

E. BOHLANDER.
ANKLE JOINT FOR ARTIFICIAL LIMBS.
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1,053,352.

Patented Feb. 18, 1913.

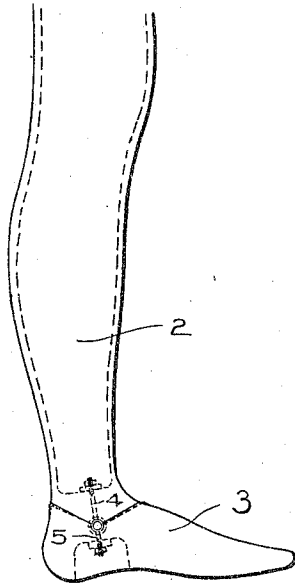


FIG. 1

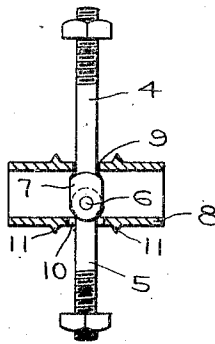


FIG. 2

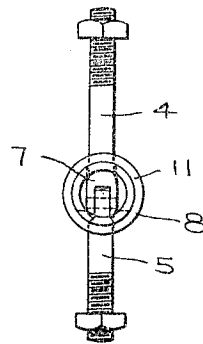


FIG. 3

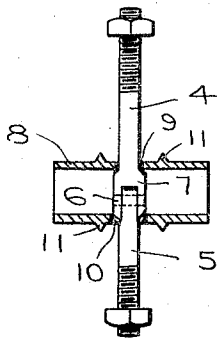


FIG. 4

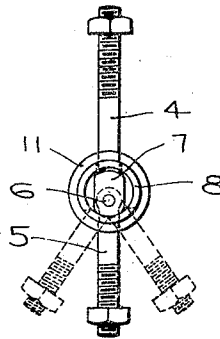


FIG. 5

WITNESSES

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ANKLE-JOINT FOR ARTIFICIAL LIMBS.

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To all whom it may concern:

Be it known that I, EDWARD BOHLANDER, a citizen of the United States, residing at Pekin, in the county of Tazewell and State of Illinois, have invented certain new and useful Improvements in Ankle-Joints for Artificial Limbs; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to ankle joints for artificial limbs.

More particularly, my invention relates to a composite joint capable by adjustment of being made rigid as against ankle movement, and similarly, by adjustment, to be rendered flexible.

My invention consists of a slotted body and a pair of bolts pivoted together and formed about the pivoted juncture in a manner to cooperate in connection with the slot so that being turned and passed partially through the slotted body, the joint may be rendered either rigid or flexible.

Referring to the drawings, Figure 1 is a side elevation of a leg and foot portion showing my device applied; Fig. 2 is a side elevation of my device showing the joint support in section; Fig. 3 is also a side elevation at right angles from that shown in Fig. 2; Fig. 4 is the same view as that of Fig. 2 except that the jointed bolts are turned in different position; Fig. 5 is a view similar to that shown in Fig. 3 and shows the limit of movement of the lower of the jointed bolts.

In practical use, it is desirable under differing conditions that a foot joint shall be made either flexible or rigid, and it is to meet this emergency that I have provided a joint that may be rendered either flexible or rigid, instead of two different kinds of joints being provided to meet such emergencies.

Referring to the drawings, 2 represents a hollow leg portion and 3 a foot portion being provided at least with a sufficient open portion to provide a connection for applying a nut. The meeting ends of the leg and foot portions are overlapped in a relation to permit movement relatively. 4 and 5 are bolt portions adapted to be pivoted together as at 6 and the lower portion of bolt 4 is formed in rectangular shape as at 7. Both

bolts are threaded and are adapted to carry nuts in the usual way.

8 is a tubular member or body, the same having an open center to reduce its weight. This body is provided with a perforation or opening 9 to permit the insertion of bolt 4 and is provided with the slotted opening 10 of the proper size, elongated circumferentially of said body (within the limits indicated by dotted lines in Figs. 3 and 5) to permit the entrance of the square portion 7 of the lower end of bolt 4.

11 are ribs formed into substantially an acute angle and terminating in a rather sharp edge for ready penetration or seating within the body of the leg and foot portions, which serves to hold member 8 against movement.

The device is applied as shown in Fig. 1, by passing the jointed bolts 4 and 5 respectively through the perforations in the upper portion and the slot in the lower portion of the tubular member, and then connecting the ends of the bolts with the leg and foot portions by means of suitable nuts, as shown, adapted to draw them into close and rigid relation.

In applying my invention, when it is desired to make a flexible joint between the foot and leg portions, the bolts are turned so that their pivot extends across the slot and then the squared portion is forced down into the slot; and when it is desired to establish a fixed joint, the bolt should be turned so that the pivot will extend lengthwise of the slot, and then the squared portion is forced down into said slot.

If it is desired to provide for foot movement, then the bolts and the squared portion of the structure, are turned into the position shown in Figs. 4 and 5, in which position, while the squared portion 7 is prevented from being turned, yet the facing of the connected parts is such that free pivot movement is allowed to bolt 5 circumferentially of tubular member 8 and may be moved within the limits of slot 10, as shown in dotted lines in Fig. 5.

I am aware that ankle joints have heretofore been provided, but heretofore such parts uniting the leg and foot portions have been fixed by such joining. If flexible joints have been employed in joining leg and foot portions, so far as my knowledge goes, particularly special structures would

need to be provided over the common fixed joint with which I am familiar, and if there is any such instance of use, it has been necessary to provide distinct and separate structures to meet the emergencies of different uses, whereas in my structure I am able to provide in a single structure a composite joint capable of use either as a fixed joint or a flexible one.

10 I have here shown my preferred form of construction of composite joint, but other forms may be employed and structural combination may be varied to meet particular emergencies of use, but I desire to claim all forms of embodiment that may be employed that fall legitimately within the principle herein disclosed.

What I claim is:

In a device of the class described, the combination of jointed members connecting leg and foot portions squared at a portion of the jointed members, of a body interposed between the leg and foot members adapted to support the jointed members, and provided with an elongated slot into which the squared portion of the jointed members is adapted to be forced down between the sides of the slot.

In testimony whereof I have affixed my signature, in presence of two witnesses.

EDWARD BOHLANDER.

Witnesses:

AUG. LEACH,

MARY E. COMEGYS.