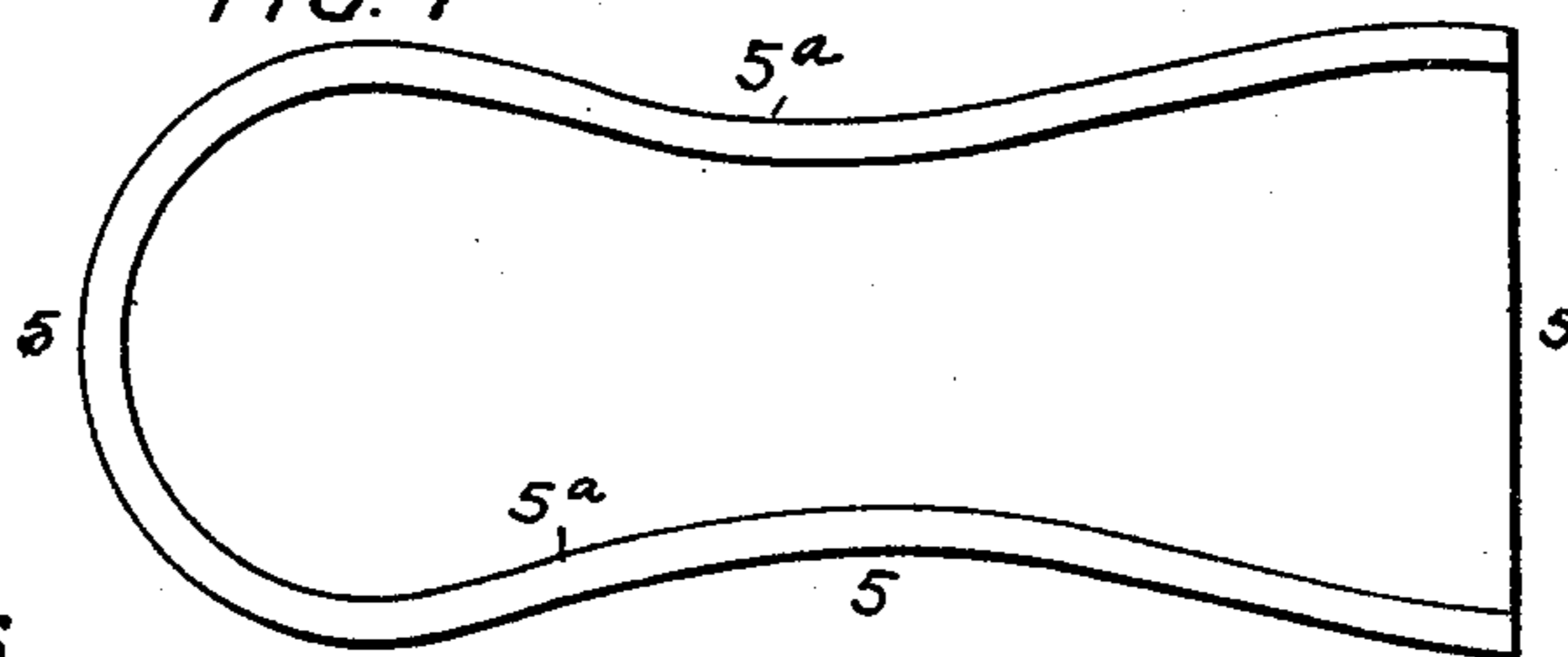
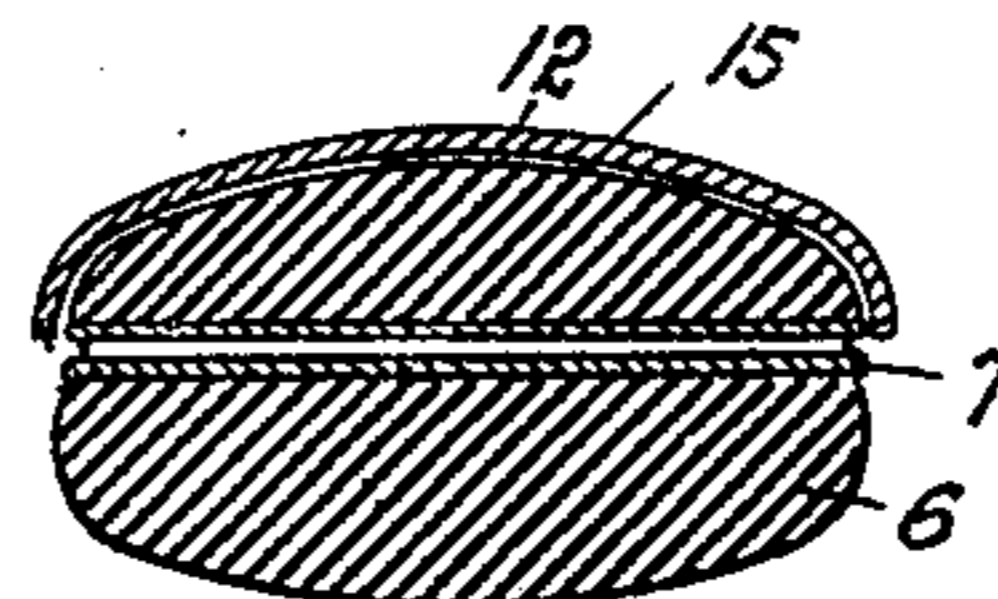
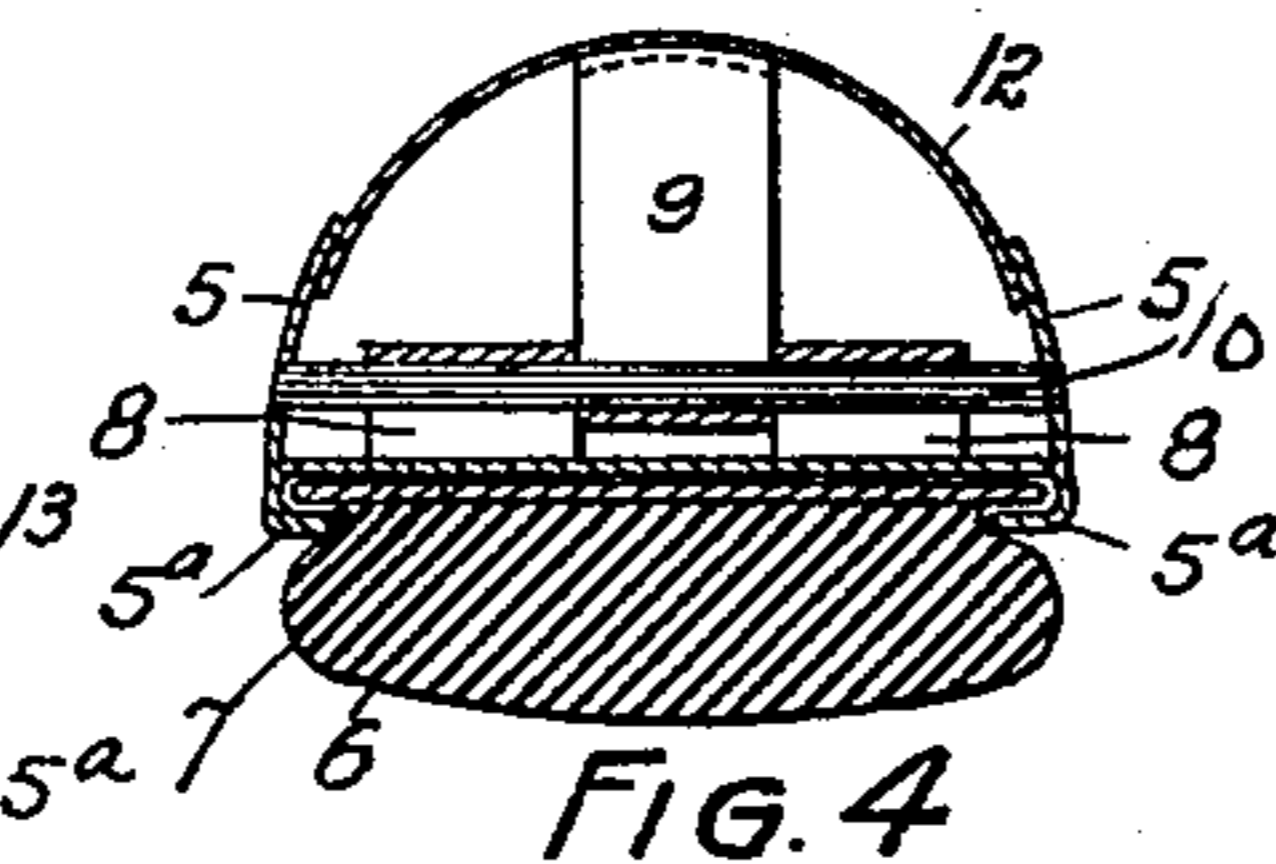
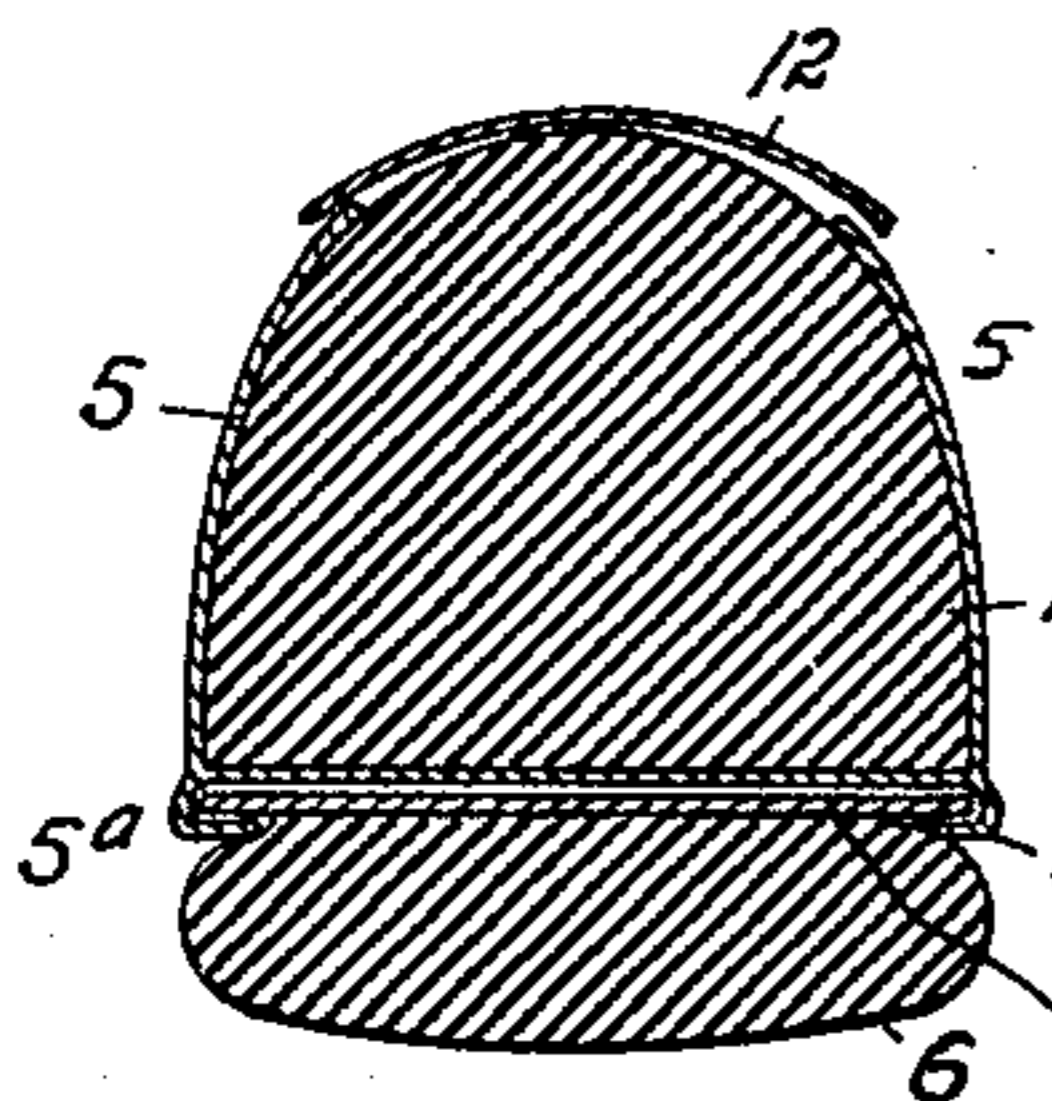
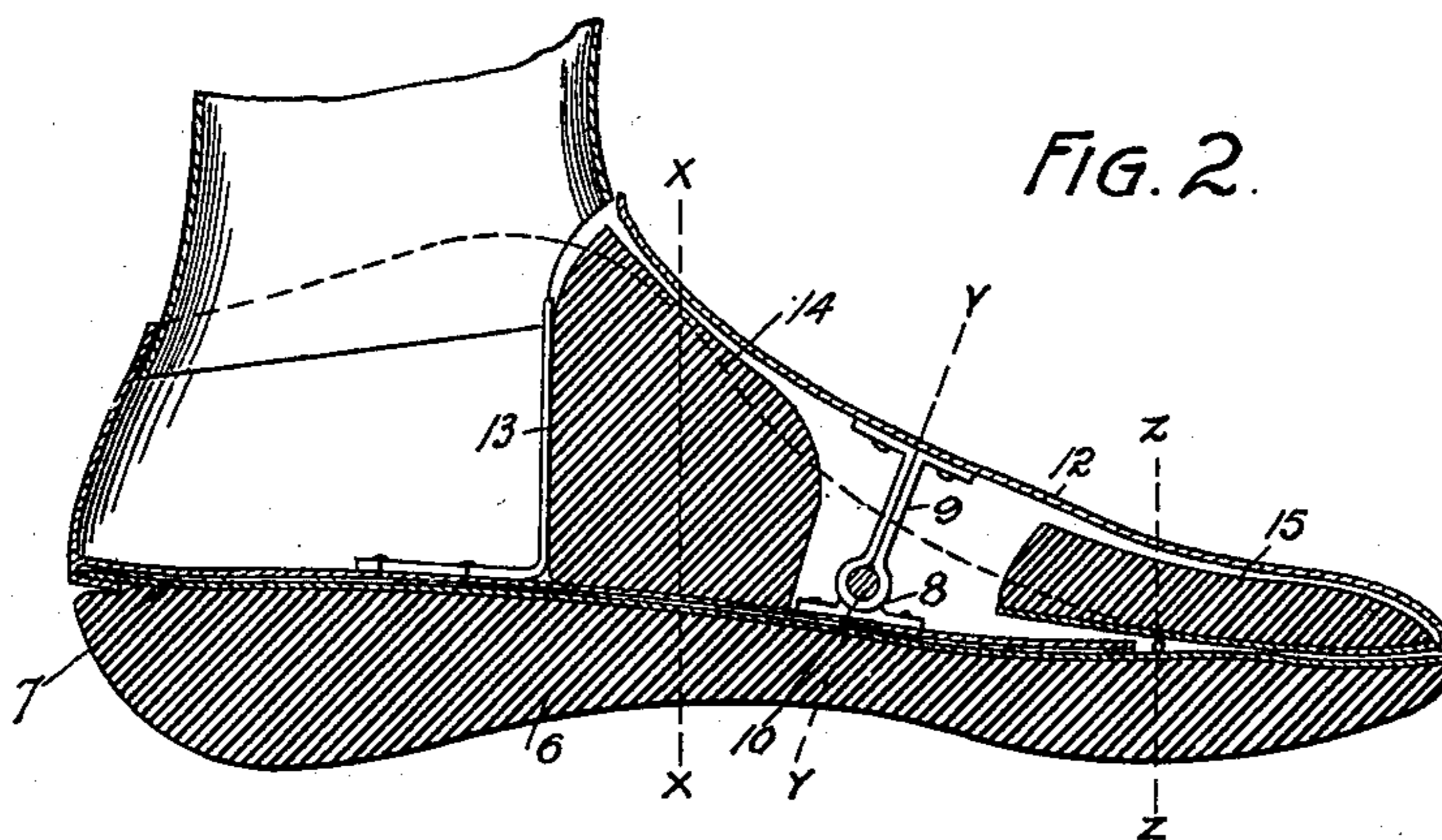
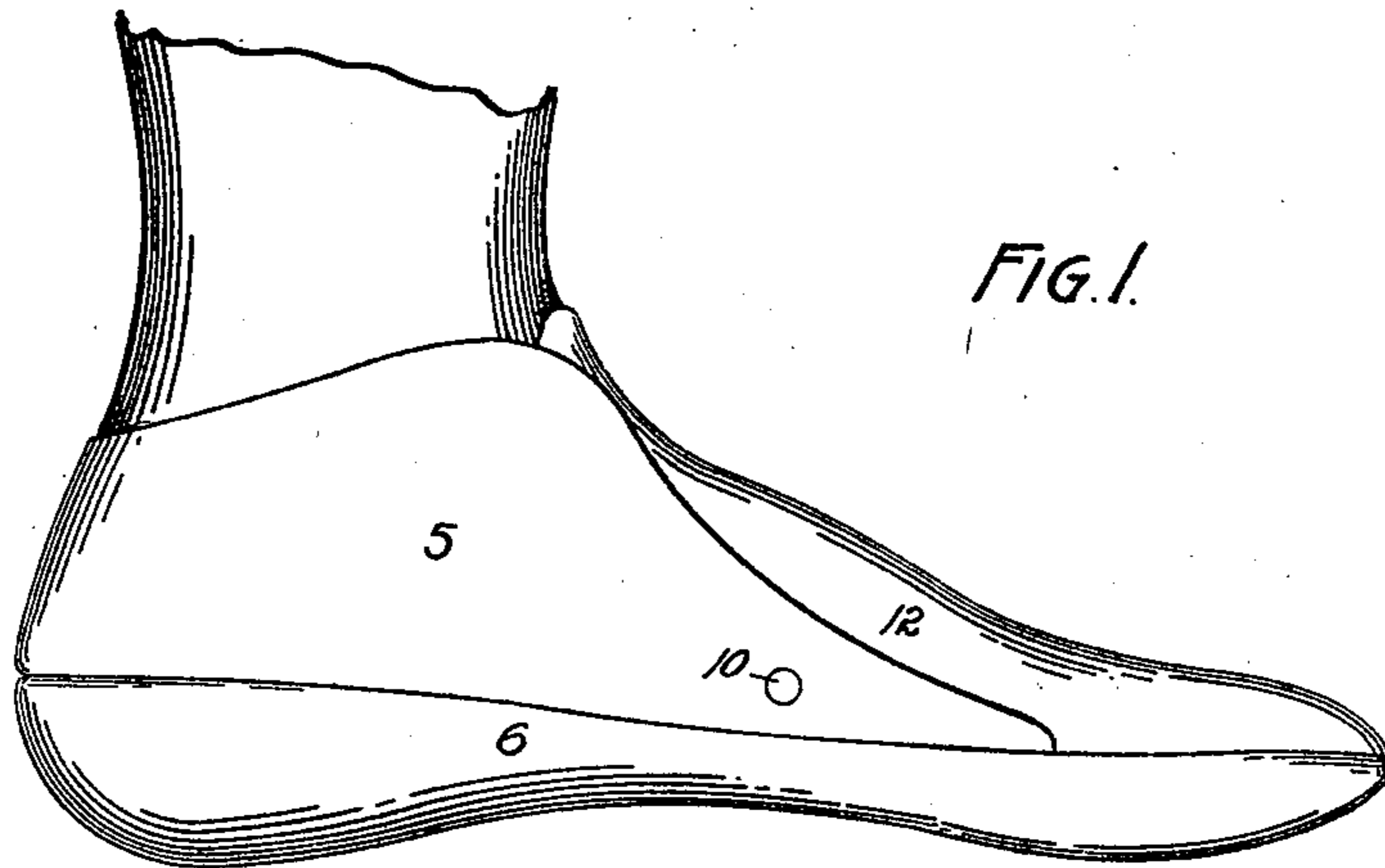


(No Model.)

J. F. READ.
ARTIFICIAL FOOT.

No. 594,121.

Patented Nov. 23, 1897.



Witnesses
J. F. Read
Edith K. Read

Inventor
John F. Read.
By his Attorney *J. F. Read*

UNITED STATES PATENT OFFICE.

JOHN F. READ, OF WALSENBURG, COLORADO.

ARTIFICIAL FOOT.

SPECIFICATION forming part of Letters Patent No. 594,121, dated November 23, 1897.

Application filed June 8, 1897. Serial No. 639,814. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. READ, a citizen of the United States of America, residing at Walsenburg, in the county of Huerfano and State of Colorado, have invented a certain new and useful Improved Artificial Foot; and I do declare the following to be a full, clear, and exact description of the invention, such as 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 figures of reference marked thereon, which form a part of this specification.

My invention relates to an improved artificial foot, my object being to provide a device of this class which shall be simple in construction, economical in cost, reliable, durable, and efficient in use; and to these ends the invention consists of the features, arrangements, and combinations hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side elevation of my improved artificial foot. Fig. 2 is a vertical longitudinal section taken through the center of the same. Figs. 3, 4, and 5 are sections taken on the lines xx , yy , and zz , respectively, of Fig. 1. Fig. 6 is an underneath view of the shell of the foot, the yielding or elastic sole or lower portion being removed.

Similar reference-characters indicating corresponding parts in the views, let the numeral 5 designate the shell, which is preferably composed of some suitable sheet metal, as aluminium. This shell is bent at the back and extends forward equally on both sides of the foot, its forward extremities terminating some distance to the rear of the toe. On the lower edge of this part 5 is formed an interiorly-projecting flange 5^a. The sole or lower portion 6 of the foot is composed of sponge-rubber or some other suitable yielding or elastic substance or device, which is secured to a sort of insole 7, preferably composed of thin leather cut to conform to the shape of the foot. This insole is securely cemented to the upper surface of the sponge-rubber bottom 6, except at the outer edges, where it is free to allow the flange 5^a of the shell to pass be-

tween the two parts 6 and 7. Hence the flange of the shell maintains the sole of the foot in place. This sole may be easily removed and applied to the shell by sliding the one part upon the other when the insole 7 and the flange 5^a are in the proper relative positions.

To the upper surface of the insole 7 and at a point, as shown in the drawings, slightly forward of its longitudinal center is attached a hinge member 8, which is connected with a depending hinge member 9 by means of a horizontal hinge-pin 10. The member 9 of the hinge is secured to the under surface of a plate 12, which is preferably composed of some suitable sheet metal, as aluminium. This plate 12 is so shaped as to give symmetry to the upper front portion of the foot. To the rear of the hinge composed of the members 8 and 9 and also attached to the upper surface of the insole 7 is a transverse vertical partition 13, which occupies a position between the two sides of the shell 5. Between the partition 13 and the hinge is placed a yielding or elastic substance or device 14, preferably composed of sponge-rubber. The rear portion of the plate 12 rests upon this yielding substance or device 14. The outer edge of the plate 12 is bent to occupy a position between the sides of the shell 5 to allow the plate the necessary movement or rocking motion as the wearer of the foot walks—that is to say, the plate 12 is allowed perfect freedom of movement between the two sides of the shell. Forward of the hinge and suitably attached to the upper surface of the insole 7 is a yielding pad 15, upon which the forward part of the plate rests. The rear portion of the shell 5 is rigidly attached to the lower portion of the artificial limb or to the stump of the natural limb, as the case may be.

All the yielding parts of the foot—as, for instance, the parts 6, 14, and 15—may, if desired, consist of springs. Hence it must be understood that I do not limit myself to the use of sponge-rubber or any other special material in the construction of the parts, since any material capable of performing the functions stated may be employed.

The construction of artificial foot herein described is intended, so far as may be, to allow the foot all the movements of a natural member. As the wearer presses on the toe

or forward portion of the foot while walking the forward portion of the plate 12 is raised or pressed upward, while its rear portion is depressed and caused to compress the yielding part or instep-spring 14, thus giving an equivalent to ankle-and-toe motion. As soon as the toe-pressure ceases the recoil of the instep-spring returns the plate 12 to its normal position. Hence the function of the rocking or hinge plate and the instep-spring is to give the foot all the necessary movements, and thus obviate the necessity of an ankle-joint in the artificial member.

This foot can be readily and firmly attached to the leg portion of any style of artificial limb.

Having thus described my invention, what I claim is—

1. In an artificial foot, the combination of the shell, the yielding sole suitably attached to the shell, the top plate hinged to the shell, a yielding substance or device supporting the top plate to the rear of the hinge, and a suitable pad or other support engaging the said plate forward of the hinge.

2. In an artificial foot the combination of the shell having a flange on its lower edge, the sole composed of a yielding body portion, and an insole attached thereto but loose at

its edges to allow the flange of the shell to pass between the insole and the said body portion, a plate hinged to the shell and forming the front portion of the foot, a suitable yielding substance or device supporting the said plate to the front and rear of the hinge, and a suitable partition attached to the top of the sole and forming a stop against the backward movement of the yielding substance or device which engages the rear portion of the hinged plate.

3. An artificial foot composed of a shell, an elastic or yielding sole detachably applied to the shell, a hinge member applied to the upper surface of the sole, a plate forming the front portion of the foot, a depending hinge member attached to said plate, a pin connecting the two hinge members and engaging apertures in the shell, and a suitable substance or device resting on the sole and supporting the said plate in the front and rear of the hinge.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN F. READ.

Witnesses:

A. J. O'BRIEN,
ISHAM R. HOWZE.