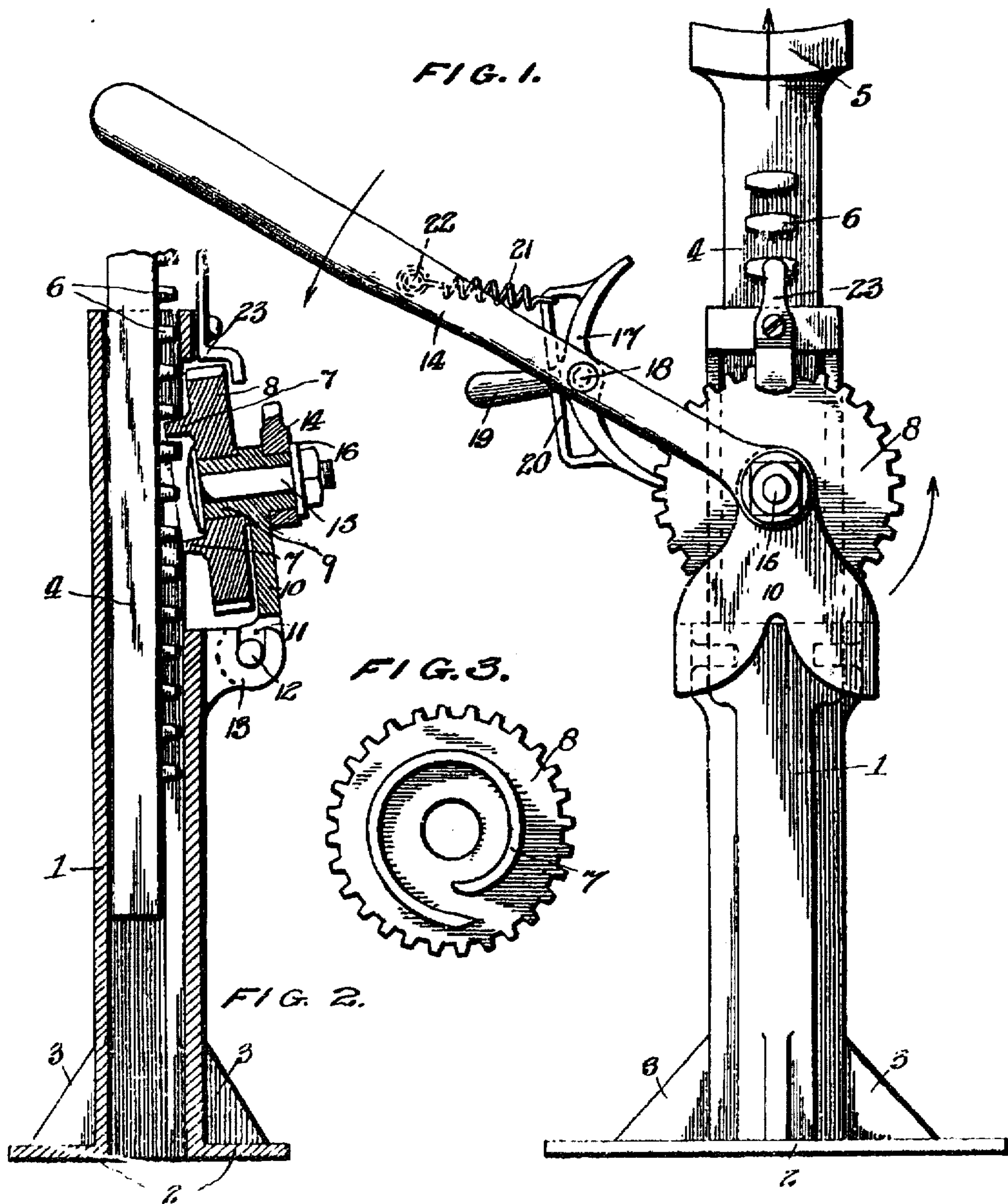


LE ROY WILLOUR.
LIFTING JACK.
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938,806.

Patented Nov. 2, 1909.



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LIFTING-JACK.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LE ROY WILLOUR, citizen of the United States, residing at Ashland, in the county of Ashland and State of Ohio, have invented certain new and useful Improvements in Lifting-Jacks, of which the following is a specification.

My invention relates to lifting jacks, and more particularly to mechanical jacks, and the object thereof is to provide a simple and exceedingly strong jack, which may be quickly adjusted up to the load, and which may be readily and quickly dismantled, certain parts thereof removed, in order that the same may be packed away to occupy a minimum of space.

Further objects and advantages of my present invention will be apparent to those skilled in the art, from the following description, in which reference is made to the accompanying drawings, illustrating my invention, and forming a part of this specification, and in which.

Figure 1 is a side elevation of my improved jack in the operative position. Fig. 2 is a central vertical sectional view through the same, the upper portion of the lift bar being broken away, and, Fig. 3 is a face view of the toothed operating wheel.

In the practical embodiment of my invention, I provide a tubular upright 1, provided with flanged supporting base 2, having strengthening webs 3, and provided in one of its walls with an enlarged opening adjacent its upper end, and communicating with the interior thereof. Mounted to move vertically within the tubular support 1, is a lift bar 4, provided with a saddle 5 upon its upper end, and with a rack 6 upon its face, contiguous to the open side of the said tubular support 1. As shown, the rack is formed by elliptical projections, and is adapted to be engaged by the spiral or convolute flange 7, formed integral with and upon one face of a gear or toothed wheel 8, which is rotatably mounted upon one end of a tubular transverse upper end 9, of a detachable frame 10, provided with side flanges 11 at its lower end, having inwardly extending opposing trunnions 12, for detachable engagement within slotted ears 13, extending from the said tubular support 1 at the base of the aforementioned opening in one side thereof.

The transverse tubular portion 9 of the frame 10 supports upon its opposite end, in loose rotative relation, one end of an operating handle 14, which handle 14, and the toothed wheel 8 are held upon said frame portion 9 by a headed bolt 15 and its washer 16.

Connection between the operating handle 14 and the toothed wheel 8 consists of a double ended pawl 17, embodying a semi-circular body portion pivoted centrally upon said operating arm at 18, and provided with a short handle 19 extending at right angles thereto, and from a point adjacent its pivot, and the body portion of which is provided with a U-shaped bracket 20, which may be formed integral therewith or secured thereto, which bracket is adapted to receive one end of a coil spring 21, hooked therein, the other end of which spring is secured at 22 upon the said operating handle 14. Thus the pawl 17, may be swung, by means of its handle 19, to locate the hook end of spring 21 at either end of the bracket 20, thereby permitting of an intermittent rotation of the said toothed wheel 8, and in either direction, by the engagement of a selected end of pawl 17, with the teeth thereof. Thus it will be seen, by the pivotal detachable engagement of the frame 10 upon the support 1, to hold the toothed wheel 8 in engagement with the lift bar, that said wheel and said frame may be swung outwardly upon the trunnions 12, in order that the said lift bar may be quickly raised by hand to the lower surface of the load to be lifted, and the frame then swung back to engage the flange 7 of the toothed wheel 8 with the rack 6.

In order to prevent accidental movement of the frame 10, to disengage the toothed wheel 8 from the lift bar 4, a lever 23 is centrally pivoted upon the upper end of the tubular support 1 to swing in a vertical plane, and is provided with an offset lower end to engage over the peripheral edge of toothed wheel 8 when said lever is in the vertical position.

With the foregoing description in mind, it will be readily seen that the particular styles and shapes of the various portions of my device may be readily changed should such a change prove desirable, and I therefore wish to reserve the right to make such

changes which may be necessary, without departing from the spirit or scope of my invention as defined in the appended claims.

Having fully described my invention, I claim:

1. In a lifting jack, the combination of a vertically movable lift bar, a support for said lift bar, an operating wheel having operative engagement with said lift bar to raise and lower the same, relatively engageable means for mounting said operating wheel upon said lift bar support for pivotal swinging movement with relation thereto, and for detachment therefrom, and means for rotating said wheel, detachable therefrom, substantially as described.

2. In a lifting jack, the combination of a vertically movable lift bar, a support for said lift bar, an operating wheel having operative engagement with said lift bar, to raise and lower the same, relatively engageable means for mounting said operating wheel upon said lift bar support for pivotal swinging movement with relation thereto, and for detachment therefrom, means for rotating said wheel, detachable therefrom, and means for holding said wheel and its rotative means in the operative position, substantially as described.

3. In a lifting jack, the combination of a vertically movable lift bar, a support for said lift bar having outstanding slotted ears, an operating wheel for engagement with, to raise and lower, said lift bar, a frame carrying said wheel having outstanding members for engagement in said slotted ears to maintain said wheel upon said support for swinging movement with relation thereto and detachment therefrom, and an operative handle for rotating said wheel.

4. In a lifting jack, the combination of a vertically movable lift bar, a support for said lift bar having outstanding slotted ears, an operating wheel for engagement with, to

raise and lower, said lift bar, a frame carrying said wheel having outstanding members for engagement in said slotted ears to maintain said wheel upon said support for swinging movement with relation thereto, and detachment therefrom, a member mounted upon said support to hold said wheel in engagement with said lift bar, an operating handle journaled upon said operating wheel frame, and connections between said handle and said wheel for rotating the latter.

5. In a lifting jack, the combination of a vertically movable lift bar, having a rack formed thereon, a support for said lift bar, a toothed wheel having operative engagement with said lift bar rack, to raise the said bar, a frame carrying said wheel having detachable engagement upon a portion of said support, an operating handle journaled upon said frame, and a spring controlled pawl carried by said handle, and in engagement with said wheel, to rotate the latter, substantially as described.

6. In a lifting jack, the combination of a vertically movable lift bar, having a rack formed thereon, a support for said lift bar, a toothed wheel having operative engagement with said lift bar rack, to raise said bar, a frame carrying said wheel, having detachable engagement upon a portion of said support, an operating handle journaled upon said frame, and a spring-controlled reversible pawl carried by said arm, and in engagement with said wheel, whereby the same may be rotated in two directions, to respectively raise and lower said lift bar, substantially as described.

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

LE ROY WILLOUR.

Witnesses:

C. G. PHILLIPS.

WM. T. DEVOR.