

No. 835,428.

PATENTED NOV. 6, 1906.

J. HOGAN.
ARTIFICIAL LEG.
APPLICATION FILED JUNE 8, 1906.

2 SHEETS—SHEET 1.

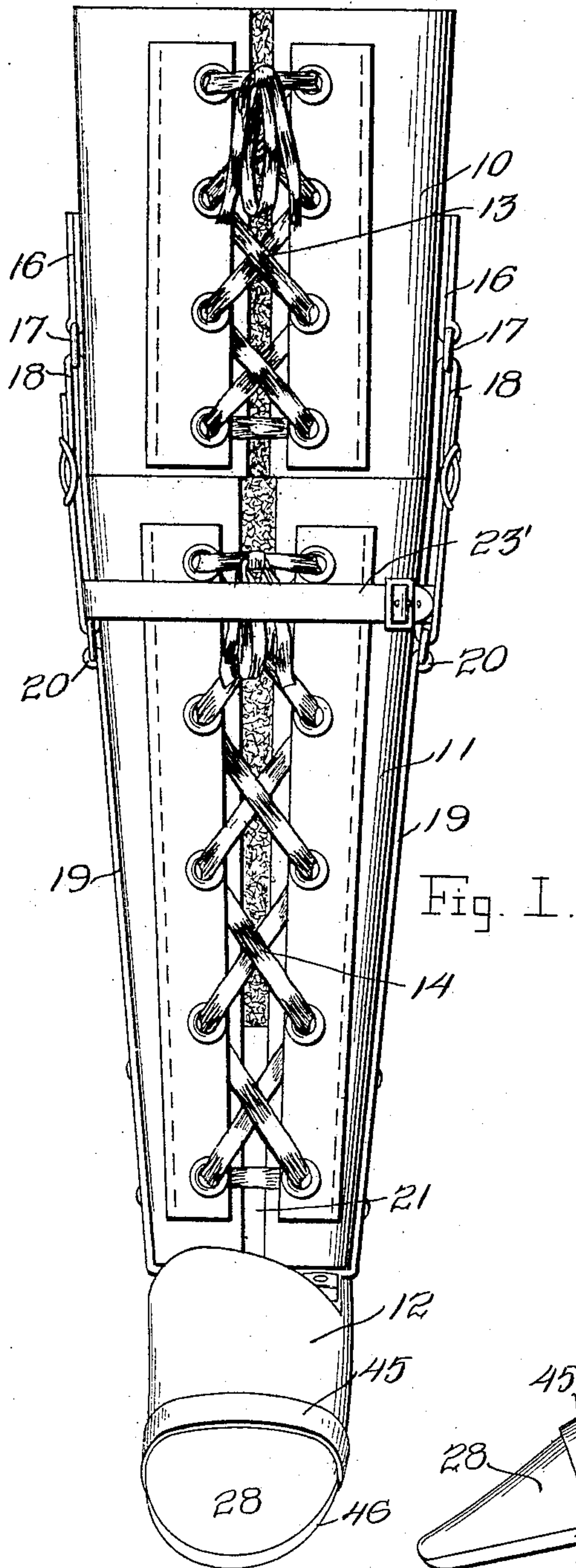


Fig. 1.

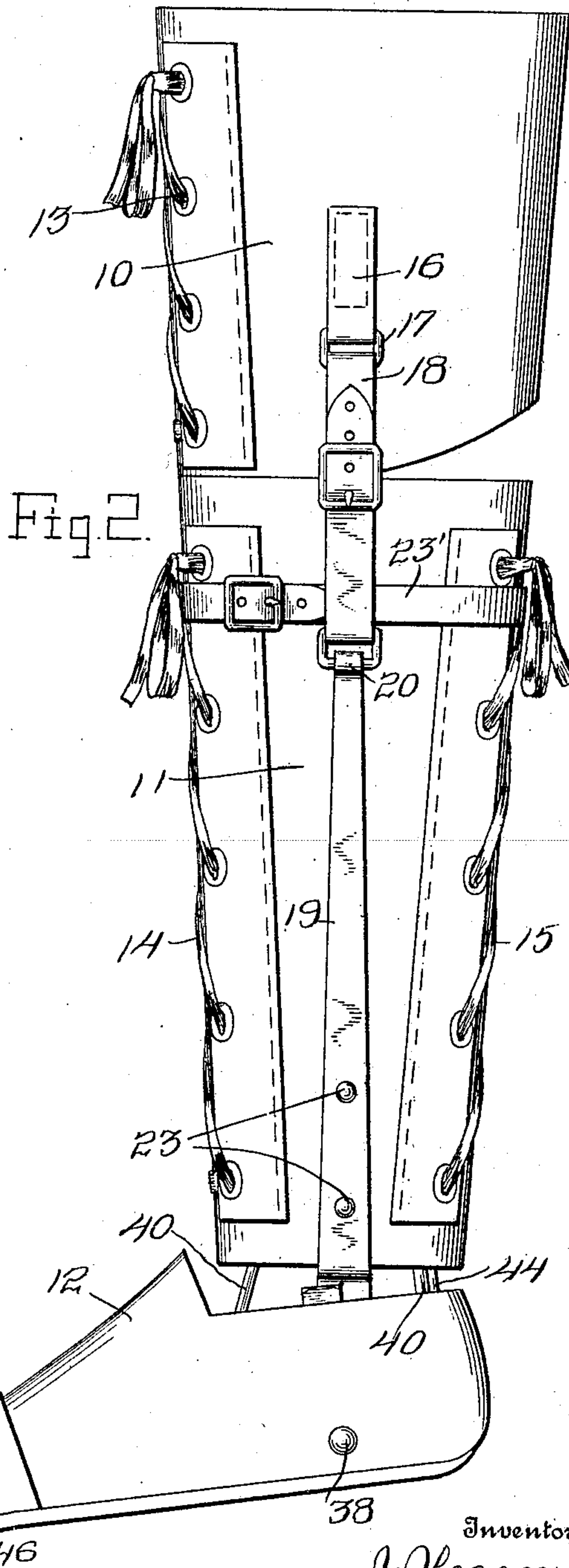


Fig. 2.

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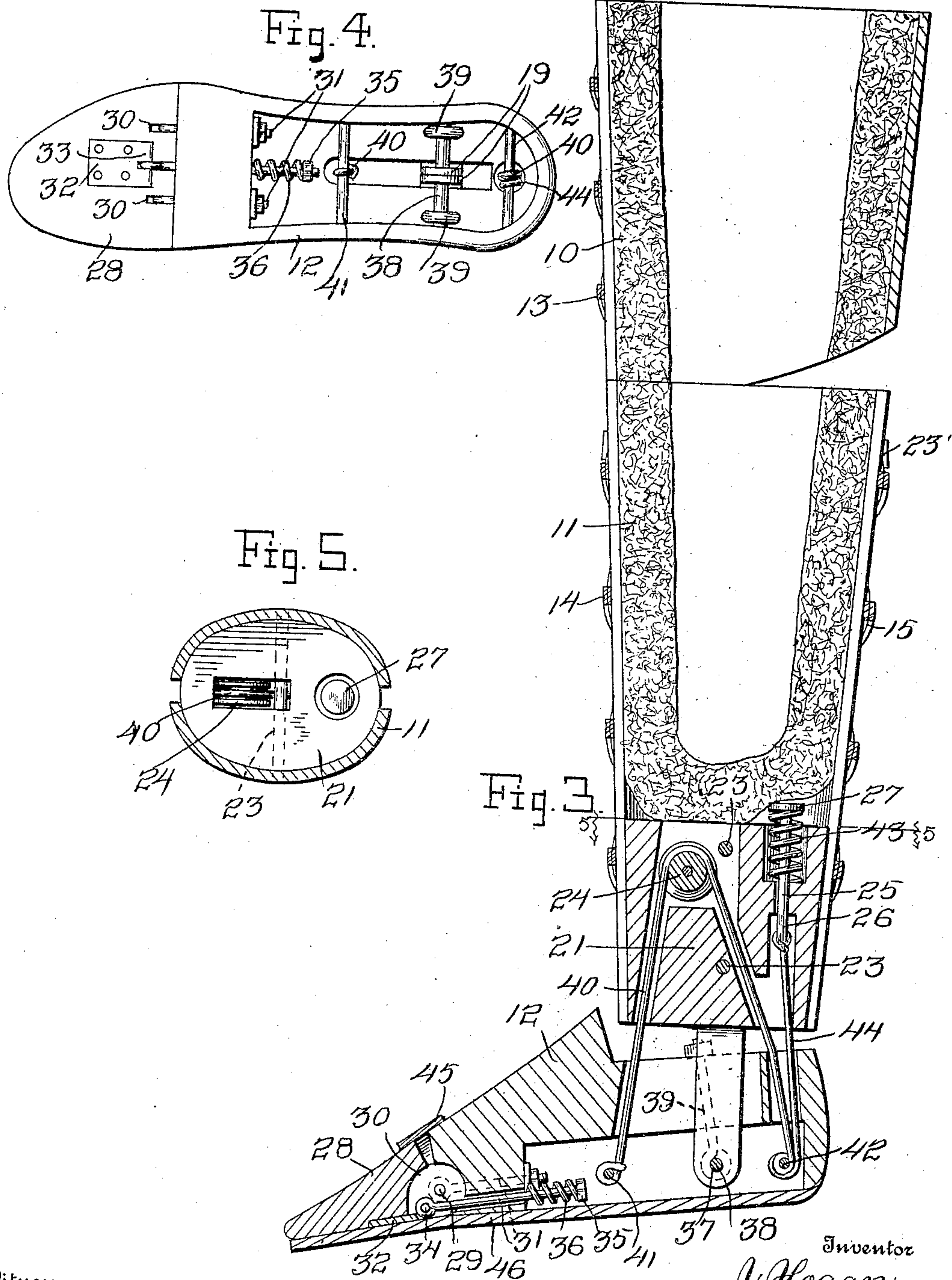
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UNITED STATES PATENT OFFICE.

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ARTIFICIAL LEG.

No. 835,428.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed June 8, 1906. Serial No. 320,842.

To all whom it may concern:

Be it known that I, JAMES HOGAN, a citizen of the United States, residing at Emison, in the county of Knox, State of Indiana, have
5 invented certain new and useful Improvements in Artificial Legs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as
10 it appertains to make and use the same.

This invention relates to artificial limbs; and it consists in the novel construction, combination and arrangement of parts as hereinafter fully described, and shown in the accompanying drawings, in which—
15

Figure 1 is a front elevation of an artificial leg constructed in accordance with this invention. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical central section
20 taken approximately on the line 3 3 of Fig. 1. Fig. 4 is a bottom view of the foot-body with the sole thereof removed. Fig. 5 is a transverse section on the line 5 5 of Fig. 3.

Like parts are designated by corresponding reference-numerals in the several views.
25

Referring to the drawings, 10 designates the upper leg-section, 11 the lower leg-section, and 12 the foot-body. Each section is preferably formed of leather and is lined or
30 padded on the inner face thereof with felt or other soft material. The upper leg-section is provided with the usual front lacing 13, while the lower leg-section has a similar front lacing 14 as well as a back lacing 15.

The upper section 10 is provided on opposite sides with a strap 16, carrying an eye 17, adapted to retain a strap 18 for a purpose hereinafter described.
35

It will be noted from Figs. 1 and 2 that the
40 lower leg-section may be regarded as consisting of a pair of side pieces, of leather, each of which carries adjacent its side edges one member of the front and back laces. Disposed between each of said members is a lateral leg-iron 19, the upper end of each of which
45 is provided with an eye 20. The straps 18, connected to the upper leg-section, as above stated, are passed through the leg-iron eyes and the two leg-sections are thus connected
50 together, the straps being provided at their respective ends with the usual buckle and tongue construction.

The lower edge of the upper leg-section is

curved, as shown in Fig. 3, to allow a limited play of said leg-section upon the lower leg-
55 section when the device is in use.

It will be noted from Fig. 6 that the lining or padding of the lower leg-section extends, approximately, only slightly beyond the center thereof and that a brace-block 21 is carried by the lower portion of said leg-section in the interior thereof, said block being retained in place by bolts 23, passing through said
60 block and the oppositely-disposed leg-irons. The lower leg-section is further strengthened and braced by means of a strap 23, held in place upon the upper portion thereof by means of the strap 18, through which it passes.
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Block 21, as shown, is recessed and is provided with a grooved wheel 24, journaled on a rod extending across said recess. Said
70 block is likewise provided with a bolt 25 movable in a second recess therein and having a lower eye portion 26 and an upper head 27.
75

The foot-body 12, which is of the usual shape and formed of wood, is provided with a recess formed on the lower face thereof and extending practically as far as what may be termed the "ball" thereof, and with a toe portion 28, connected to the forward end of said
80 foot-body by means of a rod 29, journaled at the rear of said toe portion, which is formed with a series of short longitudinal slots 30, as shown, there being a corresponding number
85 of bolts 31 passing through the adjacent end of said foot-body and provided with eyes through which rod 29 passes. The under face of said toe portion has attached thereto a small plate 32, provided with shoulders 33, in
90 which a rod 34 is journaled, said rod being embraced by the eye of the central bolt 31, the rear end of said bolt 31 carrying a nut 35, against which a coil-spring 36, embracing said
95 bolt, bears, the other end of said spring bearing against a shoulder formed in the interior of said foot-body. Toe portion 28 will thus be seen to have a limited movement upwardly or downwardly, and its drop or downward movement may be regarded as limited
100 by the coil-spring on the central bolt 31, the tension of which may be adjusted by means of the nut carried on said bolt.

As seen in Fig. 2, the lower end of each leg-iron is bent inwardly against the under face
105 of the brace-block 21 and thence down-

wardly, there being a longitudinal slot formed on the upper face of said foot-body and communicating with the recess in the under face thereof. The lower end of each leg-iron is
 5 perforated, as at 37, to receive a pivot-bolt 38, passing through opposite sides of said foot-body and being retained in place by eyebolts 39, through which said bolt 38 passes, the upper ends of said eyebolts being thread-
 10 ed to receive nuts by means of which said eyebolts are held in place.

To further connect the body portion and the lower leg-section and to adjust the drop of the former with reference to its pivotal
 15 connection with the latter, there is provided a cord 40, of rawhide or other suitable material, which passes over the grooved wheel 24 in the brace-block, through the recesses therein, and through the recess in the foot-
 20 body, one end of said cord being passed around a rod 41, carried on said foot-body and extending across the forward portion of the recess therein, while the other end of said cord passes around a similar rod 42 at the
 25 heel of the foot-body. The cord ends are then tied or attached together in any other manner.

Cord 44 is also connected with the eye of bolt 25, said bolt being embraced by a coil-
 30 spring 43, bearing at its upper end against the head 27 of said bolt and at its lower end against the bottom of the bolt-recess.

When in use, the ankle-joint between the foot-body and the lower leg-section will per-
 35 mit the usual up-and-down movement of the former in walking, owing to the pivotal connection between the two; but by reason of the connection of cord 44 with the spring-pressed bolt 25 the foot-body will always be
 40 returned to its normal or horizontal position. By loosening or tightening the ends of the cord the drop or play of the entire foot-body can be correspondingly increased or dimin-
 45 ished within the limits of the movement of bolt 25 in its recess, which movement may in turn be adjusted by connecting the supplemental cord 44, connected to the eye of bolt
 50 25 and passing parallel with the outstretch of cord 40 through the slot in the foot-body, its lower end being tied or fastened to rod 42 at the heel end thereof. Obviously, there-
 55 fore, by drawing down upon cord 44 the downward movement of bolt 25 is shortened and the tension of spring 43 is increased, while the reverse is effected by loosening or letting
 out of said cord.

The pivot-body is provided with the usual curved leather strap 45, located at the joint
 60 between the toe-section and the foot-body, which serves to prevent dust or dirt from entering said joint, and, further, in a way limits the play of said toe-section.

A leather sole 46 of the usual description

is attached to the under face of the foot-body by means of screws or in any other fashion. 65

Obvious modifications and changes may be made within the scope of the claims and without departing from the spirit of the in-
 70 vention, which is therefore not intended to be limited to the exact construction shown and described.

What is claimed is—

1. An artificial leg comprising in combina-
 75 tion an upper leg-section and a lower leg-section being provided with lacings, and with an inner padding extending around the inner surface thereof; a leg-iron attached to each
 80 side of said lower leg-section, and having its lower end disposed against the under face thereof, and thence bent downwardly; and a jointed foot-body connected to said lower
 85 leg-section, and provided with a recess to receive the downwardly-bent ends of said leg-irons, and with a bolt passing through said recess and said ends.

2. An artificial leg comprising a padded lower leg-section provided with front and rear lacings; a pair of leg-irons attached to
 90 opposite sides of said leg-section; the upper end of each leg-iron being provided with an eye and the lower end being bent inwardly against the under face of said leg-section and
 95 thence downwardly; a padded upper laced leg-section provided with a pair of oppositely-disposed side straps adapted to be retained in said eyes to connect said leg-sections; and a jointed foot-body connected to
 100 said lower leg-section, and provided with a recess to receive the downwardly-bent ends of said leg-irons, and with a bolt passing through said recess and said ends.

3. An artificial leg comprising a leg-section provided with padding extending around the
 105 inner surface thereof; a pair of leg-irons disposed on opposite sides of said leg-section; a recessed brace-block carried on the interior of said leg-section; bolts passing through
 110 said leg-irons and block; the lower ends of said leg-irons being bent inwardly against the under face of said block, and thence downwardly; a foot-body provided with a recess in
 115 which said downwardly-projecting ends are received and with a bolt passing through said recess and ends; a wheel journaled in the recess in said block; a spring-pressed bolt mov-
 120 able in said block; and a cord passing over said wheel and connected with said bolt and having its ends attached to said foot-body to adjust the drop thereof.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES HOGAN.

Witnesses:

ROY R. GODWIN,
 B. E. CLARKE.