

E. COOK.
 SCREW LIFTING JACK.
 APPLICATION FILED MAY 1, 1911.

1,049,564.

Patented Jan. 7, 1913.

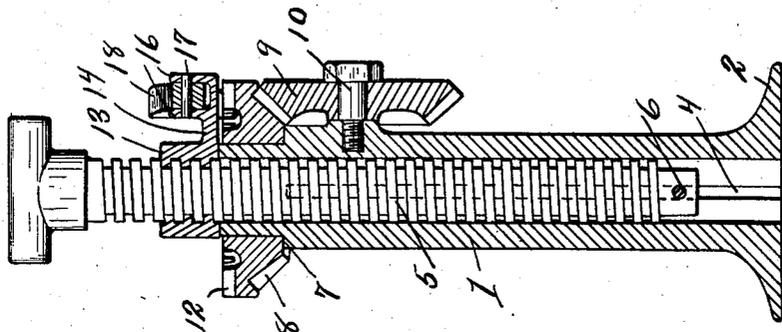


Fig. II.

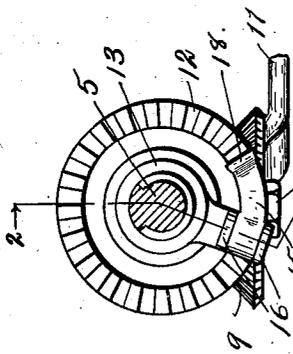


Fig. III.

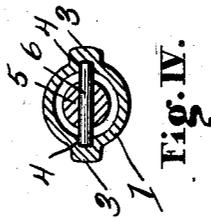


Fig. IV.

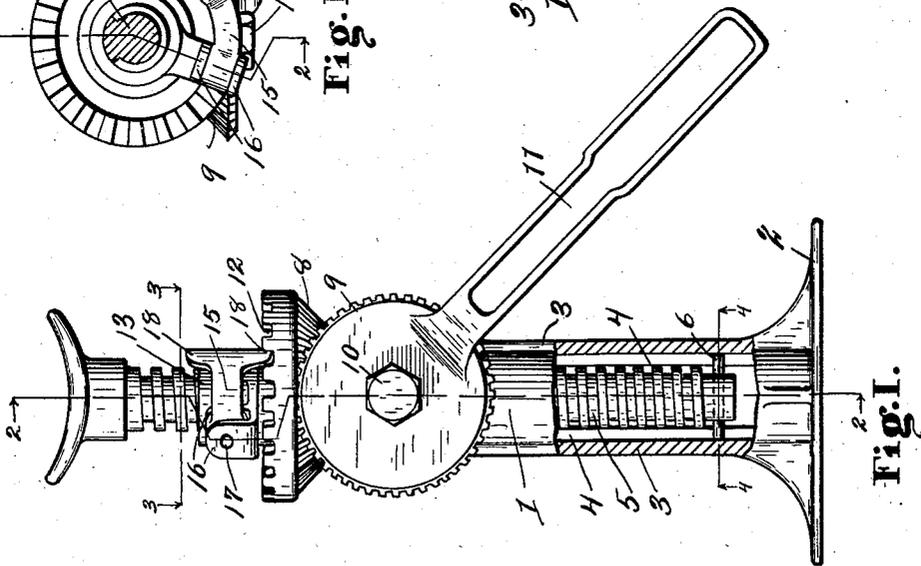


Fig. I.

Inventor

Witnesses
 W. O. Woodruff
 Luella Greenfield

By *Eugene Cook*
Raffell Earl
 Attorneys

UNITED STATES PATENT OFFICE.

EUGENE COOK, OF KALAMAZOO, MICHIGAN, ASSIGNOR TO VIRGINIA R. COOK, OF KALAMAZOO, MICHIGAN.

SCREW LIFTING-JACK.

1,049,564.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed May 1, 1911. Serial No. 624,362.

To all whom it may concern:

Be it known that I, EUGENE COOK, a citizen of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented certain new and useful Improvements in Screw Lifting-Jacks, of which the following is a specification.

This invention relates to improvements in screw lifting jacks.

My improvements are particularly designed by me for use on small jacks, such as the so-called automobile jacks: that is, jacks especially designed for lifting automobiles, and I have shown the same embodied in such a small size jack. My invention, however, is applicable to jacks of various sizes for general use.

The main objects of this invention are: First, to provide an improved screw lifting jack by means of which the load may be very rapidly raised or lowered. Second, to provide an improved screw lifting jack which is very quickly adjusted to the load. Third, to provide an improved screw lifting jack which is simple in structure and very simple and convenient to use.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure I is a side view of my improved lifting jack, a portion of the standard being broken away. Fig. II is a vertical section taken on a line corresponding to the broken line 2—2 of Fig. I. Fig. III is a horizontal section taken on a line corresponding to line 3—3 of Fig. I. Fig. IV is a horizontal section taken on a line corresponding to line 4—4 of Fig. I, the pin 6 being shown in full lines.

In the drawing, similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawing, the standard 1 is provided with a base 2, the standard being cylindrical, as illustrated, and having opposed longitudinal ribs 3 for the purpose of strengthening the standard. The internal vertical grooves 4 are located opposite these ribs. The screw 5 is vertically movable in the standard, and is prevented from turning therein by means of the pin 6 arranged transversely through the lower end of the screw to engage the grooves 4. The standard is shouldered at 7 to provide a bearing for the rack gear 8, which gear is arranged in mesh with the driving gear 9. The gear 9 is supported by a bearing pin 10 and is provided with an actuating lever 11, the movement of the gear being an oscillating movement. The circular rack 12 is formed integrally with the gear 8. Bearing on the upper end of the standard is a nut 13, which is provided with a laterally-projecting arm 14 on which the pawl 15 is pivoted. The arm is provided with a pair of ears 16 for the pawl pin 17. The pawl is reversible: that is, it is adapted to be swung to either side of the arm and is provided with double pallets 18. The nut 13 is unattached to the standard, so that in adjusting the jack to the work, the screw may be lifted and the nut rapidly turned either up or down by hand, as may be necessary, to extend or retract the screw to adjust it to the work.

In raising or lowering the load, the pawl 15 is adjusted as may be required to either raise or lower the screw and the rack oscillated through the lever 11 and its gear 9. The jack is reversed merely by the reversing of the pawl.

Screw jacks, as ordinarily constructed, have not been adapted for use where rapid work was required, they being particularly desirable where great power was desired. By my improvements, I provide a screw jack with which it is possible to rapidly raise or lower the load, and one which may be reversed merely by reversing the pawl, as stated.

As previously remarked, my improvements are especially designed by me for embodiment in light jacks, such as automobile jacks.

The structure is simple and economical to manufacture and is not likely to get out of

repair so that it is especially adapted for such purposes, although, of course, it is applicable for general use.

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

1. In a jack, the combination with the standard, of a screw arranged in said stand-
 10 grooves and said screw a transverse pin engaging said grooves; a beveled gear having a circular rack on its upper side, said standard being shouldered at its upper end to provide a bearing for said gear; a nut
 15 arranged to bear on the upper end of said standard, said nut being provided with a laterally-projecting pawl arm; a pawl pivoted on said arm to be reversed thereon; a driving gear mounted on said standard in
 20 mesh with said rack; and a lever on said driving gear.

2. In a jack, the combination with the standard, of a screw arranged in said stand-
 25 ards; a beveled gear having a circular rack on its upper side, said standard being shouldered at its upper end to provide a bearing for said gear; a nut arranged to bear on the upper end of said standard independ-
 30 ently of said rack, said nut being provided with a laterally-projecting pawl arm; a

pawl pivoted on said arm to be reversed thereon; a driving gear mounted on said standard in mesh with said rack; and a lever on said driving gear.

3. In a jack, the combination with the standard, of a screw; a circular rack mount-
 35 ed on said standard; means for oscillating said rack; a nut having bearing engagement with the top of said standard independently of said rack, said nut being un-
 40 attached to said standard to permit the raising of the standard and nut and the adjustment of the nut on the screw independently of the rack; and a reversible pawl on
 45 said nut coacting with said rack, for the purpose specified.

4. In a jack, the combination with the standard, of a non-rotatable screw, a gear
 50 having a rack on its upper face mounted on said standard; means for driving said gear; a nut on said screw bearing on said standard independently of said gear; and a reversible
 pawl on said nut, coacting with said rack.

In witness whereof, I have hereunto set my hand and seal in the presence of two
 55 witnesses.

EUGENE COOK. [L. s.]

Witnesses:

M. P. WOODRUFF,
 L. G. GREENFIELD.