

Sept. 8, 1925.

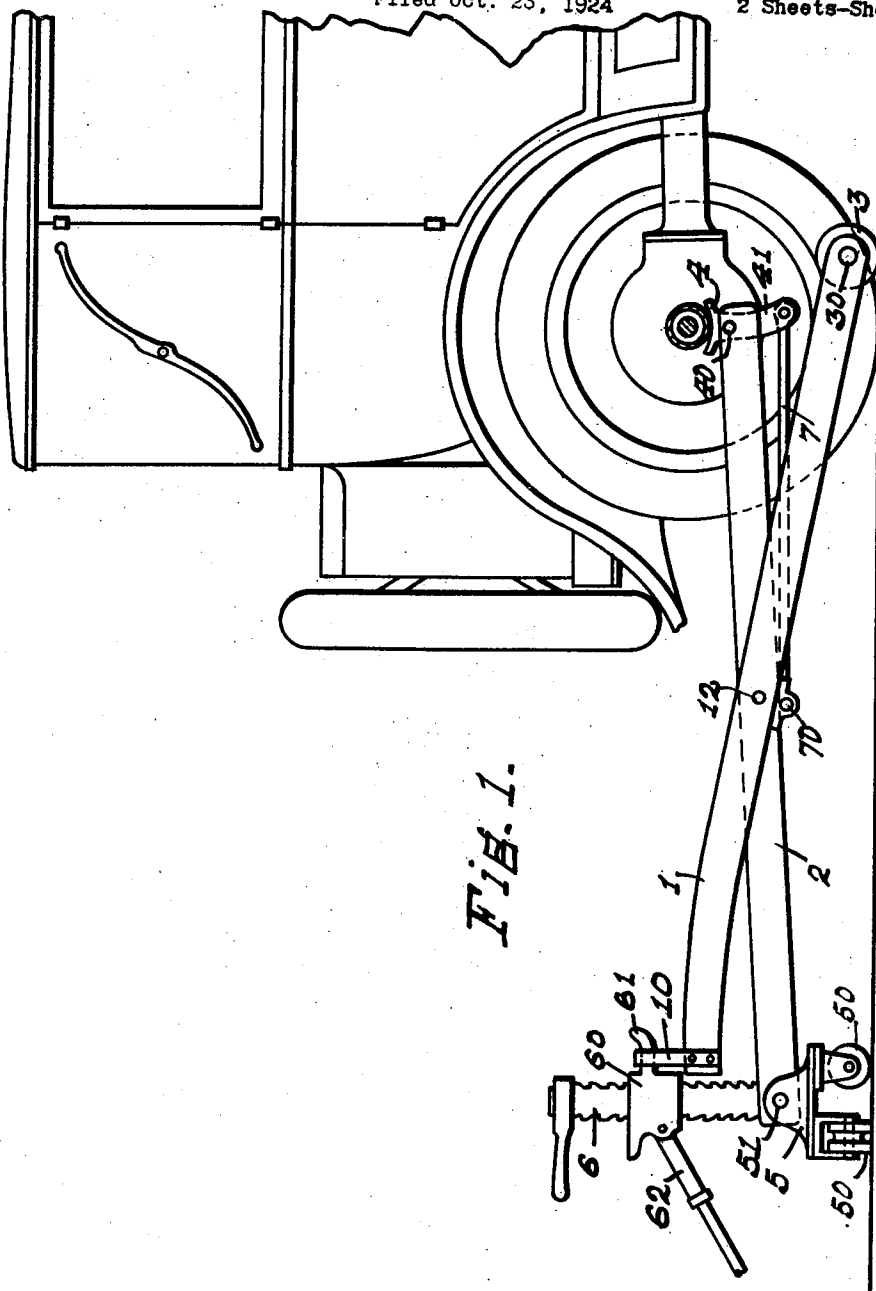
1,553,074

L. E. ENGEL

VEHICLE JACK

Filed Oct. 23, 1924

2 Sheets-Sheet 1



Inventor

Levi E. Engel

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Attorneys

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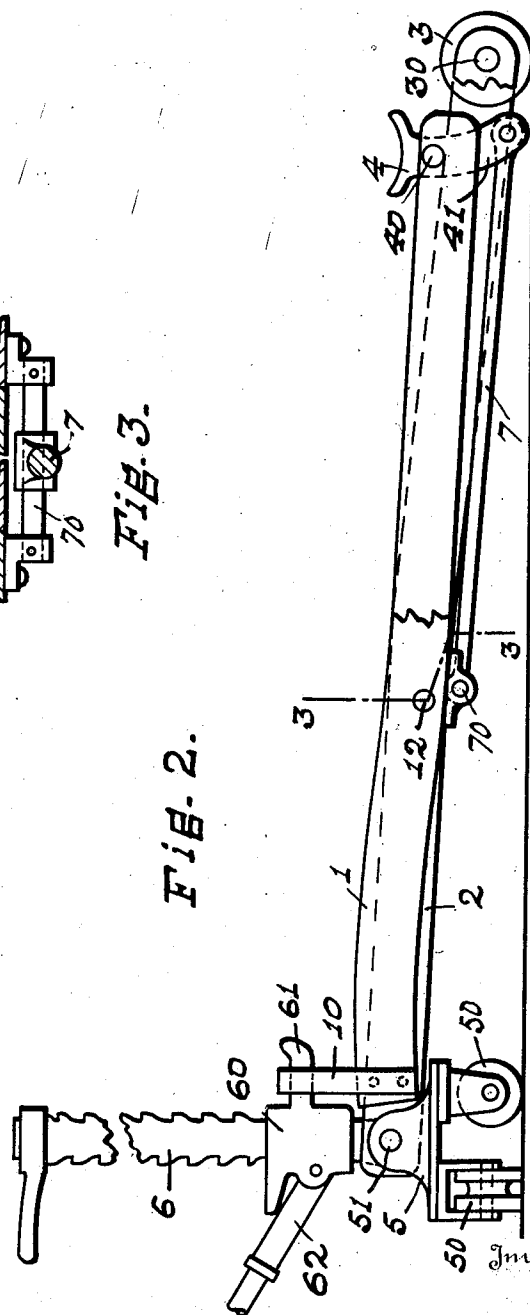
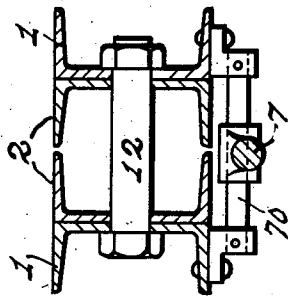
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2 Sheets-Sheet 2



Inventor

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Patented Sept. 8, 1925.

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UNITED STATES PATENT OFFICE.

LEVI E. ENGEL, OF ELBE, WASHINGTON.

VEHICLE JACK.

Application filed October 23, 1924. Serial No. 745,340.

To all whom it may concern:

Be it known that I, LEVI E. ENGEL, a citizen of the United States of America, and resident of the town of Elbe, in the county of Pierce and State of Washington, have invented certain new and useful Improvements in Vehicle Jacks, of which the following is a specification.

My invention relates to lifting jacks and particularly to jacks intended for use in lifting automobiles and like vehicles, as for the purpose of repairing and like services. It has been particularly my purpose to provide a jack suitable for use about garages and one capable of being inserted far under cars and attached equipment or loads, one capable of being inserted under parts which have slight clearance above the ground and one capable of directly making a high lift.

My invention comprises certain combinations of parts which will be hereinafter set forth and of which a preferred embodiment has been illustrated in the accompanying drawings. That which I believe to be novel and upon which I desire to obtain a patent will be defined in the accompanying claims.

The drawings illustrate the principles of my invention as embodied in the specific construction which is now preferred by me.

Figure 1 is a side elevation of my improved jack showing it as applied to a car.

Figure 2 is a side view of the jack in its lowered position, an end of one side beam being broken away.

Figure 3 is a transverse section upon and adjacent to the beam pivot or upon the offset line 3—3 of Figure 2.

The special service for which my jack has been designed is the raising of automobiles as is so frequently necessary about garages and to enable this to be quickly and conveniently done under conditions in which doing this with the more common types of jacks is difficult.

This has been done by using two levers or beams pivoted together towards the middle of their length and occupying approximately a horizontal position, one end of these beams being insertible under the car and the other ends being separated by a power device connected thereto.

The beams 1 and 2, which are pivoted together at 12, are shown as being each made of two rigidly connected bars. While this is desirable for the beam 1, it is wholly immaterial for the beam 2. The beam 2 for

maximum drop at the end which engages the car to lift it, should drop to as low a level at this end as that of the beam 1. If the beam 1 be made of two parts placed at each side of the beam 2, the latter may drop between the parts of beam 1, as has been indicated in Figure 2.

This same end of beam 1 should preferably extend somewhat beyond beam 2, first, to accommodate the shaft 30 of the carrying wheels 3 and, second, to extend the ground bearing point somewhat beyond the load carrying foot 4, thereby keeping the load well within the base.

At the opposite end the beam 2 may to advantage be mounted upon a frame 5 having bearing wheels 50, which bearing wheels may also be mounted as castors to turn freely, as has been illustrated. The device as shown contemplates the use of three wheels placed in triangular position. By further using a pivot connection 51 of frame 50 with beam 2, a flexible and adjustable support is secured.

The outer ends of beams 1 and 2 are connected by any suitable device for applying power to separate them. The device shown is a common type of vehicle jack employing a notched or toothed post 6 having sliding thereon a casing 60 containing dogs operated by the lever 62 to secure a step-by-step movement. As this is a well-known construction and may be replaced by any one of several well known constructions, further description may be omitted. The casing 60 has a finger or bracket 61 which receives a link or clevis 10 carried by beam 1.

The lifting foot 4 should at all times be maintained in the same angular position with relation to the horizontal. To secure this it is pivoted at 40 and has a downwardly extending arm 41 to which is pivoted a controlling link or links 7 pivoted at its other end to the beam 1, that is, to the other of the beams than that to which the foot 4 is pivoted. Further, the distance between the pivots of foot 4 should be twice that between the pivot 12, between the two beams, and the pivot point 70 where the controlling link 7 is connected with the beam 1.

With this jack the lifting end may be inserted a considerable distance under the car and objects carried thereby, and under a part having slight clearance. Further, by reason of the length of the beams 1 and 2, the lift may be carried to a very consider-

able height. It is convenient to handle and operate and is stable and firm when in use.

What I claim as my invention is:

1. A vehicle jack comprising two pivoted beams, means for applying power to one end of the beams to separate them, a lifting foot pivoted upon the other end of one of the beams, and a link pivotally connecting the lifting foot with the other beam to thereby maintain the foot in a substantially constant angular position relative to a fixed plane.

2. A vehicle jack comprising two pivoted beams, means for applying power to separate the swinging ends of the beams, a lifting foot provided upon the swinging end of one of the beams, and a link pivoted to the foot below its supporting pivot and to the other beam below the pivot for the two beams.

3. A vehicle jack comprising two pivoted beams, means for applying power to separate the swinging ends of the beams, a lifting foot provided upon the swinging end of one of the beams, and a link pivoted by one end to the foot below its supporting pivot and to that beam upon which the foot is not mounted, at a distance below the pivot between the two beams half that between the

supporting pivot of the foot and the connection of the link thereto.

4. A vehicle jack comprising a beam, a lifting foot pivoted to one end of said beam, and a lifting mechanism connected with the other end of the beam, a second beam composed of two bars located to lie respectively at opposite sides of the first-mentioned beam, said beams being centrally pivoted together, and a controlling link pivoted to the lifting foot and to the second beam to maintain the foot in a fixed angular position.

5. A vehicle jack comprising a beam, a lifting foot pivoted to one end of said beam, and a lifting mechanism connected with the other end of the beam, a second beam composed of two bars located to lie respectively at opposite sides of the first-mentioned beam, said beams being centrally pivoted together, and a controlling link pivoted to the lifting foot below its supporting pivot and to the second beam below the pivot between the two beams a distance substantially half that between the supporting pivot of the foot and the connection of the link to the foot.

Signed at Elbe, Pierce County, Washington, this 16th day of September, 1924.

LEVI E. ENGEL.