

UNITED STATES PATENT OFFICE.

SAMUEL M. HARRISON, OF LEXINGTON, KENTUCKY.

ARTIFICIAL LIMB.

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To all whom it may concern:

Be it known that I, SAMUEL M. HARRISON, of Lexington, in the county of Fayette and State of Kentucky, have invented certain new and useful Improvements in Artificial Limbs; and I do hereby 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.

The object of my invention is to produce an improved artificial limb with the parts so arranged and connected each to the other as to render the limb comfortable to the wearer and capable of assuming the various positions which the normal leg will assume without annoyance or undue manifestation of its being an artificial member, the construction of the whole being simple and inexpensive.

In the drawings Figure 1 is a view in perspective showing the various parts assembled. Figure 2 is an enlarged view of one of the extensible side bars. Figure 3 is an enlarged view of the stub socket. Figure 4 is a detail of the foot.

My improved artificial limb includes a foot 1 preferably made of wood or other light and form retaining material, the toe section 2 being hinged to the main body of the foot, as at 3. To permit relative movement between the toe 2 and the body of the foot, each of these parts is beveled to together form a V-shaped recess 4. For limiting this relative movement the upper portion of the foot and toe sections are covered with leather, such as pigskin. A U-shaped strap of steel 5 forms a stirrup within and to which the foot is secured by screws 6. The ends of the strap 5 are designed for socket engagement with a pair of upwardly extending bars 7 which are flared outwardly at 8 with their upper ends provided with spaced screw threaded openings 9. 10 designates bars supplemental to the bars 7 and each has a grooved lower portion 12 within which fits the upper end of the complementary bars 7, a set screw 13 which takes in any one of the openings 9 effecting a locking of the parts in a desired length. The upper ends of the sup-

plemental bars 10 are arranged for socket engagement with what I term thigh or upper leg bars 14, the free ends being secured in a band 15 of leather or other material which is adapted to be strapped about the limb-stub of the wearer, appropriate fastenings being employed for that purpose. The two lower ends of the bars 7 are held properly spaced by blocks 16 of cork or other light material. In order that the foot may assume a natural position of rest relative to the lower leg bars I provide a steel spring 17 with one end secured to the foot and the other within the block 16.

Fitting between the complementary pairs of bars 7 and 10 and within the flared portions of the former is a stub socket 20 formed of an inner and outer casing and between which air may be introduced to form a cushion for the limb stub, a valve for inflating being indicated at 21. This stub socket will accommodate itself to the size and contour of the limb stub and assures a comfortable housing therefor, and this is supported by means of straps secured to a belt and worn about the waist and which in turn has straps extending over the shoulder.

The elements constituting my improved limb are preferably encased in buckskin or other suitable material from a point slightly above the ankle to above the knee, thus protecting the air inflated stub socket and concealing the other parts. The ankle portion of the limb is padded with pigskin to give it the proper shape and to make it more firm. Suitable straps and buckles are attached to the casing for securing the limb to the limb stub of the wearer, some of these straps being designed to be passed up over the shoulders finding support in a belt around the waist of the wearer.

I claim as my invention:

An artificial limb including a foot section having a U-shaped member receiving the foot forming portion of said section, the free ends of said U-shaped member extending above said foot portion, a lower leg portion having a pair of parallel spaced bars hingedly connected with the upper ends of said U-shaped member, a block securing

said bars together adjacent said hinge connection, a leaf spring connected with the block and the foot forming portion adapted to normally hold said foot section in a
5 predetermined relation with the lower leg section, a stub receiving socket arranged in the lower leg section and means for attaching said artificial limb to the limb of a wearer and to hold the same in fixed relation thereon with the stub of the limb positioned in said socket. 10

In testimony whereof I have signed this specification.

SAMUEL M. HARRISON.