(No Model.)

J. BALDWIN.

LIFTING JACK.

No. 386,954. Patented July 31, 1888.

Fig. 1.

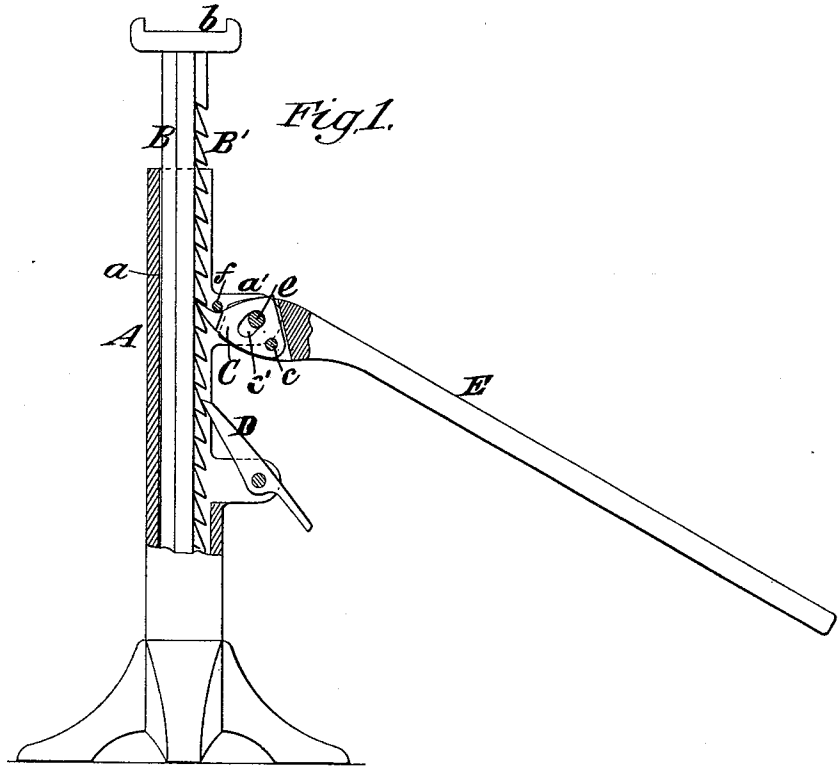


Fig. 2.

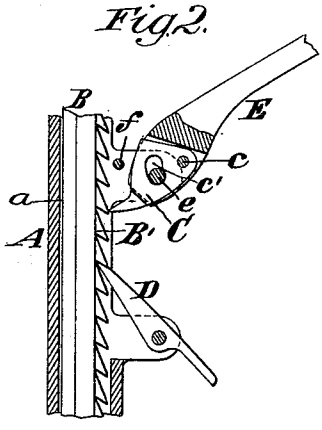
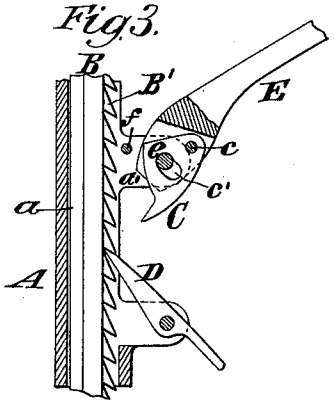


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES BALDWIN, OF NEW YORK, N. Y.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 386,954, dated July 31, 1888.

Application filed October 25, 1887. Serial No. 253,317. (No model.)

To all whom it may concern:

Be it known that I, JAMES BALDWIN, of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Lifting-Jacks, of which the following is a specification.

My invention relates particularly to the class of lifting-jacks which are commonly termed "wagon-jacks," and are employed for raising wagon-axles, so as to provide for readily greasing or oiling the axle-arms on which the wheels rotate. Like other jacks of this character, my jack comprises a stand and a lifting-bar sliding therein, and provided or formed with a rack of ratchet-teeth. An operating-lever is pivoted in the stand, and a pivoted pawl is connected with this lever for operation thereby. A stop-pawl is also employed for holding the lifting-bar in its elevated position while the lever and lifting-pawl are returning to take a new hold upon the rack.

In my improved jack the lifting-pawl is pivoted to the lever in rear of the main pivot on which the lever swings, and the pawl has a bearing upon this lever-pivot when operated by the downward movement of the lever. The pawl may have in it a slot, which receives through it the lever-pivot, and which permits the pawl to move upward and downward relatively to the lever-pivot as the pawl is operated through its pivotal attachment with the lever at a point in rear of the lever-pivot.

The invention consists in novel combinations of parts, hereinafter described, and pointed out in the claims, and which embrace the novel features of construction above referred to.

In the accompanying drawings, Figure 1 is a partly-sectional elevation of a jack embodying my invention, showing the parts in the position which they occupy at the completion of the operative movement of the pawl and lever. Fig. 2 is a sectional view of a part of the stand and lifting-bar, together with the pawls and a portion of the operating-lever, showing such lever as swung upward and the point of the pawl as just escaping from the teeth of the rack; and Fig. 3 is a section similar to Fig. 2, but showing the pawl as having escaped from the rack-tooth and as ready to perform a second operative movement.

Similar letters of reference designate corresponding parts in the several figures.

A designates the stand, which has a sufficiently broad base to support the jack, and a central cavity or bore, *a*, extending through the whole or the principal part of its height. Within the stand A slides a lifting-bar, B, which may have a forked top piece, *b*, to embrace a wagon-axle and prevent the upper end of the lifting-bar from slipping off the axle in a lateral direction. This lifting-bar B is formed or provided with a rack, B′, of ratchet-teeth, and with this rack engage a lifting-pawl, C, and a stop-pawl, D. I have also shown an operating lever or handle, E, which is pivoted by a pin or pivot, *e*, between lugs or ears *a′*, projecting from the stand, and this lever E may be swung upward and downward upon the pivot *e* as on a fulcrum.

The pawl C is connected with the lever E at a point behind the pivot *e* by a pivot, *c*, and it will be understood that as the lever E is swung upward and downward the point *c* will be raised and lowered relatively to the lever-pivot *e*. I have here represented the pawl C as having an elongated opening or slot, *c′*, which receives through it the lever-pivot *e*, and which permits the pawl to swing upward and downward upon its own pivot, *c*, and relatively to the pivot *e*.

As represented in Fig. 1, the pawl C is shown in operative position as raising the rack B′ and the lifting-bar B, and in this position it bears upon the lever-pivot *e*. In the downward movement of the lever E the pivot *c* is moved downward, and as the pivot-pin *e* constitutes a fulcrum for the pawl C, owing to its bearing thereon, the toothed end of the pawl is raised and imparts a lifting motion to the bar B until the toothed end of the pawl comes against the stop-pin *f*. When this occurs, the lever E is swung upward, and as the pawl C bears upon the inclined face of one of the teeth it is lifted while the lifting-bar B settles back upon the stop-pawl D, which has no connection with the lever E. As this lifting movement of the lever is continued, the pawl C is raised until the slot *c′* is mostly above the pivot *e*, as shown in Fig. 2, whereupon the pawl slips off the tooth of the rack B′ and into the position shown in Fig. 3. The lever

E is now swung downward again, and the pawl engages with a new tooth of the rack, and at the same time, owing to its bearing upon the pin or pivot *e*, which forms a fulcrum for the pawl, the pawl is lifted by the downward movement of the pivotal point *c* behind the pivot *e*, and thus imparts further lifting movement to the bar.

I am aware of Patent No. 201,467, granted March 19, 1878, to Tichenor & Dexter, and do not claim as of my invention anything shown therein. In that patent there are two pawls connected with the head of the operating-lever on opposite sides of its pivot; but neither of these pawls has a bearing forward of its pivot on the lever-pivot when it is operated by a downward movement of the lever.

I am also aware of patent to Joyce, No. 172,924, dated February 1, 1876, and patent to Thurston, No. 176,900, granted May 2, 1876, and do not desire to include in my invention either of the constructions shown in these patents. Neither of these patents shows a pawl which is pivoted to the lever in rear of the pivot on which the lever swings, and which has a bearing on the lever-pivot when operated by the downward movement of said lever. The first of these patents shows a pawl which is supported by a knuckle-joint in front of the lever-pivot and between it and the lifting-bar. The second of these patents shows a sliding pawl, and neither of the pawls shown in the two patents has a bearing upon the pivot of the lever.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a stand and a ratchet-toothed lifting-bar sliding therein, of a lever pivoted in the stand and a pawl pivoted to the lever in rear of the pivot on which the lever swings, and having a bearing on the lever-pivot when operated by the downward movement of said lever, and a stop-pawl pivoted in the stand independent of said lever and engaging said bar, substantially as herein described.

2. The combination, with the stand A and the toothed lifting-bar B, of the lever E, pivoted at *e*, the lifting-pawl C, slotted at *c'*, to receive the lever-pivot through it and pivoted to the lever behind the lever-pivot, and the stop-pawl D, substantially as herein described.

JAMES BALDWIN.

Witnesses:
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