(No Model.)

W. L. SNYDER.

ARTIFICIAL LEG.

No. 409,311. Patented Aug. 20, 1889.

Fig. 3.

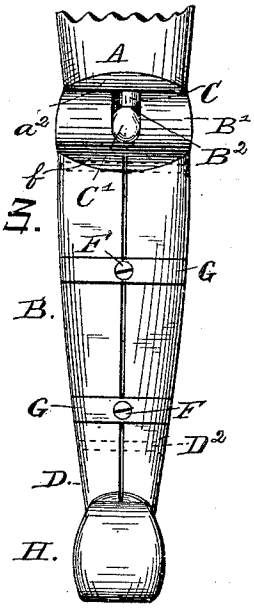

Fig. 2.

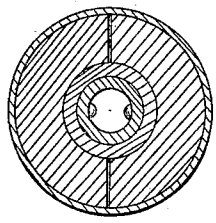

Fig. 1.

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM L. SNYDER, OF DENVER, COLORADO.

ARTIFICIAL LEG.

SPECIFICATION forming part of Letters Patent No. 409,311, dated August 20, 1889.

Application filed April 19, 1889. Serial No. 307,777. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. SNYDER, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Artificial Legs, of which the following is a specification.

The object of my invention is to provide an artificial leg sufficiently strong and durable, and at the same time possessing the desired flexibility to give it a natural motion when in use.

My invention also consists in improved devices for adjusting the length of the leg to correspond with the growth of the person on whom it is used, or to accommodate it to any other variations which it may be desired to compensate.

In the accompanying drawings, illustrating my invention, Figure 1 is a vertical central section through an artificial leg embodying my improvements. Fig. 2 is a transverse section on the line X X of Fig. 1, and Fig. 3 is a rear view of the leg on a reduced scale.

The upper or thigh portion A is preferably made solid, as shown, and provided with a curved socket a, on the front side of which is a downwardly-projecting face-plate or cap a'. An inclined portion a^2 is formed on the rear side of the upper part A, and is adapted to abut against a correspondingly-inclined portion b on the lower leg portion B.

The lower leg portion B is also formed with an inclined edge b', against which the face-plate a' abuts when the leg is straight, as shown in Fig. 1. The portion B is formed with a curved socket-piece B′, which fits in the recess a. A shank C, secured to the upper portion A, carries on its lower end a ball C′, which fits in a correspondingly-curved recess c in the lower portion B. The socket-piece B′ is, however, cut away at B^2, to allow the lower portion B of the leg to swing backwardly around the ball-joint C′, the backward movement of the leg being limited by the inclined surfaces a^2 and b.

The upper portion A is provided with a metallic strap A^2, by means of which it may be connected to the body of the wearer. The lower portion B of the leg is made hollow and open at the bottom, through which opening extends the ankle portion D, which is provided with a cylindrical shank D′, fitting closely in the socket. The shank D′ is hollow and carries a metallic extension-tube E. The shank D′ and tube E are provided with a series of perforations e, into which work screws F which extend through the leg from the outside. Metallic bands G are preferably secured around the leg, and the screws F extend through these bands. By this organization the shank D′ and tube E may be adjusted vertically in the leg portion B, thus varying the length of the leg. The ankle portion D is preferably made in two parts by dividing it longitudinally, which are secured together by a screw D^2.

The foot H is provided with a toe-piece H′, having a curved socket h, in which fits a ball h' on the end of a shank h^2, secured to the foot portion by a pin or screw h^3. The toe portion is recessed at h^4, to allow it to move relatively to the ball h' on the shank h^2.

The heel of the foot is also provided with a shank-piece I, secured in place by a pin or screw I′ and carrying on its upper end a ball I^2, which fits in a corresponding socket I^3 in the under side of the ankle portion, which is also cut away at I^4, to allow the foot to move relatively to the ankle portion.

The socket I^3 in the lower end of the ankle portion is formed to receive the ball I^2 and hold it so that it cannot be removed while the two parts of the ankle portion are secured together.

An artificial leg constructed as above described is strong and durable and possesses a sufficient amount of flexibility to make it natural in its movements when in use.

I claim as my invention—

1. The combination, substantially as hereinbefore set forth, of the upper leg portion formed with a curved recess and face-plate, a shank secured thereto and carrying at its lower end a socket-ball, and the lower leg portion formed with a curved socket-piece at the top and fitting in the curved recess in the upper leg portion, and also having a socket for the ball secured to the shank, and a recess in which the shank is free to move.

2. The combination, substantially as hereinbefore set forth, of the lower leg portion

formed with an opening in its lower end, the ankle-piece divided longitudinally and secured together and adjustably secured in the lower leg portion, and the foot-piece having a ball-joint resting in a recess or socket in the lower end of the ankle-piece, said foot-piece being also provided with a curved recess into which the curved lower end of the ankle-piece extends.

3. The combination, substantially as hereinbefore set forth, of the lower leg portion, the ankle-piece having a shank projecting into the lower leg portion, the foot-piece having a curved recess into which the curved or rounded lower end of the ankle portion projects, the shank I, secured to the foot-piece, and the ball I^2, secured to the end of the shank and resting in a recess or socket in the ankle-piece, which is also provided with a recess I^4, for the purpose specified.

4. The combination, substantially as hereinbefore set forth, of the lower leg portion, the ankle-piece formed with a cylindrical hollow shank extending into the lower leg portion, the metallic cylinder E, arranged centrally within the shank and provided with perforations *e*, the metallic bands or straps secured around the lower leg portion, and the screws extending through the lower leg portion into the perforations in the shank and in the metallic cylinder carried thereby.

In testimony whereof I have hereunto subscribed my name.

WILLIAM L. SNYDER.

Witnesses:
HIRAM G. WOLFF,
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