No. 692,719. Patented Feb. 4, 1902.

J. E. SEELEY.

ARTIFICIAL LIMB.

(Application filed Feb. 8, 1901.)

(No Model.)

Fig. II

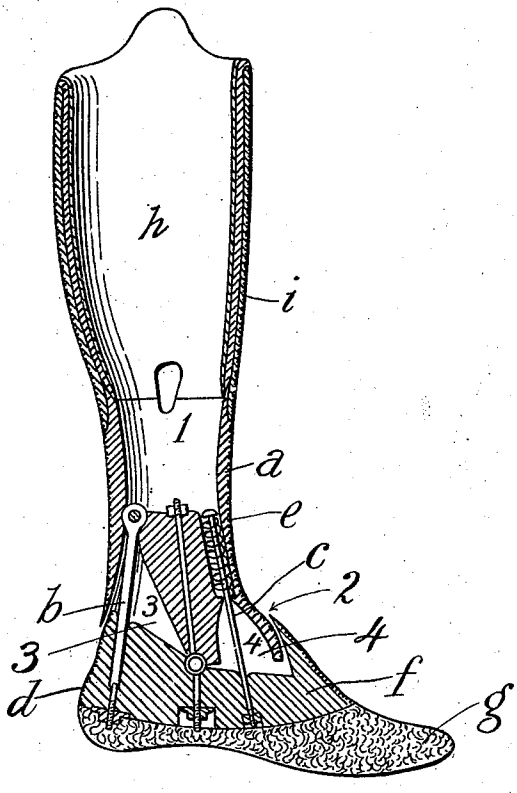


Fig. I

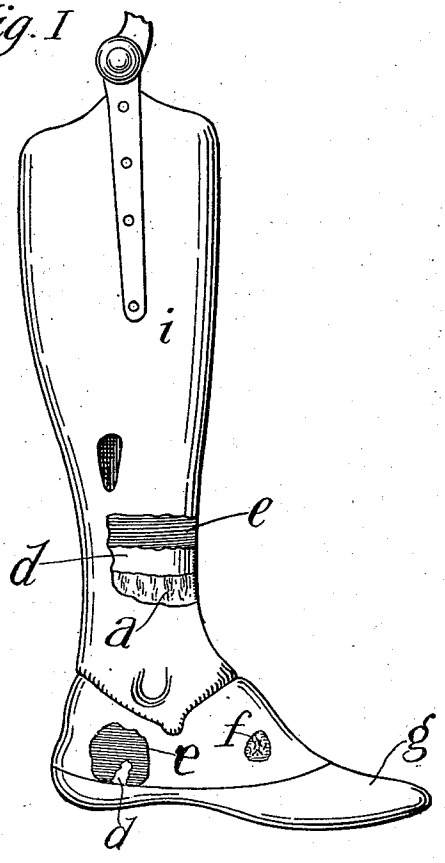
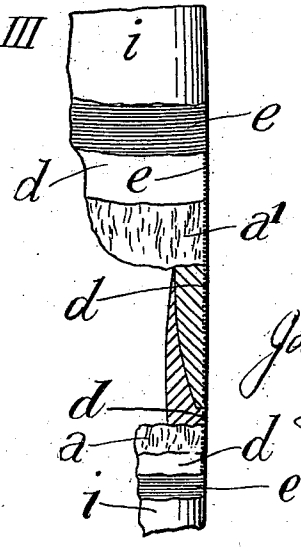


Fig. III



Witnesses
B. W. Pierce
J. Townsend.

Inventor
James Edward Seeley
by Townsend Bro.
his Attys.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES E. SEELEY, OF LOS ANGELES, CALIFORNIA, ASSIGNOR TO W. W. SWEENEY CO., OF LOS ANGELES, CALIFORNIA, A CORPORATION OF CALIFORNIA.

ARTIFICIAL LIMB.

SPECIFICATION forming part of Letters Patent No. 692,719, dated February 4, 1902.

Application filed February 8, 1901. Serial No. 46,572. (No model.)

To all whom it may concern:

Be it known that I, JAMES EDWARD SEELEY, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Artificial Limbs, of which the following is a specification.

An object of my invention is to provide an artificial limb of maximum strength and minimum weight.

My invention relates more particularly to the shank and lower part of the artificial limb, but is also to be employed for any part of the artificial limb, including the foot or other part which is adapted for the application of my invention.

The peculiar combined strength and lightness of yucca brevifolia is well known; but the use of this material in situations which require such great strength and stability as an artificial limb has, so far as I am aware, heretofore been deemed impracticable. The object of my invention is to make it possible to use this material in the parts of an artificial limb below the stump with satisfactory results, and to thereby produce an artificial limb of far greater lightness than has heretofore been possible to produce, at the same time giving to the artificial limb the requisite strength.

My invention comprises a member for an artificial limb consisting in a section of yucca brevifolia, a coating of cement on the outside of the yucca-brevifolia section, and a winding of thread embedded in the cement. Cement of any suitable character may be used. The cement employed should be as strong as possible, combined with waterproofing character, in order to afford the best results; but I do not limit my invention to the use of any particular cement nor to the use of any particular character of thread.

The accompanying drawings illustrate my invention.

Figure I is a view of an artificial leg embodying my invention, a portion of the casing of the shank of the leg being broken away to expose the different parts of the construction. Fig. II is a vertical mid-section of an artificial leg embodying my invention with stump-socket in place. Fig. III is an enlarged fragmental sectional detail showing the yucca brevifolia, the cement, and the winding-thread more clearly than can be shown on a smaller scale.

a indicates a section of yucca brevifolia conformed to the limb and hollowed to form a shell 1 at the upper part and chambered at the lower part 2 to receive the foot connections *b c*. 3 4 indicate the chambers for said foot connections, the same corresponding to like chambers in the ordinary artificial-foot construction.

d indicates a coating of cement on the outside of the member *a*, and *e* a winding composed of thread embedded in said coating. The thread used may be of any suitable character. In applying the same the operator will first wind the smallest portion of the member to be wound and will wind from that point toward the opposite ends of the member, drawing the thread firmly and tightly in place. Strong linen thread is preferred; but any suitable kind of thread may be used. For example, a metal thread in the form of a light fine wire may be used without departing from the broad spirit of my invention. I believe, however, that on account of lightness the use of a thread of flax, silk, or other strong fiber will be found preferable to the use of any metallic thread.

f indicates a yucca-brevifolia instep member for the foot. This member is formed in the ordinary manner of making instep members and is coated with cement *d* and is wound with the thread *e* in the same manner as that above described. To this instep the ordinary felt and rubber toe *g* may be applied in the ordinary manner of constructing artificial limbs.

h indicates the stump-socket, with which the shank member *a* is telescoped at the upper end.

i indicates the sheath or casing of parchment or rawhide, which incases the shank and socket members to hold them firmly together and afford the regulation finish.

I prefer to cement together the telescoped ends of the yucca stump-socket and shank.

The artificial limb is otherwise constructed

the same as artificial limbs heretofore known, and description of the other features shown in the drawings are for that reason not deemed necessary herein.

In Fig. III, *a'* indicates a hollow yucca-brevifolia member wound with the thread *e*.

What I claim, and desire to secure by Letters Patent of the United States, is—

A member for an artificial limb comprising a section of yucca brevifolia; a coating of cement on the outside of the yucca-brevifolia section; and a winding composed of thread embedded in the cement.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, at Los Angeles, California, this 2d day of February, 1901.

J. E. SEELEY.

Witnesses:
JAMES R. TOWNSEND,
JULIA TOWNSEND.