

U. HOKE.
ARTIFICIAL LIMB.
APPLICATION FILED JUNE 6, 1912.

1,045,707.

Patented Nov. 26, 1912.
3 SHEETS—SHEET 1.

Fig. 1.

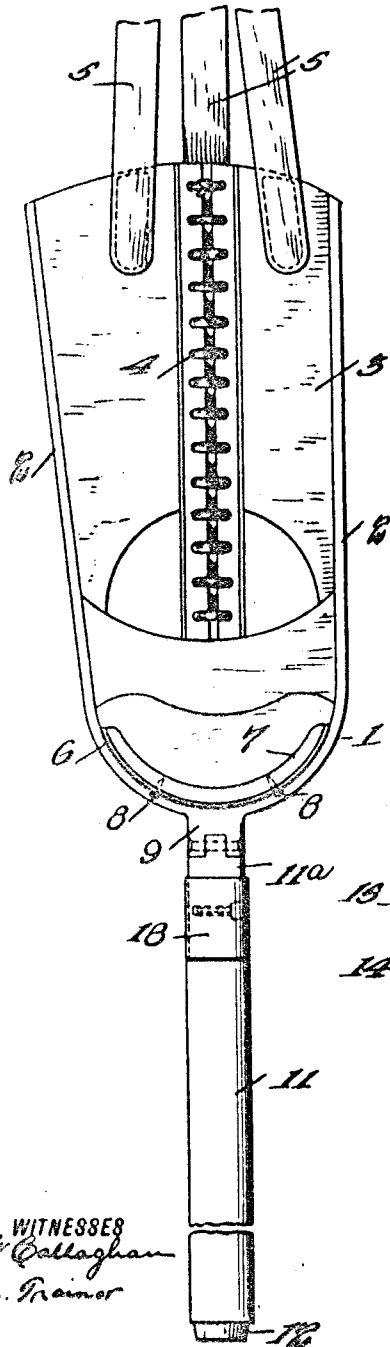


Fig. 2.

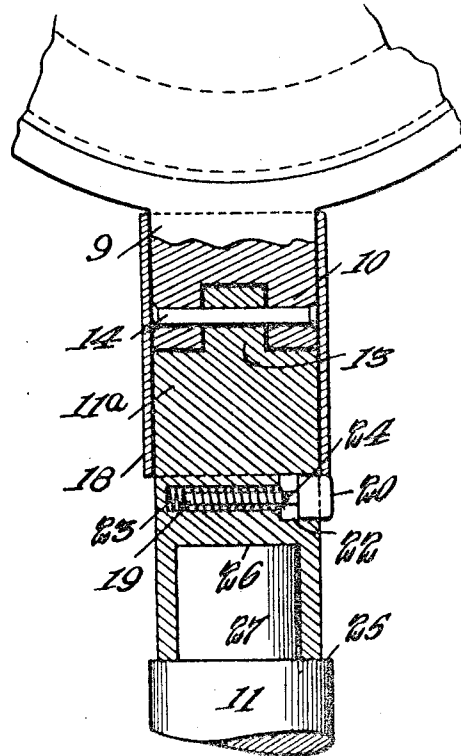
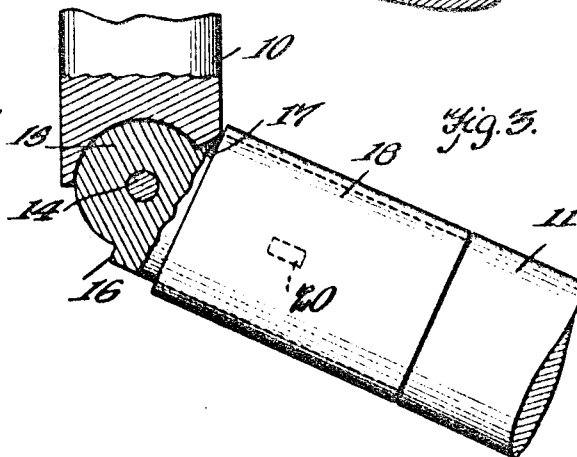


Fig. 3.



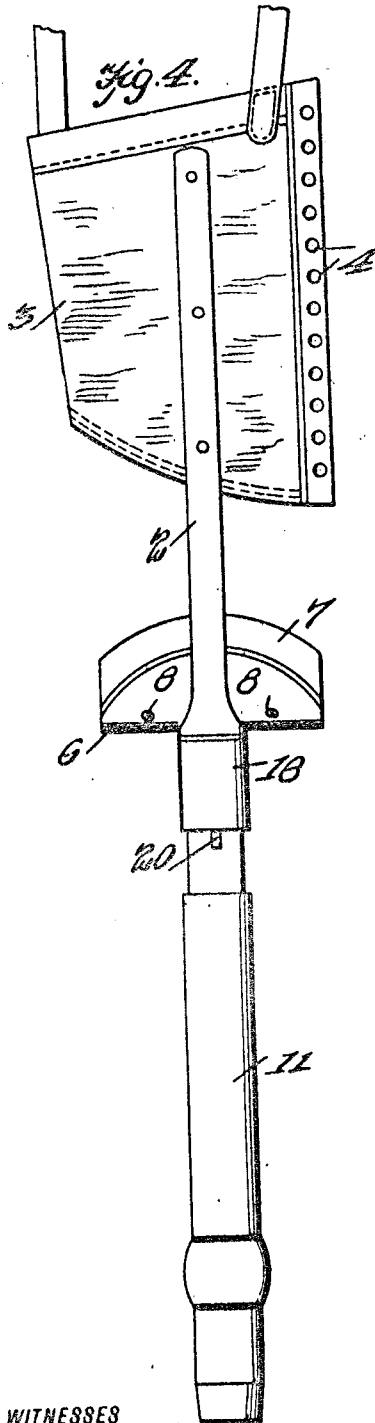
WITNESSES
C. H. Callaghan
C. L. Reimer

INVENTOR
URIAH HOKE,
BY *Meunier & Co.*
ATTORNEYS

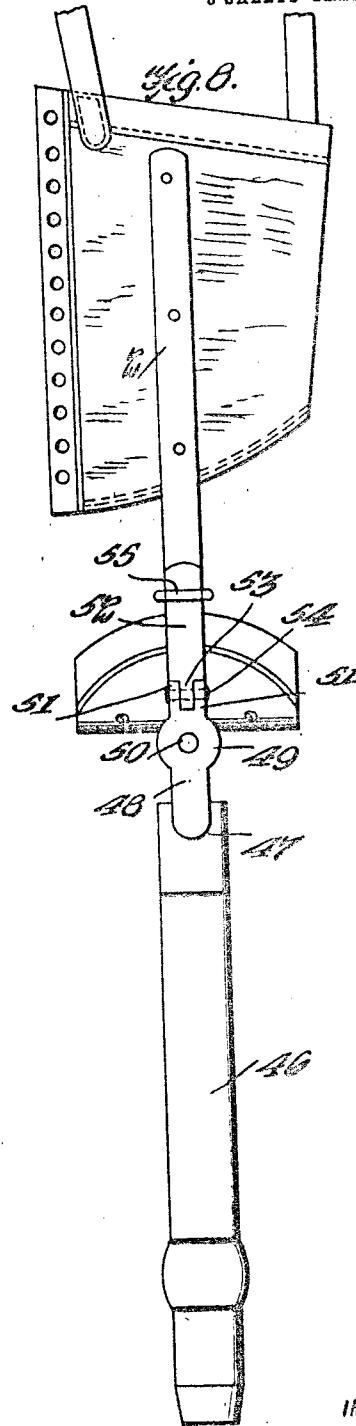
U. HOKE.
ARTIFICIAL LIMB.
APPLICATION FILED JUNE 6, 1912.

Patented Nov. 26, 1912.
3 SHEETS—SHEET 2.

1,045,707.



WITNESSES
C. P. Callaghan
O. E. Trimmer

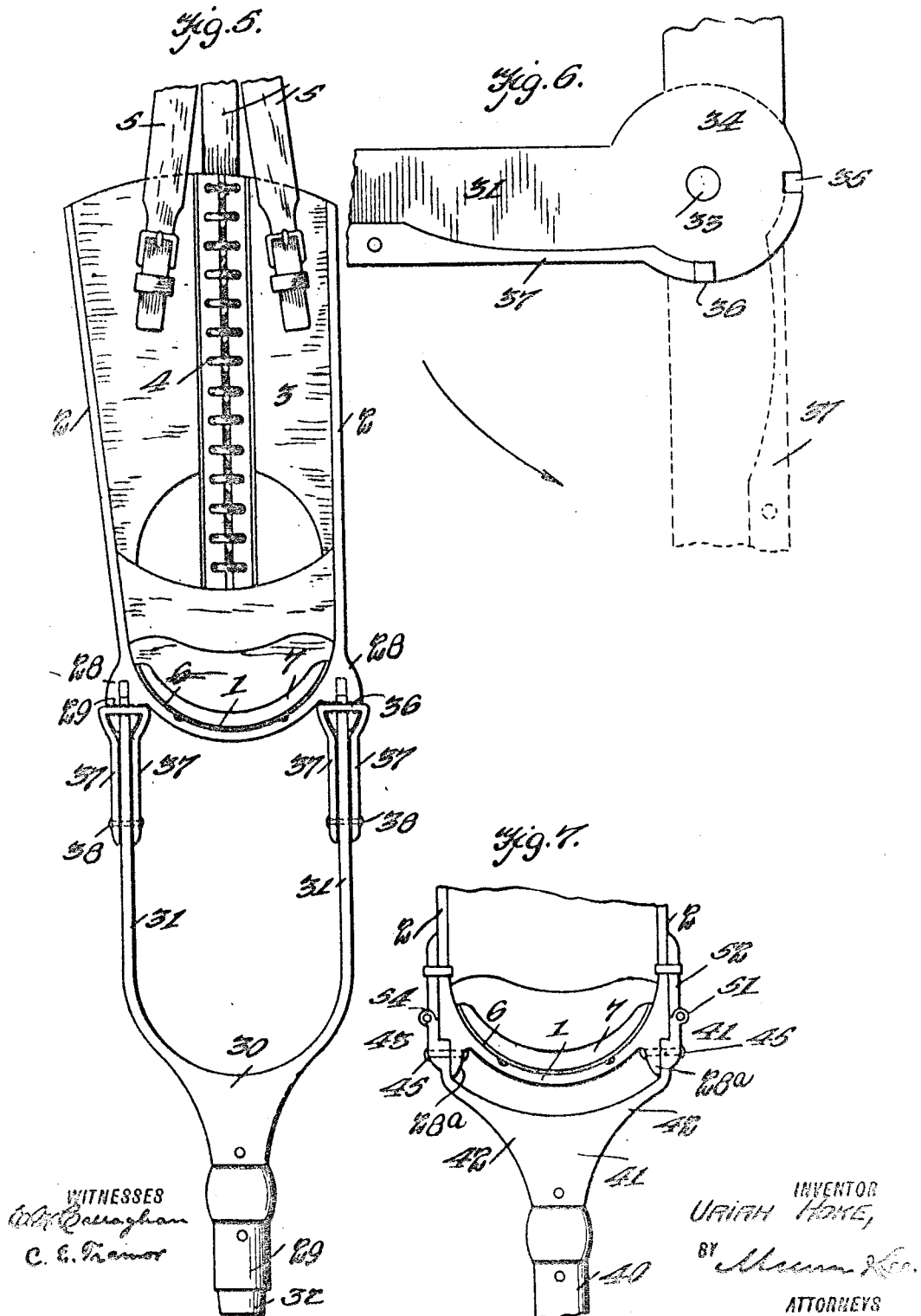


INVENTOR
URIAH HOKE,
BY
M. J. H. S.
ATTORNEYS

U. HOKE.
ARTIFICIAL LIMB.
APPLICATION FILED JUNE 6, 1912.

1,045,707.

Patented Nov. 26, 1912.
3 SHEETS-SHEET 3.



UNITED STATES PATENT OFFICE.

URIAH HOKE, OF CORNWALL, PENNSYLVANIA.

ARTIFICIAL LIMB.

1,045,707.

Specification of Letters Patent.

Patented Nov. 26, 1912.

Application filed June 6, 1912. Serial No. 702,033.

To all whom it may concern:

Be it known that I, URIAHOKE, a citizen of the United States, and a resident of Cornwall, in the county of Lebanon, State of Pennsylvania, have invented a new and useful Improvement in Artificial Limbs, of which the following is a specification.

My invention is an improvement in artificial limbs, and has for its object the provision of a simple, inexpensive device of the peg leg type arranged for permitting the peg to stand in alinement with the axis of the stump socket, or at an angle thereto, wherein means is provided for locking the parts in alinement, capable of being easily locked or released through the clothing, and which will hold the parts in rigid alinement when in locked position.

In the drawings: Figure 1 is a front view of one embodiment of the invention; Fig. 2 is an enlarged longitudinal section of the joint; Fig. 3 is a similar view at right angles to Fig. 2; Fig. 4 is a side view of the embodiment; Fig. 5 is a front view of another embodiment; Fig. 6 is an enlarged detail view of the joint; Fig. 7 is a front view of another embodiment; and Fig. 8 is a side view of another embodiment.

The embodiment of the invention shown in Figs. 1 to 4 comprises a socket for the stump composed of a substantially U-shaped frame, comprising a body 1 and arms 2, and a sleeve 3 of leather or the like is riveted to the arms near their upper ends. The sleeve is open in front and has a lacing 4 for securing it on the stump.

Straps 5 are connected with the sleeve for passing over the shoulder to support the limb, and a transversely curved plate 6 is secured to the body 1 of the frame on the inner side thereof, and a cushion 7 is secured on the upper face of the plate for engagement by the end of the stump.

The cushion is held in place by screws 8, and the body is provided with a central downwardly extending lug 9, which is slotted from front to rear, as shown, to form a pair of spaced ears 10. The peg 11—11^a is of suitable length, size, and material, and is provided with a rubber inset or cushion 12 at its lower end.

The upper end of the peg is reduced on each side to form an ear or lug 13, which fits between the ears 10, and a rivet or pivot pin 14 is passed through the ears 10 and 13 and is headed at each end to prevent longi-

tudinal movement thereof. The end of lug 13 is rounded, as shown at 15 in Fig. 3, and the slot between the ears 10 is shaped to fit the ear or lug 14. The said lug or ear 14 is approximately semicircular and is of less length than the diameter of the peg, so that stops 16 and 17 are formed at each end of the lug to limit the swinging movement of the peg. The stop 16 limits the forward swinging of the peg to a position in alinement with the longitudinal axis of the frame 1—2, and the lug 17 limits the rearward swinging of the peg, as shown in Fig. 3. The peg may swing rearwardly with respect to the longitudinal axis of the frame through an angle of approximately 60°, so that when the wearer is sitting, with the stump at something greater than a right angle to the body, the peg will be approximately perpendicular to the floor. The joint is, in fact, a rule joint.

A sleeve 18 is mounted to slide on the peg and on the lug 9 of the body of the frame, over the joint between the lug and the peg, and away from over the said joint, and the heads of the pivot pin 14 are countersunk, so that they will not interfere with the movement of the sleeve. When the sleeve is in the position of Fig. 2, the peg is held rigidly in alinement with lug 9.

A latch is provided for holding the sleeve in position to lock the peg in alinement with the lug, the said latch comprising a stem 19 received in a transverse opening 21 in the peg, and having a head 20 fitting an enlargement 22 at the outer end of the opening. A spring 23 encircles the stem in the opening and bears at one end against the bottom of the opening, and at the other against a transverse pin 24 in the stem. The spring normally holds the head extended, and the said head is in position to engage the lower end of sleeve 18 when the upper end is in contact with the body of the frame. The head may be depressed by the finger to permit the sleeve to move downward, and as soon as the sleeve moves over the head the said sleeve holds the latch retracted. The upper end of the peg is reduced to form an annular shoulder 25 for engagement by the lower end of the sleeve when the joint is uncovered. In the present construction the portion of the peg below the shoulder is separable. The upper section 11^a of the peg has a longitudinal opening or socket 26 for receiving a lug 27 on the lower section 11, and any suit-

able means may be used to hold the lug in the socket. With the peg so constructed, the section 11 may be removed and a new section substituted when the peg becomes worn or injured without affecting the joint. When the wearer of the leg is walking, the sleeve 18 is moved upwardly to make the joint rigid and is held in this position by the latch.

When the wearer sits down, the latch is released by pressing on the head 20, and the sleeve slips down of its own weight, thus permitting the peg to take the position of Fig. 3. The latch may be released and the sleeve moved through the clothing and without any difficulty.

In the embodiment of Figs. 5 to 6, the socket for the stump is similar to that of Fig. 1, but the body 1 of the frame is provided with a longitudinal lug 28 in alignment with each arm 2, instead of the central lug 9. Each lug is slotted to form spaced ears and the peg 29 extends longitudinally from the body 30 of a yoke having arms 31. The peg has the rubber inset 32 at its lower end, and the free end of each arm 31 is provided with a circular head 34, which is received between the spaced ears of the adjacent lug 28 and is pivoted thereto by a pin or rivet 33. Each of the heads 34 is provided with two notches 35 spaced apart angularly from each other, and the pivot pin 33 is at the center of the head 34.

A latching device is provided for each arm, each latch comprising a substantial yoke or U-shaped member composed of a body 36 and spaced parallel arms 37. The arms 37 of each member are arranged on opposite sides of the adjacent arm 31, and the said arms 37 are pivoted to the arm 31, as indicated at 38. The latch may swing toward and from the head on the pivotal connection 38, and the body 36 of each member is in position to engage the notches 35. The arms 37 of the latch are bent outwardly adjacent to the body 36, and the said body is of sufficient length to extend across the adjacent lug 28. Each of the lugs 28 is notched or recessed in register with each notch 35, as indicated at 29, to permit the latch body to engage the notches 35. The latches may be easily disengaged, by pressing the ends of the body outwardly, after which the peg and yoke may be swung angularly with respect to the socket for the stump or frame 1—2, and may be locked in either position. The arms 37 of the latch are not freely movable with respect to arms 31, so that the latch cannot swing out of engaging position. The disengagement of the body is permitted by the resiliency of the arms 37.

The construction shown in Fig. 5 is also arranged to limit the forward swinging of the peg to a position in alignment with the long axis of the socket. Movement of the peg farther forward is not necessary, since

the joint is only to permit the limb to bend when sitting.

In the embodiment of the invention shown in Fig. 7, the socket for the stump is the same as just described, the body of the frame 1—2 having longitudinal lugs 28^a to which are pivoted the arms 42 of a fork, having its body 41 connected to the peg 40. Each of the arms 42 is provided with a lug 43 at its upper end, and each lug 43 is pivoted to the lug 28^a by a pin or rivet 45. The locking mechanism is the same as that shown in Fig. 8, and will be described in the description of that figure.

In Fig. 8 the peg 46 is connected to the body 47 of a fork having arms 48, each of which is provided with a circular head 49 at its end, and each head is provided with a central opening for receiving a pivot pin 50. The pivot pin connects the head to the adjacent arm 2 of the frame 1—2 near its junction with the body of the said frame.

The locking mechanism is the same in both Figs. 7 and 8, the said locking mechanism consisting of a latch lever 52 having a central lug 53, which is received between the pair of lugs 51 on the adjacent arm of the fork of the peg, and a pivot pin 54 pivotally connects the lug. The latch lever may be swung against the outer face of the adjacent arm 2 or away from the said arm.

A ring 55 is slidable on the arms 2 adjacent to the latch lever, and the said ring is adapted to engage over the end of the said lever to lock the peg in alignment with the axis of the frame. When the wearer sits down, the ring is slipped upwardly to release the lever and permit the peg to take a position at right angles to the long axis of the frame.

It will be evident that any device that will hold the lever in parallelism with the arm 2 will prevent the peg from swinging movement. Both arms of the fork may be so arranged if desired.

I claim:

1. An artificial limb, comprising a socket for the stump and a peg, said socket comprising a substantially U-shaped frame consisting of a body for engagement by the end of the stump and upwardly extending arms, a pivotal connection between the peg and the body of the socket, said peg having a stop for limiting the forward swinging movement of the peg to a position in alignment with the long axis of the socket, and having a second stop for limiting the rearward swinging of the peg to a position at approximately a right angle to the said axis, a sleeve slidable on the peg over the pivotal connection, the sleeve engaging the body of the socket at its upper end when over the pivotal connection, the peg having a stop for limiting the downward sliding movement of the sleeve, and a spring

pressed stop for engaging the sleeve to hold the said sleeve over the pivotal connection, said stop comprising a stem having a head, the peg having an opening for receiving the stem and head, and a spring in the opening pressing the stem outwardly.

2. An artificial limb, comprising a socket for the stump and a peg, said socket comprising a substantially U-shaped frame consisting of a body for engagement by the end of the stump and upwardly extending arms, a pivotal connection between the peg and the body of the socket, said peg having a stop for limiting the forward swinging movement of the peg to a position in alinement with the long axis of the socket, and having a second stop for limiting the rearward swinging of the peg to a position at approximately a right angle to the said axis, a sleeve slidable on the peg over the pivotal connection, the sleeve engaging the body of the socket at its upper end when over the pivotal connection, the peg having a stop for limiting the downward sliding movement of the sleeve, and a spring pressed stop for engaging the sleeve to hold the said sleeve over the pivotal connection.

3. An artificial limb, comprising a socket for the stump and a peg, said socket comprising a substantially U-shaped frame consisting of a body for engagement by the end of the stump and upwardly extending arms, a pivotal connection between the peg and the body of the socket, said peg having a stop for limiting the forward swinging movement of the peg to a position in alinement with the long axis of the socket, a sleeve slidable on the peg over the pivotal connection, the sleeve engaging the body of the socket at its upper end when over the pivotal connection, the peg having a stop for limiting the downward sliding movement of the sleeve, and a spring pressed stop for engaging the sleeve to hold the said sleeve over the pivotal connection.

4. An artificial limb, comprising a socket for the stump and a peg, said socket comprising a substantially U-shaped frame con-

sisting of a body for engagement by the end of the stump and upwardly extending arms, a pivotal connection between the peg and the body of the socket, a sleeve slidable on the peg over the pivotal connection, the sleeve engaging the body of the socket at its upper end when over the pivotal connection, the peg having a stop for limiting the downward sliding movement of the sleeve, and a spring pressed stop for engaging the sleeve to hold the said sleeve over the pivotal connection.

5. An artificial limb, comprising a socket for the stump and a peg, said socket comprising a substantially U-shaped frame consisting of a body for engagement by the end of the stump and upwardly extending arms, a pivotal connection between the peg and the body of the socket, a sleeve slidable on the peg over the pivotal connection, and a releasable stop for holding the sleeve over the said connection.

6. An artificial limb, comprising a socket for the stump and a peg, said socket comprising a substantially U-shaped frame, consisting of a body and upwardly extending arms, a pivotal connection between the peg and the body, and releasable means for holding the peg in alinement with the long axis of the socket.

7. An artificial limb, comprising a socket for the stump and a peg pivotally connected to the socket, said connection having means for limiting the forward swinging movement of the peg to a position in alinement with the long axis of the socket, and releasable means for holding the peg in such position.

8. An artificial limb, comprising a socket for the stump and a peg pivotally connected to the socket, and releasable means for holding the peg in alinement with the long axis of the socket.

URIAH HOKE.

Witnesses:

J. E. LEIBIG,
MAGGIE BINNER.