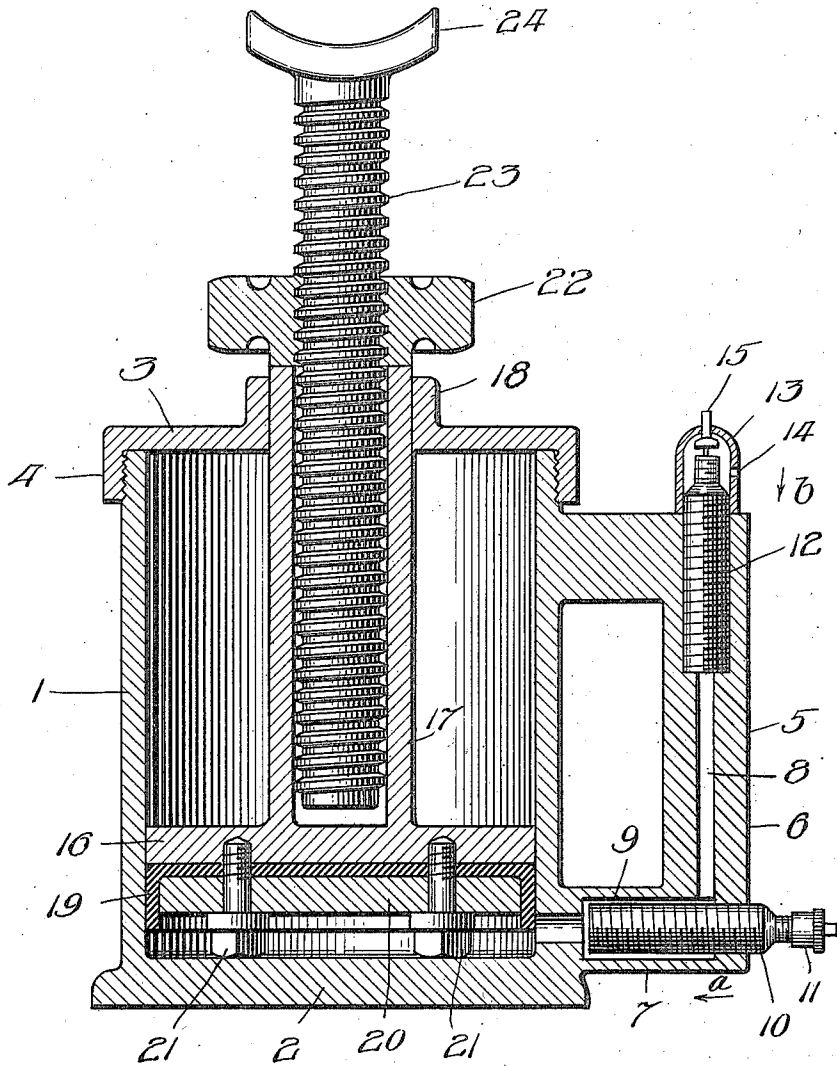


D. C. MULVIHILL.
LIFTING JACK.
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Patented June 5, 1917.



Witness:
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UNITED STATES PATENT OFFICE.

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LIFTING-JACK.

1,228,586.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, DANIEL C. MULVIHILL, a citizen of the United States, and a resident of Hannibal, county of Marion, and State of Missouri, have invented certain new and useful Improvements in Lifting-Jacks, of which the following is declared to be a full, clear, and exact description.

This invention relates to lifting jacks, and its principal object is to provide a jack designed especially for use in lifting automobiles. Another object is to provide a jack adapted to be operated by compressed air. Another object is to provide a jack, the column or post of which may be instantly adjusted with respect to the axle or frame of the automobile, and thereafter the jack is operated by compressed air. Many of the automobiles and other motor vehicles now in use, are equipped with an air pump driven by the motor, for inflating the tires; sufficient pressure may be developed with such a pump to operate the present jack. The invention consists in the several novel features hereinafter fully set forth and particularly defined in the appended claims.

The invention is clearly illustrated in the drawing, accompanying this specification, which shows a simple embodiment of this invention in central vertical section.

In the embodiment of the invention illustrated in said drawing, the reference numeral 1, designates a cylinder closed at its lower end by a bottom wall 2, which forms a base for the jack. The cylinder has an open, externally screw threaded upper end, which is closed by a cap 3, having a downwardly extending flange 4, threaded upon the upper threaded end of the cylinder. The cylinder is provided with a handle 5, by means of which it may be handled, and the upright member 6, of said handle and horizontal member 7, are provided with connected air passageways 8 and 9, leading from the lower end of the interior of the cylinder 1. In the passageway 9, is an air valve 10, of the ordinary check valve type employed in pneumatic tires, and said valve opens in the direction of the arrow α , and is arranged to be coupled with a flexible connection that may run to an air pump (not shown) such as is ordinarily employed in connection with the motors of automobiles. I have shown a screw threaded cap 11, screwed on the threaded neck of the body of the valve, which cap must be unscrewed

before the flexible air connection can be secured to it. At the upper end of the passageway 8, is a second air valve 12, which may be of the same construction as the valve 10, and said air valve opens in the direction of the arrow b . Said air valve 12, is screwed into the open internally screw threaded end of the handle 5, and its protruding end may be covered by a cap 13, which has threads that engage with the body of the valve 12, and is provided with a discharge aperture 14. A stem 15, is guided into the upper end of the cap 13, and engages with the plunger stem of the air valve. By pressing down upon the stem 15, the air valve is opened whereby the air, contained in the cylinder, may be permitted to escape.

Within the cylinder 1, is a plunger or piston 16, which is provided with a tubular stem 17, guided in a neck 18, formed upon the cover 3. The plunger or piston 16, is provided with an ordinary cup washer 19, secured to its lower face by a disk 20, and cap screws 21. When the plunger or piston is in its lowermost position, the cap screws rest on the bottom or base 2, of the cylinder, and support the piston and its washer away from the bottom of the cylinder whereby air may enter the cylinder below the cup washer.

Resting upon the upper end of the tubular stem 17, is a nut 22, which is threaded upon a screw threaded post or column 23, that extends down into the hollow of the tubular stem 17. The upper end of the post or column 23, is provided with a head or bearing plate 24, which is adapted to be placed underneath the axle or frame of an automobile when it is desired to use the jack for the purpose of lifting said end of the frame.

In use, the jack is placed underneath the axle or frame of the automobile, and the nut 22, is turned upon the screw threaded post or standard 23, to raise the head or bearing plate 24, and bring it into contact with the underside of the axle or frame. The cap 11, of the air valve 10, is then unscrewed and the air valve is coupled with the flexible tube which runs to the air pump. The air pump is then started and kept running until the pressure of the air in the cylinder between the piston and base is raised sufficiently to lift the piston and therewith the nut 22, post 23, and automobile. When the automobile frame has been lifted sufficiently for the purpose intended, the air pump is stopped. To lower the automobile, the stem

15, is depressed, thereby opening the air valve 12, permitting the escape of the compressed air out through the air vent 14, of the cap 13.

5 More or less variation of the exact details of construction described is possible, without departing from the spirit of this invention; I desire, therefore, not to limit myself to the exact form of construction shown and described, but intend in the following claims to point out all of the invention disclosed herein.

I claim as new, and desire to secure by Letters Patent:

15 1. A lifting jack comprising a compressed air cylinder, a plunger sliding therein and having a tubular stem, a screw threaded post slidably held in said stem, a nut threaded upon said post and resting upon the upper end of the stem, a handle formed integral with said cylinder and having an air pas-
20 sageway therein, opening to the interior of the cylinder, and a valve screwed in said handle and opening to the passageway and adapted for connection with a flexible air connection.

25 2. A lifting jack comprising a compressed air cylinder having a hollow handle formed integral therewith, the hollow of the handle opening to the interior of the cylinder, an air valve screwed in the hollow of said handle and adapted for connection with a flexible air connection, a cap secured to the upper end of said cylinder, a plunger sliding in
30 said cylinder and having a tubular stem guided in said cap, a screw threaded post slidably held in said stem, and a nut threaded upon said post and resting upon the upper end of said stem.

40 3. A lifting jack comprising a compressed air cylinder closed at the bottom and open

at the top, a cap screwed upon the open end of said cylinder, a hollow handle for said cylinder, the hollow opening to the interior of the cylinder, an air valve in the hollow of said handle and adapted for connection with
45 a flexible air connection, a plunger sliding in said cylinder and having a tubular stem guided in said cap, a screw threaded post sliding in said tubular stem, and a nut
50 threaded upon said post and resting upon the upper end of said stem.

4. A lifting jack comprising a compressed air cylinder having a hollow handle, the hollow of which communicates with the interior
55 of said cylinder, an air valve in the hollow of said handle and arranged for connection with a flexible air connection, a second air valve secured in said handle and communicating with the hollow thereof, a plunger in
60 said cylinder and having a tubular stem, a screw threaded post sliding in said tubular stem, and a nut threaded upon said screw threaded post and resting upon the upper end of said tubular stem.

65 5. A lifting jack comprising a compressed air cylinder, closed at the bottom and open at the top, a screw threaded cap secured upon the upper open end of said cylinder, said cylinder being formed with a handle
70 having an air passage leading to the interior of the cylinder, an air valve in said passageway, adapted for connection with a flexible air connection, a second air valve in said passageway, a plunger sliding in said cylinder
75 having a tubular stem guided in said cap, a screw threaded post movable lengthwise in said tubular stem, and a nut threaded upon said post and bearing upon the upper end of said tubular stem.

DANIEL C. MULVIHILL.