

1,082,256.

Patented Dec. 23, 1913.

2 SHEETS-SHEET 1.

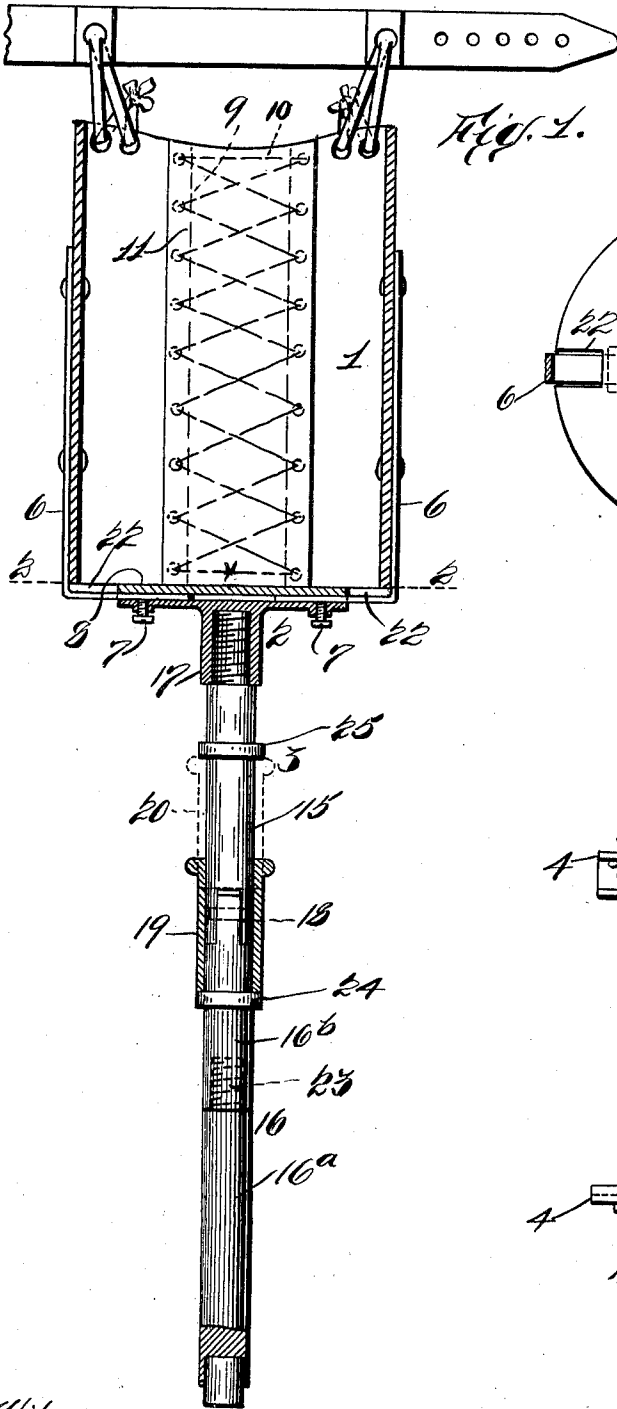


Fig. 1.

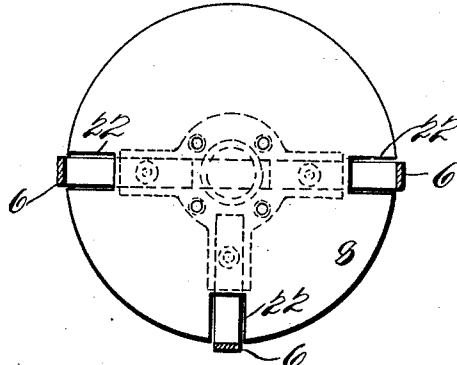


Fig. 2.

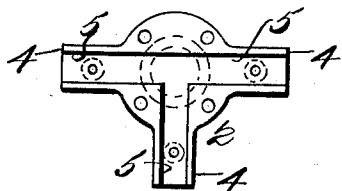


Fig. 3.

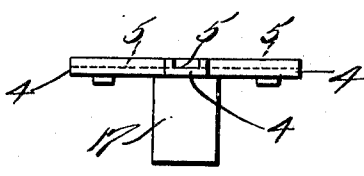


Fig. 4.

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 2 SHEETS—SHEET 2.

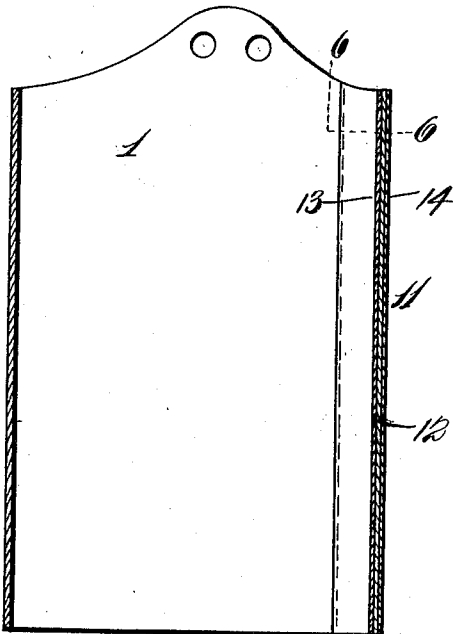


Fig. 5.

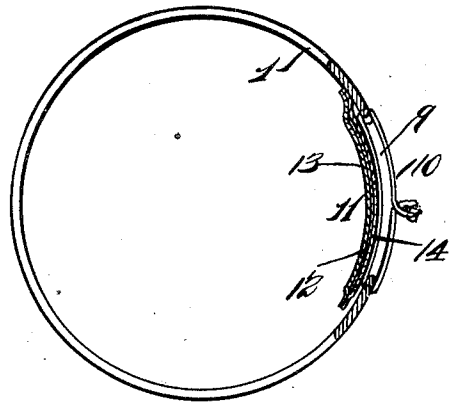


Fig. 6.

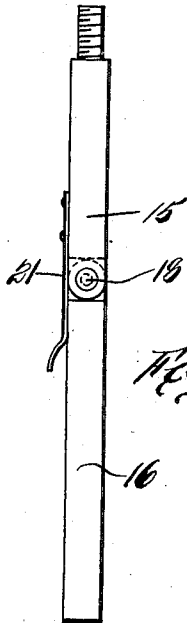


Fig. 7.

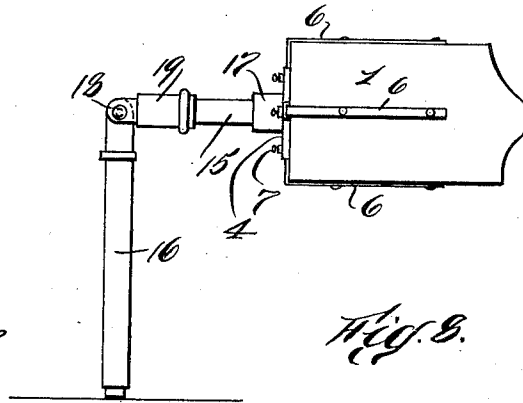


Fig. 8.

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# UNITED STATES PATENT OFFICE.

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## ARTIFICIAL LEG.

1,082,256.

Specification of Letters Patent.

Patented Dec. 23, 1913.

Application filed May 15, 1913. Serial No. 767,788.

*To all whom it may concern:*

Be it known that I, JOHN T. APGAR, a citizen of the United States of America, residing at New York city, borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Artificial Legs, of which the following is a full, clear, and exact description.

This invention relates to improvements in artificial legs, but more particularly to that branch of this art known as test-legs. Test-legs, while they perform all the functions of artificial legs, are intended for temporary wear during the treatment of the stump after amputation. After the stumps are treated and become seasoned, the permanent artificial leg is applied thereto.

The test leg, comprising my invention, consists of a corset and a support therefor, the said corset being adapted for application to the stump, and the support for the corset acting to enable the wearer to walk while the stump is still in course of treatment. After the amputation of the limb, certain medicaments are applied to the stump to season the same. The medical treatment usually not only cures the wound, but also tends to shrink the said stump. The corset of the said leg performs an important function in the treatment of the stump, as it is tightly laced thereto and acts to contract the stump-portion of the limb. Hence, from time to time the corset has to be adjusted to fit the stump which is constantly shrinking until it reaches its final healed condition.

To adapt the corset for adjustment is one of the features of my invention.

A further feature of my invention consists of an adjustable supporting bracket for the corset.

Other features of improvement will hereinafter appear.

I will now proceed to describe my invention in detail, the novel features of which I will point out in the appended claims, reference being had to the accompanying drawings, wherein:—

Figure 1 is a vertical sectional view, partly in elevation, of my improved artificial test-leg; Fig. 2 is a plan view thereof, partly in section, Fig. 3 is a top plan detail view of a supporting bracket which forms part of my invention; Fig. 4 is a side view thereof; Fig. 5 is a vertical sectional view of the corset-member, showing the rein-

forced apron therefor; Fig. 6 is a top plan view thereof, partly in section, the section being taken on a line 6—6 in Fig. 5; Fig. 7 shows a modified form of supporting rod for the corset; and Fig. 8 is a diagrammatic view showing the position of the parts of the test-leg, while the wearer thereof is in a sitting position.

My improved test-leg, as herein illustrated, consists of a corset-member 1, a supporting bracket 2 therefor, and a rod 3 which is adapted to take the weight of the wearer. As can be seen in Figs. 2 and 3, the bracket 2, in this instance, consists of a plurality of arms 4, provided with grooves or guides 5, in which braces 6 are adapted to slide, the said braces being held in an adjusted position (in this instance) by set-screws 7. As can be seen in Figs. 1 and 2, a plate 8 is secured to the bracket 2, the said plate acting as a bottom for the corset 1 as well as a cover for the grooves 4 in the bracket 2. As shown in Fig. 1, one leg of each brace 6 is secured to the corset 1, the said corset being open at the point 9 (see Fig. 6) and adjusted by means of laces 10. The opening or gap 9 of the corset 1 is covered by an apron or tongue 11, the function of the apron being to prevent the flesh from protruding into the gap 9 of the corset 1, when the corset is drawn tightly around the stump.

While the function of the apron 11 is to prevent the flesh from protruding into the gap 9, it does not always successfully do so, for the reason that the material of the apron is usually thin and the flesh will crease and force it into the gap. To prevent the above action on the part of the apron, I preferably reinforce the same by means of a thin metallic plate 12, such for instance as aluminum, the said plate being interposed between the members 13 and 14 of the corset. The stiffening plate 12 will prevent the material of the apron from being forced into the gap 9. Referring to the support 3 of my improvement, it consists, in this instance, of two pivotally connected rods 15 and 16, the rod 15 being secured to or carried by the lug or projection 17 on the bracket 2. The rod 15 may be threaded or forced into the lug 17.

One of the features of my invention is to adapt the support for the corset to be reduced in length while the wearer is sitting. To obtain this result I preferably pivotally

connect or hinge the rods 15 and 16. In this instance the rods 15 and 16 are pivotally connected as at 18, in order that, while the wearer is sitting, the rod 16 may be moved downwardly so as not to project beyond the natural leg.

To hold the rods 15 and 16 rigid, while the wearer of the leg is walking or standing, I employ a locking device which is constructed to positively secure the rods 15 and 16 together, the said locking device being movable or adapted to disconnect the lower rod. The locking device which I have herein illustrated comprises a slidable sleeve 19, which is adapted to cover the joint 18 when in its lowermost position, and to clear the joint 19 when in its uppermost position (see dotted lines 20, Fig. 1).

Should the wearer of the test-leg desire to sit down, he or she would simply manipulate the sleeve or locking device 19 and draw it upwardly and away from the joint 18, which will permit the rods 15 and 16 to fold, so to speak, and assume the position shown in Fig. 8. After the wearer has risen from a sitting to a standing position, the sleeve or locking device 19 will fall by gravity into the position shown by full lines in Fig. 1. A little practice will enable the wearer to cause the sleeve 19 to fall into place by gravity. For example, if the wearer of the leg will keep the rod 16 upon the ground while rising, it will, for that reason, be kept in a vertical position, the rod 15 swinging upon the pivot joint 18. When the rods 15 and 16 have aligned, the sleeve 19 will fall into position. To limit the downward movement of the locking sleeve 19, I provide a stop 24, and to limit the upward movement of the sleeve, I provide a stop 25. By means of my improved lock, which is virtually an automatic locking device, the wearer of the test-leg has merely to pull the sleeve upwardly before or just after sitting down.

Fig. 7 illustrates another form of locking device, which consists of a spring 21 which is carried, in this instance, by the rod 15 and bears against the rod 16. The pressure of the spring will keep the members 15 and 16 in an aligned position, or in a so-to-speak folded position. Before sitting down, the wearer of the leg will have to slightly lift the spring to relieve the pressure upon the rod 16.

A very important feature of my invention resides in the adjustable bracing of the corset 1, to permit the corset to be adjusted, and at the same time maintaining the bracing thereof. To accomplish this result the braces 6 are adapted to be moved inwardly or outwardly in the grooves 4 in the bracket 2, the plate 8 being slotted as at 22, Fig. 2, to permit of the inward movement of the

said braces 6. As has been stated, the plate 8 is secured to the bracket 2. The reason for providing the plate 8 is to form a bottom for the corset 1 and cover for the slots 4, and as the said plate is removably secured to the bracket 2, it may be removed and a larger or smaller plate substituted therefor, that is to say, larger or smaller in diameter. Hence, the bracket 2, the support 3, and braces 6 may be used for different sized corsets; for instance, supposing a certain corset and the support were being used for a stout person, the same support, braces and bracket could be used for a slender person by merely adjusting the corset, that is to say, lacing it and moving the braces inwardly after the set-screw 7 has been released.

While in practice, the same corset is rarely used for more than one person, I can, nevertheless, by substituting a new corset, use the same braces and support. As test-legs are usually supplied by the maker of artificial legs to his patrons free of charge, it is highly important that such a test-leg should be made as cheaply as possible, and if I am able to provide a test leg which may be applied to any person, I have accomplished an advantageous advance in this art. If a manufacturer cannot use the same test-leg for different people, that is, exclusive of the corset, he must make a different leg for each one of his patrons and throw it away after its use is unnecessary.

To accommodate the leg for persons of different heights, I prefer to make the lower rod 16 in a plurality of sections, one section 16<sup>b</sup> being pivotally secured to the rod 15, and the other section 16<sup>a</sup> being detachably secured to the section 16<sup>b</sup> as at 23. Should I desire to adapt the leg for a short person, I would insert a section 16<sup>a</sup> of the proper length. For a taller person a longer section 16<sup>a</sup> would be substituted.

Having now described my invention, what I claim and desire to secure by Letters Patent is:

1. An artificial leg comprising a corset, a bracket, braces adjustably secured to said bracket and secured to said corset, and a support secured to said bracket.

2. An artificial leg consisting of a corset, a bracket provided with grooves, a plate carried by said bracket, braces slidably secured in said grooves and secured to said corset, and a support for said leg.

3. In combination with an artificial leg, a foldable support therefor comprising hinged rods, and a resilient locking device for said support located at the joint thereof.

4. In combination with an artificial leg, a foldable support, and a lock adapted to hold said support in an extended position, said lock comprising a spring, one end of which is

secured to one member of said support, the free end of said spring bearing against the other member of said support.

5 5. An artificial leg consisting of a corset, a bracket provided with grooves, a plate carried by said bracket, braces slidably secured in said grooves and secured to said corset, and a support for said leg, one end of said support being provided with threads adapted to be screwed into said bracket.

10 6. A corset for artificial legs consisting of a band adapted to partially surround the leg, there being a gap between the adjacent ends of said band, an apron secured along one edge thereof to said band adjacent one of the

vertical edges thereof and adapted to overlap the gap between the edges of said band, a metallic reinforcing strip on said apron, and means to draw the ends of the band together.

7. An artificial leg consisting of a corset, a bracket, braces slidably secured to the bracket, a support for said braces and means for locking the braces in adjusted positions.

Signed at New York city, N. Y., May, 1913.

JOHN T. APGAR.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."