A. DUDGEON.

DOUBLE ACTING RATCHET HANDLE FOR LIFTING JACKS.

APPLICATION FILED JULY 12, 1913.

1,091,817. Patented Mar. 31, 1914.

Fig. 1,

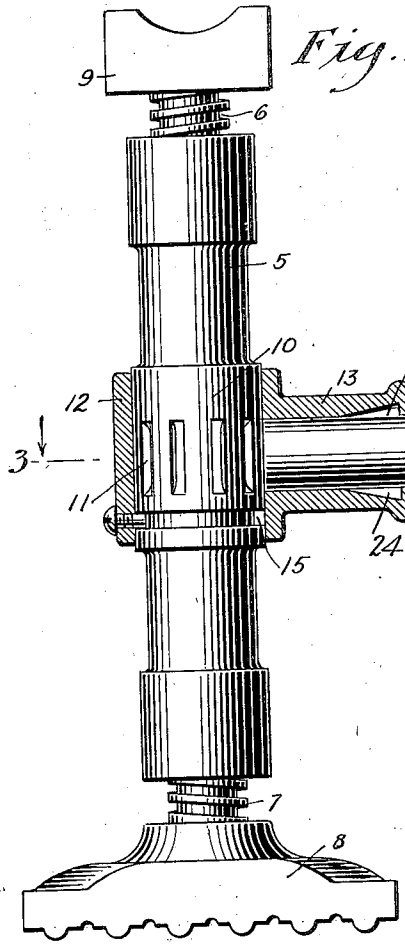


Fig. 2,

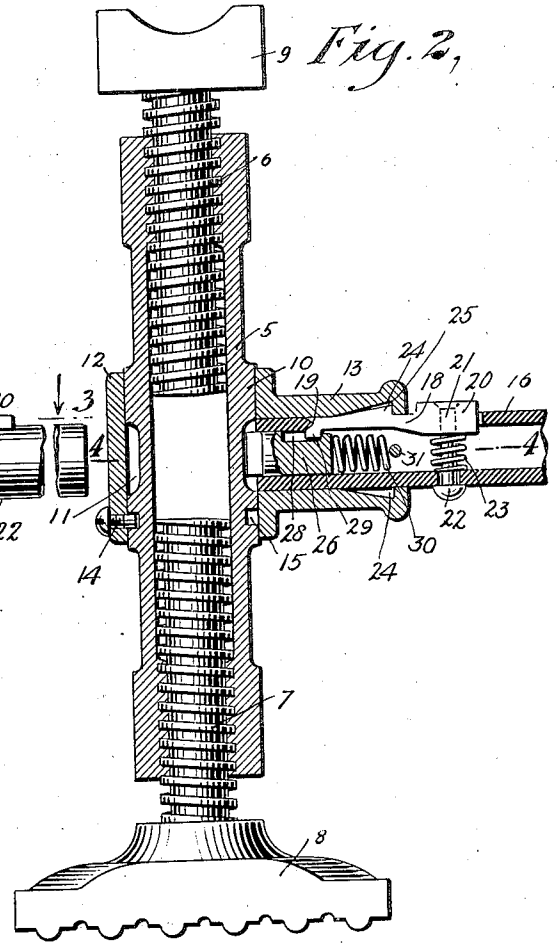


Fig. 3,

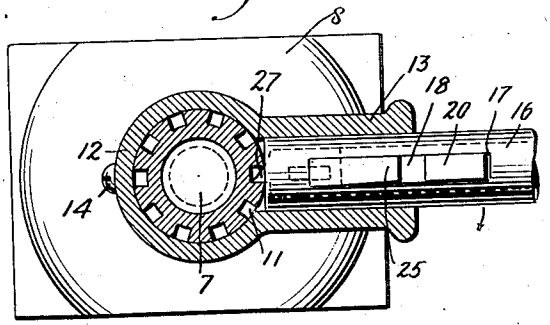
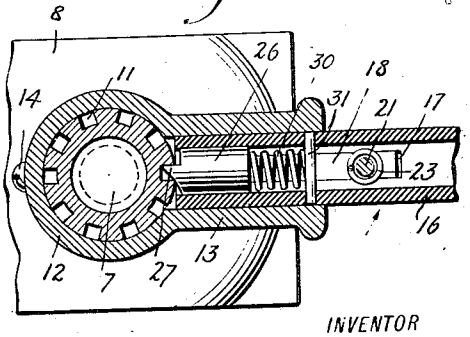


Fig. 4.



WITNESSES

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DOUBLE-ACTING RATCHET-HANDLE FOR LIFTING-JACKS.

1,091,817. Specification of Letters Patent. Patented Mar. 31, 1914.

Application filed July 12, 1913. Serial No. 778,704.

To all whom it may concern:

Be it known that I, ADDELBERT DUDGEON, a citizen of the United States, and a resident of Latrobe, in the county of Westmoreland and State of Pennsylvania, have invented a new and Improved Double-Acting Ratchet-Handle for Lifting-Jacks, of which the following is a full, clear, and exact description.

My invention relates to lifting jacks, and has reference more particularly to the lever structure for actuating the jack.

An object of the invention is to provide a simple, strong and inexpensive jack which, by a simple manipulation, can be reversed from raising a load to lowering the same, and vice versa.

Another object of the invention is to provide an operating lever which is removably associated with the jack and can be used with different jacks of the same structure and of different sizes, within a predetermined limit.

The invention consists of the construction and combination of parts to be more fully described hereinafter and fully set forth in the claim.

Reference is to be had to the accompanying drawings forming a part of this specification, in which like characters indicate corresponding parts in all the views and in which:

Figure 1 is an elevation of an embodiment of my invention showing the rotatably-mounted collar in section; Fig. 2 is a longitudinal section of an embodiment of my invention; Fig. 3 is a section on line 3—3, Fig. 1; and Fig. 4 is a section on line 4—4, Fig. 2.

Referring to the drawings, 5 represents a tubular member, the inner ends of which are threaded, one receiving a right screw 6, the other, a left screw 7. The screw 7 is provided with a base 8, while the screw 6 is provided with a head 9. The tubular member 5 is provided with a reinforcement 10 in the middle thereof, on the lateral surface of which a ratchet 11 is formed.

Snugly fitting on the reinforcement 10, covering the ratchet surface, is a collar 12 which is provided with a lateral tubular portion 13, the aperture of which faces the ratchet surface and is substantially central with the same. The collar 12 is prevented from sliding on the reinforcement 10 by the engagement of a screw 14 positioned in the collar, with a groove 15 formed in the reinforcement 10 slightly below the ratchet surface under the collar. This engagement, while preventing the translation of the collar on the tubular member, permits its rotation on the same.

Fitting with one end into the aperture of the lateral tubular portion 13 is a tubular lever 16. This end of the tubular lever is provided with a longitudinal slot 17 into which fits a latch or locking member 18 provided at the end nearer to the extremity of the tubular member, with a V-shaped groove 19 engaging a sharp projection formed by the adjacent ends of the slot and whereon said latch 18 is adapted to swing. The opposite end of the latch has a portion 20 projecting above the tubular lever and therein receiving a screw 21 passing across the tubular lever 16 and having its head 22 in engagement with the exterior lateral surface of the tubular lever, so as to form a stop for the outward movement of the portion 20 produced by the coil spring 23 mounted within the tubular lever on said screw, and normally tends to swing the portion 20 of the latch 18 out of the tubular lever about its pivotal point 19.

The lateral tubular portion 13 adjacent its end is provided with two diametrically opposite beveled recesses 24, which are adapted to be engaged by the beveled or toothed portion 25 of the latch 18, whereby the tubular lever 16 is locked to the lateral tubular portion 13 and, therefore, to the collar 12. To disengage the lever 16 from the tubular portion 13, the portion 20 of the latch 18 is forced into the tubular lever, thereby causing the disengagement of the portion 25 of the latch 18 from the recess 24 of the tubular portion 13.

Engaging the end of the bore of the tubular lever 16 is a cylindrical pawl 26, the end 27 of which is adapted to engage the ratchet 11. The lateral surface of the pawl is provided with a keyway 28 which is engaged by a key 29 forming part of the latch 18 and provided adjacent the V-shaped groove 19. This engagement between the latch and the pawl prevents the rotation of the pawl while it allows a certain amount of translation of the pawl within the tubular lever 16. A coil spring 30 is provided within the bore of the tubular lever 16 which bears with one end against a pin 31 integral with the lever and forming an abutment for the said end of the spring; the other end of the coil spring bearing against the end of the pawl 26 and, therefore, normally forcing said pawl into

engagement with the ratchet surface of the reinforcement 10.

As shown in Fig. 3, the tubular member 5 will rotate when the tubular lever 16 is moved in the direction indicated by the arrow, and it will raise a load. To lower a load, the latch 18 is disengaged from the tubular portion 13 by depressing the portion 20 into the lever and pulling the lever out, turning it through an angle of 180 degrees, and simply forcing it in, the toothed portion 25 will automatically engage itself with the lower beveled recess 24, as shown in Fig. 4; and this will permit the rotation of the tubular member 5 in the direction of the arrow, as shown in said figure. Therefore, the reverse motion in the lifting jack is obtained by the removal of the tubular lever and its insertion after turning the same through an angle of 180 degrees. It is easily seen that the same lever can be used with jacks that may vary in size but have the same size tubular portion 13; also, it affords a rapid change from raising to lowering and vice versa.

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

In a device of the character described, a member to be rotated provided with an annular series of teeth, a collar loosely mounted on said member and inclosing and covering said teeth, said collar having a radial projection provided with a socket, a ratchet handle with an inclined spring-pressed pawl mounted in its end adapted to engage said teeth when inserted in said socket, and a transverse latch member also carried by said handle adapted to engage recesses in the opposite sides of said radial projection, whereby said handle may be locked in position to rotate said member in either direction.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ADDELBERT DUDGEON.

Witnesses:
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JAMES B. WEAVER.