

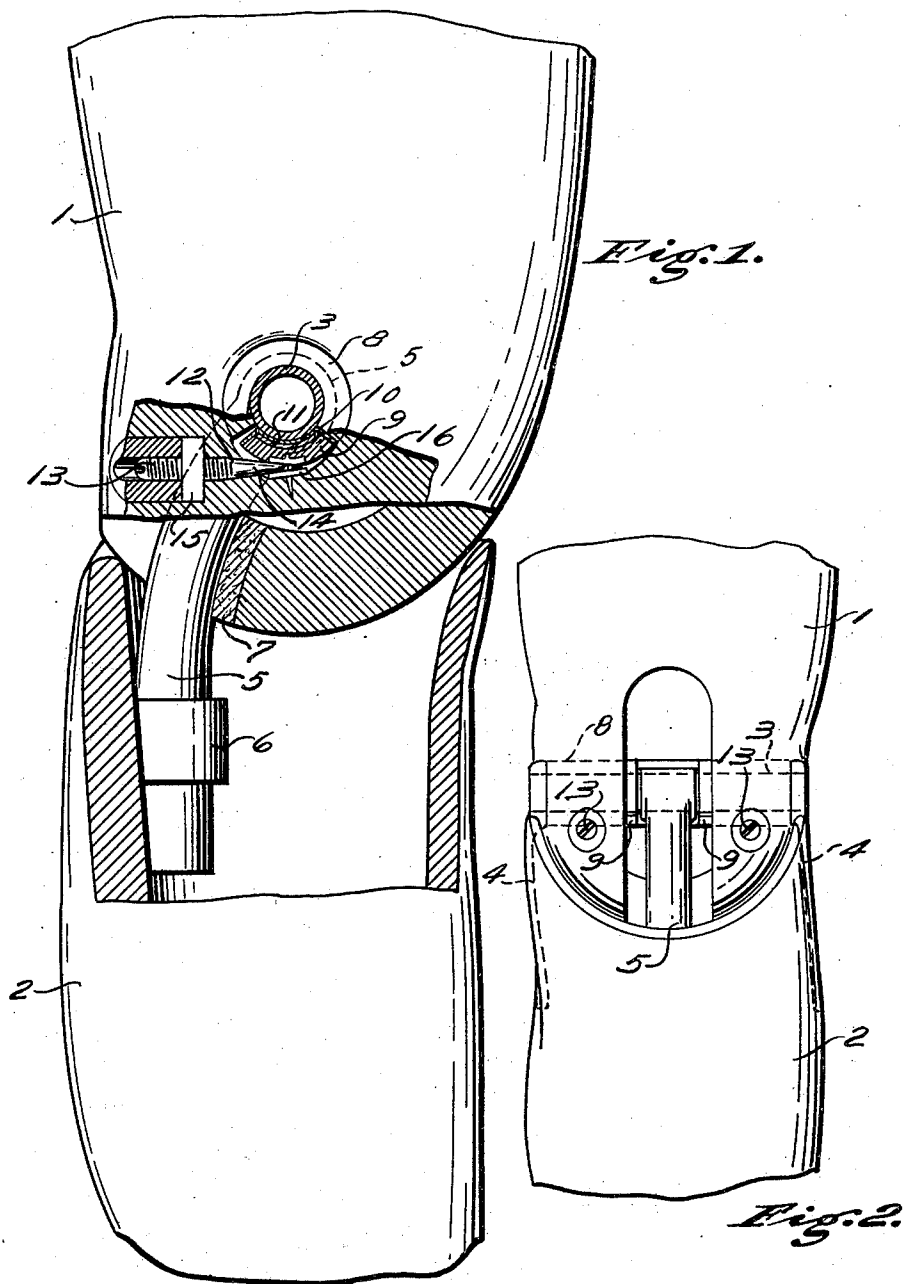
No. 744,801.

PATENTED NOV. 24, 1903.

J. F. ROWLEY.
ARTIFICIAL LIMB.

APPLICATION FILED MAY 20, 1903.

NO MODEL.



Witnesses:
Rudow Hummel
Glen C. Stephens.

Inventor,
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UNITED STATES PATENT OFFICE.

JAMES F. ROWLEY, OF CHICAGO, ILLINOIS.

ARTIFICIAL LIMB.

SPECIFICATION forming part of Letters Patent No. 744,801, dated November 24, 1903.

Application filed May 20, 1903. Serial No. 157,993. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. ROWLEY, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Artificial Limbs, of which the following is a specification.

My invention relates particularly to knee-joints on artificial limbs for use in cases of amputation above the knee.

The main objects of my invention are to provide improved means for readily adjusting the friction in joints of this class, to provide for ready access to the adjusting parts from the outside of the limb, and to provide a resilient form of friction-shoe whereby wear and changes of adjustment are automatically compensated for to a sufficient extent to avoid a loose or shaky condition of the joint. I accomplish these objects by the device shown in the accompanying drawings, in which—

Figure 1 is a side elevation, partly in section, of the knee-joint of an artificial limb constructed according to my invention. Fig. 2 is a rear elevation of the same, being shown on a smaller scale.

In the construction shown the thigh-section 1 is pivotally connected to the leg-section 2 by means of a bolt 3, which is journaled in the thigh-section 1 and rigidly connected to the arms 4, one of which is secured to each side of the leg-section 2. The post 5 is secured to the bolt 3 and passes through a bracket 6 on the leg-section 2. The post 5 is adapted to engage a pad 7 on the thigh-section 1 and limits the forward movement of the leg-section relatively of the thigh-section.

The bearings for the bolt 3 in the thigh-section 1 are made in two parts. The main part 8 is rigidly connected with the thigh-section 1 and a loose segment 9 forms a movable shoe for adjusting the friction on the bolt 3. The face 10 of the shoe 9, which comes into direct contact with the bolt 3, is preferably made of leather and is supported by a cushion 11, of rubber or other resilient material. The shoe 9 is adjustable against the bolt by means of wedges 12. The wedges 12 are preferably made in the form of a threaded shank 13, having a conical point 14. The shank 13 is screwed into a nut 15, which is embedded in

the material of the thigh-section 1. The point 14 of the wedge enters between the shoe 9 and the adjoining wall of the thigh-section 1 and serves to wedge the shoe 9 toward the bolt 3. The shoe 9 and the parts of the thigh-section 1 against which the wedges 12 act are preferably protected by a facing of metal. In the form shown this facing of metal consists of tacks 16 driven into the material of the thigh-section and shoe at the proper points. The wedges 12 are seated in apertures, permitting the ready adjustment of said wedges from the outside of the limb.

In operation the points 14 of the wedges are forced between the shoes 9 and the adjacent parts of the thigh-section 1 until the proper friction upon the bolt 3 is obtained. In case of wear between the shoe and the bolt 3 a loosening of the joint is to some extent prevented by the expansion of the resilient cushion 11.

It will be seen that some of the details of the construction shown may be altered without departing from the spirit of my invention. I therefore do not confine myself to such details except as hereinafter limited in the claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an artificial limb, the combination of two limb-sections pivotally connected together by a bolt extending transversely of said sections; said bolt being journaled in one of said sections and rigidly secured to the other; a movable shoe bearing on said bolt; and an adjustable wedge extending transversely of the direction of movement of said shoe and adapted to regulate the pressure of said shoe on said bolt, substantially as described.

2. In an artificial limb, the combination of two limb-sections; a bolt secured to one of said sections and forming a pivotal bearing for the second section; a movable shoe seated in said second section and bearing upon said bolt; and a screw threaded into said second section and having a conical part adapted to enter between said shoe and said second section and wedge said shoe toward said bolt, substantially as described.

3. In an artificial limb, the combination of two limb-sections; a bolt secured to one of said sections and forming a pivotal bearing

for the second section; a movable shoe seated in said second section and bearing upon said bolt; and an adjustable wedge extending transversely of the direction of movement of said shoe and adapted to regulate the pressure of said shoe on said bolts, said shoe having thereon an elastic cushion adapted to retain the face of said shoe in contact with said bolt independently of the adjustment of said wedge, substantially as described.

4. In an artificial limb, the combination of two limb-sections; a bolt secured to one of said sections and forming a pivotal bearing for the second section; a movable shoe seated in said second section and bearing upon said bolt; and an adjustable wedge extending transversely of the direction of movement of said shoe and adapted to regulate the pressure of said shoe on said bolt, said shoe being provided with a facing of leather supported by a pad of rubber, substantially as and for the purpose specified.

5. In an artificial limb, the combination of two limb-sections; a bolt secured to one of said sections and forming a pivotal bearing for the second section; a movable shoe seated in said second section and bearing upon said bolt; said second section having a pair of apertures each leading from the outside of the limb to said shoe near opposite ends thereof; each of said apertures having a threaded seat therein; and a screw in each aperture, accessible from the outside, and adjustable in its seat transversely of the direction of movement of said shoe, said screws each having a conical part wedging between said shoe and said second section, substantially as described.

Signed at Chicago this 18th day of May, 1903.

JAMES F. ROWLEY.

Witnesses:

E. C. MOORE,
GLEN C. STEPHENS.