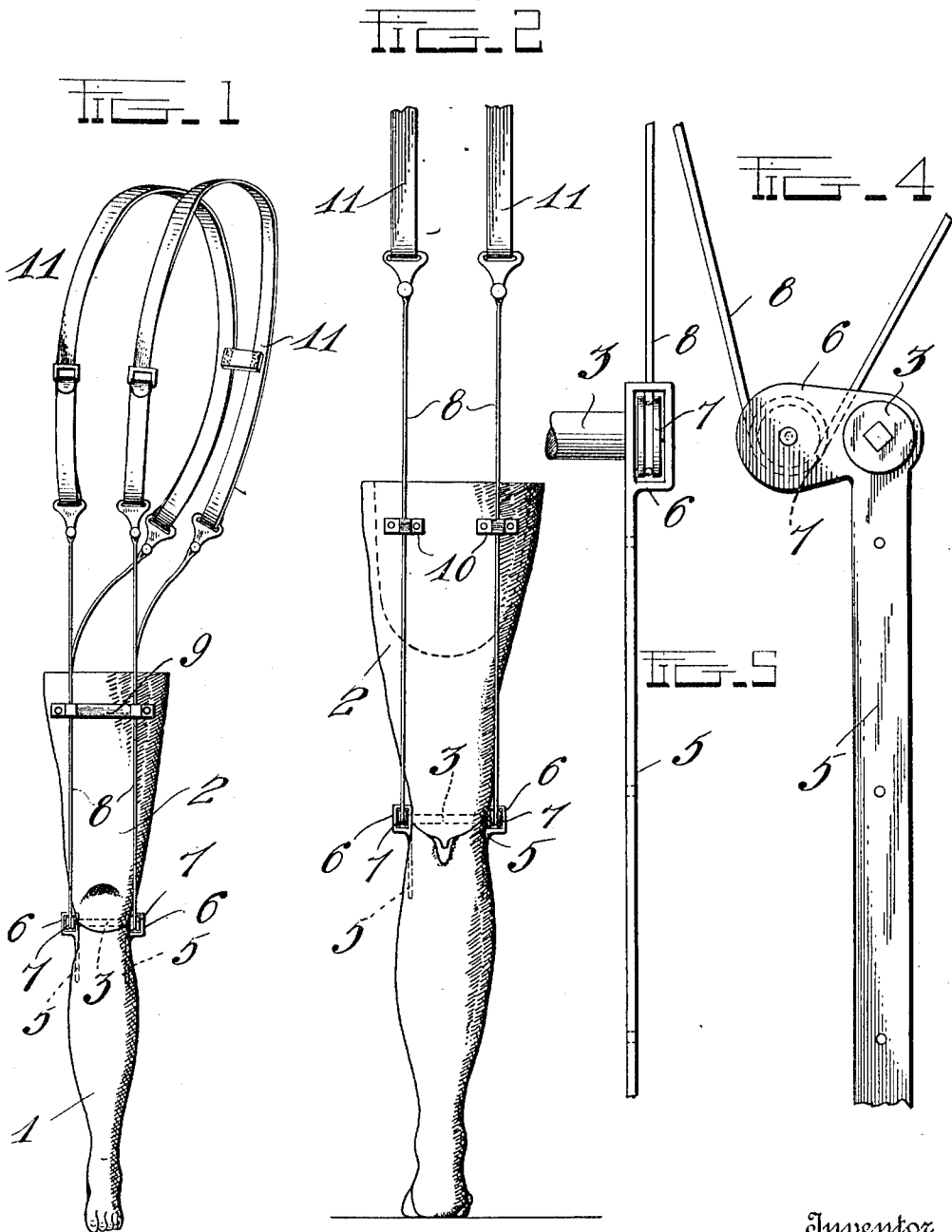


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 ARTIFICIAL LIMB.  
 APPLICATION FILED JAN. 30, 1911.

1,001,356.

Patented Aug. 22, 1911.

2 SHEETS—SHEET 1.



Witnesses  
*C. R. Hardy*  
*O. B. Hopkins*

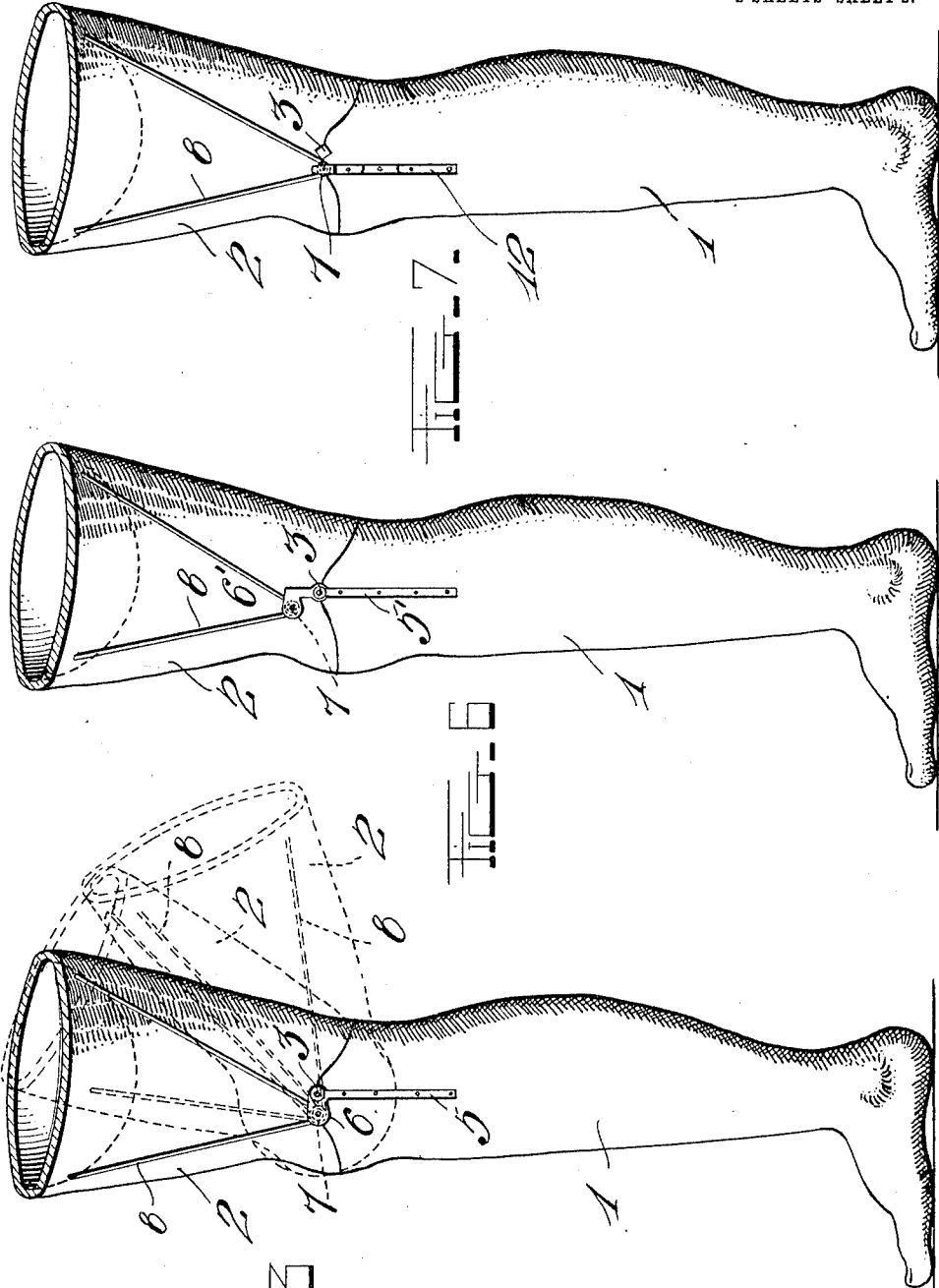
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*C. R. Hardy*  
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# UNITED STATES PATENT OFFICE.

BARTHOLOMEW CONNOR, OF BUFFALO, NEW YORK.

## ARTIFICIAL LIMB.

1,001,356.

Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed January 30, 1911. Serial No. 605,556.

*To all whom it may concern:*

Be it known that I, BARTHOLOMEW CONNOR, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, 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.

This invention relates to improvements in artificial limbs.

One object of the invention is to provide an artificial lower limb having an improved construction of joint between the upper and lower sections thereof, whereby a lever action is provided which facilitates the use of the limb in the act of walking and which controls the knee action to a large extent by bringing forward the part of the limb below the knee in an easy and natural manner.

Another object is to provide an improved construction and arrangement of supporting straps and suspenders whereby the limb is securely held in place and access readily had to the supporting devices for the purpose of renewing or repairing them.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings:—Figure 1 is a front perspective view of an artificial lower limb and suspending devices constructed and arranged in accordance with this invention; Fig. 2 is a rear elevation thereof; Fig. 3 is an enlarged side elevation of a portion of the limb and a portion of the attaching devices showing in dotted lines the upper section of the limb bent back and said section in an upright position in full lines; Fig. 4 is an enlarged detail side elevation of the combined joint and lever for moving the lower section of the limb; Fig. 5 is a front edge view thereof; Fig. 6 is a detail side elevation of a portion of the limb showing another form of attaching devices; Fig. 7 is a similar view of still another form of the attaching devices.

In the embodiment illustrated, an artificial limb is shown comprising a lower section or member 1, and an upper section 2.

The lower end of the upper section 2 fits and turns in the upper end of the lower section or member 1 to form the knee joint of the limb. The engaging ends of the upper and lower sections 1 and 2 are pivotally connected together on the inner and outer sides of the limb by a hinged connection in the form of a transversely extending bolt 3, which is passed through the upper and lower sections, as shown clearly in Figs. 1 and 2.

In the form shown in Figs. 1 to 5, upright operating levers 5 are secured to the inner and outer sides of the lower section of the limb and have a loose pivotal connection with the opposite ends of the bolt 3, by means of which the lower section of the limb is swung forward in the act of walking. The lower portions of the levers 5 are riveted or otherwise rigidly secured to the opposite sides of the lower section of the limb and the upper ends of the levers are provided with right angularly projecting offset heads, as 6, which are recessed or slotted as shown and which are arranged in substantially the same horizontal plane as the pivot bolt 3. In the slots formed in the heads are revolubly mounted guide rollers 7, the purpose of which will be hereinafter described.

Limb supporting and operating straps 8 are passed around the rollers or pulleys 7 in the heads 6 and are adapted to slide loosely through the slots or recesses in the heads of said levers 5. The front stretches of the straps 8 pass beneath guide cleats or keepers 9 arranged on the front face of the lever of the upper section of the limb, while the rear stretches of the straps pass beneath similar guides 10 secured to the rear face of the upper limb section. The free ends of the straps 8 are detachably connected to the ends of suitable suspenders 11 which are arranged over the shoulders and support the limb in place.

In the form shown in Fig. 6, the heads 6' of the operating levers 5' are arranged above the pivot bolt 3, but are otherwise constructed and connected in the same manner as the levers 5, the heads 6' extending above the lower section of the limb as is clearly shown in Fig. 6.

In the form shown in Fig. 7, the operating straps or levers 12 are independent of the pivot bolt 3 and are secured to the lower section 1 of the limb by riveting or

in any other suitable manner with the roller carrying heads thereof arranged adjacent to and in advance of the bolt 3, being approximately in the same horizontal plane therewith. This form of operating lever may be used temporarily to gage the position and size of the permanent attachment and which constitutes a very cheap connection and may be used on limbs of cheaper quality than those of the construction shown in the other figures.

By constructing and arranging the operating members and straps as herein shown and described, it will be seen that when walking the straps 8 and the members on the lower limbs with which they are slidably connected will cause the lower section of the limb to swing forwardly. It will also be obvious that by arranging the operating and attaching straps on the outside of the limb, that they may be readily adjusted and repaired without removing the limb.

From the foregoing construction, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention claimed.

I claim as my invention:—

1. An artificial limb comprising upper and lower sections pivotally connected together to form a knee joint, levers secured to the opposite sides of the lower section of the limb, operating straps having a sliding connection with the upper ends of said le-

vers at a point in advance of the pivotal connection of said upper and lower sections, and suspenders connected with said straps.

2. An artificial limb comprising upper and lower sections hingedly connected together to form a knee joint, operating levers arranged on the inner and outer faces of the lower members of the limb, forwardly projecting offset heads formed on the upper ends of said levers, guide pulleys arranged in the heads, operating straps having a sliding engagement with said pulleys, and suspenders connected with the straps.

3. An artificial limb comprising upper and lower sections, one of said sections fitting into the end of the other section, a pivot bolt arranged through the engaging ends of said sections to hingedly connect them to form a knee joint, upright levers secured on opposite faces of the lower member of the limb and connected with the opposite ends of said pivot bolt, forwardly extending laterally projecting recessed heads on said levers, guide rollers revolubly mounted in said recessed heads, and operating straps arranged on opposite sides of the limb and having a sliding engagement with said rollers, and suspenders connected with said straps whereby the limb is supported and the lower section thereof caused to swing forwardly in walking.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

BARTHOLOMEW CONNOR.

Witnesses:

J. J. JOYCE,  
THOMAS M. CROWE.