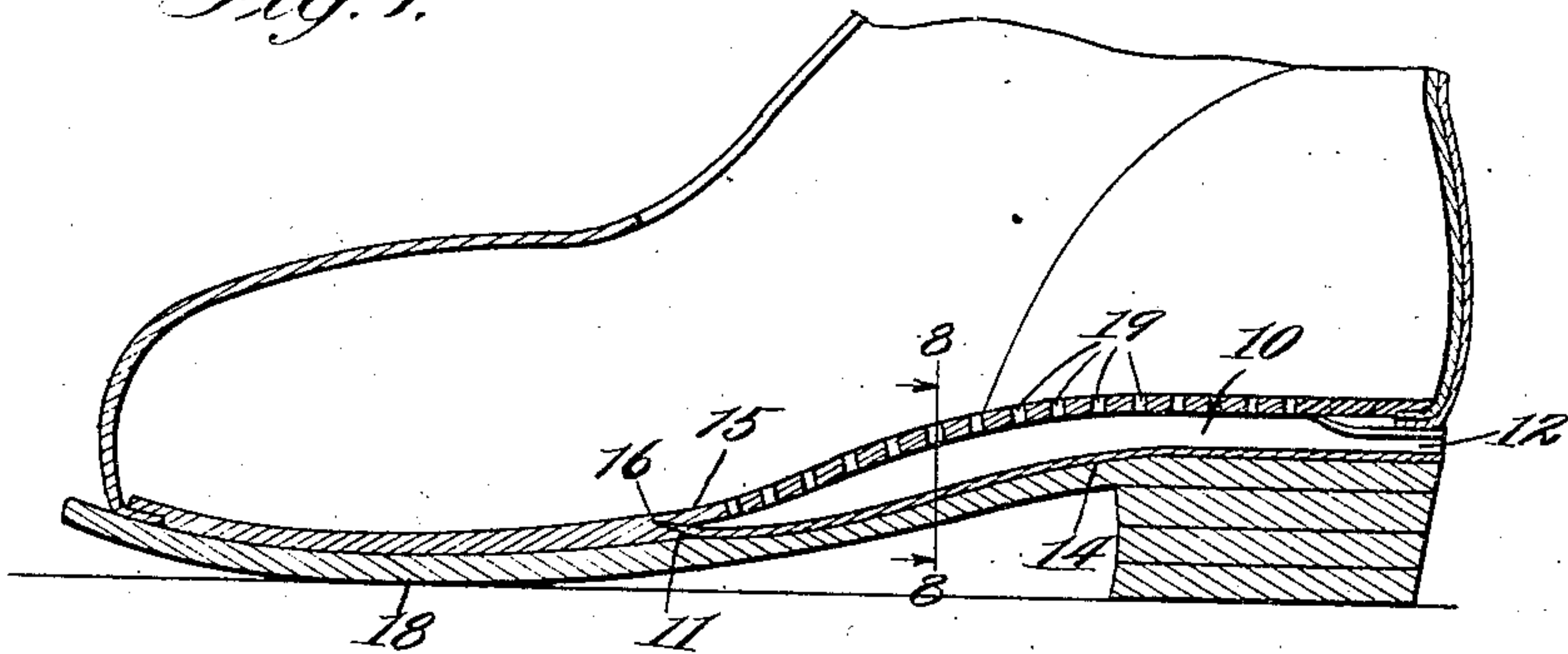


Fig. 2.

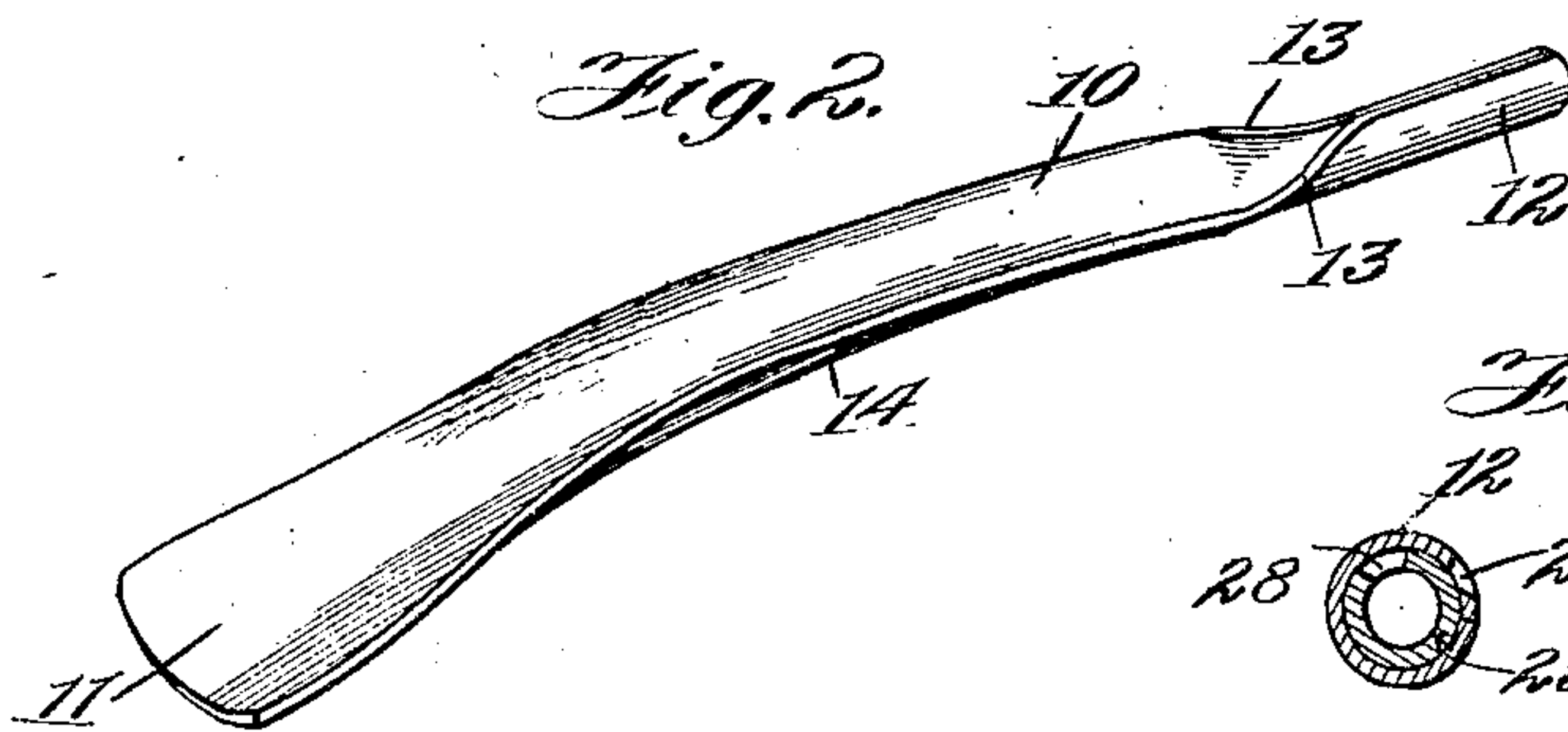


Fig. 7.

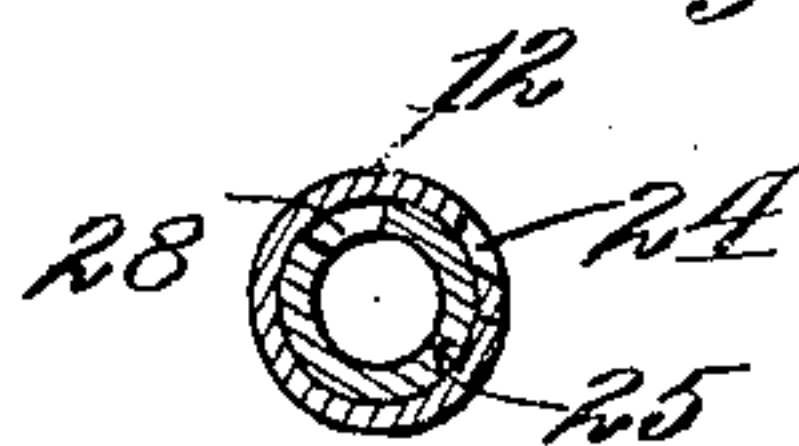


Fig. 3.

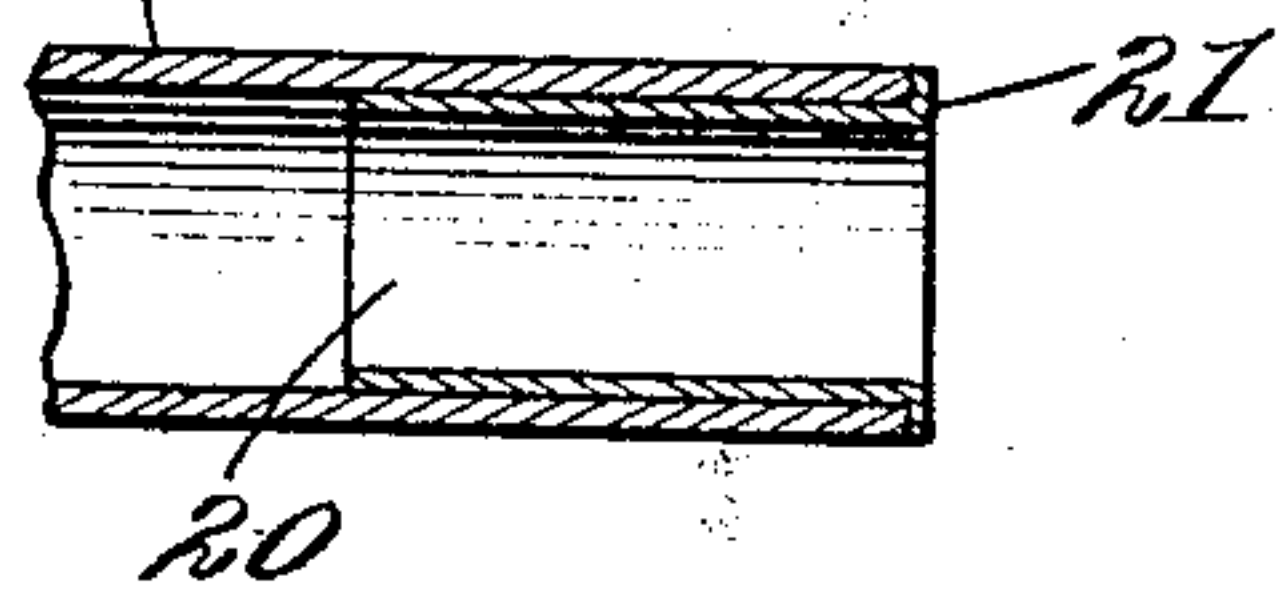


Fig. 4.

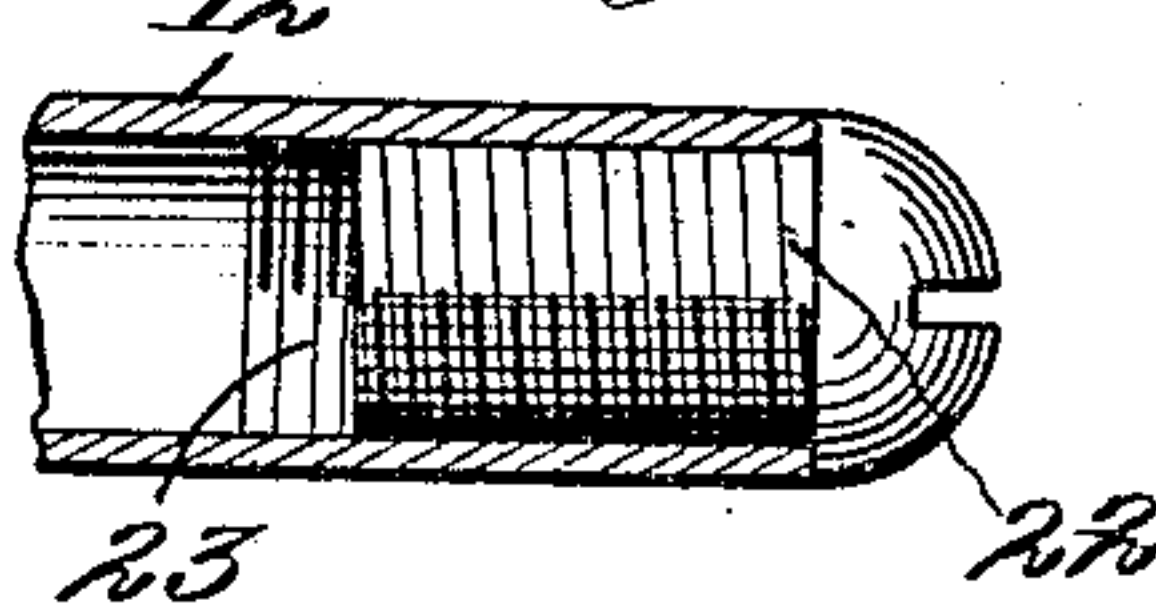


Fig. 6.

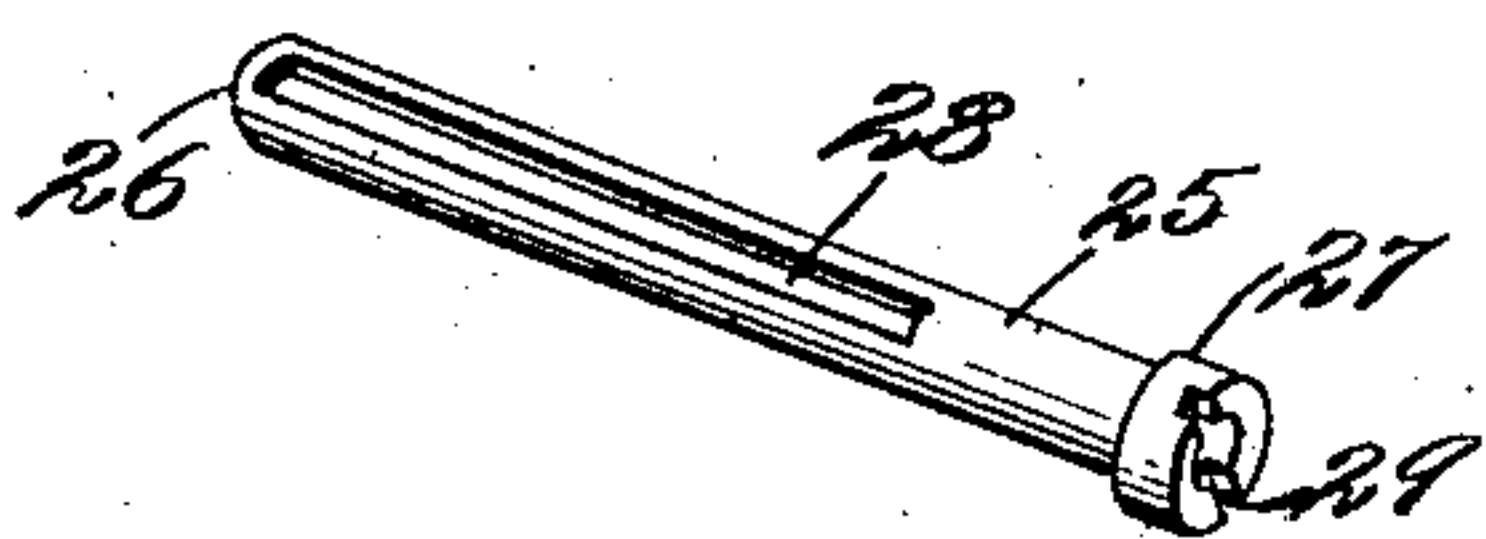


Fig. 5.

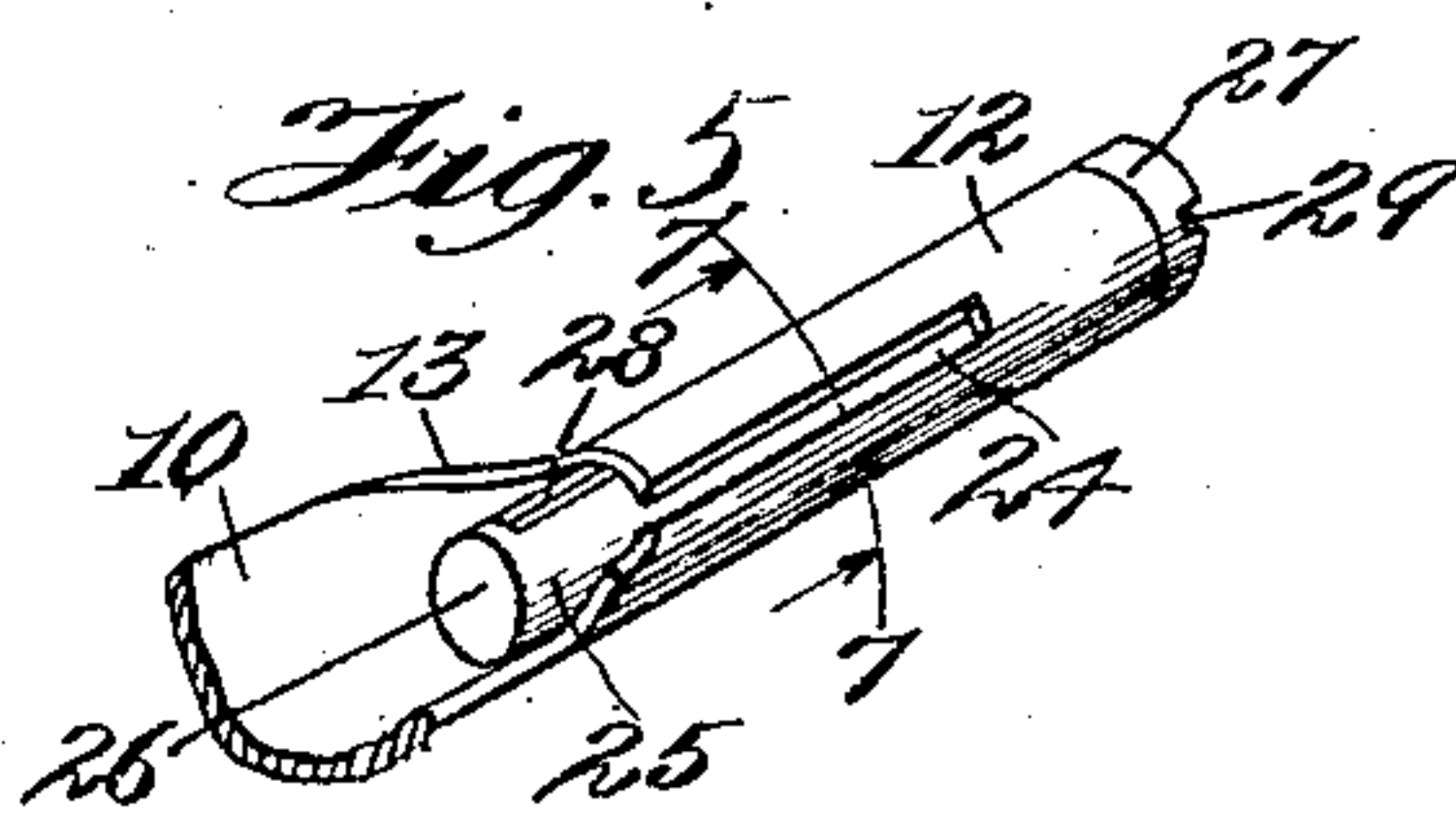
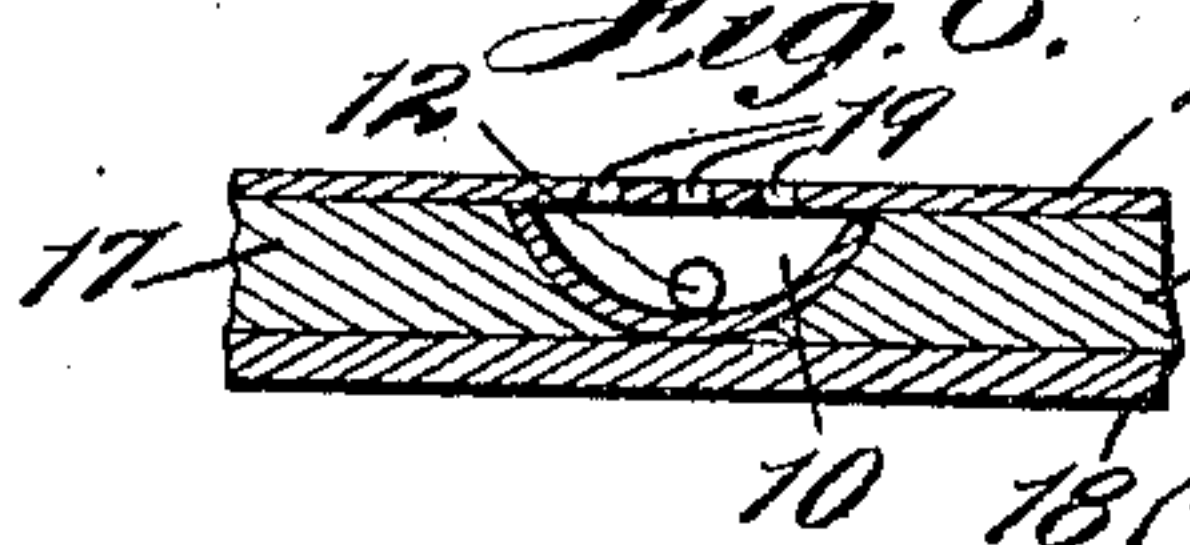


Fig. 8.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES BALL, OF CHICAGO, ILLINOIS.

COMBINED SHOE SHANK AND VENTILATOR.

935,883.

Specification of Letters Patent.

Patented Oct. 5, 1909.

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To all whom it may concern:

Be it known that I, JAMES BALL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Combined Shoe Shanks and Ventilators, of which the following is a full, clear, and exact specification.

It is well known that when the ligaments and supports of the instep are naturally weak, they easily give way, and in the instance of a person who is compelled to stand upon the feet for any length of time has a tendency to, and does make, the person what is termed "flat footed."

To overcome this difficulty and to provide an improved light and non-yielding support for the arch of the foot and the instep which will at the same time serve to ventilate the shoe is the primary object of this invention.

A further object is to provide an improved device of this character which may be readily inserted into the shoe while the same is being manufactured, and which may be readily closed to prevent the entrance of moisture in wet weather.

A further object is to provide an improved device of this character which will be simple, light and strong in construction, cheap to manufacture, and efficient in operation.

To the attainment of these ends and the accomplishment of other new and useful objects, as will appear, the invention consists in the features of novelty in the construction, combination and arrangement of the several parts hereinafter more fully described and claimed, and shown in the accompanying drawing illustrating the exemplification of the invention, and in which,—

Figure 1 is a sectional view of a portion of a shoe with this improvement applied thereto; Fig. 2 is a perspective view of an exemplification of this improved shank and ventilator; Fig. 3 is a detail sectional view of one manner of constructing the end of this improved shank and ventilator; Fig. 4 is a detail view, partly in section, of one form of closure for the exposed open end; Fig. 5 is a detail perspective view of a modified form of closure; Fig. 6 is a detail perspective view of the valve shown in Fig. 5; Fig. 7 is a sectional view on line 7—7 of Fig. 5; Fig. 8 is a detail sectional view on line 8—8 of Fig. 1.

Referring to the drawing, and in which the same reference numerals designate similar parts throughout the several views, the numeral 10 designates generally a continuous strip of suitable non-yielding material, such as metal or the like, bent or formed into a trough shape or channeled member, the top edges of the sides of which are substantially flush with each other. One extremity 11 of the member is preferably flattened to form a broad end, and the other end is preferably contracted and shaped into a tubular portion 12, of some length, which forms shoulders 13. This tubular portion communicates with and forms a continuation of the trough or channel. The body portion 10 is preferably arched or bowed upwardly, as at 14, between the shoulders 13, and the flattened portion 11 to conform to the arch of the foot.

In practice, this improved shank and ventilator is placed against the under face of the in-sole 15 in such a manner that the in-sole will form a closure for the trough or channel, and with the extremity of the tubular portion substantially flush with the rear end of the in-sole. The flattened end 11 may be secured to the in-sole in any desired manner, preferably by embedding the same in the in-sole, as shown at 16. A suitable filler 17 is provided to build up the lower face of the in-sole level with the bottom of the member 10, after which the sole 18 and shank and heel may be placed on in the usual manner, as more clearly shown in Fig. 8.

The in-sole 15 is provided with a plurality of apertures 19 passing therethrough directly over and communicating with the trough or channel in the member 10. This member 10 is preferably of such a length as to terminate short of the ball of the foot, so as not to interfere with walking, but is non-yielding and strong, and serves as a support for the arch of the foot. The suction caused by walking or the movement of the foot in the shoe, will draw air in through the open end of the tubular portion 12, which has communication with the outside air, and into the trough or channel, discharging the same through the apertures 19 into the shoe.

If desired, a ferrule or collar 20 may be inserted into the free end of tubular portion 12, (as shown in Fig. 3) so that the flange 21 may rest against the edge of said portion.

This collar or ferrule may be held in position in any suitable manner, such as by friction, and serves to protect the exposed end and give it a more finished appearance.

5 A suitable closure may be provided for the end of the tube to prevent the entrance of moisture if desired. A simple and efficient closure is shown in Fig. 4, and comprises a headed screw 22 which may be inserted into the end of the tubular portion, so that the threads thereon will engage similar threads 23 therein, and with the head engaging the extremity of said portion. A modified form of closure is shown in Figs. 5 and 6, and in this exemplification the tubular portion 12 is preferably smooth on the interior, and is provided with an elongated aperture or slot 24 passing through the wall thereof. A valve 25 is rotatively mounted in said portion and is held from displacement preferably by means of friction. This valve comprises a tubular body portion, the end 26 of which is closed, and a peripheral projecting flange or head 27 is arranged at the other end which is adapted to rest against the end of the tubular portion 12 when the valve is in position. The body portion 25 is preferably provided with a slot or aperture 28 intermediate its ends, and passing through the wall thereof, and is adapted to register with the slot or aperture 24 to permit the air which enters the end of the valve to be discharged through the registering apertures and into the shoe. When it is desired to shut off the supply of air, the valve may be rotated to move the slots or apertures out of register.

Any suitable means may be provided for rotating the valve, such as a transverse slot 29 in the head thereof, into which a tool or instrument may be inserted for this purpose. A shank and ventilator of this improved construction is not only light and strong, but is entirely concealed and serves as a support for the arch of the foot and the instep, and will support the in-sole and prevent it from being broken down, at the same time the shank and ventilator will not be crushed or mashed but will retain its proper shape, due to the fact that the pressure is exerted directly upon the tops of the walls of the groove or channel.

In order that the invention might be fully understood, the details of an embodiment thereof have been thus specifically described, but

What I claim is:—

1. A combined shoe shank and ventilator comprising a longitudinally arched body portion of channel formation, the sides of one end of the body being drawn together to form a tubular extremity communicating with the channel, said shank being adapted to be inserted between the insole and shank and heel of a shoe, the insole resting upon

the edges of the channel, and the tubular end having communication with the outside air.

2. A combined shoe shank and ventilator comprising a longitudinally arched body portion of channel formation, the sides of one end of the body being drawn together to form a tubular extremity communicating with the channel, said shank being adapted to be inserted between the insole and shank and heel of a shoe, the insole resting upon the edges of the channel and being provided with perforations communicating therewith, and the tubular end having communication with the outside air.

3. A combined shoe shank and ventilator comprising a longitudinally arched body portion of channel formation, the sides of one end of the body being drawn together to form a tubular extremity communicating with the channel, said shank being adapted to be inserted between the insole and shank and heel of a shoe, the insole resting upon the edges of the channel, the tubular end having communication with the outside air, the other end of the shank being flattened and resting against the insole.

4. A combined shoe shank and ventilator comprising a longitudinally arched body portion of channel formation, the sides of one end of the body being drawn together to form a tubular extremity communicating with the channel, said shank being adapted to be inserted between the insole and shank and heel of a shoe, the insole resting upon the edges of the channel, the channel having communication with the inside of the shoe and the tubular portion having communication with the outside air, and a closure for the tubular end.

5. A combined shoe shank and ventilator comprising a longitudinally arched body portion of channel formation, the sides of one end of the body being drawn together to form a tubular extremity communicating with the channel, said shank being adapted to be inserted between the insole and shank and heel of a shoe, the insole resting upon the edges of the channel, the channel having communication with the inside of the shoe and the tubular portion opening to the outside air, and means for varying the size of the opening.

6. A combined shoe shank and ventilator adapted to be inserted between the insole and shank and heel of the shoe, comprising a longitudinally arched substantially U-shaped body portion, the sides of one end being drawn together to form a tubular extremity, the insole being perforated and resting upon the sides of the body, the tubular end having communication with the outside air, the other end of the shank being flattened and embedded in the insole to form a closure for said end.

7. A combined shoe shank and ventilator adapted to be inserted between the insole and shank and heel of the shoe comprising a longitudinally arched substantially U-shaped body portion, the sides of one end being drawn together to form a tubular extremity, the insole being perforated and resting upon the sides of the body, the tubular end having communication with the outside air, the other end of the shank being flattened and embedded in the insole to form a closure for said end, and a closure for the tubular end.

8. A combined shoe shank and ventilator adapted to be inserted between the insole and shank and heel of the shoe comprising a longitudinally arched substantially U-shaped body portion, the sides of one end being drawn together to form a tubular extremity, the insole being perforated and resting upon the sides of the body, the tubular end having communication with the outside air, the other end of the shank being flattened and embedded in the insole to form a closure for said end, and a valve in the tubular end for varying the size of the opening of the tubular portion.

9. As a new and useful article of manufacture, a shoe shank comprising a substantially U-shaped and non-yielding imperforate body portion having a flattened and a tubular end.

10. As a new and useful article of manufacture, a shoe shank comprising an arched and non-yielding substantially U-shaped imperforate body portion having a flattened and a tubular end.

11. As a new and useful article of manufacture, a shoe shank comprising an arched and substantially U-shaped non-yielding imperforate body portion having a flattened end, the sides of the other end being drawn together or shaped into an integral tubular extremity which communicates with the U-shaped portion.

In testimony, whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 14th day of November A. D. 1906.

JAMES BALL.

Witnesses:

G. E. COMPTON,
J. H. JOCHUM, Jr.