No. 692,360. Patented Feb. 4, 1902.

J. F. ROWLEY.

ARTIFICIAL LIMB.

(Application filed May 20, 1901.)

(No Model.)

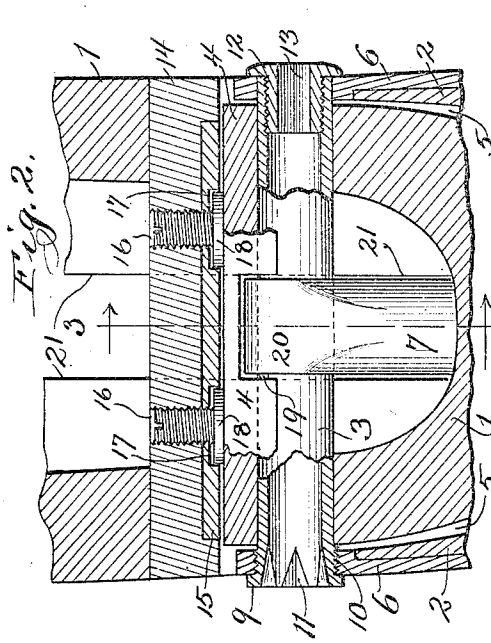


Fig. 2.

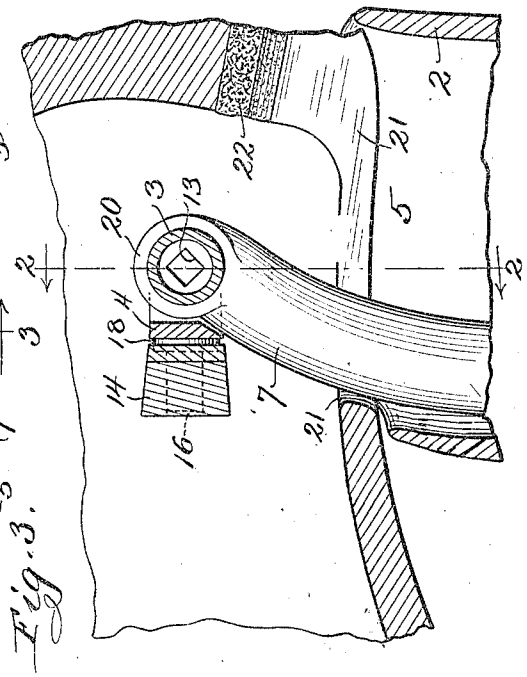


Fig. 3.

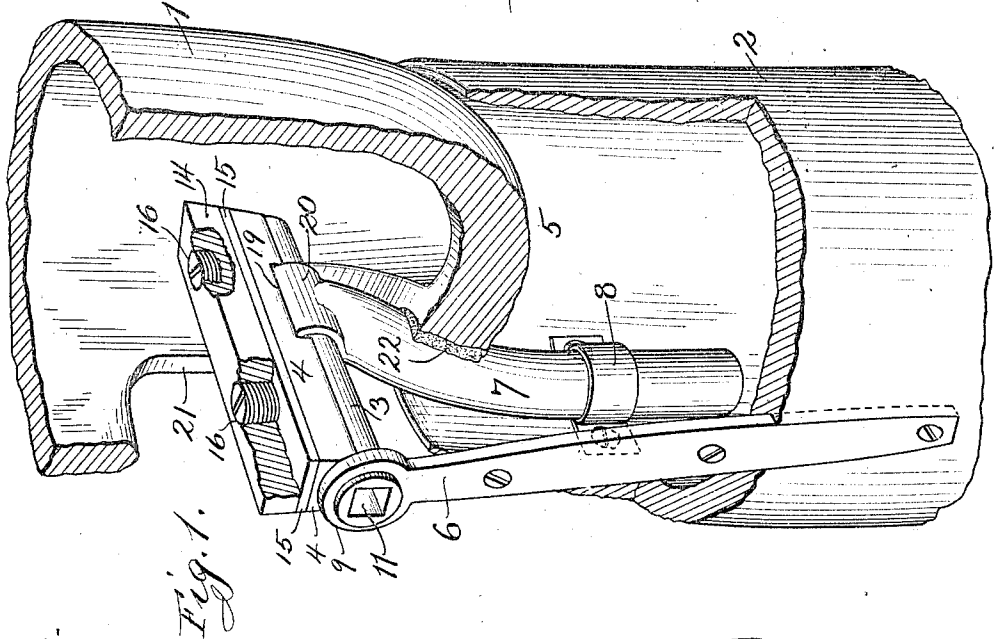


Fig. 1.

Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES F. ROWLEY, OF CHICAGO, ILLINOIS.

ARTIFICIAL LIMB.

SPECIFICATION forming part of Letters Patent No. 692,360, dated February 4, 1902.

Application filed May 20, 1901. Serial No. 61,070. (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 legs for use in cases of amputation above the knee.

The main objects of my invention are to attain simplicity, strength, and stability, ready detachment of the parts, and ready adjustment of friction in joints of this class. I accomplish these objects by the construction shown in the accompanying drawings, in which—

Figure 1 is a perspective view, partly sectional, of an artificial limb embodying my invention. Fig. 2 is a section on the line 2 2 of Fig. 3 with the parts in the same position as shown in Fig. 1. Fig. 3 is a section on the line 3 3 of Fig. 2 with the thigh-section turned down to a position different from that shown in the other views.

The form shown in the drawings consists, mainly, of the thigh-section 1 and the leg-section 2, which are pivotally connected by means of the bolt 3, the block or shoe 4, and suitable means for regulating the pressure of said block upon the bolt 3, and thereby controlling the friction between the two sections. The leg-section 2 has its upper part hollowed out to form the socket 5 and is provided with an arm 6, extending upwardly upon each side, and a post 7, extending upwardly between the arms 6. The post 7 is supported in the bracket 8, which is secured within the leg-section 2. Said post has a socket in its upper end for receiving the bolt 3 and is vertically slidable in the bracket 8 when the bolt 3 is removed. The bolt 3 has a head 9 on one end and is threaded at 10 to one of the arms 6. Said bolt is hollow and squared at 11 for receiving a wrench with which to screw same out of the arm 6. The plug 12 is threaded into the other end of the bolt 3 and has its head bearing against the other arm 6. The plug 12 is likewise hollowed and squared at 13 for receiving a wrench. The block or cross-piece 14 is rigidly secured within the thigh-section 1 above the bolt 3 and is provided with a metal plate 15, which is let into the lower surface of said block and is provided with threaded apertures for receiving the screws or threaded pins 16. The metal plate 15 has a recess 17 for receiving the flat extended base 18 of each screw 16. The block 14 and metal plate 15 provide a threaded seat for the screw 16. The shoe 4 is loosely seated between the plate 15 and the bolt 3. The shoe 4 is recessed at 19 to receive the upper part of the post 7. This recess is large enough to prevent the shoe 4 from bearing upon said post. The head 20 of the post 7 is disposed toward the rear, as indicated in Fig. 3, to permit the thigh-section to be turned down, as shown in Fig. 3, without being interfered with by the shoe 4 coming in contact with the shank of the post 7. The thigh-section 1 has a recess 21 at its rear part forming a path for the post 7. At the front part of the recess 21 is a cushion 22 for contact with the post 7.

The operation of the parts shown is as follows: To permit free relative movement of the leg-section 2 and the thigh-section 1, the operator will turn the screws 16 so as to release the pressure upon the shoe 4. This will ease the pressure of said shoe upon the bolt 3. If the joint is too loose, then the operator will turn the screws 16 so as to increase their pressure upon the shoe 4. This will increase the friction between said shoe and the bolt 3. In connecting the parts the post 7 may be readily adjusted in its bracket 8 to the proper position for receiving the bolt 3. To separate the leg-section from the thigh-section, the operator will first unscrew the threaded plug 12. He will then remove the bolt 3 by turning same in its threaded seat 10.

It will be understood that numerous 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 by a bolt extending transversely of said sections; a threaded seat secured to one of said sections; a movable shoe interposed between said threaded seat and said bolt, and adapted

to bear against the bolt; and a threaded pin seated in said threaded seat and acting against the shoe, for regulating the pressure of said shoe against the bolt.

2. In an artificial limb, the combination of two limb-sections one of which has a socket in one end and a pair of arms projecting beyond said end on opposite sides of the socket; the other section having one end extending into the socket and between said arms, and having an aperture for a bolt extending between said arms; a bolt in said aperture secured to each of said arms and forming the axis for said apertured section; a threaded seat secured to said apertured section; a movable shoe interposed between said threaded seat and said bolt and adapted to bear against the bolt; and a threaded pin seated in said threaded seat and acting against the shoe for regulating the pressure of the shoe against the bolt.

3. In an artificial limb, the combination of two limb-sections one of which has a socket in one end and a pair of arms projecting beyond said end on opposite sides of the socket; the other section having one end extending into the socket and between said arms and having an aperture for a bolt extending between said arms; a bolt in said aperture secured to each of said arms and forming the axis for said apertured section; a post projecting upwardly between said arms, secured to the section supporting said arms, and removably embracing said bolt; a threaded seat secured to said apertured section; a movable shoe interposed between said threaded seat and said bolt, having a recess for the upper part of said post and adapted to bear against said bolt; and a threaded pin seated in said threaded seat, and acting against the shoe for regulating the pressure of said shoe against said bolt.

4. In an artificial limb, the combination of a leg-section having a socket in its upper end; a pair of arms secured to the leg-section and extending upwardly on opposite sides of the socket; a post secured to the leg-section within the socket and extending upwardly between said arms and having a part at its upper end for removably embracing a bolt; a hollow thigh-section extending into said socket and having a recess forming a path for said post and a cushion at the front of said recess for abutting the post; a bolt passing through the thigh-section, secured to said arms and embraced by said post; a cross-piece secured within the thigh-section above said bolt and having a threaded aperture; a movable shoe interposed between said cross-piece and said bolt; a threaded pin seated in said threaded aperture and acting upon the shoe for regulating the pressure of the shoe upon the bolt.

5. In an artificial limb, the combination of a pair of pivotally-connected limb-sections; a pair of arms secured to one of said sections; a bolt passing through the other section and removably secured to said arms; a cross-piece secured to said other section near said bolt; a shoe interposed between said cross-piece and said bolt; and means acting between said cross-piece and shoe for regulating the pressure of said shoe upon said bolt.

6. In an artificial limb, the combination of two pivotally-connected limb-sections; a bolt secured to one of said sections and forming a pivotal bearing for the other section; a block secured to said other section near said bolt; a shoe interposed between said block and said bolt; and means acting between said block and said shoe for regulating the pressure of the shoe upon the bolt.

7. In an artificial limb, the combination of a pair of pivotally-connected limb-sections, one of which has a socket therein; a post secured within said socket by a bracket permitting the longitudinal movement of the post in said bracket; and a bolt secured to said post and forming the pivotal axis for said sections.

Signed at Chicago this 18th day of May, 1901.

JAMES F. ROWLEY.

Witnesses:
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