No. 716,337. Patented Dec. 16, 1902.

T. HAMPTON.

SCREW LIFTING JACK.

(Application filed Sept. 22, 1902.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.

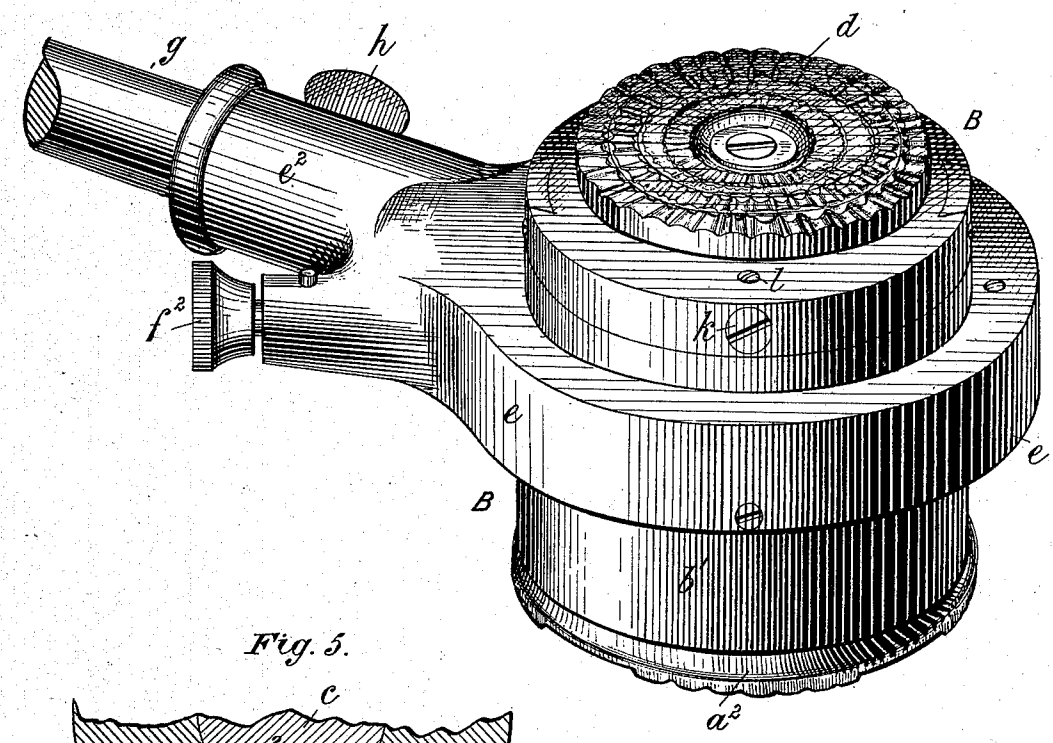
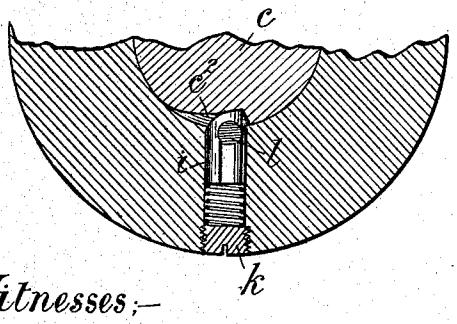


Fig. 5.



Witnesses:—

Richard Skerrett

Arthur J. Powell.

Inventor:—

Thomas Hampton

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

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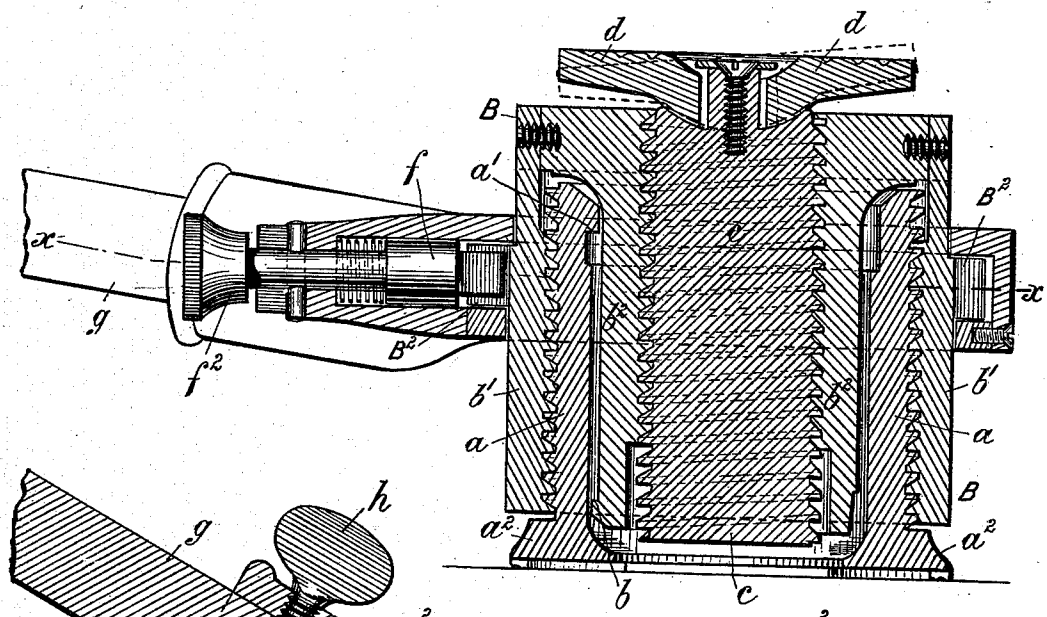
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(No Model.)

3 Sheets—Sheet 2.

Fig. 2.



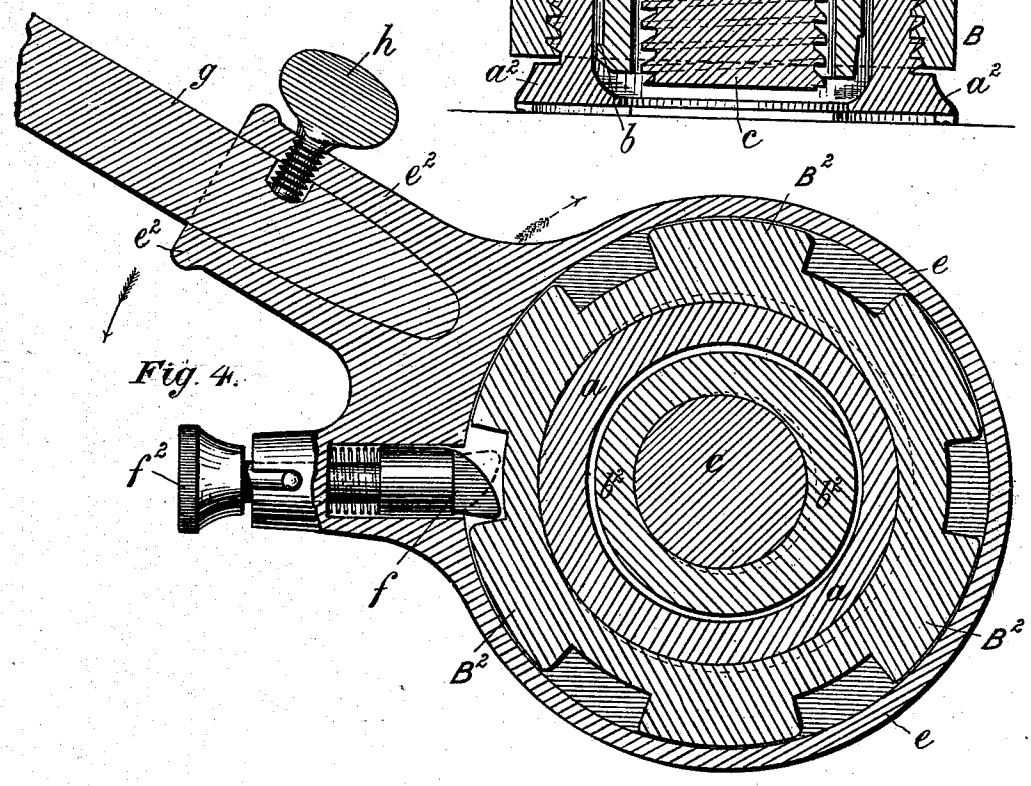


Fig. 4.

Witnesses;—

Richard Skerrett

Arthur J. Powell

Inventor;—

Thomas Hampton

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

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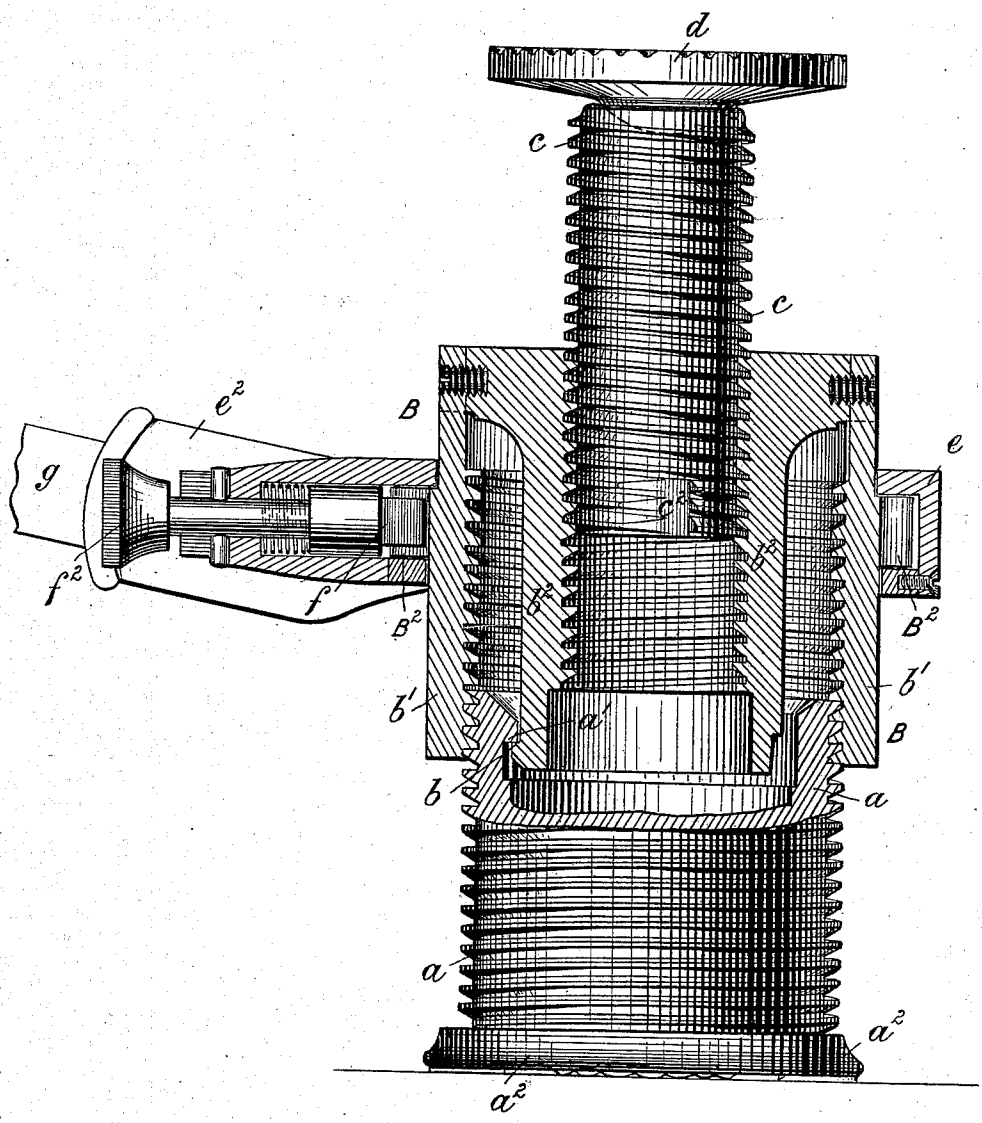
T. HAMPTON.

SCREW LIFTING JACK.

(Application filed Sept. 22, 1902.)

(No Model.) 3 Sheets—Sheet 3.

Fig. 3.



Witnesses;—

Richard Skerrett

Arthur J. Powell

Inventor;—

Thomas Hampton

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

UNITED STATES PATENT OFFICE.

THOMAS HAMPTON, OF WEDNESBURY, ENGLAND, ASSIGNOR OF ONE-HALF TO THE STEEL NUT AND JOSEPH HAMPTON, LIMITED, OF WEDNESBURY, ENGLAND.

SCREW LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 716,337, dated December 16, 1902.

Application filed September 22, 1902. Serial No. 124,450. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HAMPTON, a subject of the King of Great Britain, residing at Tollerton House, Franchise street, Wednesbury, England, have invented certain new and useful Improvements in Screw Lifting-Jacks, of which the following is a specification.

My invention consists of the improvements hereinafter described in screw lifting-jacks, the said improvements having for their objects to obtain in a lifting-jack of small height great range of lifting motion, together with a quick action.

My improved screw lifting-jack is especially useful in tram-cars for raising the car or engine in case of accident; but the said improved screw lifting-jack is generally useful in all places where the use of lifting-jacks of the ordinary construction is found difficult or impracticable in consequence of their large size.

I will describe my invention by reference to the accompanying drawings, of which—

Figure 1 is a perspective view of a screw lifting-jack constructed according to my invention in its normal or unextended state. Fig. 2 is a vertical section of the same. Fig. 3 represents, partly in elevation and partly in vertical section, the said jack in its fully or nearly fully extended state. Fig. 4 is a horizontal section on the dotted line $x\ x$, Fig. 2; and Fig. 5 is a detail sectional view illustrating the stop employed to prevent the detachment of the top rising part or axial screw from the other parts of the jack.

The same letters of reference indicate the same parts in the several figures of the drawings.

In constructing a screw lifting-jack according to my invention I make the stationary base in the form of a short hollow or tubular pillar a, the bottom a^2 of which is flanged, preferably both inwardly and outwardly, so as to obtain a good base or foot for the jack. The said pillar or stationary base a is externally screw-threaded. Onto the said stationary base a is screwed a double-walled tubular part B, constituting on the operation of the jack one of the rising parts of the same. Both the inner and outer walls (marked b' b^2, respectively) of the part B are internally and oppositely screw-threaded, and the space between the two walls opens at bottom. The outer wall b' is internally screw-threaded, so as to fit it to take on the externally screw-threaded stationary base or pillar a, and the inner wall b^2 is internally screw-threaded, so as to fit it to receive a solid axial screw c, constituting the other rising part of the jack. The axial screw c is provided with a head or top bearing-plate d, which is capable of a slight oscillating motion on the screw c, as is indicated in dotted lines in Fig. 2, but is incapable of rotation on the said screw.

When my improved lifting-jack is in use, it is placed under the vehicle or the like to be raised and the screw c is partially turned or, if necessary, rotated once or twice until its head or top bearing-plate d is in contact with the body of the vehicle or the like. The screw c, bearing through its head or plate d on the under side of the vehicle, its further rotation is prevented. The tubular rising part B is then rotated in the direction proper to cause it to rise on the stationary base or pillar a, and the screw c, which, as before stated, is incapable of rotation, simultaneously rises out of the internally-screwed inner wall b^2 of the part B, and the vehicle or the like is thus raised at twice the rate or speed of the part B.

To facilitate the turning or rotation of the part B, I provide it with a notched collar B^2, and on the said notched collar I arrange a spring-pawl carrying-ring e, the spring-pawl being marked f. The ring e has a socket e^2, in which a long or lever handle g can be fixed by a set-screw h or other fastening. The pawl f is beveled on one side, and its outer end is furnished with a knob f^2, by which it can be pulled outward against the action of its spring and turned through a semirotation, so as to reverse the beveled side, as is indicated in dotted lines in Fig. 4. When the pawl f occupies the position represented in full lines in Fig. 4, the handle g is turned in the direction of the full-line arrow in the said Fig. 4, and the part B is rotated in the direction proper for extending the lifting-jack. When the handle g is pulled back, so as to get fresh

purchase thereon preparatory to another forward turn, the beveled side of the inner end of the pawl acting against the other side of the notch, the said pawl is forced outward and passes the said and other notches without acting on or giving rotation to the part B. By a series of partial forward rotations imparted to the rotatable rising part B through the lever or handle *g* the parts of the lifting-jack are extended. When it is desired to lower the screw-jack, it is only necessary to reverse the pawl *f*, as is indicated in dotted lines in Fig. 4, when the back motion of the handle *g* will effect the turning of the part B in the direction proper to screw it on or down the stationary base or pillar *a* and simultaneously to draw into it the axial screw *c*.

In order to prevent the accidental separation or detachment of the parts of the screw-jack described, I provide the stationary base *a* with an internal projection or abutment *a'* and the lower end of the inner wall b^2 of the part B with a stop or shoulder *b*, which when the jack is fully extended comes against the projection or abutment *a'*, as is represented in Fig. 3. The complete withdrawal of the axial screw *c* is prevented by making a notch c^2 in the threads of the screw *c*, near its bottom, (see Figs. 3 and 5,) and providing the part B, near its top, with a spring-pressed stop-pin *i* for engaging in the notch c^2, as is represented in Fig. 5, when the screw *c* is nearly fully withdrawn. The horizontal hole in which the spring-pressed stop-pin *i* works is closed by a screw *k* in the side and near the top of the part B, (see Fig. 1,) and the stop-pin is guided in the said hole by a vertical screw-pin *l*.

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

1. A screw lifting-jack comprising a stationary tubular base externally screw-threaded, a rotatable double-walled tubular middle rising part the two walls being internally and oppositely screw-threaded the internal screw of the outer wall taking onto the screw-threaded stationary base, and a screw-threaded top rising part taking into the internally-screwed inner wall of the rotatable middle rising part and means for rotating the said rotatable middle rising part in either direction at will substantially as herein set forth and shown.

2. A screw lifting-jack comprising a stationary, externally-screw-threaded, tubular base, a rotatable double-walled tubular middle rising part the two walls being internally and oppositely screw-threaded the internally-screwed outer wall taking onto the screw-threaded stationary base and a screw-threaded top rising part having at its upper end a swiveling but non-rotatable head the said top rising part taking into the internally-screwed inner wall of the rotatable middle rising part and means for rotating the middle rising part in either direction at will substantially as herein set forth and shown.

3. A screw lifting-jack comprising a stationary externally-screw-threaded tubular base, a rotatable double-walled tubular middle rising part the two walls being internally and oppositely screw-threaded the internally-screwed outer wall taking onto the screw-threaded stationary base and a screw-threaded top rising part having at its upper end a swiveling but non-rotatable head the said top rising part taking into the internally-screwed inner wall of the rotatable middle rising part and a notched collar on the rotatable middle rising part and a reversible spring-pawl carrying-ring fitting the notched collar the said ring having a socket for the reception of a handle by which it can be turned substantially as herein set forth and shown.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

THOMAS HAMPTON.

Witnesses:
RICHARD SKERRETT,
ARTHUR J. POWELL.