No. 854,510. PATENTED MAY 21, 1907.

J. W. MAHAFFEY.

ARTIFICIAL FOOT.

APPLICATION FILED JUNE 29, 1906.

Fig. 1.

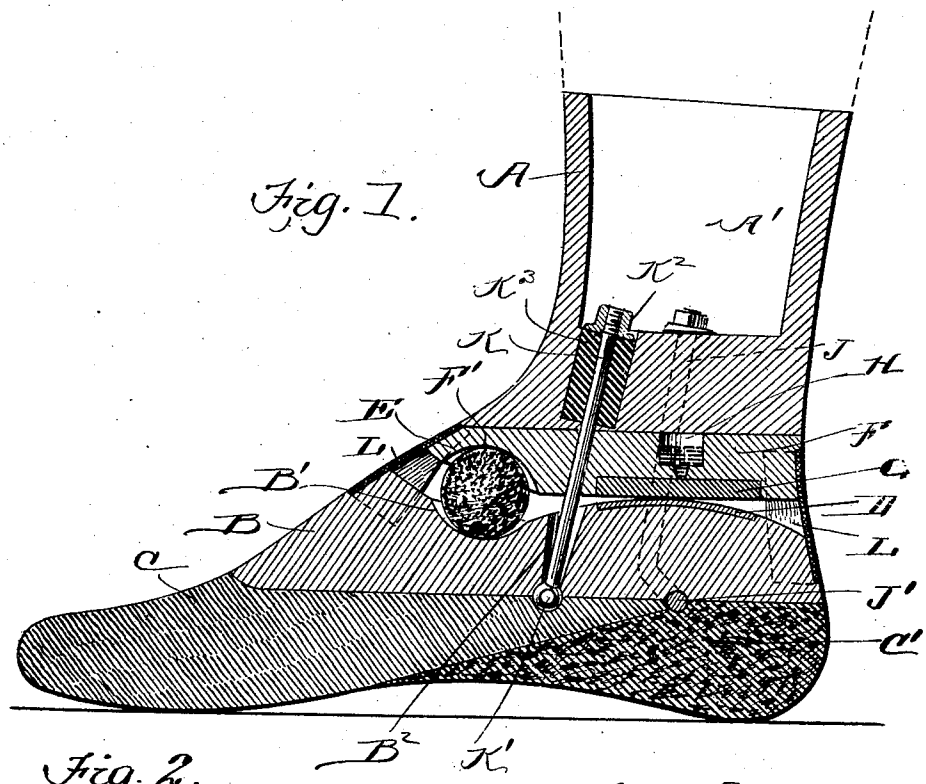


Fig. 2.

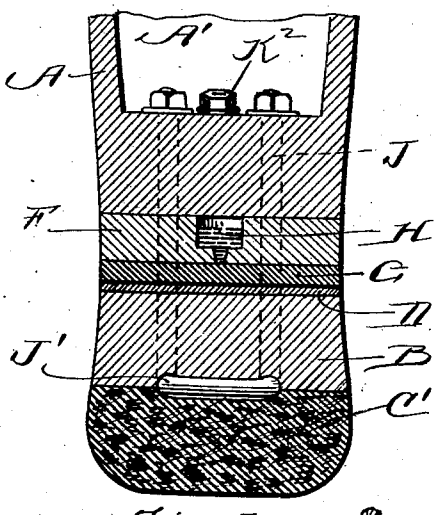


Fig. 3.

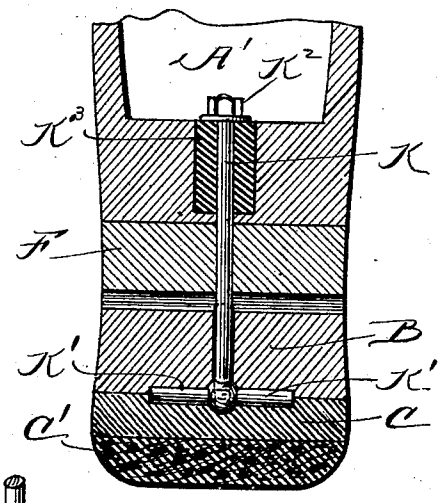


Fig. 5

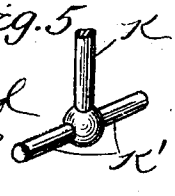
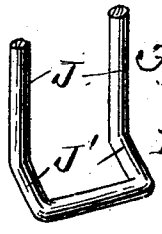


Fig. 4



Witnesses

W. D. Blondell

C. B. McBatt.

Inventor

J. W. Mahaffey,

By O'Meara & Brock

Attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES W. MAHAFFEY, OF PUEBLO, COLORADO.

ARTIFICIAL FOOT.

No. 854,510. Specification of Letters Patent. Patented May 21, 1907.

Application filed June 29, 1906. Serial No. 324,079.

To all whom it may concern:

Be it known that I, JAMES W. MAHAFFEY, a citizen of the United States, residing at Pueblo, in the county of Pueblo and State of Colorado, have invented a new and useful Improvement in Artificial Feet, of which the following is a specification.

This invention relates to an artificial foot and the object of the invention is a foot of this kind which will resemble as closely as possible the natural foot, and which will have as far as is consistent with strength and durability the freedom of movement found in the natural foot.

The invention consists of the novel features of construction hereinafter described, pointed out in the claims, and shown in the accompanying drawings in which:—

Figure 1 is a vertical section taken through the foot from the toe to the heel. Fig. 2 is a transverse section taken vertically through the heel portion. Fig. 3 is a similar section taken through the instep. Fig. 4 is a detail view of the lower portion of a staple. Fig. 5 is a detail view of the lower portion of a T-bolt.

In these drawings A represents an ankle piece provided with a socket A′, and B represents the wooden portion of the foot piece. This foot piece is completed by means of a toe and ball portion C which I prefer to form of what is known as Mexican block felt and an instep and heel portion C′ of sponge rubber, the felt and rubber portions overlapping at the instep as shown in Fig. 1. These portions C and C′ are secured in any desired manner to the wooden portion B. The portion B is recessed upon its upper face as shown at B′ and to the rear of said recess is provided with a curve upper face upon which is secured a steel or other metal wear plate D. The wooden portion B is also provided with a vertical slot B^2 of an inverted conical shape and a ball E is placed in the recess B′. A connecting block F also of wood is interposed between the ankle piece A and the foot portion B and is recessed upon its under face as shown at F′ to bear upon the ball E and in the under face of the block F is set in a piece of leather, preferably elk hide, which rocks upon the curve metal plate D. An oil receptacle H is formed in the block F and discharges any suitable form of lubricant upon the leather pad G. To secure the foot and ankle pieces together I provide a staple J which has its bow portion J′ bent at a slight angle to the main body of the staple and the said staple is inserted upwardly through the block B and passes through the block F and through the lower portion of the ankle piece, the free ends of the staple extending into the socket A′, and having suitable nuts threaded upon them. A T-bolt K has its cross arms K′ arranged transversely with respect to the foot and between the foot portions B and C.

The bolt K passes upwardly through the opening B^2, in which it is adapted to swing as upon a pivot point, and through the block F and the ankle piece A, extending into the socket A′ and being held in place by a suitable nut K^2, which bears upon a piece of spring rubber K^3 which is inserted in the lower portion of the ankle piece and through which the bolt K passes. The joint between the block F and the foot portion B is covered by a piece of elastic webbing L which extends circumferentially around the foot. By means of this construction the ankle portion is securely held to the foot portion and at the same time is permitted to play upon the same having a rocking motion very nearly resembling that of the human foot.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. An artificial foot comprising an ankle piece, a foot portion formed partially of a relatively hard material and partially of an elastic material, the portion formed of the first mentioned material being provided with a recess upon its upper face and a vertical opening, and having a curved bearing surface in the rear of the recess, a block interposed between the foot portion and the ankle piece, and recessed upon its under face said recess alining with the above mentioned recess, a ball arranged in the face formed by said recesses, a piece of leather set in the face of said block and adapted to rock upon the curved portion of the foot portion, the said block being provided with an oil receptacle adapted to discharge oil upon said leather piece, and a T-bolt having its cross arms embedded in the foot portion, the bolt passing upwardly through the vertical opening above mentioned and adapted to play in said opening, and passing through the block and ankle piece, and means for locking the bolt in position.

2. An artificial foot comprising an ankle

portion, a foot portion, said foot portion being provided with an inverted conical-shaped recess, a connecting block interposed between the foot portion and the ankle portion, a T-bolt passing loosely through said connecting block, one end portion of the bolt passing into the ankle portion and the T-end portion working in the recess of the foot portion, and a ball interposed between the foot and ankle portions.

JAMES W. MAHAFFEY.

Witnesses:
JNO. W. HARRISON,
C. A. GEIGER.