

No. 791,581.

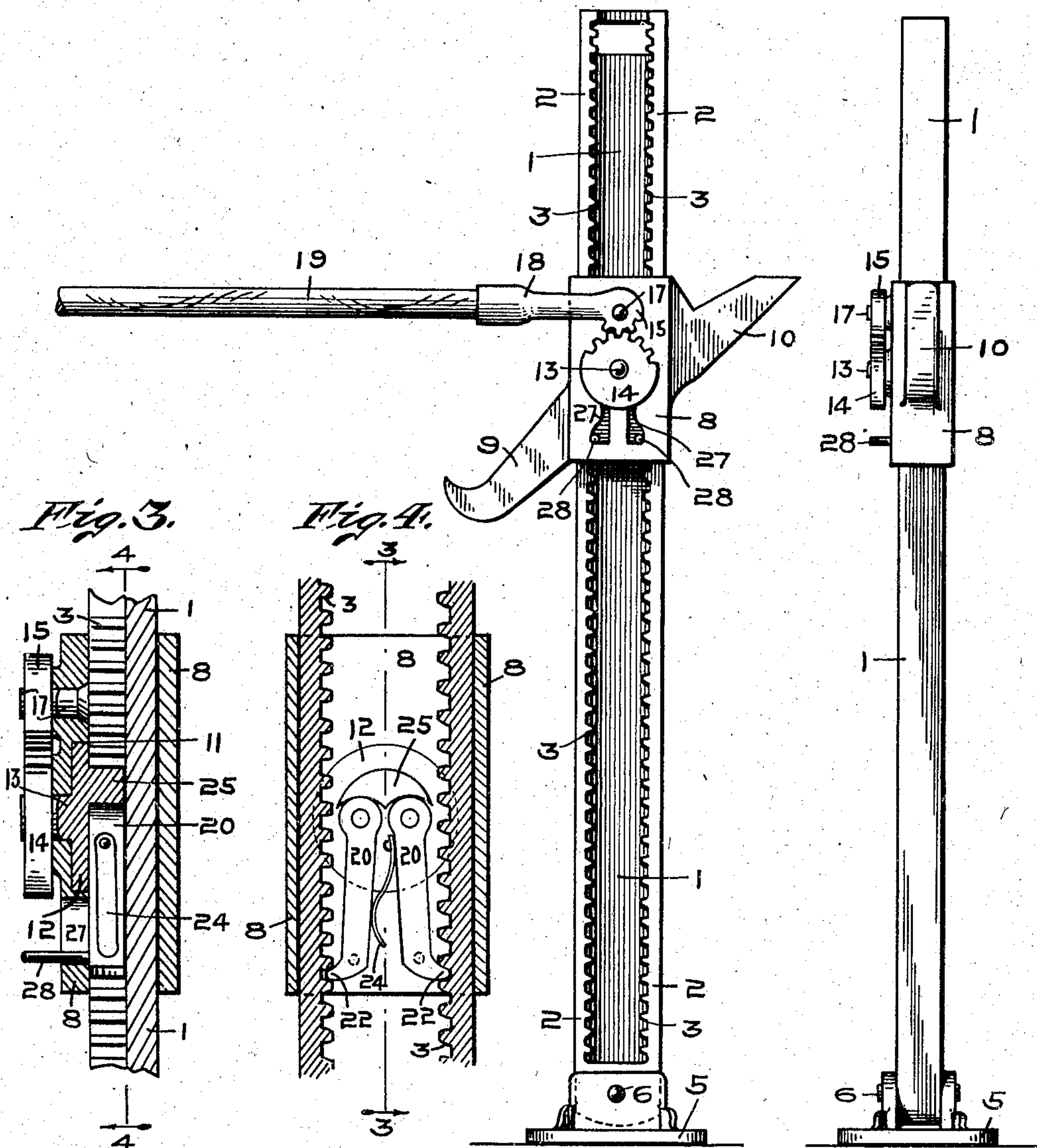
PATENTED JUNE 6, 1905.

J. B. RUNNER.  
LIFTING JACK.

APPLICATION FILED JULY 5, 1904.

Fig. 1.

Fig. 2.



Inventor

John B. Runner,

by

Frank W. Hoerner,

Attorney.

Witnesses

Joseph A. Minturn  
L. B. Woerner



# UNITED STATES PATENT OFFICE.

JOHN B. RUNNER, OF INDIANAPOLIS, INDIANA.

## LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 791,581, dated June 6, 1905.

Application filed July 5, 1904. Serial No. 215,369.

*To all whom it may concern:*

Be it known that I, JOHN B. RUNNER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Lifting-Jacks, of which the following is a specification.

This invention relates to a lifting-jack, and has for its object the production of such a jack that will be simple in construction, durable, and strong.

The construction and arrangement of the parts of such a lifting-jack whereby the advantages sought are attained are shown in the accompanying drawings and more particularly described in the annexed specification and claims.

Referring to the accompanying drawings, which are made a part hereof, Figure 1 is a side elevation of the device converted into a lifting-jack. Fig. 2 is an end elevation of the construction shown in Fig. 1. Fig. 3 is a fragmentary detail vertical sectional view of the mechanism employed for raising and lowering the jack as seen from the dotted line 3-3 in Fig. 4. Fig. 4 is a vertical sectional view as seen from the dotted line 4-4 in Fig. 3.

In the drawings, 1 is a channeled bar having the raised edges 2, which are provided with the internal rack-teeth 3 and forms the body for the lifting-jack. The channeled bar 1 is provided with a base-plate 5, which is pivotally secured to said bar by means of the pivot 6. The channeled bar 1 is also provided with a hollow sleeve 8, carrying the integrally-formed weight-sustaining hooks 9 and 10, which may be moved longitudinally on the bar. The internal surface of the hollow sleeve 8 is provided with a circular recess 11, which forms a seat for the disk 12, the latter being provided with a stud-shaft 13, carrying the segmental pinion 14 for operating the said disk. A segment 15 meshes with the segmental pinion 14, is pivotally mounted on the hollow sleeve 8 by means of the stud-shaft 17, and is provided with a socketed stem 18, which engages a suitable leverage-procuring bar 19 for increasing the lifting capacity of the jack.

A pair of pawls 20 are pivotally secured to

the internal face of the disk 12 by means of the pins 21. The lower ends of the pawls 20 terminate in outwardly-disposed noses 22, which are held into engagement with the internal racks 3 in the bar 1 by means of a spring 24, which lies between said pawls. The upper ends of the pawls 20 are formed semicircularly and engage a double concaved cam 25, which is formed integrally with the disk 12 and serves to relieve the pins 21 of the stress when the pawls 20 are holding weight. It will be seen by examining Fig. 4 of the drawings that the pawls 20 are pivotally mounted on the sides of the axis of the disk 12, so that when the disk is operated the pawls will move in an upward-stepping manner along the racks 3, and thus carry the hollow sleeve 8 and supported weight upward.

The hollow sleeve 8 is provided with a series of cam-slots 27, through which a series of pins 28, carried on the pawls 20, extend. When the disk 12 is operated, the pins 28 engage the cam parts of the slots 27 and disengage said pawls from the racks 3. It will be understood, however, that only one pawl is removed from the racks 3 at a time, so that the remaining pawl sustains the weight until the other moves upward or downward, depending on the direction the weight is being moved, and reengages the racks.

To lower the sleeve 8, which is carrying the weight, by means of the hooks 9 or 10, the handle 19 is operated in the same manner as when raising said sleeve. In this instance one hand is employed to manipulate the handle 19, while the other is employed to alternately move the pawls 20 into and out of engagement with the racks 3 at each stroke of the handle.

Having thus fully described my said invention, what I desire to secure by Letters Patent is—

1. In a lifting-jack, the body, racks on the body, a sleeve movably mounted on the body of the jack, rocking means suitably mounted on the sleeve, engaging means pivotally secured to the rocking means and adapted to engage the racks in the jack-body, and means for actuating both the rocking and engaging means.



2. In a lifting-jack, the body, racks on the body, a sleeve movably mounted on the body, means carried by the sleeve for engaging the racks on the body, and means for operating  
5 the engaging means carried by the sleeve.

3. In a lifting-jack, the body, a base pivotally secured to the body, racks on the body, a sleeve movably mounted on the body, means carried by the sleeve for engaging the racks  
10 on the body, and means for operating the engaging means carried on the sleeve.

4. In a lifting-jack, the body, a sleeve movably mounted on the body, hooks formed on and carried by the movable sleeve, means  
15 movably mounted on the sleeve for engaging the racks on the body, and means for operating the engaging means.

5. In a lifting-jack, the body, racks on the body, a sleeve movably mounted on the body,  
20 a disk mounted on the sleeve, pawls pivotally secured to the disk and adapted to engage the racks on the body, and means for operating the disk and pawls.

6. In a lifting-jack, the body, racks on the

body, a sleeve movably mounted on the body, 25  
a disk pivotally mounted on the sleeve, pawls pivotally secured to the disk and adapted to engage the racks on the body, yieldable means to hold the pawls into engagement with the racks, and means for operating the disk and  
30 pawls.

7. In a lifting-jack, the body, racks on the body, a sleeve movably mounted on the body, cams on the sleeve, a disk pivotally mounted on the sleeve, pawls pivotally secured to the  
35 disk and adapted to engage the racks on the body, means on the pawls for engaging the cams on the sleeve to shift the pawls into and out of engagement with the racks when the disk is operated, and means for operating the  
40 disk and pawls.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 24th day of June, A. D. 1904.

JOHN B. RUNNER. [L. s.]

Witnesses:

F. W. WOERNER,

JOSEPH A. MINTURN.