May 19, 1931. E. D. PAÉZ, JR 1,806,413

LIFTING JACK.

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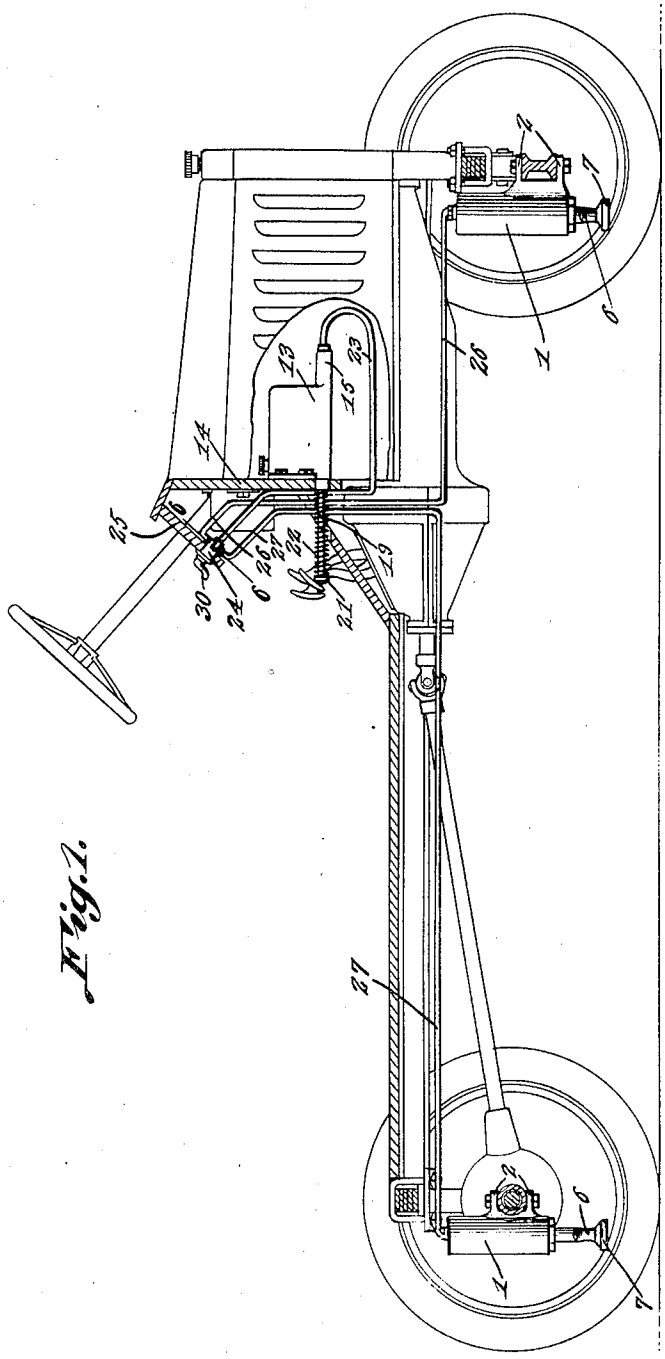


Fig. 1.

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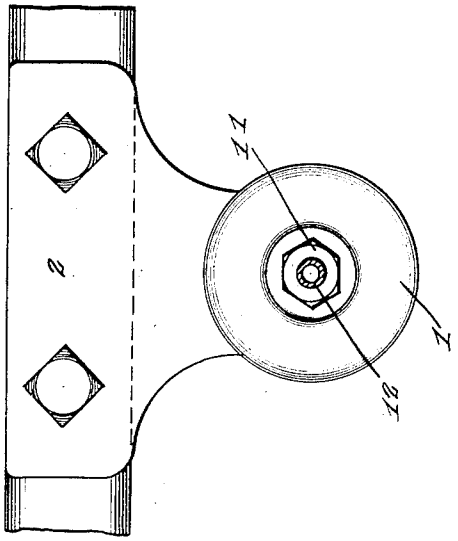


Fig. 3.

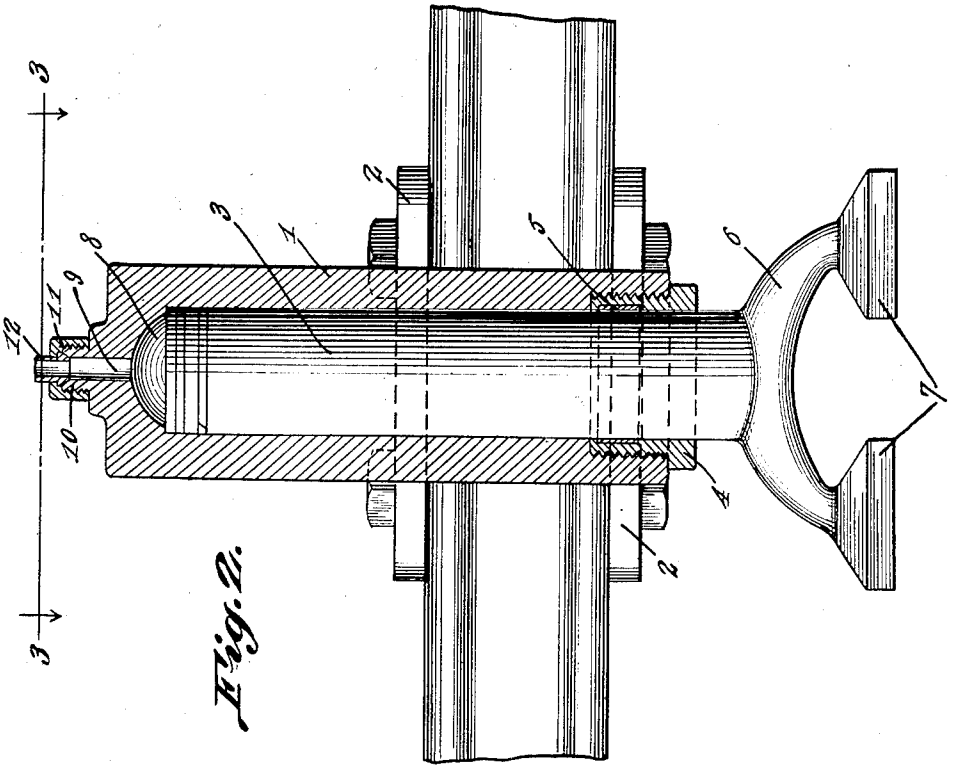


Fig. 2.

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Fig. 6.

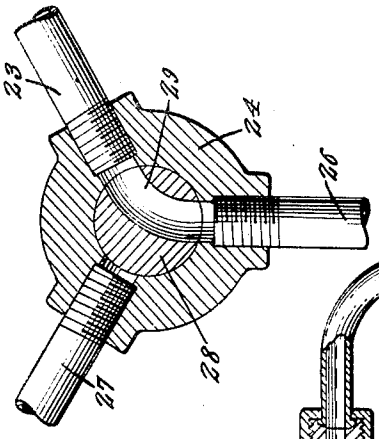


Fig. 4.

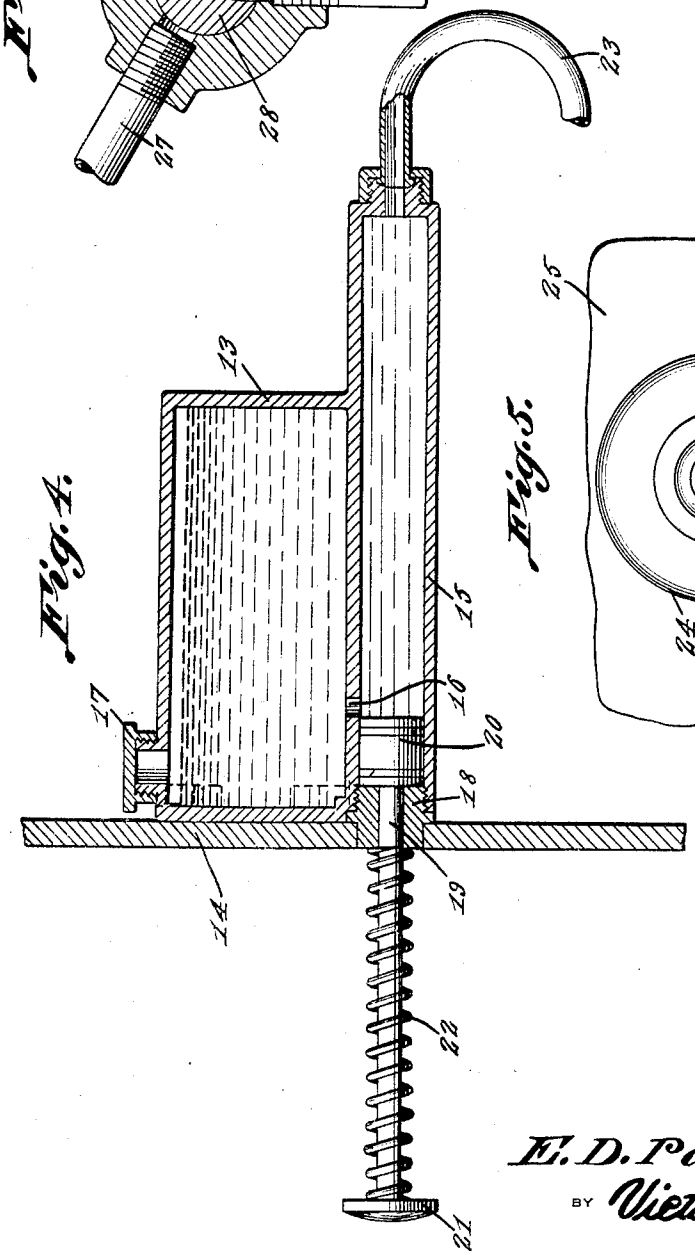
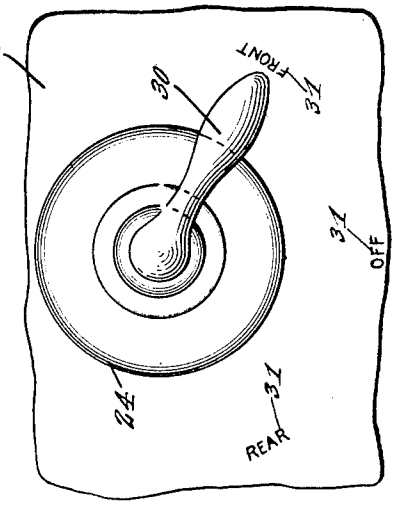


Fig. 5.



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Patented May 19, 1931 1,806,413

UNITED STATES PATENT OFFICE

ENRIQUE D. PAÉZ, JR., OF SAN DIEGO, CALIFORNIA

LIFTING JACK

Application filed February 11, 1929. Serial No. 339,131.

This invention relates to means for jacking up a motor vehicle or the like, the general object of the invention being to provide a jack for each wheel of the vehicle, the jacks being attached to the axles of the vehicle with manually operated means for forcing oil or other fluid into the cylinders of the jacks to move the jacks to operative position and thus lift the wheels of the vehicle from the ground.

Another object of the invention is to provide valve means whereby the fluid can be caused to flow to either the jacks of the rear wheels or to those of the front wheels.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claim.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a fragmentary view of a motor vehicle equipped with this invention, parts being shown in section.

Figure 2 is an enlarged vertical sectional view through one of the jacks and showing it attached to an axle.

Figure 3 is a section on line 3—3 of Figure 2.

Figure 4 is a sectional view through the oil reservoir and the pump which are attached to a part of the dash of the vehicle.

Figure 5 is a front view of the valve on the instrument board.

Figure 6 is a section on line 6—6 of Figure 1.

As shown in these views the cylinder 1 of each jack is formed with a pair of ears 2, these ears being bolted to the axles of the vehicle adjacent each wheel thereof. A piston 3 is arranged in each cylinder with the lower end of the piston passing through a cap 4 which is threaded into the lower end of each cylinder, each cap having packing means 5 therein to prevent leakage between itself and the piston.

The lower end of each piston is formed with a yoke-shaped part 6, the extremities of which carry the feet forming portions 7 which are of sufficient size to prevent slipping when the jack is in operative position. The upper end of the bore of each cylinder is of dome-shape, as shown at 8 and a port 9 extends from this dome-shaped part through the upper end of the cylinder and through the reduced threaded part 10 formed at the upper end of each cylinder. A cap 11 is threaded on the reduced part and holds the upset end of a tube 12 to the reduced part with its bore in register with the port 9.

A reservoir 13 is supported from the front side of the dash 14 of the vehicle and a pump cylinder 15 is connected with the bottom of the reservoir and is in communication therewith by the port 16. The reservoir is formed with a filling opening which is covered by a cap 17. The rear end of the pump cylinder is closed by a plug 18 which extends through a hole in the dash and a piston rod 19 extends through the plug and has a piston 20 connected with its front end. A head 21 is fastened to the other end of the rod and a spring 22 is placed on the rod and bears against the head and the plug and normally holds the piston retracted. A tube 23 connects the front end of the pump cylinder with the casing 24 of a three-way valve which is preferably arranged on the instrument board 25 of the vehicle. A tube 26 connects this casing with the jack cylinders at the front of the vehicle and a tube 27 connects the casing with the jack cylinders at the rear of the vehicle. The plug 28 in the valve casing is provided with an arc-shaped port 29 which will connect the tube 23 with either the tube 26 or the tube 27 but which can be moved to a position where it will close all the ports of the valve casing. The plug is provided with a handle 30 and the instrument board, adjacent the valve will carry the words shown at 31 to indicate when communication is open between the valve and the front jacks, between the valve and the rear jacks when the valve is closed.

From the foregoing it will be seen that when it is desired to jack up either the front or rear of a vehicle it is simply necessary to properly adjust the valve and then push in

the piston rod 19 by the foot or hand to cause the fluid to pass from the pump cylinder to the jack cylinders. This fluid entering the jack cylinders will depress the jack pistons so that the feet portions 7 will engage the ground and thus lift either the front wheels or the rear wheels. When the jack pistons are to be raised it is simply necessary to open the valve so that the pressure exerted by the jack pistons will force the fluid from the jack cylinders back into the reservoir, the final lifting movement of the pistons being accomplished by hand.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

It is to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

What I claim is:

A lifting device for vehicles including hydraulic jacks secured to a vehicle, a control means connected to the jacks, a pump cylinder having one end connected to the control means and the other end internally screw-threaded, a plug threaded in the last named end of the cylinder and secured in an opening of the dash of the vehicle and having a flange portion abutting said dash and the end of the cylinder, a fluid reservoir formed on the cylinder and held against a dash by said cylinder and having communication with the cylinder adjacent the supported end thereof, a piston in the cylinder, a stem on the piston and extending through the plug to be manually actuated, and a tension means bearing against one end of the stem and the plug to normally urge the piston in one direction.

In testimony whereof I affix my signature.

ENRIQUE D. PAÉZ, JR.