J. F. ROWLEY.

ANKLE JOINT FOR ARTIFICIAL LIMBS.

APPLICATION FILED OCT. 13, 1913.

1,090,881. Patented Mar. 24, 1914.

Fig. 1.

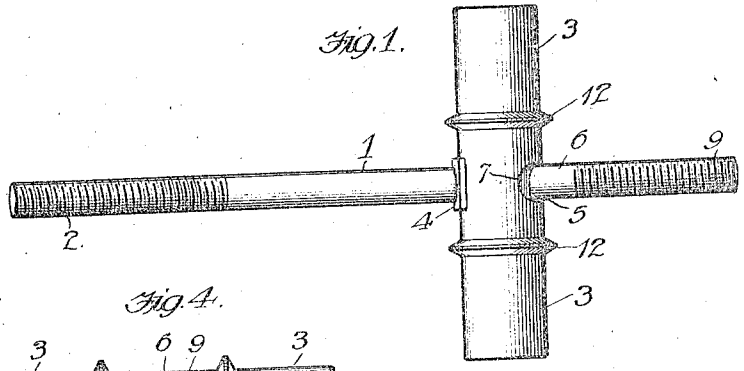


Fig. 4.

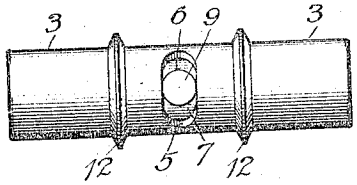


Fig. 2.

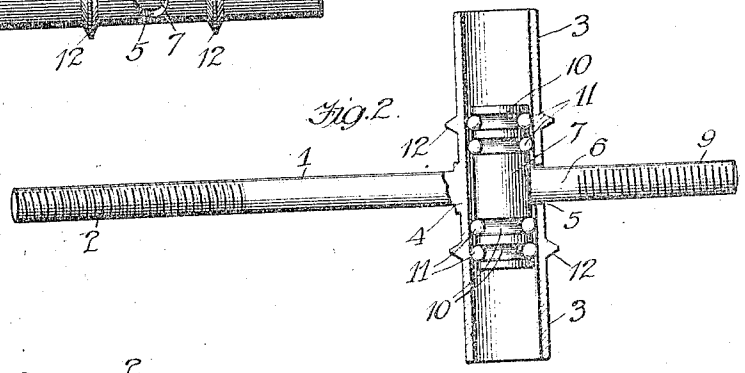


Fig. 3.

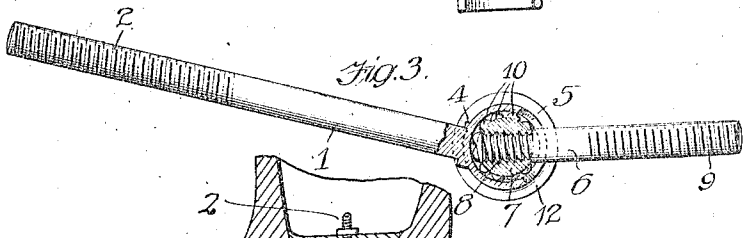
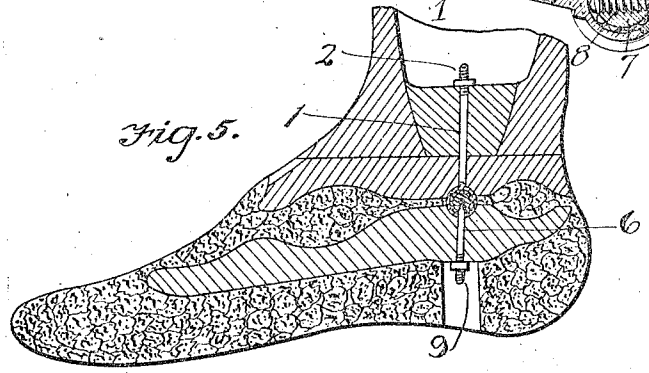


Fig. 5.



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UNITED STATES PATENT OFFICE.

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ANKLE-JOINT FOR ARTIFICIAL LIMBS.

1,090,881. Specification of Letters Patent. Patented Mar. 24, 1914.

Application filed October 13, 1913. Serial No. 794,876.

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, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Ankle-Joints for Artificial Limbs, of which the following is a specification.

The main object of this invention is to provide an improved construction for the ankle joints of artificial limbs with a view to making them at all times silent in operation.

An illustrative embodiment of this invention is shown in the accompanying drawings, in which—

Figure 1 is a plan view of an ankle joint constructed according to this invention. Fig. 2 is another plan view partly in section. Fig. 3 is a side view partly in section. Fig. 4 is an end view taken from the right of Figs. 1, 2 and 3. Fig. 5 is a vertical section showing the joint as applied to an artificial limb.

Referring to the drawings, a rod 1 having a threaded end 2 for engagement with coöperating parts of the structure of the shin section is shown integral with a tube 3. Opposite the connection 4 between the rod 1 and the tube 3, the tube 3 is provided with a slot 5 extending part way around its circumference. A rod or shank 6 passes through the slot 5 and has threaded engagement with a cylindrical bearing member 7 which for this purpose is provided with a tapped hole 8. The rod or shank 6 is threaded at its end 9, so that it may be conveniently secured to the foot part of an artificial limb. The cylindrical member 7 is provided with a plurality of annular races 10, in which races there are anti-friction rollers in the form of balls 11 bearing between the cylindrical member 7 and the internal surface of tube 3.

By the present construction, the shank 6 may rock around its pivotal connection with the shank 2, as required in the angle movement of an artificial limb. The required limitation of the relative movement between the shin and foot sections, and resistance to such movement may be provided for in the general structure of the limb. The tube 3, being about twice the length of the cylindrical bearing member 7, provides between its ends and the ends of the bearing member a suitable receptacle for containing a lubricant in quantity sufficient to last during the entire use of the limb. The annular flanges 12 shown on the tubular member 3 are for the purpose of engagement with the rubber body portion of an artificial foot when rubber is employed in the construction.

Although but one specific embodiment of this invention has been herein shown and described, it will be understood that some of the details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

I claim:

1. In a joint for artificial limbs, the combination of a tubular outer member having a shank extending outwardly from its side, a cylindrical member in said tubular member having a plurality of annular ball races and balls in said races contacting with the inner surface of said tubular member, a slot extending part way around the circumference of said tubular member, and a shank secured to said cylindrical member and extending outwardly through said slot.

2. In a joint for artificial limbs, the combination of a tubular outer member, a cooperating inner member in said tubular member having a plurality of annular ball races and balls in said races contacting with the inner surface of said tubular member, a slot extending part way around the circumference of said tubular member, and a shank secured to said coöperating inner member and extending outwardly through said slot.

3. In a joint for artificial limbs, the combination of an outer member, an inner member, one of said members having a race therein, rollers interposed between said members in said race, and a shank on said inner member coacting with said outer member to retain said members and rollers in their assembled relation.

Signed at Chicago this 10th day of October 1913.

JAMES F. ROWLEY.

Witnesses:

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M. IRENE HUTCHINGS.