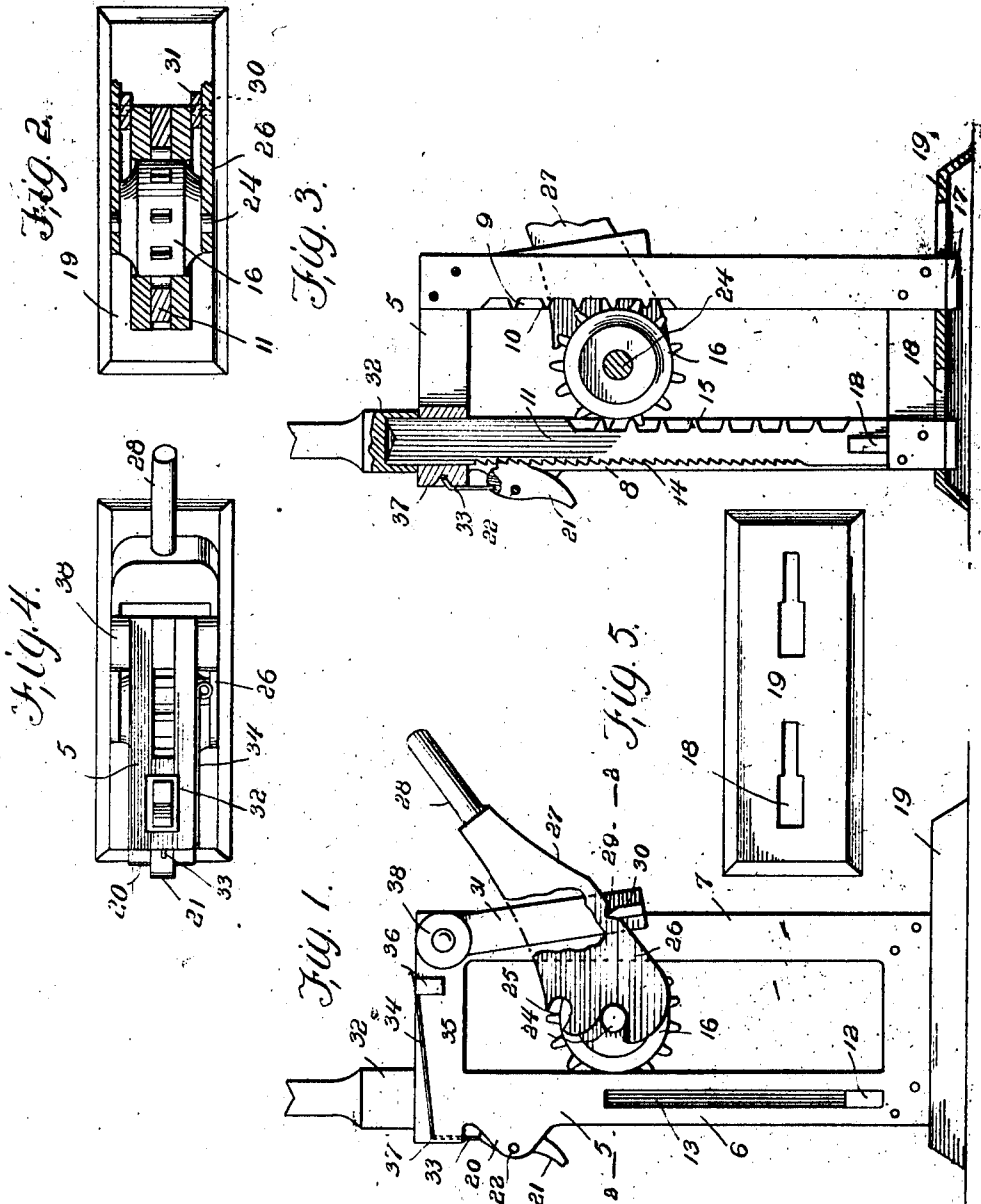


I. H. MURDICK & C. J. GAREY.
LIFTING JACK.

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1,031,194.

Patented July 2, 1912



Witnesses.
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ISRAEL H. MURDICK AND CHARLES J. GAREY, OF BENTON HARBOR, MICHIGAN.

LIFTING-JACK.

1,031,194.

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To all whom it may concern:

Be it known that we, ISRAEL H. MURDICK and CHARLES J. GAREY, citizens of the United States, residing at Benton Harbor, in the county of Berrien and State of Michigan, have invented new and useful Improvements in Lifting-Jacks, of which the following is a specification.

The invention relates to jacks, and more particularly to the class of lifting jacks.

The primary object of the invention is the provision of a lifting jack of this character in which a vehicle body or other heavy load may be raised with slight exertion on the part of the operator, and also that may be lowered when desired, without removing the jack from the load.

Another object of the invention is the provision of a lifting jack of this character in which a load may be raised to the desired elevation, and that will possess the requisite strength to sustain the load when elevated.

A further object of the invention is the provision of a lifting jack which is simple in construction, thoroughly reliable and efficient in operation, and inexpensive in manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a side elevation of a lifting jack constructed in accordance with the invention, the same being partly broken away. Fig. 2 is a sectional view on the line 2-2 of Fig. 1. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a top plan view. Fig. 5 is a plan view of the removable base plate.

Similar reference characters indicate corresponding parts throughout the several views of the drawings.

Referring to the drawings by numerals, the lifting jack comprises a vertical rectangular shaped frame 5 having in the vertical side bars 6 and 7 a slot 8 and groove 9, respectively, the latter being formed with rack teeth 10, while movable in the slot 8 is a lifting bar 11, the lower end of which is formed with laterally projecting rectangular shaped guide lugs 12 engaging in guide slots 13 formed in the bars 6, and intersecting the slot 8, the lifting bar 11 in its outer edge being provided with teeth

14, while its inner edge is formed with ratchet teeth 15 meshing with a rotatable cog wheel 16, the same also meshing with the teeth 10, so that on its rotation the lifting bar will either be raised or lowered in the frame.

The lower end of the frame 5 is provided with headed rectangular-shaped studs 17 adapted for locking engagement in key-hole shaped slots 18 formed in the top of a removable base 19 which is designed to vertically support the frame when positioned upon a foundation.

Formed on the outer edge of the side bar 6, near the upper end of the frame 5, are spaced parallel bearings 20, between which is positioned a locking dog or pawl 21, supported upon a pivot 22 mounted in the bearings 20, the pawl or dog being designed to engage the teeth for locking the lifting bar 11 in raised position and against retracting movement, the pawl or dog being readily and easily released in a manner presently described.

Projecting laterally centrally from the opposite sides of the cog wheel 16 are truncated stud journals 24, which are received in aligning notches 25 in the ends of the limbs 26 of a fork 27, on one end of an operating handle 28, the limbs being provided with inverted V-shaped notches 29 in the lower edges thereof, the notches 29 forming seats receiving the fulcrum projections 30 extending laterally from the lower ends of swinging fulcrum arms 31 connected to the side bars 7 of the frame 5 at the upper end thereof. It will be seen that the fork may be adjustably engaged with the cog wheel, so that the leverage of the handle may be increased or decreased, as well as the throw thereof.

Removably mounted upon the upper end of the lifting bar 11 is a bearing cap 32, against which rests the load, when it is desired to raise the same. Engaged with the pawl or dog 21 is the crank end 33 of a spring arm 34, which, when swung in one direction, releases the pawl or dog 21 from engagement with the teeth 14, and on swinging it in the reverse direction, the pawl or dog is engaged in the teeth 14. Now, for locking the pawl or dog against movement, when engaged with or disengaged from the teeth of the lifting bar, the arm 34 is engaged in notches 35 on either side of a retaining block 36 mounted at one side of the

frame, the crank end 33 of said arm 34 being pivoted in a bearing 37 fixed to or integral with the frame at the upper end thereof and projecting outwardly from the side bar 6 of the same.

Formed on the side bar 8 and projecting laterally therefrom, at the upper end, of the frame 5, are stop lugs 38 which form abutments for the fork of the operating handle, when the latter has been brought to lowered position, and the lifting bar raised to its fullest extent.

From the foregoing, taken in connection with the accompanying drawings, it is thought that the construction and operation of the invention will be readily understood, without requiring a more extended explanation.

What is claimed is:

1. A lifting jack, comprising a vertical frame having a base, and also side bars provided with a slot and groove, respectively, rack teeth formed in the groove in one side bar, a lifting bar slidably mounted in the slot in the other side bar and having rack teeth, a rotatable cog wheel meshing with the rack teeth in the groove and on the lifting bar respectively, means for locking engagement with the lifting bar to hold the same at varying elevations, and an operating lever for the cog wheel.

2. A lifting jack, comprising a vertical frame having side bars, provided with a slot and groove, respectively, a removable base engageable with the frame, rack teeth formed in the groove in one side bar, a lifting bar slidably mounted in the slot and having rack teeth on the inner and outer edges thereof, a rotatable cog wheel meshing with the rack teeth in the groove and on the inner edges of the lifting bar, respectively, means for locking engagement with the teeth on the lifting bar at the outer edge thereof to hold the same at varying elevations, fulcrumed arms pivoted to the frame, an operating lever supported by the fulcrumed arms and engaged with the cog wheel, and a removable cap carried on the free end of the lifting bar.

3. A lifting jack, comprising a vertical frame having side bars, provided with a slot and groove, respectively, a removable base engageable with the frame, rack teeth formed in the groove in one side bar, a lifting bar slidably mounted in the slot and having rack teeth on the inner and outer edges thereof, a rotatable cog wheel meshing with the rack teeth in the groove and on the inner edges of the lifting bar, respectively, means for locking engagement with the teeth on the lifting bar at the outer edge thereof to hold the same at varying elevations, fulcrumed arms pivoted to the frame, an operating lever supported by the fulcrumed arms and engaged with the cog wheel, a removable cap carried on the free end of the lifting bar, and means acting upon the locking means for bringing into and out of engagement with the teeth on the outer edge of the lifting bar.

4. A lifting jack, comprising a vertical frame having side bars, provided with a slot and groove, respectively, a removable base engageable with the frame, rack teeth formed in the groove in one side bar, a lifting bar slidably mounted in the slot and having rack teeth on the inner and outer edges thereof, a rotatable cog wheel meshing with the rack teeth in the groove and on the inner edges of the lifting bar, respectively, means for locking engagement with the teeth on the lifting bar at the outer edge thereof to hold the same at varying elevations, fulcrumed arms pivoted to the frame, an operating lever supported by the fulcrumed arms and engaged with the cog wheel, a removable cap carried on the free end of the lifting bar, and means for guiding the lifting bar in its sliding movement in the slot.

In testimony whereof we affix our signatures in presence of two witnesses.

ISRAEL H. MURDICK.
CHARLES J. GAREY.

Witnesses:

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