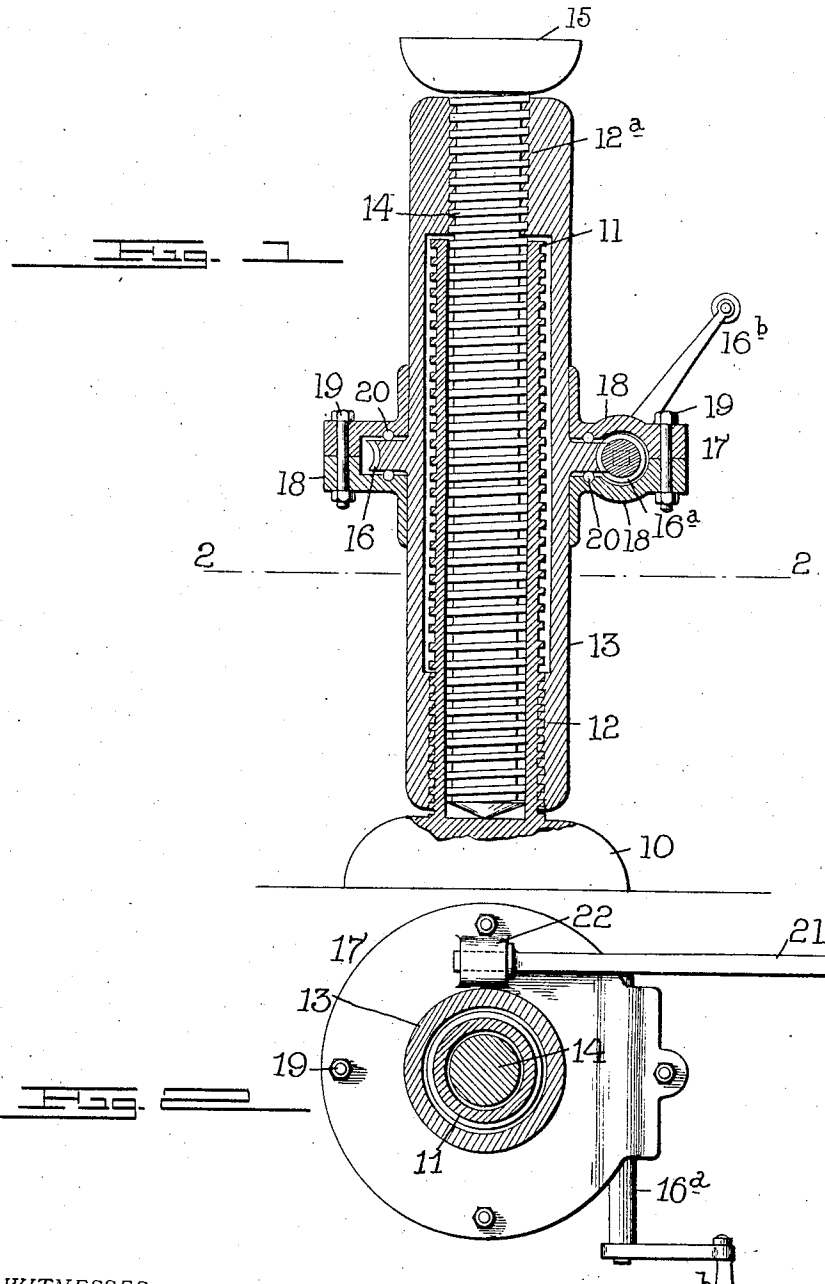
No. 786,310. PATENTED APR. 4, 1905.

T. S. PATTERSON.

LIFTING JACK.

APPLICATION FILED MAY 26, 1904.



WITNESSES:

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No. 786,310. Patented April 4, 1905.

UNITED STATES PATENT OFFICE.

THOMAS S. PATTERSON, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF, ALLISON A. PRATT, AND EDWIN J. SELLEY, OF NEW YORK, N. Y.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 786,310, dated April 4, 1905.

Application filed May 26, 1904. Serial No. 209,942.

To all whom it may concern:

Be it known that I, THOMAS S. PATTERSON, of the city, county, and State of New York, have invented a new and Improved Lifting-Jack, of which the following is a full, clear, and exact description.

My invention relates to improvements in lifting-jacks; and the object of my invention is to produce a simple but double-acting jack which uses the screw as a basis for lifting and which has opposed screws—that is, screws of opposing pitch telescoping one within the other—so that the jack can be brought into comparatively small compass and can also be extended much farther than is usual in jacks, to the end that it may have a large radius of action.

A further object of my invention is to make the jack extremely simple, so that it will not get out of order and provide an easily-operated means of working the screws.

A further object of my invention is to produce a jack which can be made to work rapidly by reason of its double action.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in both views.

Figure 1 is a vertical section of the jack embodying my invention, and Fig. 2 is an inverted sectional plan on the line 2 2 of Fig. 1.

The jack is provided with a suitable base 10, from which rises the screw 11, and this is inclosed in a shell or cylinder 13, the lower end of which has an internal nut 12, which engages the screw 11. The upper end of the shell is also provided with a nut 12^a, which fits the screw 14, and the latter is adapted to extend into the hollow screw 11; but it simply fits in the said hollow screw and has no operative connection therewith except through the shell 13. The screw 14 is of opposite pitch to the screw 11, and where it projects from the top of the shell 13 it terminates in a plate 15, which is adapted to support the load to be lifted.

On the exterior of the shell 13 and preferably centrally thereof and integral therewith is a worm-gear 16, which engages the screw 16^a, and the latter is mounted in the ring 17, which is preferably constructed in two parts 18 and fits closely against the shell 13, the two parts being held together by bolts 19 or equivalent fastenings and having ball-bearings 20 between themselves and the gear 16. The screw or shaft 16^a can have any suitable means for turning it, and it is preferably provided with a detachable crank 16^b. To prevent the ring 17 from turning around the shell 13, a lever 21 is used, which fits in a socket 22 on the top of the ring 17, and the operator can grasp the lever 21 with one hand and turn the crank 16^b with the other, so that the ring 17 is thus held stationary and the shell 13 is revolved. When this action takes place, the nuts 12 and 12^a, acting on the screws 11 and 14, cause the screws to have an endwise movement, and so the jack is expanded longitudinally and its load is lifted.

It will be seen that by having the nuts at the extreme ends of the shell the device is made very stiff, and it will be understood that instead of the plain crank 16^b for turning the worm-shaft any suitable gearing or mechanism can be substituted.

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

1. A lifting-jack, comprising screws of opposite pitch fitting one within the other, a shell inclosing the two screws and provided with nuts at its ends to engage the screws, a wheel fast on the shell, a support journaled on the shell, a rotary shaft mounted in the support and engaging the rear wheel, and means for preventing the support from turning with the shell.

2. A lifting-jack, comprising screws of opposite pitch fitting one within the other, a shell having nuts to engage the two screws, a

ring mounted on the shell, a gear mechanism within the ring to turn the shell, and means to prevent the ring from turning.

3. A lifting-jack, comprising a base having a hollow screw thereon, a second screw fitting within the hollow screw and having pitch opposite to that of the hollow screw, a shell inclosing the two screws and having nuts at its opposite ends to engage the screws, a ring mounted on the shell, gearing within the ring to engage the shell and turn it, and means for preventing the ring from turning with the shell.

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Witnesses:
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