No. 773,199. PATENTED OCT. 25, 1904.

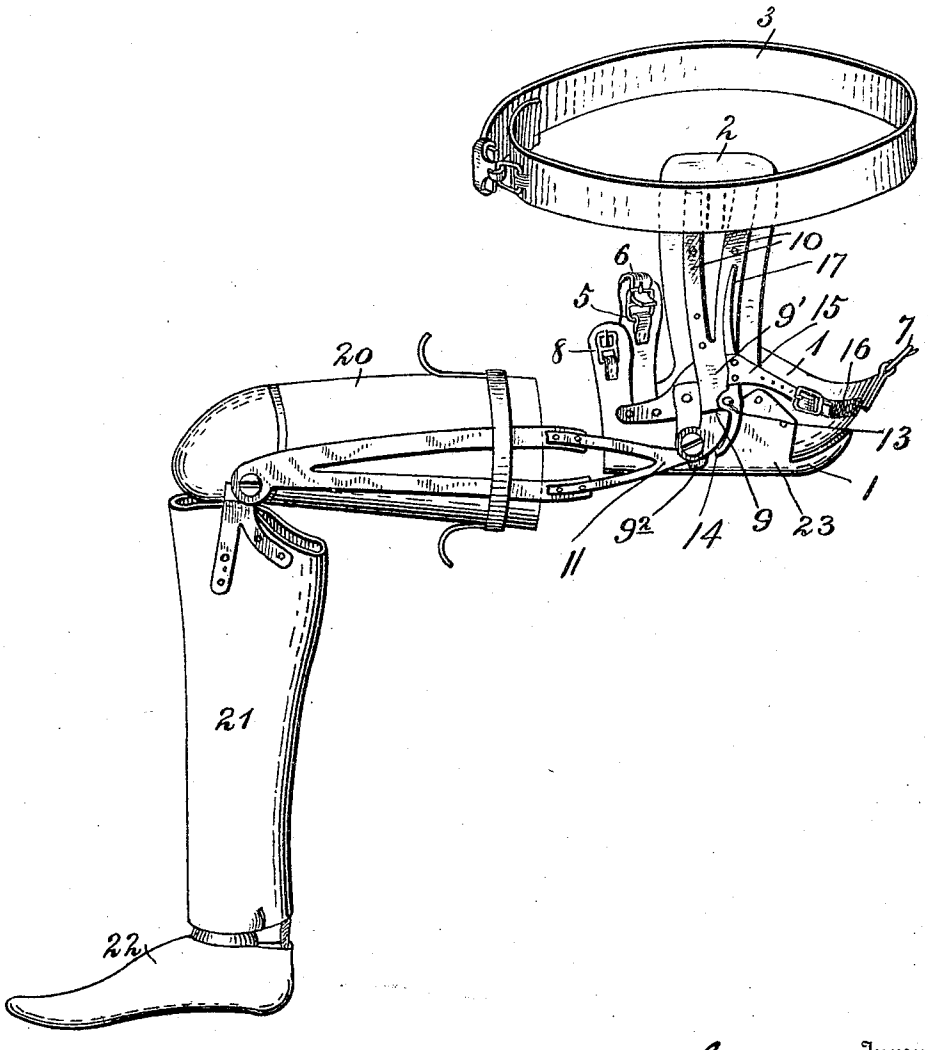
J. R. CUNNINGHAM.

ARTIFICIAL LIMB.

APPLICATION FILED MAY 14, 1904.

NO MODEL. 3 SHEETS—SHEET 1.

Fig. 1.



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NO MODEL. 3 SHEETS—SHEET 2.

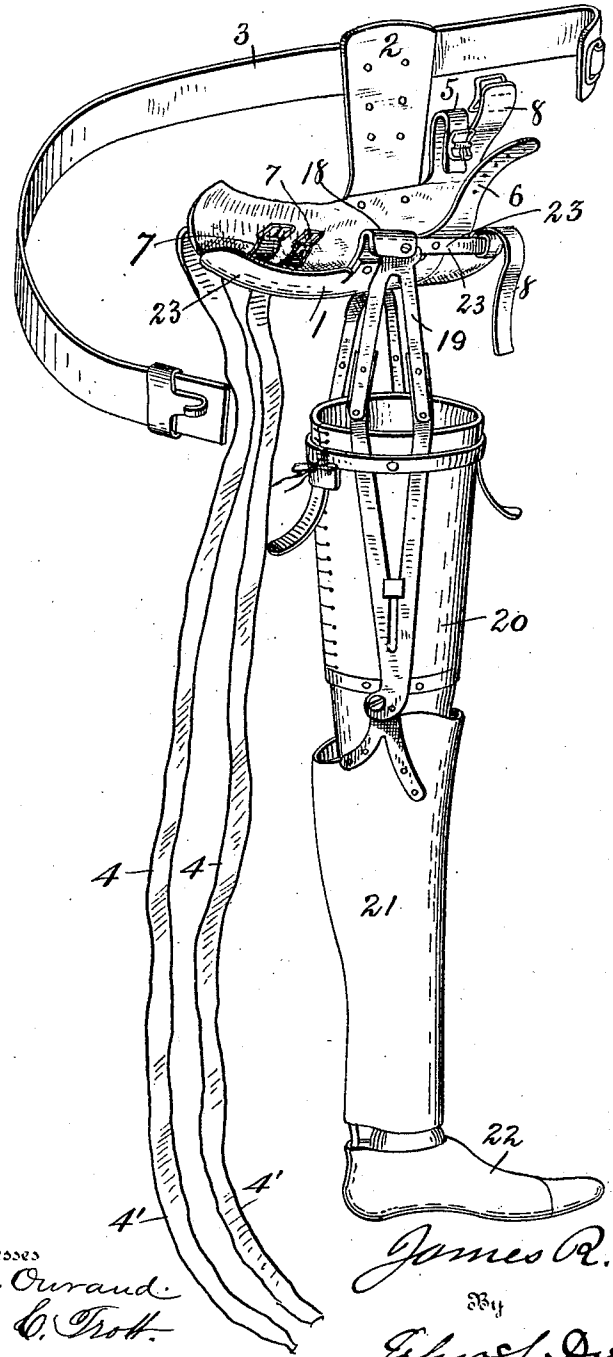


Fig. 2.

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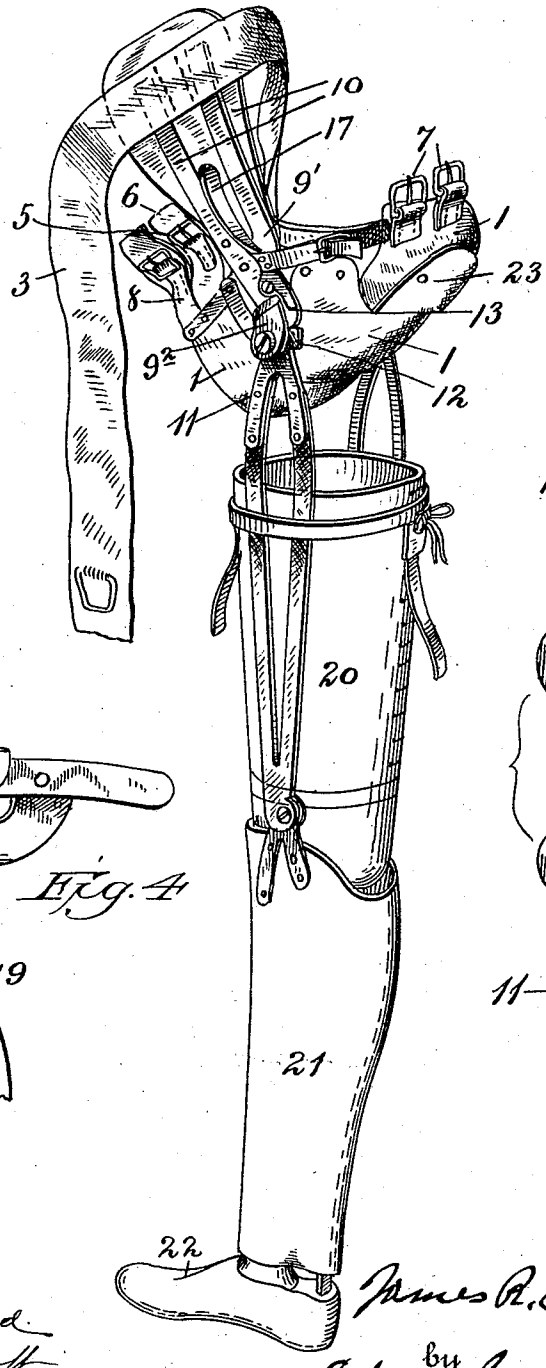
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NO MODEL. 3 SHEETS—SHEET 3.

Fig. 3.



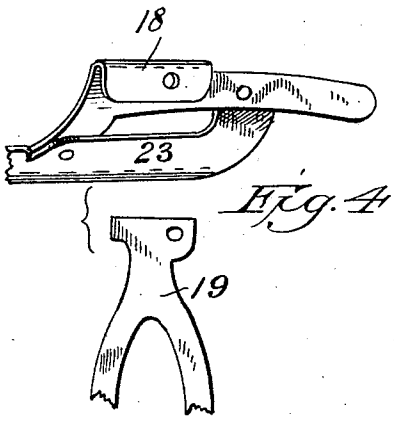


Fig. 4.

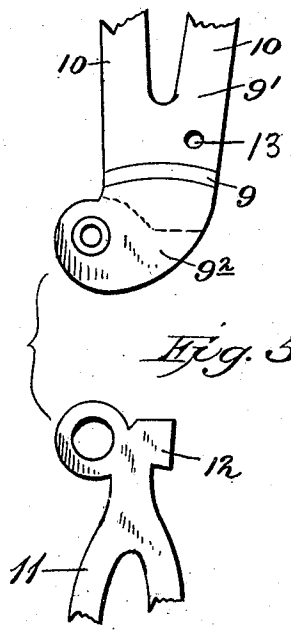


Fig. 5.

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UNITED STATES PATENT OFFICE.

JAMES R. CUNNINGHAM, OF GALESBURG, ILLINOIS.

ARTIFICIAL LIMB.

SPECIFICATION forming part of Letters Patent No. 773,199, dated October 25, 1904.

Application filed May 14, 1904. Serial No. 207,939. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. CUNNINGHAM, a citizen of the United States, residing at Galesburg, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Artificial Limbs; 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 has relation to artificial limbs; and it consists in a hinged hip-socket with side braces, having a shoulder on one of its hinges to prevent the joint from swinging or giving farther backward than to a perpendicular line, together with straps, buckles, and harness necessary to secure the socket to the body and an artificial leg to the socket.

In the accompanying three sheets of drawings, Figure 1 is a perspective view showing the position of the socket and the artificial leg when the wearer is seated. Fig. 2 is a perspective view showing the inside of the hip-socket in the position it assumes when the wearer is standing erect. Fig. 3 is a perspective view showing the front end of the socket tilted up to show the bottom thereof. Fig. 4 shows the bearing for the inside hinge which attaches the artificial leg to the socket, together with the hinge, part of its arms being broken away. Fig. 5 is a face view of the bearing for the hinge on the outer side of the socket, its arms partly broken away, and of the shouldered hinge, its arms being partly broken away. The first three figures also show the artificial limb attached.

This invention is only intended for use by those persons having a stump which is short and serves to give such persons the power of locomotion on an artificial limb by motion of the body, the stump at all times resting in the socket as if the person were seated, thereby relieving the tender portion of the stump from pressure or irritation, as well as from slipping in or out of the socket when seated or rising.

My invention is described as follows: The numeral 1 represents the socket. The socket is made rounding at its bottom and turns up slightly at its rear end to fit the stump at the hip, the hip and stump resting in the socket. Integral with and rising from the outer wall of the socket is a brace 2. This brace extends up one side of the body of the wearer and has secured to it a band 3, which is buckled around the waist and holds the brace, and thereby the socket, in position. The socket is always in the position in relation to the body as shown in Figs. 1 and 2—that is to say, the longer axis of the socket is always substantially at a right angle to the longer axis of the body of the wearer, no matter whether the wearer is sitting or standing. The socket is further secured in place by additional straps or suspenders 4.

To the front end of the socket and immediately in front of the brace 2 is secured a strap and buckle 5 and a corresponding tongue-strap 6. These two are buckled together over the stump.

To the rear part of the socket is secured two other straps and buckles 7, and to these straps and buckles are buckled the above-mentioned suspenders 4. These suspenders pass over the shoulders and down in front, and their tongue ends 4′ are buckled into additional straps and buckles 8. These straps and buckles 8 are secured to the front end of the socket and immediately in front of the straps 5 and 6.

Secured to the outer face of the outer wall of the socket is a bearing 9, its inner plate 9′ having two upwardly-extending arms 10, which are secured to the brace 2. Its outer plate 9^2 is secured to the inner plate, leaving, however, between the two plates near their lower ends a space, and between these two plates and in this space is hinged a hinge 11, having a shoulder 12.

Hinged to the plate 9′ through the perforation 13 is a lock-lever having a bill or catch 14, adapted to catch under the shoulder 12 of the hinge 11 and prevent said hinge from turning forward when the person is standing erect. To hold said lock-lever in position, there is secured to it above its hinge-point a strap 15, and to this strap 15 is secured one

end of an elastic strap 16, the other end being secured to the rear end of the socket. When the wearer wishes to turn the leg forward, he presses the handle 17 of said lock-lever forward, and this releases the catch 14, and when the pressure on the handle 17 is relieved the elastic strap operates to throw the catch back in position.

Secured to the outer face and inner wall and immediately opposite the bearing 9 is a bearing 18, in which is hinged a hinge 19, which operates in conjunction with the hinge 11, and to the arms of these hinges 11 and 19 is secured the thigh part 20 of a leg, and to the thigh part of the leg is hinged the leg proper, 21. To the lower end of the leg is secured foot 22.

The socket is made of leather or some other suitable material and is braced and strengthened by plates and bars 23, made of aluminium or other suitable material, the other parts of the socket being preferably made of steel. The harness is preferably made of elastic belts, but may also be made of any suitable material.

I do not claim the artificial leg represented in the drawings; but

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

1. A hinged hip-socket for short thigh-stumps and artificial limbs, consisting of the socket 1, adapted to fit the hip and short stump of the thigh; the longer axis of the socket set substantially at a right angle to the longer axis of the body of the wearer; a brace 2, rigidly secured to one wall of the socket, and adapted to fit against the side of the wearer; a strap 3, secured to the upper end of said brace, and adapted to be buckled around the waist; a hinge-bearing 9′, and 9^2, secured to the outer face of one of the walls of said socket, having its lower end bifurcated; a hinge 11, hinged in the slit of said bearing, and provided with a shoulder 12; a lock-lever 13, hinged to said hinge-bearing 9′, and having a hook 14, to catch under said shoulder 12, said lock-hinge operated by an elastic belt 16; straps and buckles 5, 6 and 8, secured to the front end of said socket; straps and buckles 7, secured to the rear end of said socket; a bearing 18, secured to the outer face of the opposite wall of said socket, and hinge 19, hinged in said socket, said hinges 11 and 19, adapted to have secured to their lower ends an artificial leg, substantially as shown and described, and for the purposes set forth.

2. A hinged hip-socket for short thigh-stumps and artificial limbs, consisting of the socket 1, adapted to fit the hip and short stump of the thigh; the longer axis of the socket set substantially at a right angle to the longer axis of the body of the wearer; a brace 2, rigidly secured to one wall of the socket, and adapted to fit against the side of the wearer; a strap 3, secured to the upper end of said brace, and adapted to be buckled around the waist; a hinge-bearing 9′, and 9^2, secured to the outer face of one of the walls of said socket, having its lower end bifurcated; a hinge 11, hinged in the slit of said bearing and provided with a shoulder 12; a lock-lever 13, hinged to said hinge-bearing 9′, and having a hook 14, to catch under said shoulder 12, said lock-hinge operated by an elastic belt 16; straps and buckles 5, 6 and 8, secured to the front end of said socket; straps and buckles 7, secured to the rear end of said socket; a bearing 18, secured to the outer face of the opposite wall of said socket; hinge 19, hinged in said socket, said hinges 11 and 19, adapted to have secured to their lower ends an artificial leg, and suspenders 4, having one end secured to straps and buckles 7, their other ends 4′, adapted to be secured to straps and buckles 8, substantially as shown and described and for the purposes set forth.

3. A hinged hip-socket for short thigh-stumps and artificial limbs, consisting of a socket adapted to fit the hip and short stump of the thigh; the longer axis of the socket set substantially at a right angle to the longer axis of the body of the wearer; a brace, rigidly secured to one wall of the socket, and adapted to fit against the side of the wearer; a hinge-bearing secured to the outer face of one of the walls of said socket; a hinge, having a lock-shoulder hinged to said hinge-bearing; a lock-lever hinged to said hinge-bearing, and adapted to lock said hinge in a vertical position; an elastic belt, adapted to hold said lock-lever in place; a bearing secured to the outer face of the opposite wall of said socket, and a hinge secured in the last-mentioned bearing, the lower arms of said hinge adapted to be secured to an artificial leg, said socket provided with straps and buckles whereby it may be secured to the person of the wearer by suitable harness, substantially as shown and described and for the purposes set forth.

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

JAMES R. CUNNINGHAM.

Witnesses:
J. L. LINDSEY,
M. J. MERCER.